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BOOK REVIEWS AND NOTICES

Staff of U.S. House of Representatives Committee on Ways and Means and U.S. Senate Committee on Finance, Reports in Connection with Social Security Legislation (see titles listed below), The Committees, 1975–77.

During the development of legislation on the old-age, survivors, and disability insurance and medicare programs, a number of significant documents are produced that make interesting and valuable reference material, both from a current and from a historical standpoint. Not only are there the well-known published public hearings before the two congressional committees (House Ways and Means and Senate Finance), the reports of these two committees on the legislation that they put forth for consideration by Congress, and the debate on the legislation in the *Congressional Record,* but also there are the lesser-known committee prints.

It is the purpose of this review to detail the several committee prints that were developed during the course of the 1977 amendments. Often these reports are prepared with great speed because they serve as working documents for the committee members, and so occasionally they contain errors. However, it is appropriate to say that there is much valuable background information in these prints that is not readily available elsewhere. These prints usually have a very limited distribution, although they are in the public domain; copies can be obtained from the issuing committee (or else possibly from the Office of the Actuary, Social Security Administration—or, as a last resort, from this reviewer).

These committee prints will now be listed in chronological order, along with brief descriptions of their contents (where "WM" stands for House Committee on Ways and Means, "S" stands for Senate Committee on Finance, and "SSA" stands for Social Security Administration). Omitted from the list are five committee prints dealing with administrative aspects of the DI program, such as the hearings and appeals process.

1. *Actuarial Condition of Disability Insurance Program,* WM, May 16, 1975 (pp. 25). A brief discussion of the deficits in the DI program, both short range and long range, and of the operating experience over the years. Also included is an actuarial analysis of the DI experience made by this reviewer.
2. *Examples of Methods of Increasing Income into the Social Security Trust Funds,* WM, November 3, 1975 (pp. 9). Actuarial cost estimates for various combinations of tax rate increases and earnings-base increases (including a higher base for employers than for employees), with emphasis on solving the short-range financing problems.
3. *Disability Insurance—Legislative Issue Paper,* WM, May 17, 1976 (pp. 48). An analysis by the staff of the Subcommittee on Social Security of various administrative aspects of the DI program, such as definition of disability, administrative structure, work disincentives, rehabilitation costs, termination procedures, and appeals procedures. Also presented is a vivid example of the results of the faulty method of calculating DI benefit amounts for young workers and how "decoupling" would largely remedy the situation.

4. *Reports of Consultants on Actuarial and Definitional Aspects of Social Security Disability Insurance*, WM, May 17, 1976 (pp. 176). Contains three reports on various aspects of the DI program: (*a*) a thorough actuarial analysis of the DI experience both within itself and relative to other experiences, by John H. Miller, F.S.A., F.C.A.S., M.A.A.A.; (*b*) a proposed more objective test for disability, by Edwin Yourman, formerly an attorney working with SSA; and (*c*) a study of medical aspects of determining disability, by William E. Roemmick, M.D., formerly chief medical director of the SSA. These reports clearly and extensively point out the serious problems of DI and some of the underlying causes.
5. *H.R. 15630, Disability Insurance Amendments of 1976, Explanatory Material and Relevant Background Reports*, WM, September 30, 1976 (pp. 241). Presents the text of this bill and the justification therefor. This is a follow-up of the studies in items 1, 3, and 4. Although this bill was not enacted (see also item 9), some of its provisions were contained in the 1977 act. Also presented in this committee print are two reports of the General Accounting Office ("The Social Security Administration Should Provide More Management and Leadership in Determining Who Is Eligible for Disability Benefits" and "Improvements Needed in Rehabilitating Social Security Disability Beneficiaries") and the Final Report of the Ad Hoc Committee (of the SSA and Rehabilitation Services Administration) to Study Ways to Improve the Trust Fund and the Supplementary Security Income Program.
6. *Social Security Benefits (OASDI)—Existing Law and Proposals in 94th Congress*, WM, February 22, 1977 (pp. 42). A topical, detailed outline of the provisions of the OASDI system, with notations of places where significant changes have been proposed.
7. *Staff Data and Materials Relating to Social Security Financing*, S, June, 1977 (pp. 101). A compendium of presentations on the general aspects of financing OASDI and HI, the current financial status of the program, the Carter administration proposal to deal with the financing problems, and other possible methods of solving the problems. A total of 40 tables and 9 charts (and a brief analysis thereof) are presented, dealing with important aspects of OASDI and its financing and giving a wealth of actuarial and statistical information. Particularly interesting information is given on various decoupling alternatives—wage indexing, as proposed by the Ford and Carter administrations (and as adopted in the 1977 act in modified form); price indexing; modified wage indexing (percentage factors in benefit formula reduced gradually after 1995); wage indexing at a lower replacement-rate level (as developed by this reviewer, and close to what was done in the 1977 act); and no indexing, but increasing percentage factors in the benefit formula by the smaller of the CPI increase or 55 percent of the wage increase (developed earlier by this reviewer).
8. *Social Security Financing—Summary of Testimony of Public Witnesses*, S, July, 1977 (pp. 5). A condensation of the views of various witnesses at hearings on the Carter administration proposals during June and July, 1977.
9. *H.R. 8076—Disability Insurance Amendments of 1977*, WM, July 12, 1977 (pp. 85). Presents the text of this bill and an explanation and justification thereof. This is a follow-up of the studies contained in items 1, 3, 4, and 5. Although this bill was not enacted, some of its provisions were incorporated into the 1977 act, and others are still under study. Also contained is a report of the General Accounting Office on needed improvements in the rehabilitation procedures for DI beneficiaries.
10. *Background Materials for Hearings on Social Security*, WM, July 18, 1977 (pp. 40). Presents detailed information on various aspects of OASDI and HI, both the then-

existing programs and the programs as they would be affected by the Carter administration proposal—including short-term and long-term financing; decoupling the benefit computation procedures; the earnings test; the DI appeals process; coverage of government employees; equal treatment as to benefits by sex; combined annual wage reporting; freedom of information and privacy; and international totalization agreements.

11. *Social Security Financing Proposals*, S, September, 1977 (pp. 62). Similar to item 7, but containing only material on decoupling and financing (updated to include the latest cost estimates, and also recent proposals, such as several by Senator Curtis).
12. *Short-Term Financing of the Social Security Trust Funds*, WM, September 2, 1977 (pp. 15). After describing the short-range financing problem of OASDI (over the next five to ten years), presents cost estimates for several proposed alternatives and for various possibilities as to only earnings-base increases and only tax rate increases.
13. *Long-Term Financing of the Social Security Trust Funds (Decoupling)*, WM, September 6, 1977 (pp. 32). After describing the long-range financing problem of OASDI and the future trend of replacement ratios for various earnings levels, analyzes the effects of several proposed decoupling methods (giving details as to their specific provisions, such as method of indexing the earnings record, base point for such indexing, PIA formula, MFB formula, minimum PIA, recomputation for earnings after initial claim, increases for those on the roll, and transitional alternative benefit computation procedures).
14. *Social Security Benefits (OASDI)—Existing Law and Proposals in 95th Congress*, WM, September 6, 1977 (pp. 48). A columnar presentation of coverage, benefit, and financing provisions of existing law and of pertinent pending proposals for change·
15. *Brief Summary of Testimony Presented to the Subcommittee on Social Security during Public Hearings Held July 18–22 and July 26–27, 1977 on H.R. 8218, the "Social Security Financing, Benefit Indexing and Equal Rights Amendments of 1977,"* WM, September 8, 1977 (pp. 38). Presents the views of various witnesses who testified on the Carter administration bill, subdivided by particular issue or provision (e.g., general-revenue financing, decoupling, taxable earnings base, tax rate schedule, equal treatment by sex, etc.).
16. *Short-Term Financing of the Social Security Trust Funds—Subcommittee Draft Legislation*, WM, September 28, 1977 (pp. 18). Describes (and presents cost estimates for) the proposal that was approved by the Subcommittee on Social Security of the House Ways and Means Committee (but note that this was substantially changed when the whole Ways and Means Committee considered the matter).
17. *Announcing Committee Approval of Social Security Financing Bill, H.R. 9346*, WM, October 6, 1977 (pp. 7). A summary of the provisions of the bill approved by the House Ways and Means Committee (more details and the pertinent cost estimates are contained in the committee report, *House Report No. 95-702*, October 12, 1977).
18. *Social Security Financing Amendments of 1977—H.R. 9346—Comparison of Committee Bill with Existing Law Showing Proposed Floor Amendments*, WM, October, 1977 (pp. 29). A columnar comparison of existing law, the bill approved by the Ways and Means Committee, and nine proposed floor amendments, as to the various provisions affected.
19. *Summary of the Principal Provisions of H.R. 9346, the Social Security Financing Amendments of 1977, as Passed by the House*, WM, October 27, 1977 (pp. 7). A summary of the provisions of the bill as passed by the House.
20. *Social Security Financing Amendments of 1977, H.R. 9346—Comparison of House*

and Senate Bills with Existing Law, WM and S, November 28, 1977 (pp. 60). A columnar comparison of existing law, the House-passed bill, and the Senate-passed bill, as to both the various provisions and the pertinent cost estimates (for similar information on the bill approved by the Senate Finance Committee, see *Senate Report No. 95-572*, November 1, 1977).

21. *A Proposed Conference Report on the Social Security Amendments of 1977*, WM, December 14, 1977 (pp. 80). A draft of the report of the conference committee between the House and the Senate, giving the legislative language of the provisions of the bill agreed upon and the explanations as to the action taken on the differing provisions of the House and Senate bills (the conference report in final form was later printed as *Senate Report No. 95-612*, December 14, 1977).
22. *Summary of the Conference Agreement on H.R. 9346, the Social Security Amendments of 1977*, WM, December, 1977 (pp. 14). A summary of the provisions of the 1977 act (P.L. 95-216, enacted December 20, 1977) and pertinent actuarial and statistical data.
23. *Summary of H.R. 9346, the Social Security Amendments of 1977 as Passed by the Congress (P.L. 95-216)*, S, December 23, 1977 (pp. 22). Similar to item 22.

It should be noted that all the actuarial cost estimates in the various committee prints were prepared by the Office of the Actuary, Social Security Administration.

ROBERT J. MYERS

Canadian Institute of Actuaries, *Statement on Cost Comparisons of Individual Life Insurance Policies*, pp. 2, The Institute, Ottawa, 1977; *Special Report of the Committee on Cost Comparisons of Individual Life Insurance Policies*, pp. 12 and appendixes, The Institute, 1976.

In April, 1977, M. D. R. Brown, president of the Canadian Institute of Actuaries, distributed to superintendents of insurance, life insurance industry associations, and members of the Institute a statement on cost comparisons of individual life insurance policies. The covering letter stated, in part: "For several years, there has been public debate about an appropriate measure for comparison of the cost of individual life insurance policies." It went on to say that the object of the study performed by the Canadian Institute of Actuaries was "determining a method with the highest degree of technical acceptability" and "capable of calculation by any company for the policies it sells without incurring unreasonable expenses." He noted that, "as a profession, we do not take any position on the desirability of implementation of the practice of publication of cost measurement indicators."

The statement attached described a method referred to as "the actuaries' index," which was described in the committee report as a "company retention method." For each year of the contract, a probability of utilizing each of the major policy benefits, including dividends, is assigned. The resulting values are then discounted at interest and converted into a level annual premium. The difference between the actual premium and the item just calculated is the *expected portion* of the total premium (based on the assumptions used) that will not be returned in benefits. The statement refers to the difficulty inherent in the inclusion of policy dividends and stresses that the cost index has no bearing on the proper choice of policy for the policyholder's needs and that many other factors must be considered in making a decision. In particular, it refers to the fact that a purchaser with a specific planning horizon or specialized requirements might find other cost comparison techniques more appropriate.

The statement concludes: "While we do not believe that any *one* index can always be a valid measure of cost comparisons between insurance companies, we believe that the 'Actuaries' Index' is a better measure than any other yet devised and if only one index is to be used, it should be the 'Actuaries' Index.' "

This statement was issued on the recommendation of the Committee on Cost Comparisons of Individual Life Insurance Policies, which had done a detailed study of the problem and presented a preliminary report, and in November, 1976, a second report, on the subject.

The chairman of the committee, Mr. J. B. MacDonald, is a consulting actuary who has also had many years of experience in both the individual and the group life insurance field as a company employee. Other members of the committee were chosen from various areas of employment, so as to be representative of varying points of view and experience. The committee concluded that the "company retention" method, based on "group-average" calculations rather than on an "event-specific" basis, was most appropriate, and then set about performing a thorough statistical test of the effect on the index of various changes in assumptions and the correlation between this index and certain other indexes that have been recommended in the past.

Other conclusions were that the interest-adjusted net cost basis is marginally acceptable as a substitute for the company retention method for some plans but is definitely not acceptable for participating life plans over long comparison periods. The correlation is reasonable for a ten-year period but less acceptable for twenty years. An interest-adjusted net payment method compares less favorably throughout.

The committee found that the rankings were not particularly sensitive to the choice of mortality and lapse rate and that, for nonparticipating insurance, even a 4 percent variation in interest rate had a minimal effect. For participating insurance, however, the interest assumption is very important.

The committee paid special attention to the interest rate and pointed out that each of the two parties to the sale might rather naturally evaluate the same cash flow at his own marginal rate of interest. If the only purpose of the cost index was to show the consumer the relative positions of various insurers, there might be no great harm in using a "consumer's" rate of interest (say 10 percent), but this has the effect of presenting the consumer with an absolute figure for company retention that he might regard as an inordinate amount. With that in mind, the committee concluded that the interest rate should (*a*) be at least as high as the general level of after-tax earnings on an insurer's assets; (*b*) be high enough that rankings are not seriously distorted from those that would arise from the use of a higher rate felt appropriate by many consumers; and (*c*) not be so high as to display misleadingly high retentions. The committee felt that 6½ percent was appropriate for Canada, under present conditions.

The committee felt that "while the *mathematics* of the interest-adjusted methods is easier to comprehend than that of the retention method, the *concept* of the retention method is actually easier to understand." However, following the publication of the report, an outspoken consumer advocate erroneously described the formula as having "more Greek letters than the Athens post office." It is unfortunate that even elementary mathematical calculations are frightening to the general public and to consumer advocates, and it is probably impossible to arrive at a method which is "technically acceptable" and still comprehensible to the public. Nevertheless, the Canadian Institute of Actuaries has done a valuable service in presenting a thorough and objective study of the problem and providing sound advice.

While such reports may not provide a simple solution to the dilemma, the very fact that a study of such high quality has been performed should enhance the stature of the profession and provide helpful information for serious students of the problem.

CHARLES T. P. GALLOWAY

Investment Activities of Life Insurance Companies, pp. 355, Huebner Foundation Lectures, edited by J. David Cummins, published for the S. S. Huebner Foundation for Insurance Education by Richard D. Irwin, Inc., Homewood, Ill. 60430.

It has been twenty-five years since *Investment of Life Insurance Funds*—a series of lectures on life insurance companies' investments—was published by the Huebner Foundation. In the meantime, the value of the dollar has been reduced by more than 55 percent, assets of life insurance companies have increased by a quarter of a trillion dollars, cash flow from pensions has increased tenfold, separate accounts have come into being, common stocks have become a significantly more important component of the investment portfolios of life insurance companies, and annual acquisitions of investments by life companies have increased tenfold (when short-term paper is included).

All these changes are reflected in *Investment Activities of Life Insurance Companies*, a highly readable text of excellent educational and reference value. Similar to its predecessor, this book consists of a series of papers originally presented as lectures at the Wharton School. One-third of the contributors are academic authorities, while the other two-thirds are well-known insurance industry executives with acknowledged expertise in their particular topic of discussion.

The lead-off chapter on "Investment Strategy," enhanced by a battery of statistics on changes in life companies' portfolios, provides a good overview of investment activities and sets the stage for some of the later chapters. There are a couple of rather interesting sections in this chapter on the relationship between investment yield and portfolio mix and insurance product strategy.

Most actuaries, even those not involved with investment-related functions, deal with cash flow at one time or another, so Chapter 10 (which should, logically, be Chap. 2) on "Cash Flow and Cash Flow Forecasting" should prove to be of great professional interest—especially since this chapter is augmented with Equitable's cash-flow model.

Private placements, income property mortgages, and equity real estate are three areas of life companies' investments that have been particularly popular in the 1970s. Chapters 2, 3, and 6 analyze the characteristics that led to the popularity of these investments and provide a series of statistics showing their growth in life companies' portfolios.

Common stock holdings of life insurance companies have increased by a multiple of 15 over the last twenty-five years, and have tripled (to around 10–11 percent) as a percentage of total life company holdings. Their rise in stature is evidenced by two chapters. One discusses the modern portfolio theory, with a description of how it is applied in the investment process of the College Retirement Equities Fund (CREF), and the other deals with the geometric mean strategy and requires a bit of polishing up of one's statistics as a prerequisite.

Of course, the advent of separate accounts contributed to a great degree to the rise in popularity of common stocks, and the brief and rather complete chapter on separate accounts provides a significant amount of historical and factual background on the subject.

The limited involvement of the life insurance industry in the erstwhile popular real estate investment trusts is outlined in Chapter 7. The title of the chapter on "Measurement of Investment Performance" raises expectations of actuaries who always wanted to do some second-guessing of their investment department, but, unfortunately, it delivers less than it promises, even though it makes rather interesting reading.

Chapter 11 briefly touches on the impact of inflation, with special emphasis on its impacts on investment policies, while Chapter 12 gives some insight into the investment operations of small and medium-sized life companies. The recent emphasis on the social responsibilities of investors is recognized in a separate chapter on the subject, with life companies assigned the role of investor. Finally, the impact of investment regulation is the subject of the last chapter.

This is a book of great educational value—parts of it should find their way into the examination syllabus, and it is a definite must for any continuing education reading list—a really invaluable reference work for life insurance executives, and a well-written, highly readable book.

T. ATHANASSIADES

Richard Johns (with consultation by Richard Stillinger), *The Life Insurance Industry's Marketing Dilemma*, pp. 40, Argus Research Corporation, New York, June, 1977.

Remember the early days of variable life? To anyone who was involved with this product (and there were many, many such people in those days), it was really exciting. Our paper[1] stimulated a massive outpouring, unmatched in recent memory, of truly high-level comment and discussion. No Society meeting seemed complete without a concurrent session and a workshop on some aspect of VLI. Other meetings and seminars proliferated. Hotshot representatives of (supposedly) hotshot brokerage firms set up lunches and other entertainments to get a leg up on handling the projected billion-dollar separate accounts. Reporters called all the time, then wrote wildly inaccurate stories in which the only real truths were quotes from top insurance executives about what a revolution was in store for the industry as the fantastic new VLI product gathered momentum. And now, only eight years later, now what? One (and only one) of our major competitors has VLI on the market. I get five letters a year (at most) from our agents asking when we might, also. I answer them by saying that we would like to have a good deal more indication of real interest on the part of agents and the public before we make the large commitments needed.

What happened? A lucid, interesting recounting of VLI's history and outlook, replete with thought-provoking opinions of many insurance industry people as well as author Richard Johns and the Argus Research Corporation, can be found in *The Life Insurance Industry's Marketing Dilemma*. Most probably, only the forewarned would guess that a report so titled would be about VLI. This is another of the strengths of this work, for it offers an interesting viewpoint as to how VLI may fit in context, from the standpoint of not only the industry but also the public.

The dilemma, as stated in the first chapter of the report, is that there are serious doubts as to the future of permanent life insurance in general and nonparticipating permanent life insurance in particular, while the industry continues to lose its share of the savings dollar. At the same time, agents' earnings have flattened out and now barely keep pace with inflation. And policyowners continue to have problems of underinsurance and keeping the coverage they have current with inflation. I would agree that this is a rational summary of today's situation; the real question is whether (as this report suggests) VLI does indeed offer a solution to the industry and to policyowners alike.

With this thesis established, the next two chapters of the report concisely and (for the most part) accurately summarize the regulatory scene—past, present, and future outlook. My one reservation is that the SEC's final rules are characterized as "a qualified victory" for the mutual fund industry. This is akin to saying that Muhammed Ali's bloody Manila knockout of Joe Frazier was "a qualified victory" for Ali because his opponent remained alive. It is also interesting that Mr. Johns states that "most knowledgeable observers" believe the eventual outcome of VLI tax treatment at the company level to be an approach under which there would be "virtual tax neutrality between variable and fixed policies." I would agree (thus making me a knowledgeable observer), but legislation is almost certainly involved if this goal truly is to be reached. It is

[1] John C. Fraser, Walter N. Miller, and Charles A. Sternhell, "Analysis of Basic Actuarial Theory for Fixed Premium Variable Benefit Life Insurance," *TSA*, XXI (1969), 343.

with sadness that I note that a history like this can (properly, in context) describe what happened without ever mentioning the people who made it happen. Thus there is no mention at all of Charlie Sternhell and John Fraser, and only an inconsequential reference later in the report to Harry Walker.

The next chapter describes Equitable's VLI product, markets, and experience up to the mid-1977 date when the report was published. The material describing the product itself and how it works is generally clear. The only portion where the reader may run into trouble because of tangled language is the section describing the mechanics of how the death benefit changes. This section is quoted verbatim from the prospectus. There are two interesting observations in this chapter: (*a*) that with gross investment returns of 8 percent or less (as illustrated in the prospectus) it takes many years for the death benefit to catch up with that under a fixed policy bought for the same premium, and (*b*) the same (40 percent first year, somewhat spread) commission scale Equitable uses for VLI is also used for an important range of their fixed products. As stated later on, few other companies may have the advantage of having their agents already accustomed to this pattern. This chapter also includes a discussion of Equitable's pricing assumptions and surplus objectives for its VLI product.

The next chapter, "Some Inside Views," chronicles the results of a series of intensive interviews on the outlook for VLI conducted by Mr. Johns with a wide range of industry people, including many actuaries. With only a few exceptions, the atmosphere presented here is gloomy indeed. Regulatory problems, commission restrictions, unfavorable common stock performance and outlook, the high cost of developing the product, and other factors are noted. Either this is a realistic assessment, or Mr. Johns has uncovered a great number of people who lack foresight. We shall see.

In the final chapter, "An Outside View," Mr. Johns and Argus present their rather optimistic thoughts as to the future of VLI. The most interesting section deals with VLI's appeal to buyers. It is keyed to a number of tables comparing results under VLI with those under alternative products, assuming gross investment yields of $9\frac{1}{2}$ and 13 percent. The former figure reflects the 9.3 percent result obtained by Fisher and Lorie in their well-publicized study of common stock performance over the period 1926–65. The 13 percent is the Argus outlook for the future, assuming that inflation continues at about a 5 percent annual rate and that (as they contend) the market will adjust to inflation over the long term. These assumptions, Standard and Poor price/earnings ratios and dividend payout figures, some more assumptions, and some analysis are then stirred into the pot, and 13 percent comes out. I leave it to others to judge where this falls on the scale that runs between brilliant economic analysis on one end and the satisfying sound of a well-thrown hatpin hitting its intended target on the other.

All the tables include figures for Equitable's policy and a hypothetical nonparticipating VLI policy of the New York Life design. Proponents of the Equitable design may be unhappy that, while the tables document that design's practical disadvantage from the standpoint of death benefits (e.g., lower than those under the New York Life design for thirty-seven or thirty-eight years at issue age 30, under the assumptions used here), its cash-value advantage is mentioned but never illustrated. In any event, the tables show both VLI policies outperforming (*a*) a "major mutual company's" participating fixed benefit policy using the paid-up addition dividend option and (*b*) a nonparticipating fixed policy with premium differences invested in a no-load mutual fund. The report cautions that under conditions that produce 9½ or 13 percent stock market performance, the participating fixed policy's dividends could well turn out to be higher than currently illustrated. I would add that the participating policy chosen seems to be a relatively high-premium one, and that, anyhow, in this kind of analysis it will be roundly outperformed by the type of participating policy many companies seem to be developing now—one with lower premiums, low cash-value buildup, and high dividends translating into very large amounts of paid-up additions on the 3½ or 4 percent reserve bases used for these policies.

In the final tables, the Equitable policy (at all durations) and the New York Life design policy (at later durations) run aground from a death benefit standpoint as opposed to a "buy term and invest the difference in a no-load mutual fund" scheme. A sophisticated and commendable approach is used to evaluate the after-tax results under the fund, but a "low cost" participating term policy, most probably more expensive than many nonparticipating term policies, is used. It is pointed out that the low-tax-bracket assumption (30 percent) favors the term/fund approach. I wish the report showed cash values as well as death benefits; there figures might well have made VLI look better.

In any event, Mr. Johns and Argus conclude that VLI can appeal to the public, to agents, and to companies as a solution to the aforementioned dilemma. There is, of course, the old story about the company that developed, from innovative scientific principles, the perfect, most nutritious dog food, only to lose a bundle after building new production facilities when it discovered that the dogs didn't like it. Maybe our analytical efforts should start from the (discouraging) figures as to trends in individual investor participation in the stock market. But let us also remember that it is easy to be bearish about products that will cost us a lot if we develop them and they do not sell. Our managements will not give us too many chances to do that sort of thing, so why should we take chances in the first place? For example, many of the arguments I have heard against the adjustable life concept are similar in nature to those against VLI. If we end up turning down all these options, we will surely be in bad shape ten or twenty years from now.

So, really, you should read *The Life Insurance Industry's Marketing Dilemma.* Proceed as quickly as you can to borrow a copy from a friend of yours who has it. Be sure to do this before you buy it yourself. It costs $95.

WALTER N. MILLER

Alicia H. Munnell, *The Future of Social Security*, pp. 190, Brookings Institution, Washington, 1977, $9.95, $3.95 paperback.

The financial problems of the old-age, survivors, and disability insurance program have drawn considerable public attention during the past few years.

Quite a number of books and papers have been written on this subject, with various recommendations as to what should be done about the program in the future. One of the best of these books was written by Alicia H. Munnell. At the time of writing, she was on the staff of the Brookings Institution, and she is now an assistant vice-president of the Federal Reserve Bank of Boston. What particularly appealed to this reviewer about this book was that, more than most books that plunged into the fray, it attempted—quite successfully—to present all sides of the various arguments dealt with.

Dr. Munnell's book, which has excellent summaries of each chapter, first discusses the well-known conflicting elements of individual equity and social adequacy. It then goes on to examine the benefit structure and explains the technical flaw in the initial computation of benefits under likely future economic conditions (that was subsequently amply corrected by the 1977 act). Dr. Munnell explains thoroughly the relative advantages of decoupling by price indexing and by wage indexing but does not take any strong position on this matter.

She does, however, fall into the trap that so many nonactuarial economists do with regard to its being possible to separate out the "insurance" and "welfare" elements of OASDI by eliminating dependents' benefits and having a less heavily weighted benefit formula, at the same time liberalizing the supplemental security income program. In doing so, she has ignored the much greater degree of social adequacy as between generations in the retirement benefits. This reviewer is of the opinion that it just is not possible to split out or subdivide the individual equity aspects and the social adequacy ones.

As to the retirement test, Dr. Munnell takes an ambivalent position. She believes that this test discourages people from working, but she also recognizes that to eliminate it would have very significant cost implications.

Possibly Dr. Munnell's principal interest lies in the chapter on how OASDI should be financed. As to the short-range situation, she (like many other economists) believes that taxes should not be raised until business recovery is assured. This reviewer cannot agree with this conclusion, because, if it were followed, there very likely never would be a time when there could be general agreement from the economists and the politicians that taxes should be increased. This reviewer further believes that the financing aspects of OASDI should be completely compartmentalized and that, if the economic planners in their wisdom decide that OASDI taxes are an undesirable fiscal drag, they should make offsetting changes in other taxes.

As to the long-range financing situation, Dr. Munnell points out that there can be a number of solutions, such as decoupling (which has been done), increasing payroll taxes (either the rates or the base), raising the minimum normal retirement age, or having replacement rates that decline gradually over time (such as would occur through the price-indexing method of decoupling). She also points out that financing could be achieved through a government subsidy, but indicates that this would be much less desirable if the "welfare" elements in OASDI were diminished by being assigned to a greater extent to SSI.

Dr. Munnell then takes up a subject that is always intriguing and intellectually challenging to economists—namely, the effect of OASDI on savings and capital accumulation. She believes that, in the past, the reduction in private saving because of the availability of OASDI benefits was offset at least in part by the decreasing trend in average retirement ages (because workers would increase saving rates, because they would have to accumulate savings over a shorter working life for a longer retirement period). She then goes on to say that, since the trend toward lower retirement ages will likely be reversed over the long run, as a result OASDI will cause a lower level of savings.

She then shows the various alternatives if this is to occur, such as using general revenues or having OASDI financed on a funded basis. In this reviewer's heretical opinion, all the studies of economists in the area of incidence of taxes and capital accumulation are stimulating intellectual exercise, but none is at all indicative of or conclusive concerning what actually occurs, because in our very complex economy there are too many dynamic elements and too much shifting among them for any econometric model run through a computer ever to determine the result with any reliability.

The 5-page summary chapter, bearing the same title as the book, merely points out that OASDI has financial problems but that they are susceptible of solutions. The decoupling that actually was done in the 1977 act (which general feature Dr. Munnell recognizes as being the necessary first step), plus the several financing features of this legislation, have come a long way toward solving these problems. Dr. Munnell suggests that there is now "an ambivalence of goals within social security" and that OASDI's design is "prone to inefficiencies and inequities," because it "contains aspects that are irrational for the attainment of either goal [individual equity or social adequacy]." Further, she believes that the complex issues facing OASDI should be neatly solved and compartmentalized as "either an annual redistribution program or a compulsory saving program."

In this reviewer's opinion, this irreversible mixture of social adequacy and individual equity in OASDI is one of the underlying strengths of the program. Those who would seek to split these two elements out neatly are not "in the real world" and, instead, are pursuing the alchemist's dream. In any event, Dr. Munnell's plea for a clarification of the goals and role of the program may well be met by the National Commission on Social Security, which was established by the 1977 act for this purpose among others.

This reviewer can recommend heartily to those interested in OASDI (and all actuaries should be!) the reading of this book, so as to have a good picture of the various views held by economists, who unfortunately are often not sufficiently familiar with pension plans generally and their funding procedures in particular. Dr. Munnell has attempted, with considerable success, to present fairly views that apparently differ from her own.

Unfortunately, the book is marred by a considerable number of factual errors and significant omissions about OASDI and private pension plans. For example, the philosophy underlying the 1939 act is misstated (as it often is) by being described as having been essentially on an individual equity basis, and its financing is erroneously stated to have been on a fully funded basis. The very detailed appendix of some 30 pages setting forth the history of OASDI attempts to be far too detailed and, as a result, contains quite a number of factual errors. Such an appendix, attempting to present so many technical aspects of this complicated program, probably should have been omitted—or at least should have been presented in a much more summarized and general form.

ROBERT J. MYERS

Robert M. Ball, *Social Security—Today and Tomorrow,* pp. 528, Columbia University Press, New York, 1978, $14.95

Robert M. Ball, commissioner of social security from 1962 to 1973, has now written about his philosophical views on the social security program, which are in some instances quite different from those of the administrations for which he was a political appointee. Unlike the books of some other political figures in the social security field, this one gives no insights as to the inner working and planning that underlay the program's development over the years. Instead, the somewhat unusual format has been adopted of structuring the book almost entirely in the form of questions and answers about the present program and possible changes thereof. In some instances, one would wish that questions other than those the author selected for himself had been posed to him.

The book contains sixteen chapters. These seek to explain what social security is, the contents of the new amendments, the financing of the program, the various types of benefits available, the types of employment covered, the benefit amounts, the retirement test, and several subsidiary aspects of social security. The latter include discussions of whether social security is insurance or welfare, whether women and minority groups are treated fairly, the interrelationship of social security and private pensions, and how social security should be financed. The final chapter (the only one not in question-and-answer format) sets forth thirty-one basic propositions as to how the program should be considered and how it should be changed.

The entire book is devoted solely to the old-age, survivors, and disability insurance and medicare programs, and not at all to national health insurance. Mr. Ball is, and has been for many years, one of the foremost exponents of the expansionist philosophy of social security. Quite naturally, this philosophy shows clearly throughout the book. One evidence of this is the terminology used. For example, every proposed benefit liberalization is termed an "improvement" (which it may be for some, although just the reverse is the case for others, who may have to meet the cost).

One might well wonder for what audience the book is intended. Certainly the question-and-answer format is not of the type that the average person seeking information as to personal entitlement to benefits would find useful, because the answers tend to be too detailed. On the other hand, those who already have a rather thorough knowledge of social security will find the discussion far too wordy; they can, however, get a good idea of the author's views by reading only the recommendations that are summarized at the end of each chapter, especially those in the last chapter. The book might be very useful, however, for a university seminar with students who had already had some general training in the provisions of the social security system and were engaged in an examination of the various philosophies of social security and proposals for its expansion.

Next, it may be of interest to examine some of Mr. Ball's recommendations and views as he expounds the expansionist philosophy. On the benefits side, he has many proposals to liberalize the program, although in a few instances he does propose some restrictions. This reviewer should point out that he is in agreement with the author on some points but in significant disagreement on others, particularly those relating to expansion of the general benefit level and scope of benefit protection.

Perhaps Mr. Ball's major recommendation in the benefit area is an increase of 12½ percent in the primary benefits. This is accompanied by a proposed reduction in spouse's benefits to 33⅓ percent of the primary insurance amount, so that the benefit for a couple remains at the same rate as at present. In other words, an increase would apply only for retired and disabled workers without eligible dependents and for survivors (which groups constitute the vast majority of the beneficiaries). One wonders whether this relatively modest increase is Mr. Ball's "final goal," or whether he really wants much higher benefits in the long run. For example, another believer in the expansionist philosophy, Bert Seidman, director of the AFL-CIO Department of Social Security, appears to believe that the benefit level should be roughly doubled.[1]

The proposed reduction in the relative spouse's benefit (while the total family benefit is kept the same) is based on the view that this will more nearly equalize the situation between couples where the wife is not an insured worker and those where she is. One wonders whether the proposal is not really of a leapfrogging nature—that is, that first the general benefit level will be raised and then there will be pressure to restore the original relative spouse's benefit.

An interesting, although minor, proposal in the benefit-level area is to increase benefits by 10 percent upon attainment of age 85. The rationale for this is that the very oldest people develop additional needs for care. Some may do so, but others do not, and so the application of an "average" increase would be too generous for some and insufficient for others.

Mr. Ball's general philosophy about the benefit level shows through quite clearly in places. For example, on page 34, he praises the increase in benefits during the past decade, but without indicating that a substantial part of this was due to CPI increases. He nonetheless states that the current level is "still quite low." This is shown also by Table 2.3, which indicates the benefits that

[1] Derived by this reviewer from his article in the *American Federationist* for July, 1978. Here Mr. Seidman states that social security should provide substantial replacement of preretirement disposable income for all workers earning up to the median wage. At the present time the gross replacement rate for such a person is only at about the 40 percent level and would have to be raised to about 80 percent to meet Mr. Seidman's criterion.

would have been payable in 1978 if the benefit formula of a decade earlier had not been changed—something that nobody would have supported.

As to the maximum taxable and creditable earnings base, Mr. Ball is somewhat ambivalent. In some places he expresses the view that the presently scheduled employee bases are quite proper and produce reasonable benefits for higher-paid workers, although in other places the belief is stated that the 1977 act went somewhat too far in this direction. He is, however, quite clear in his belief that the base should be eliminated for the employer tax.

Besides the general benefit increase mentioned previously, Mr. Ball recommends a number of other liberalizations in the OASDI and medicare programs. These may be summarized as follows:

1. A one-year readjustment or training allowance benefit for widows not otherwise eligible for benefits.
2. An increase from $255 to $1,000 in the maximum lump-sum death payment.
3. An increase in the exempt amounts in the earnings test for those under age 65 to the amounts for persons aged 65 and over.
4. Computation of the average indexed monthly earnings ultimately over a thirty-year period rather than a thirty-five-year one.
5. A reduction in the waiting period for disability benefits from five full months to three months (although in one place the recommendation is a reduction to two months).
6. Liberalization of the definition of disability at age 55 to an occupational one.
7. Payment of full-rate benefits to disabled widows and also benefits for disabled spouses.
8. A catastrophic cap for HI and SMI.
9. HI and SMI combined into one program and the enrollee SMI premiums eliminated, with the financing then to be solely from payroll taxes and a government subsidy.
10. Physician participation in SMI restricted so as to include only those who will accept the charges determined by the program (for other physicians, the beneficiary would receive reimbursement only on the basis of the allowable charges and then would have to pay whatever extra the physician billed).
11. Coverage of out-of-hospital prescribed drugs for chronic illnesses.

Quite naturally, the foregoing OASDI changes, plus the overall benefit increase would involve considerable cost—about 3 percent of payroll on an average long-range basis. The author's solution is quite simply to introduce a government subsidy that gradually would be phased in and eventually would result in equal tripartite financing.

In connection with the financing of the OASDI program, Mr. Ball believes that the official actuarial cost estimates are overstated by about ½ percent of payroll on a long-range average-cost basis because of overpessimistic assumptions about fertility rates and retirement rates.

In describing the various changes that were made by the 1977 act, Mr. Ball shows a bias toward the Carter administration. For example, he gives credit for the new wage-indexing approach only to the Advisory Council and President Carter, without mentioning that President Ford, in a bill in 1976, proposed almost exactly the same approach as that later proposed by President Carter. The author also implies in a number of places that the 1977 act closely followed the principles that President Carter had proposed; however, the Carter administration bill actually was significantly changed by Congress in many respects (e.g., significantly lower eventual replacement rates, no government subsidy, and continued parity of the employer and worker earnings bases).

As to private pension plans, Mr. Ball expresses strong support for them, but his proposals certainly would lead to their decline in importance in providing economic security for the nation. At one point, he suggests eliminating the earnings base for the employer and possibly providing for a lower earnings base than now in the law for employees. This, in his view, would give greater opportunities for private pension plans. Ignored, however, is the fact that the higher employer taxes may make fewer resources available for private pension plans.

He also seems to play down somewhat the role that private pension plans may have as to what proportion of the aged eventually will receive benefits from them, his estimate being only 40 percent, and as to how few widows will be protected. Here he seems to ignore the likely future effects of ERISA. The compulsory vesting will result in a much higher proportion of persons ultimately receiving private pensions than are covered at any one time. Also, the requirement that private pensions be paid on a joint and survivor basis unless the retiree elects otherwise will result in much more benefit protection for widows.

Mr. Ball also asserts that private pension plans cannot index benefits very well because of the costs involved. In this reviewer's opinion, such indexing is possible, and certainly social security has no magical machine to follow this procedure without cost problems.

Mr. Ball follows in the path of other expansionists when he compares the level of social security benefits with the poverty standards (which, in this reviewer's opinion, are of a mechanistic nature and do not really measure any defined standard of poverty). He thus takes no account of other income that people might have to fill any gap. Nor does he make any allowance for the value of assets, such as homeownership, that are equivalent to additional income.

In a few instances, Mr. Ball proposes a reduction in benefits. For example, he suggests that the present restriction on dual benefits when workmen's compensation is involved should be extended to other programs involving payment of benefits for disability. He also believes that 50 percent of OASDI benefits should be subject to income tax (representing, on a broad average, the portion coming from the employer taxes)..

Mr. Ball takes up the thorny question of the relative benefits for married couples as between one-worker and two-worker families. He comes to the same conclusion as this reviewer—namely, that the present basis is reasonably satisfactory (in the author's view, it would be even more so under his restructuring approach of raising the general benefit level and reducing the spouse's benefit proportion) and that any of the other proposals that have been made for drastic changes, such as splitting of the earnings record, contain more disadvantages than advantages.

Mr. Ball comes out strongly in favor of a government subsidy for social security. His views seem to be based on the naive assumption that "the government is a separate entity unto itself and has its own money." For example, in discussing whether the young high-paid worker gets his money's worth, he believes it is possible that eventually this might not be the case and therefore comes to the conclusion that it would be fairer to such an individual if there were a government subsidy. The question may well be asked, who will pay for this subsidy if not the self-same high-paid young worker?

Finally, it is of significance to note Mr. Ball's general views on taxation. This is well brought out in the following sentences: "It seems to me, therefore, that the government, expressing the collective will of the people, has a right to take back for broad social purposes a significant share of what we like to think of as our own 'earnings.' The limitations, I believe, are the limitations of practicality, not morality. If government took back too much, it would greatly affect incentives to work and save and to contribute to the further economic development of our total society." In other words, tax as much as you can up to the point of diminishing returns (if this can be determined!).

Beyond the general points discussed above, the reviewer would like to indicate a number of significant factual errors in the book, which are rather surprising in view of the author's long-time experience—and also the several capable reviewers of the manuscript (there are also a number of other errors, not mentioned here). These include the following:

1. *Page 19.* It is stated that, from 1968 through 1977, the level of benefits rose by 130 percent, and prices rose by 75 percent, so that the real value of benefits increased by 55 percent. The correct method of obtaining the real increase is not by subtracting the percentages but rather by dividing 230 by 175, which yields the correct increase of 31 percent. Moreover, the method of obtaining the two increases is inconsistent, because the benefit increase includes one for February, 1968. If proper comparison is made, the changes should be measured from February, 1968 (after the increase), to June, 1978 (after the increase that month). Then, the benefit increase was 105 percent, as against the CPI rise of 77 percent, or a real increase of 16 percent. It should be noted, moreover, that about 10 points of this increase were "recovered" by the 1977 act.
2. *Page 29.* There is discussion as to how many people have been removed from poverty by social security. This type of analysis, although widely used, is invalid, because, if there had not been social security, the money spent for its taxes might well have been used for other economic security measures that also would have removed people from so-called poverty.
3. *Page 34.* Earnings records will be indexed by *changes* in average *total* earnings in the country, not by "increases in average *covered* earnings" (italics added). Also, it is not correct that there is a guarantee until 1984 of computing benefits under the old method, using a frozen benefit table; the guarantee lasts for all future years but is applicable only to persons who attain age 62 in 1979–83.

4. *Page 35.* The explanation of the new benefit formula is not at all complete. It should have been brought out that this formula applies only to the 1979 cohort, who receive CPI adjustments for future years, and that the changes in the dollar bands (not necessarily always increases, as stated) will, for future cohorts, be based on changes in nationwide average earnings (not covered earnings). Further, it is stated that the maximum benefit in January, 1978, for a worker who retired at age 65 or later was $459.80. This figure is correct only for persons who attained age 65 then; it was significantly higher for persons who retired then at ages above 65 (for example, $517.10 for a man at age 72) and for persons who previously had had a disability freeze from which they had recovered. Still further, it is stated that persons retiring in the future with the minimum benefit (presumably at age 65, although this is not stated) will receive CPI increases after the first date of eligibility. This is not correct, because the latter date will be age 62 in all cases, but the increases for CPI increases do not begin until the first month for which a benefit is actually received.
5. *Page 36.* The author states that, in case of actuarial reduction for early retirement, the lower benefit will produce on the average the same total of benefits as the higher rate available at age 65. Actually, the actuarial equivalent involved is based on present values rather than on total payments.
6. *Page 44.* It is stated that Congress and the executive branch have always proposed future contribution schedules that would fully meet the future costs as they fall due. This was correct before the 1977 legislation. Then, however, neither the proposal of the Carter administration nor the final law met this desirable standard (even though the Senate-passed bill did so).
7. *Page 55.* The statement is made that the 1977 act will bring the size of the trust fund to more than 50 percent of the next year's outgo. It should have been stated that this is estimated to occur within about a decade but that even further increases occur thereafter, and a figure of about 280 percent will be attained in about thirty years (if the existing tax schedule is not altered).
8. *Page 190.* It is not correct that firemen "are generally barred from coverage under social security by federal law." Originally this was true—as it still is for policemen—but it is no longer so.
9. *Page 197.* It is stated that about 45 percent of retirees under federal retirement systems are also eligible for social security. Although this is true, it does not completely portray the situation, because the comparison should be made only for age groups who are old enough to get social security. When this is done, the percentage rises to about 67 percent.
10. *Page 227.* The five-year transitional period for the frozen benefit formula under the 1977 act *does* apply to some survivor benefits (namely, where the death takes place after age 62).
11. *Page 234.* In describing the transitional period of five years, more precision would have been desirable. It should have been mentioned that it applies for all future years for persons who attain age 62 in the period, and it should also have been mentioned that earnings received in the year of attaining age 62 and in subsequent years cannot be used in the computation of benefits.
12. *Page 236.* The 3 percent increment is not correctly described. It applies in and after 1982 only for persons who attained age 62 after 1978 and work after age 65. Furthermore, it applies (due to a drafting error in the law) to ages 70 and 71 as well, if benefits are not claimed then.

13. *Page 237.* It is stated that, in West Germany, the OASDI program is financed by an employer-employee contribution rate of 18 percent and by "19 percent from general revenues." The reader might well misinterpret this as meaning that the total cost of the plan is 37 percent of payroll. Actually, the government subsidy is about 19 percent of the total employer-employee contributions, or about $3\frac{1}{2}$ percent of payroll.
14. *Page 265.* It is stated that the cost of eliminating the earnings test at age 65 is 0.13 percent of payroll. Actually, it is about twice this much.
15. *Page 280.* It is not correct that an increment of about 7 percent per year after age 65 would produce about the same cost result as eliminating the earnings test. The increment would have to be about 10 percent (taking into account its effect in offsetting the process used in indexing the earnings record).
16. *Page 281.* The United Kingdom plan eliminates the earnings test at age 70 for men, but at age 65 for women (not at age 70 for all).

The social security program is scheduled for both a general and a particular analysis in the very near future. Mr. Ball's book can be helpful in this consideration, but it is important to remember that the book represents one opinion. There are many others.

ROBERT J. MYERS

Robert W. Batten, *Mortality Table Construction*, pp. 246, Prentice-Hall, Inc., Englewood Cliffs, N.J. 07632, 1978, $15.95.

Measurement of Mortality by the late Harry Gershenson has been for the past seventeen years perhaps the only text published in North America on the subject of the construction of mortality and other tables. It certainly has been the best known and most widely read. It has now been joined by a new publication, *Mortality Table Construction* by Robert W. Batten, who is professor of actuarial science at Georgia State University.

The scope of the topic contained in the new text is virtually the same as that of the older text, although presented in a slightly different order. In seven successive chapters, Professor Batten discusses the several common mortality assumptions (uniform distribution of deaths [UDD], Balducci, constant force); the concept of exposure and how it can be directly determined under the Balducci hypothesis; methods of tabulating the basic categories involved in mortality studies; individual record exposure studies (using actual ages, insuring ages, policy durations, and fiscal ages); valuation schedule exposure studies, categorized as being Balducci-based or UDD-based; the demonstration (both intuitively and mathematically) of the equivalence of an individual record formula and a valuation schedule formula based on identical assumptions (counterpart formulas); and, finally, the practical aspects of mortality studies.

Overall, this reviewer considers the new text to be a fairly good one. Specifically, the treatment of tabulating rules, independent of an application to actual, insuring or fiscal ages, is well done. Professor Batten utilizes a "generalized calendar age" tabulating rule that prepares the reader for dealing later with fiscal-age tabulations, a task that traditionally has been a difficult one. Another useful feature of the text is a significant emphasis placed on the algebraic proof of the equivalence of counterpart formulas. In the older text, Mr. Gershenson apparently assumes that such equivalence is intuitively seen, and that an alegbraic demonstration thereof is not necessary. Although Gershenson's assumption is quite reasonable, an algebraic proof, if not overemphasized at the expense of general reasoning, can also be instructive.

Candor, however, requires that several criticisms of the text be mentioned. There is undue emphasis on mathematical foundations and analysis of various mortality assumptions in Chapter 1. This material fundamentally belongs to the subject of life contingencies, and is adequately treated by Jordan. A brief review of this material by Professor Batten would have been appropriate, but the emphasis he has placed on it may cause readers to overestimate the importance of solving algebraic manipulations at the expense of the basic purpose of the text, an understanding of the theory and practice of experience investigations and table construction.

The set of individual record exposure formulas in uppercase notation, referred to by Gershenson as "against the traffic" formulas, is developed totally algebraically by Batten, with no supportive general reasoning or intuitive explanation. The same can be said of his development of continuous formulas from their associated single-interval forms. Pedagogic considerations would seem to require that a text point out the logic and rationale of formulas, in addition to their algebraic correctness.

In Chapter 5, Batten develops valuation schedule formulas based upon the uniform distribution of deaths assumption. Such formulas are certainly viable alternatives to the traditional Balducci-based set; in fact, one of the UDD-based is probably the most widely used of all valuation schedule formulas. However, the attention given to these UDD-based formulas seems to be excessive and ill-advised.

The Balducci basis, although chosen for practical, not theoretical, reasons, has the useful property of allowing an independent determination of exposure which then can be divided into the deaths to determine rates of mortality. UDD-based formulas have no such property. Thus they do not have a comparable intuitive base, and really exist only as the result of an algebraic manipulation. Since there is no independent determination of exposure, it follows that UDD-based valuation schedule formulas do not have individual record counterparts. It should also be pointed out that under the assumption that migration occurs at the ends of unit intervals, the single-diagonal Balducci-based formulas are in fact exact formulas, whereas the analogous UDD-based formulas are correct only under the UDD assumption.

On the matter of the algebraic demonstration of the equivalence of counterpart formulas, Professor Batten warns the reader that confusion can arise from the fact that valuation schedule formulas have rigidly defined notation, whereas the individual record counterpart formulas do not. Unfortunately, the text tends to contribute to this confusion by occasionally changing the definition of the previously well-defined valuation schedule symbols to conform to the arbitrarily defined individual record symbols. Much less confusion would ensue if the text were consistently to allow the former to remain well defined, while defining the latter to conform in each case.

Since there is practically no difference in the scope of coverage of the Batten and Gershenson books, it would appear that the two should be compared on the basis of pedagogic effectiveness. In the preface for the Society of Actuaries in the new text, attention is drawn to the fact that many students study this subject on their own, unaided by classroom instruction. In light of this, it is important that text material be designed to communicate effectively to readers material and concepts that can be fairly complex. The ability to achieve this effective communication in textbook form is a rare skill.

With all due respect for Professor Batten's pedagogic abilities as a writer and classroom instructor, it is the opinion of this reviewer that the text by Mr. Gershenson is the better one. Gershenson's toll-road analogy, praised by Batten in his preface but not utilized by him in the text, is an exceedingly useful teaching device. Furthermore, Mr. Gershenson has that rare ability to communicate with his readers almost conversationally. Although not incapable of improvement, Gershenson's work, judged on the basis of pedagogic effectiveness, can be described only as excellent.

The Batten text has been chosen by the Education and Examination Committee as the officially recommended text for the Part 5 examination. Nevertheless, it would be advisable for the Society of Actuaries, as the publisher of the Gershenson text, to continue to make it available as a companion resource to the Batten text.

RICHARD L. LONDON

Michael J. Boskin, ed., *The Crisis in Social Security—Problems and Prospects,* pp. 212, The Institute for Contemporary Studies, San Francisco, 1977.

In addition to the editor, twelve persons, mostly university economists, have produced nine articles (chapters) dealing with a broad range of issues relating to the social security program in the United States. While some of these were the subject of the 1977 legislation, most of the matters discussed will continue to be pertinent.

Attention is drawn to the socioeconomic context of social security's present problems:

> Since the enactment of social security in 1935, dramatic changes have occurred in the U.S. economy. Among the most important are the continual growth of real per capita income; a rapid general growth of government, especially in income security programs; a sharp increase in the labor force participation of women; an increase in marital instability; a trend toward earlier retirement; an increase in the life expectancy of the elderly; an equalization of income distribution; an enormous growth of private pensions and a sharp decline in the birthrate. Each of these changes has important consequences for social security.

It should not be surprising that these changes should lead to new views as to the efficacy of the current system and what modifications should be sought in the period ahead. Some of the authors are highly critical of the present system, and many of the ideas advanced would involve radical departures.

Many readers will find here points of view and ideas with which there will be strong disagreement. Nevertheless, this booklet does provide in compact form an insight into a body of thinking on the subject that will claim attention.

CHARLES A. SIEGFRIED

Sidney Homer, *A History of Interest Rates*, 2d ed., pp. 615, Rutgers University Press, New Brunswick, N.J., 1977, $40.00.

Sidney Homer, described by Forbes as "the grand old man of the bond business," started the research of this landmark history because of the practical requirements of his business. It was his feeling that current interest rates and trends in bond prices become more understandable when compared with past rates and past trends. Although practical considerations got him started, he was quickly caught up by a purely historical curiosity. The first third of the book, covering the period from the time of Hammurabi in the second millennium B.C. to the late Renaissance, is interesting and gives the actuary a valuable perspective on the changing cost of money over the centuries.

From a practical standpoint, the latter part of the book, dealing with interest rate history from 1750 forward, is the more helpful part for actuarial use. It was during this time that most modern credit instruments were created, and it is within this context that actuaries would find the book most useful from the standpoint of assessing reasonable assumptions of future interest rates.

Mr. Homer states that his primary purpose in writing the history was to "seek out, record and analyze the prevailing rates of interest themselves over a long period of centuries in many countries." He does not explore sociological or economic causes or effects of interest rate fluctuations, but he does point out that there have been sustained trends and repetitious patterns over the centuries. One pattern of particular interest is a saucer-like pattern that has appeared to parallel the development, flowering, and then decline of civilization in the past. The saucer is formed by a progressive decline in interest rates during the vigorous youth of a culture. A low level of rates during the period of cultural maturity is followed by a sharp rise in rates as each of the civilizations declined and fell. He points out that in our modern Western culture interest rates have declined most of the time since the Middle Ages. He states that recent high rates have not lasted long enough to set a significant upward trend, but he cannot resist raising the question of whether this is a signal of the beginning of the end! He goes on to say, "It is not necessary to cry doom. There is plenty of opportunity to reverse unfavorable trends. However, it seems fair to say that the free market long term rates of interest for any industrial nation provide a sort of fever chart of the economic and political health of that nation. Wars and political and economic calamities are recognizable at sight on the charts."

In general, the author does not attempt to preach or to draw sociological lessons. The book is essentially a pure history in that the detailed history of rates in a particular country or time period is accompanied by some analysis of why the rates behaved as they did. This is obviously somewhat speculative in ancient times and more reasoned in modern times. Spanning forty centuries and forty countries, the book is organized by major time periods (antiquity through the Hellenistic era, Rome, the Middle Ages, the Renaissance, and the modern era) and by culture or nation within those time periods.

All in all, this is a book that every actuary who needs to consider long-term interest rate patterns should have available for use. It does have several drawbacks, the chief being an index that is so sketchy as to be almost useless. Furthermore, the book suffers in places from the author's assumption that the reader knows more than the nonpractitioner in the bond business may know. For example, there was a time in United States history when United States government bonds had to be held by any bank wishing to circulate bank notes. This fact is briefly described in a footnote. Some thirty pages later the author dwells on the differences between bonds that had the "circulation privilege" and those that did not, with no further explanation and no reference back to his footnote explaining the matter. These are drawbacks that can be lived with. It's a fun book, an informative book, and a well-written book.

ALLAN B. ROBY, JR.

Robert J. Myers, *Indexation of Pensions and Other Benefits*, pp. xviii, 153, Published for the Pension Research Council, Wharton School, University of Pennsylvania, by Richard D. Irwin, Inc., Homewood, Ill. 60430, 1978, $10.00.

Indexation of Pensions and Other Benefits has been written by an eminent author well known for his writings and actuarial activities, particularly in the field of social insurance, and has been published by an organization greatly respected for its work in the pension field. Members of the Pension Research Council are all recognized authorities in pension planning and must approve any works before publication, but individuals may nevertheless have views differing from those of the author.

The primary purpose of the book is to set forth how and where indexing of pensions and other benefits is taking place in the world today. The concept of indexing is limited by the author to adjusting benefits for changes in the standard of living or cost of living. Thus, variable (equity) annuities and benefits with fixed increases, such as 3% per year, are given short treatment.

About one-fourth of the book is devoted to the history and description of the indexing of the social security program in the United States. After going through several phases such as ad hoc increases and false starts, the United States program now appears to have a sound indexing program in place.

The next 42 pages describe the indexed pension plans for federal, state, and local government employees of the United States. Again, both history and current provisions are outlined. At the federal level, indexing, in one form or another, applies to civil service employees, federal judges, military personnel, foreign service employees, and most other groups on the federal payroll. At the state and local levels, a great variety of programs exists; about half of these have some type of indexing, usually with a maximum such as a 3 percent per year maximum increase. To those not familiar with the "1 percent kicker" formerly in the federal civil service and some other federal plans, Mr. Myers gives an interesting view of its birth and death through the legislative process.

Similar backgrounds and current status are provided for indexed government benefits in Canada and social security benefits in other foreign countries. The programs of international governmental organizations such as the United Nations are generally indexed in one form or another. The author provides details on many of these plans.

The indexing of private pension plans in the United States, Canada, and other countries is given brief treatment. Automatic indexing appears in relatively few private plans, and when it does there are limits or maximums for the amount of the annual increase. The reasons for the lack of automatic indexing of benefits are primarily that (1) the current cost of the plan would increase significantly and (2) the potential exists for even greater or prohibitive costs under future economic conditions. Mr. Myers observes that corporations may have been taking advantage of excess investment income resulting from inflation to reduce pension plan costs, rather than using the excess investment income to provide automatic indexing for all beneficiaries. (This sounds like an equity or variable annuity, which didn't work, with the plan sponsor taking all of the risk.) The author did acknowledge that many plan sponsors, particularly the larger ones, have given ad hoc benefit increases related to changes in the cost of living to current retirees.

As the author states, the primary purpose of the text is to set forth the current status of indexation of pension benefits. In the first few pages, Mr. Myers gives a brief summary of the arguments for and against indexing and discusses various approaches to indexing. These approaches include indexing by prices, by wages, by job classification, and by combinations of these.

In his final chapter, Mr. Myers advocates the adoption of automatic indexing of private pension plans for economic, social, and political reasons. On the last item, the author fears that unless private industry acts voluntarily, the government will take action, either mandating indexing or expanding social security to fill the vacuum. Mr. Myers proposes several ways for plan sponsors to "get their feet wet."

PRESTON C. BASSETT

Robert W. Strain, ed., *Life Insurance Accounting*, pp. xii, 588, Merritt Company, Santa Monica, Calif., 1977, $21.50.

Life Insurance Accounting is the work of twenty-three authors under the direction of the Insurance Accounting and Statistical Association (IASA). It was designed to be a reference source that does not require expertise in insurance, accounting, investments, or any of the topics covered. The authors were selected from the business world and hence contribute a pragmatic touch to the subjects discussed. Most are insurance company executives or members of C.P.A. firms.

The work is comprised of seven major sections that deal with the history of insurance accounting; assets; liabilities, capital, and surplus; operations, generally accepted accounting principles (GAAP); planning; and reports and consolidations. Each chapter is written by a different author. A completed annual statement including instructions is also provided.

Life Insurance Accounting fulfills its desired goal in providing a basic insurance accounting text in easy to follow, nontechnical terms. Those who have not been involved in insurance accounting will find the work educational and informative without being overwhelming in accounting theory. Readers who have been long away from this area will similarly benefit from it as a refresher. Those who are involved frequently in accounting, however, will probably find the book too basic. Because of its intended role, some depth and technical descriptions have had to be sacrificed. Consequently, it would probably not be of great benefit in researching a particularly complex problem or transaction. Maximum profit comes from reading major sections of the book in their entirety. In this way, it is more like a textbook than a dictionary. However, each chapter does contain a list of additional readings that should prove to be a good starting point for more in-depth investigation.

Before delving into specific areas, some overall comments would be useful. As noted, *Life Insurance Accounting* is written in nontechnical language. Do not expect to find theoretical discussions, pages of journal entries, mathematics, or technical descriptions of reserves. The individual topics are discussed from a statutory viewpoint but related to generally accepted accounting principles in a separate section. Subjects are tied in nicely to the annual statement and are covered in basically the same order as found on the statement blanks, which makes it easy to follow along with the sample annual statement included. Because there are twenty-three different authors, there are a number of styles, some better than others. The summaries at the end of each chapter are generally too short to be really useful, and sometimes they are not actually summaries at all but information not included in the chapter. Each chapter includes a list of additional readings, which, as noted, could be useful.

The discussion of assets centers upon stocks, bonds, mortgages, and real estate, since these constitute the majority of a life insurance company's assets. The coverage of stocks, bonds, and mortgages, however, is mostly from an operational rather than an accounting point of view. Two examples are securities valuation and bond accounting.

In describing the valuation of securities, the author concentrates on the physical completion of Schedule D, which reports stocks and bonds acquired, owned, and sold. The *NAIC Valuation Manual* used to determine the amount at which securities are reported is mentioned only in passing. The logic behind securities valuation for regulatory reporting is not discussed, nor are the concepts of bond premium and discount, bonds in default, and stocks in good standing. The *NAIC Valuation Manual* should also have been described more fully.

In accounting for bonds, the chapter describes in depth the internal procedures for recording bond acquisitions and dispositions, noting the flow of documents from the investment area to the controller's department, and so on. While a discussion of physical procedures and controls may be appropriate for an auditing text, it seems to detract from the more general approach taken by the book in other areas. It might have been more useful to highlight the important internal control concerns in this area and avoid the step-by-step characterization of document flow.

The review of real estate and joint ventures is good, noting legal limitations on such investments, valuation methods, related expenses, and key definitions. All other assets are covered in one chapter, including policy loans, cash, deferred premiums, and so on. Each is briefly described, and the annual statement presentation is noted.

The book's discussion of life insurance reserves is quite good in describing what they are, the methods of calculation (prospective versus retrospective), and the various types of modified reserves. The chapter also touches upon miscellaneous life reserves, reserves for annuities, and accident and health reserves. Of course, the reader who is intimately involved in this area will find the description elementary. However, as a novice, I found the chapter very informative and easy to understand.

Other statement liabilities, including the mandatory securities valuation reserve (MSVR), are covered well in two chapters. The review includes a description of the liability, the method of accounting for it, and its presentation in the annual statement. Items covered include supplementary contracts without life contingencies, premiums received in advance, and commissions due and accrued among others. The highlight is the review of the MSVR. What it is and how it is calculated are conveyed well in this section.

The discussion of capital and surplus is generally good. The chapter notes the importance of surplus to a life insurance company and how it differs from the stockholders' equity section of other companies. The various items that affect surplus directly are described, including capital gains and losses and reserve strengthening. The former is tied in well with the MSVR description. Also discussed are what to look for when comparing the surplus position of different insurance companies and why such comparisons may not always be valid. The one weak spot in this chapter is the way in which surplus, especially unassigned surplus, is described. Such phrases as "funds set aside to meet unpredictable contingencies of an unspecified nature" and "an excess that . . . is needed . . . as a cushion of safety against adverse times and to provide extra financial strength when the company needs it" give the impression that surplus is a bank account to draw upon when needed, which of course is not true.

Operations constitute the next major section, and topics covered here include premium and investment income, benefits paid, expenses, taxes, lines of business, and cost allocations. The discussion of income, benefits, and expenses concentrates mainly on where the particular item is reported on the annual statement. This is especially true of the chapter on expenses, where little is said except for what goes on what line. Dividends are described in nontechnical terms, but perhaps the effect of mortality experience could be more clearly explained. The descriptions of the various types of income and accounting for benefits paid to policyowners are easy to understand. The coverage of the latter is the only time accounting entries are really used in the book, but the examples are easy to follow and do aid in understanding the topic.

The discussion of income taxes may be the highlight of this text. It was written by William Ausman, vice-president of the Insurance Administration Corporation, and he has done a very good job in explaining a complex topic. After touching on the Internal Revenue Code and how taxation of insurance companies fits in, we get to the nitty-gritty. The chapter describes the components of taxable income, how they are computed, and what the reasoning is behind the law. An excellent illustration of the interaction among the various tax provisions reveals how they can cause discontinuities in the taxable income function. Finally, the author reviews accounting for income taxes for statutory and GAAP purposes, including deferred taxes and related disclosures. It should prove very useful and easy to understand for those who have not had exposure to life insurance taxation.

Lines of business and departmental and functional cost allocation are covered by explaining why such apportionment is important and describing some of the various distribution methods. The LOMA format for allocation is used as an example of what is required for an efficient cost allocation system. Methods of accumulating apportionment data (actual time studies, questionnaires, estimates, etc.) and comparisons of cost among companies are also discussed.

As noted, *Life Insurance Accounting* is concerned primarily with statutory accounting. However, the effects of generally accepted accounting principles are discussed in the section so titled. The first chapter notes why this topic is important for a life insurance company and touches on the foundations of GAAP, that is, conservatism, matching, the cost principle, and so on. It also reviews briefly GAAP accounting for some major assets, including marketable securities, real estate, accounts receivable, and intangible assets. The second chapter describes the major differences between GAAP and statutory accounting principles. These include deferred and uncollected premiums acquisition costs, life reserves, deferred income taxes, and nonadmitted assets. The chapter includes an informative exhibit in which a simplified set of statutory balances is adjusted to GAAP amounts. This helps the reader visualize the differences as discussed in the chapter.

The final two major sections, "Planning and Reports" and "Consolidations," contain topics not usually covered in accounting texts. Planning includes cash management, budgeting, and corporate planning. These discussions serve mainly to remind the reader that these are important concerns to the accountant and should not be forgotten. The chapter on cash management includes an interesting exhibit comparing the terms and features of money market instruments such as commercial paper; Treasury Notes, Bonds, and Bills; certificates of deposit; bankers' acceptances; Federal Land Bank Bonds; and so on. The chart notes the denominations, form (bearer versus registered), guarantees, interest payment schedule and basis for computation, term, and other information. Mathematical models are discussed in the corporate planning chapter. While the example used in the discussion is perhaps more technical than it should be, the review of models in general, including their strengths and weaknesses, is informative.

Management reports are reviewed briefly in the final section. Included are financial and stability tests taken from the NAIC Warning System that are useful in monitoring a company's performance. The discussion also includes statistics that should be checked for performance control and planning purposes. The coverage of reporting to regulatory bodies deals primarily with the Securities and Exchange Commission and contains an informative exhibit on financial statement requirements of the SEC.

With the increasing numbers of insurance holding companies and the formation by insurance companies of subsidiaries, the chapter on consolidations and holding companies could prove helpful. It is again very general in touching on purchase versus pooling in accounting for business combinations as well as regulatory and SEC reporting of consolidations. A brief description of consolidation methods is included.

As can be seen, this work touches on almost every area a life insurance accountant could become involved with, and it is worthwhile reading for anyone who has an interest in the life insurance industry.

JOHN CIPOLETTI, C.P.A.*

U.S. Congress, *1978 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund and of the Federal Supplementary Medical Insurance Trust Fund,* pp. 33, 28, Government Government Printing Office, Washington, D.C., 1978.

HOSPITAL INSURANCE TRUST FUND

The Federal Hospital Insurance Trust Fund was established on July 30, 1965, as a separate account in the United States Treasury. All the financial operations of the hospital insurance system (medicare, Part A) are handled through this fund.

This thirteenth annual report covers the 1977 fiscal year (October 1, 1976, through September 30, 1977). Consistent with earlier reports, both short-term (in this report, fiscal years 1978–80) and long-term (fiscal years 1978–2002)

* Mr. Cipoletti, not a member of the Society, is senior accounting analyst with the Prudential Insurance Company of America.

financial projections are also included. In order to make these financial discussions more easily understood, the report includes a rather lengthy description of the trust fund's major sources of income and its major types of expenditures.

The report points out that the tax rates currently specified in the law (including the scheduled increases in 1979 and 1981) ought to be sufficient, when coupled with interest earnings, to support program expenditures through 1985. However, they are not sufficient, under current assumptions, to provide for adequate growth in the trust fund—relative to annual disbursements—toward the level of one full year's disbursements recommended by the 1971 Advisory Council. In fact, the report estimates that the ratio of fund to disbursements will have declined to only slightly more than 50 percent by 1985 using even the most moderate actuarial assumptions.

The report goes on to conclude that the present financing schedule for the hospital insurance program is not adequate to provide for the expenditures anticipated over the entire twenty-five-year (1978–2002) valuation period if the actuarial assumptions underlying the estimates are realized. Beyond 1985 the financing is not even sufficient to provide for projected benefits and administrative expenses. The trust fund is projected to decline rapidly thereafter, and is estimated to be completely exhausted by about 1990.

The report also includes an appendix that discusses the actuarial methodology and principal assumptions for the hospital insurance cost estimates prepared by the Office of the Actuary, Social Security Administration.

The report concludes by recommending that action be taken to strengthen the long-term financing of the hospital insurance system, although no specifics are mentioned. More importantly, the trustees recommend that the rapid growth in the cost of the program over recent years and anticipated in the future must be curtailed in a realistic manner.

SUPPLEMENTAL MEDICAL INSURANCE TRUST FUND

The Federal Supplementary Medical Insurance Trust Fund was established on July 30, 1965, as a separate account in the United States Treasury. All the financial operations of the supplementary medical insurance program (medicare, Part B) are handled through this fund.

This report, again the thirteenth annual, covers the 1977 fiscal year (October 1, 1976, through September 30, 1977). However, unlike the OASDI and HI trust fund reports, which projected the status of the funds many years into the future (usually twenty-five years), the SMI trust fund report analyzes the actuarial soundness of the fund only through fiscal year 1979. In support of this more limited approach, the report claims that the concept of actuarial soundness, as it relates to the SMI program, is closely related to the concept as it applies to private group insurance—that is, income to the fund must be established on the basis of incurred costs.

The report identifies the major sources of receipts of the trust fund as (1) premiums paid by eligible persons who are voluntarily enrolled in the program and (2) contributions of the federal government that are authorized to be appropriated and transferred from the general fund of the Treasury. In an appendix to the report, the actuarial assumptions that are used in the development of the premiums referred to above are discussed. The same appendix shows the development of the so-called monthly adequate actuarial rates that serve as the basis for determining the federal government contribution. It is to be especially noted that the report develops two sets of monthly adequate actuarial rates—those applicable to the aged (over 65) population and those applicable to the disabled population under 65 (who became eligible for SMI in 1973)—even though the monthly premiums paid by the two distinctly different groups are identical.

Using moderate actuarial assumptions, the report states that income to the trust fund is projected to exceed expenditures during all the fiscal years covered by the report (1977–79). The trustees estimate that there will be a margin of 13 percent of projected incurred expenditures in the fund at the end of fiscal year 1979, thereby claiming that the financing established through 1979 is sufficient to cover projected benefit and administrative costs incurred through that time period and to build a level of trust fund assets which is adequate to cover the impact of a moderate degree of projection error.

VINCENT W. DONNELLY

U.S. Congress, *1978 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Fund,* pp. 75, Government Printing Office, Washington, D.C., 1978.

This report frequently refers to the social security amendments of 1977, enacted on December 20, 1977, but does not contain a summary of the amendments. (For a summary, see the April, 1978 "Special Supplement" to *The Actuary.*) A table is included showing the maximum wage used for tax and benefit purposes and the related tax rates. The scheduled amounts for 1979–81 are shown in the accompanying tabulation. The tax rate shown does not include

Year	Maximum Wage Base	Employee Tax Rate*
1979	$22,900	5.08%
1980	25,900	5.08
1981	29,700	5.35

* Employer pays same amount.

hospital insurance (HI). HI increases 5.08 percent to 6.13 percent and 5.35 percent to 6.65 percent. The dramatic increase in taxes scheduled in 1979 and beyond for persons earning well above the 1978 wage base of $17,700 has been featured by the news media. Congress has felt pressure to find a way of avoiding the increase or shifting it to employers, general revenues, or both.

Two trust funds are covered in this report, one for old-age and survivors insurance (OASI), the other for disability insurance (DI). The OASI fund stood at $35.4 billion at the end of September, 1977, down $1.7 billion during the fiscal year, with 28.9 million people receiving benefits from the fund as the year ended. The comparable figures for the DI fund were $4.2 billion at year-end, a $2.2 billion decrease, and 4.8 milion receiving benefits.

The above covers operations and status of the funds through September 30, 1977. Next the report tackles actuarial status, with expenditures expressed as a percentage of taxable payroll, adjusted to be comparable to the *combined* employee-employer tax rate. As in past reports, the results based on the Alternative II or "intermediate" assumptions are featured. The intermediate assumptions use an annual increase in wages of 7.2 percent for 1978 and a CPI increase of 6.1 percent. By 1985 these are down to 6.0 and 4.0 percent. The fertility rate is assumed to increase gradually from the present 1.8 children per woman, to 2.1 by the turn of the century. Under the intermediate assumptions, income to the OASI trust fund is not expected to exceed outgo until calendar year 1981. For the DI fund 1978 may see a slight excess.

The medium- and long-range actuarial statuses under the intermediate assumptions are summarized below for OASI and DI combined. While the combined funds would be exhausted in 2028, they are expected to increase to over 2.5 times one year's expenditures before the decline sets in.

Averages over Period Indicated	Percentages of Taxable Payroll		
	Expenditures	Tax	Difference
1978–2002	10.64%	11.67%	+1.02%*
2003–27	13.51	12.40	−1.11
2028–52	16.50	12.40	−4.10
1978–2052	13.55	12.16	−1.40*

* Averaging followed by rounding produces 0.01 difference.

The 1977 amendments included the removal of double indexing. The benefit formula was revised so that replacement ratios (the ratio of a worker's benefit to his gross earnings in the year prior to retirement) would not gradually increase to unreasonable levels. The report shows (Table 30) that ratios should remain stable over the next seventy-five years, and vary very little for the three alternative sets of assumptions.

Appendix A of the report discusses assumptions and methodology and illustrates the impact of varying some of the key assumptions. It is interesting to note that during the seventy-five-year projection period a mortality improvement of 15 percent is assumed for men and a 25 percent improvement for women. The trend toward earlier retirement was assumed to slow as a result of the recently enacted prohibition against mandatory retirement before age 70. Disability benefit incidence rates were assumed to increase about 25 percent during the next twenty years and then remain level. (The 1977 report assumed a 33 percent increase by 1986.)

The report is reassuring as to the situation during the next twenty-five years. However, the increased taxes for 1979 are very unpopular, and the good work done in 1977 may not survive. The report reminds us that a serious problem looms in the next century. The wage earners may find the burden of transferring income, via OASDI, to a relatively large number of aged, disabled, or dependent people too great. The several groups studying OASDI must find a way of reducing the burden.

RAYMOND W. BENDER

SELECT CURRENT BIBLIOGRAPHY

In compiling this list, the Committee for the Review of Literature has digested only those papers that appear to be of direct interest to members of the Society of Actuaries; in doing so, the Committee offers no opinion on the views that the various articles express.

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As a basis for population policy, existing information and data collection systems on fertility-related variables are evaluated and recommendations for their improvement are made.

U.S. National Center for Health Statistics, *Statistics Needed for Determining the Effects of the Environment on Health: Report of the Technical Consultant Panel to the United States National Committee on Vital and Health Statistics*, pp. viii, 50, Documents and Committee Reports, Series 4, No. 20, Hyattsville, Md., July, 1977.

Recommendations are presented concerning which statistical data on health effects of the environment should be collected, the ways in which recommended data should be collected, and any changes that should be made in the existing measurements of environmental factors in order to relate the environmental factors to health effects more efficiently.

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Statistics are presented on persons with one or more episodes in short-stay hospitals during an average year, according to number of episodes, days hospitalized, and patterns of stay. Based on data collected in household interviews during 1972.

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Statistics are presented on the number of persons in the civilian noninstitutionalized population with hospital and surgical insurance coverage. Private hospital and surgical insurance coverage of persons under 65 years of age is distributed by selected demographic characteristics. Statistics on the number of hospital insurance plans per person, how the plans were obtained, and the type of insurance organization are shown for this age group. Reasons for not having hospital insurance also are given for persons under 65 years. Based on data collected in health interviews during 1974.

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Presents statistics on the incidence of acute conditions and the associated days of restricted activity, bed disability, and time lost from work or school, by age, sex, calendar quarter, place of residence, and geographic region. Based on data collected in household interviews during the period July, 1975—June, 1976.

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U.S. National Center for Health Statistics, *Utilization of Nursing Homes, United States: National Nursing Home Survey, August 1973–April 1974*, pp. vi, 78, Data from the National Health Survey, Series 13, No. 28, Hyattsville, Md., July, 1977.

Presents statistics on various measures of utilization according to selected facility—resident, staffing, and financial characteristics. These statistics include distribution of beds, occupancy rate, demographic characteristics of residents, length of stay since current admission, primary reason for admission, living arrangements prior to admission, admissions, discharges, rate of turnover, full-time equivalent staff, skill of charge person, charges for care, and sources of payment. Based on data collected in the National Nursing Home Survey.

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Statistics are presented on nursing homes by original purpose of building, admission policy, certification status, cost per resident-day, attending physicians, type of supervising staff, rehabilitation services, waiting lists, training programs, room capacity, and bed capacity. Based on data collected in the 1973–74 National Nursing Home Survey.

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Statistics are presented on the utilization of nonfederal short-stay hospitals based on data abstracted in the Hospital Discharge Survey from a national sample of hospital records of discharged inpatients. The number of discharges, discharge rates, and average length of stay are shown for the classes and categories of first-listed diagnoses, by demographic characteristics of inpatients discharged, and by geographic region and bed size of the hospitals. For these patient and hospital characteristics, this report also presents the number and percent distribution of all-listed diagnoses (up to five diagnoses per patient) reported for inpatients discharged.

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U.S. National Center for Health Statistics, *Surgical Operations in Short-Stay Hospitals, United States—1975,* pp. iv, 68, Data from the National Health Survey, Series 13, No. 34, Hyattsville, Md., April, 1978.

Statistics are presented on the number and rate of inpatients with surgery discharged from nonfederal short-stay hospitals and the types of surgical operations performed. The data for this report are based on information abstracted by means of the Hospital Discharge Survey from a national sample of the hospital records of discharged patients. Estimates of the number of patients with surgery and of operations grouped by surgical classes and categories are shown by the demographic characteristics of the operated patients and by geographic region and size of hospital. The number and average length of stay are shown for first-listed operations by age and sex. Some comparisons are made of the 1975 surgical data with the surgical estimates for 1970 and 1965, by age and sex.

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Copies of these publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.