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BOOK REVIEWS AND NOTICES

Alistair Neill, *Life Contingencies*, pp. 452, William Heinemann, London, 1977, £10.50.

A 1980 review of a 1977 book seems most untimely. However, in view of the recent developments in actuarial education on this side of the Atlantic, it is worthwhile to examine the latest life contingencies textbook produced for the Institute and the Faculty of Actuaries.

It is a book designed for the student, with many worked examples and an adequate number of exercises. It is a life contingencies text in the most traditional sense. Upon first reading, one senses that it is Chester Wallace Jordan, Jr., speaking informal British English. Upon careful examination, one finds that it covers almost exactly the topics covered by Jordan's *Life Contingencies*. With one exception, topics are presented in essentially the same order as in Jordan's book. Sickness benefits are shifted to the final chapter, entitled *Miscellaneous Topics*, relegating the topic to relative obscurity.

This book differs from its predecessor, Hooker and Longley-Cook's *Life and Other Contingencies*, in several ways. First, there is a large number of exercises for the student. Second, the book covers only the essential topics and ignores the contents of the asterisked sections of Hooker and Longley-Cook's book. Finally, it is written in a very concise manner, completely without the verbiage of its predecessor. The result is a compact student text not very different from Jordan's text.

The author makes good use of finite-difference theory in developing approximations to various actuarial functions, but the results of the approximations are inadequately analyzed. In chapter 1, the uniform distribution of deaths assumption is introduced. In chapter 3, using Woolhouse's formula, the author develops approximations for annuities payable m times per year. The first approximation results from linearization of the commutation function D_{x+t}, $0 \leq t \leq 1$, a fact not explicitly stated. A few pages further, without any justification, the author suggests the approximation

$$\int_0^1 D_{x+t}dt \simeq \tfrac{1}{2}(D_x + D_{x+1}) .$$

Again he neglects to show that this is also a result of linearization of the function D_{x+t}, $0 \leq t \leq 1$. He does show that results using these formulas give consistent results. A simple analysis of these approximation methods would have been useful.

In the development of continuous functions, the integral form of the continuous annuity is simply stated, but the approximate value is derived by taking the limit of the corresponding annuity payable m times per year. It is more consistent to develop the integral and develop the approximation from the integral or to use the limiting process to develop both the integral and the approximation. The rest of the book uses a variety of approximations without specific analysis or interpretation of the approximations.

It is interesting to note that the entire book is based on the traditional deterministic model, with no reference to statistical concepts. Only the variance of the life annuity function is computed, in the last chapter of miscellaneous topics. This is in contrast to Hooker and Longley-Cook's book, which gives more than nominal consideration to statistical concepts. This orientation toward the deterministic model is in direct contrast to the trend in actuarial education in North America, where Jordan's text is soon to be replaced by books that are much more progressive. The proposed texts on this continent promise to use the stochastic model as the theoretical formulation for the entire text.

The advantages of Neill's book over Hooker and Longley-Cook's book are marginal. The advantages over Jordan's are nonexistent. With the publication of the new North American texts, this new British text will be aged before its time.

H. H. PANJER

Report of the Universal Social Security Coverage Study Group: The Desirability and Feasibility of Social Security Coverage for Employees of Federal, State, and Local Governments and Private, Non-profit Organizations, pp. 276, United States Department of Health and Human Services, Washington, D.C. 20201, March, 1980.

The issue of universal social security coverage has been the subject of considerable public debate since the social security program began in 1935. Most federal government employees and approximately 30 percent of state and local government employees are excluded from participation in social security. In the past, whenever Congress has taken up the issue of universal social security coverage, strong opposition, primarily from noncovered employee groups, has scuttled it.

In recent years, however, Congress has become increasingly concerned about the issue. The Universal Social Security Coverage Study Group was established at the direction of Congress by the Secretary of Health, Education, and Welfare in 1978. Its mission was to examine the feasibility and desirability of mandatory social security. In March, 1980, the study group issued its report, entitled *The Desirability and Feasibility of Social Security Coverage for Employees of Federal, State, and Local Governments and Private Non-profit Organizations.* It is a comprehensive, 276-page study of the issues involved in mandating social security coverage. It is an important study because, for the first time, the issues of lack of social security coverage and the principal alternatives are analyzed in detail in a quantitative manner.

Chapter 3 of the report examines the problems that result from lack of universal coverage and the basis for considering mandatory coverage. Five major problems are identified:

1. Gaps in insurance protection exist for workers moving between jobs that are covered and jobs that are not covered by social security. Thus workers who shift between covered and noncovered employment may experience periods without disability and survivor protection.
2. Gaps in benefit protection exist for workers in noncovered employment. Many noncovered pension systems do not provide disability and survivor benefits comparable to that provided by social security. A number of other benefits are also frequently less favorable.
3. A few workers are exempted from paying into a redistributive program that provides proportionately more generous benefits to low-wage than high-wage workers. The study group found nothing to suggest that employees of government and nonprofit organizations deserve such an exemption.
4. Participation in noncovered employment exempts part of the lifetime earnings of some workers from social security taxes. These workers subsequently can receive a social security benefit, often called a "windfall," that is high in proportion to the payroll taxes they paid. The report estimates that windfall benefits are costing the social security system about $840 million a year.
5. Some workers who spend most of their careers in noncovered employment also work for a short period in the covered sector without becoming fully insured under social security. These individuals receive no retirement benefits from social security based on their contributions to the program.

Chapter 4 of the report focuses on the principal choices available to policymakers with respect to the universal coverage issue. The two most realistic possibilities for change are identified as (1) mandatory coverage for all or some of the work force not covered by social security and (2) alternatives to mandatory coverage that would reduce existing "gaps and windfalls." The two other possible options mentioned in the report are (3) increasing incentives for voluntary coverage and (4) maintaining the status quo. But the study group appears to dismiss these two options quickly, and there is no further analysis of them in the rest of the report.

According to the study, "mandating social security coverage for all employment would resolve the windfall and gap issues most effectively." But the study points out that, initially, mandatory coverage could be partial rather than universal. Coverage could be extended to all or only one of the major noncovered sectors and directed toward only new employees or toward all or some of the current employees.

The report suggests that if social security were mandated for federal, state, and local government employees, most current retirement systems would need revision. New retirement formulas could be designed to provide average employees with the same retirement income, including social security, that the present noncovered systems provide. Three approaches to coordination are considered in the report. Under the "add-on" approach, the new plan benefit is proportional to salary but at a reduced level. The plan benefit is not affected by the amount of the social security benefit available. Under the "offset" approach, the new plan benefit would be reduced by a certain percentage of the social security benefit. Under the "step-rate" approach, a given percentage would be applied to earnings below a specified level, and a higher percentage to all earnings above it.

The second major option identified in the report would be to reduce the insurance gaps and windfalls without requiring social security coverage. A system for transfer of retirement credits could be established between social security and noncovered retirement systems to reduce coverage gaps for people who enter or leave noncovered employment. Mandatory minimum standards could be imposed on noncovered retirement systems to eliminate at least some coverage gaps. Social security benefits of individuals with some noncovered employment could be adjusted to remove or reduce windfall benefits. The option to withdraw from social security, now available to state and local governments, could be eliminated.

Chapter 5 examines the issues involved in extending social security coverage to federal employees. Nine out of ten federal employees are currently not covered by social security. The study group concluded that, under the federal Constitution, it would be legal to extend social security benefits to federal employees and to modify future accrual rates under existing federal pension plans. Three principal approaches to coordination were examined:

1. *Constant-benefit approach.* This would, on average, maintain existing benefit levels for a selected group of "targeted" employees—those with full careers (forty-two years) in federal service and final salaries of $20,000. Total costs to the federal government would be somewhat lower than under the current plan.
2. *Modified OPM* (Office of Personnel and Management) *approach.* This is similar to the constant-benefit approach, but the targeted salary would be $30,000 rather than $20,000. High-income employees would lose less and low-income employees would gain more than under the constant-benefit approach. Costs would be slightly higher than under the current plans.
3. *One hundred percent offset approach.* The existing federal benefit formula would be retained, but the resulting benefit would be reduced by the full amount of social security benefits attributable to federal employment. Costs would be the same as currently, but the 100 percent offset is contrary to IRS integration rules.

It is suggested that under the first two approaches a thrift plan might be offered to offset the reduced benefits for high-income employees. A thrift plan combined with the constant-benefit approach could cost about the same as the current plan.

In commenting on the transition options available, the study concludes that "exempting current employees who are fairly close to retirement and covering all future service for others would virtually eliminate contribution and coverage gaps, would protect current pension accrual rates for current employees and would gradually phase out windfalls for current workers." It goes on to state that "extending social security coverage only to future employees would be the slowest of the options in achieving the goals of coverage but would be the most acceptable plan to Federal workers opposed to coverage."

Chapter 6 analyzes the issues involved in extending social security coverage to noncovered state and local government employees. Approximately 28 percent of these employees are not covered under social security. Again, mandating social security would probably necessitate redesigning the public retirement benefit formulas. The study group evaluated several alternative benefit designs that may be considered for the newly coordinated system. In exploring possible approaches, the study group relied heavily on the work of two outside groups:

1. *Actuarial Education and Research Fund* (AERF). Twenty-five plans, varying in size from 20 to 100,000 members, were selected and analyzed by the actuaries of the respective state and local pension plans.
2. *Interagency Group*. An actuarial firm currently working in cooperation with United States government agencies analyzed twenty-two large plans that include more than half of all noncovered state and local government employees.

Both groups designed new coordinated retirement benefit formulas that reproduce, to the extent possible, present net replacement rates.

Constant-benefit formulas of the add-on, step-rate, and offset types were designed. Maintaining present net income replacement rates was considered appropriate because it was felt that the employee groups affected would not accept a substantial reduction in first-year benefits.

In addition, AERF actuaries were asked to design a coordinated plan they believed would be "most likely" to be adopted if social security coverage was mandated. The interagency group also estimated costs for a "most typical" plan characteristic of public plans already covered by social security.

The study group found that under the coordinated plans social security taxes plus the new retirement plan costs will be substantially higher than present costs under every alternative that was considered. Under the constant-benefit formulas, total costs would increase by 5–10 percent of payroll. This represents an increase of 33–62 percent over current costs. Cost increases would be even greater for the most likely and most typical plans, since these plans tended to be more liberal. The primary reason for the increased costs is that, in a number of important areas, the new coordinated plans plus social security would provide more liberal benefits than the current plans.

The study group analyzed two transition approaches to mandatory coverage—covering new employees only and covering current workers plus new employees. Covering only new employees would mean that elimination of windfalls and gaps could take up to forty years. But the cost increases resulting from mandatory coverage would be phased in gradually. In contrast, covering current employees as well as new employees would result in sharp cost increases.

In chapter 8 of the report, the study group concludes that, on the basis of legal, administrative, and fiscal criteria, it would be feasible to expand social security coverage.

To summarize, the study group has produced a comprehensive analysis of the implications of mandatory social security coverage and the options available. Yet it would appear that some important considerations were overlooked or at least not given adequate consideration. The study group concluded that mandatory social security coverage would mean significant increases in costs for state and local governments—according to their calculations, averaging between 33 and 62 percent over current costs. If the "most likely" plans designed by the actuaries are adopted, the cost increases would be even greater. Cost increases of this magnitude would place a great financial strain on the affected jurisdictions. Yet the study group seems to express little concern over these increased costs or where the needed revenue to pay the cost increases may be found. This would appear to be a significant deficiency in the report, particularly when it is kept in mind that many jurisdictions are not meeting the costs associated with their present benefits.

The major reason given in the report for mandatory coverage is that employees in noncovered systems are missing out on some of the benefits that are available to members covered under social security. The report points out that the combined benefits under covered systems generally exceed the benefits of noncovered systems by 20 to 60 percent. But the report does not question whether the combined benefits under these covered systems may be unnecessarily high. In fact, a number of covered retirement systems have recently reduced the benefits available to new members.

The study group may have overstated somewhat the gaps in protection that actually exist because of lack of social security coverage. The report points out that many noncovered pension systems do not provide disability and survivor benefits comparable to that provided by social security. But the report overlooks the fact that many employers provide disability and survivor protection outside the retirement systems. In these cases, the gap in protection may not be nearly as great as might first appear.

The report suggests that under newly designed retirement formulas average employees could be provided the same retirement income, including social security, that is provided under present noncovered systems. But in fact, there are few "average" employees. The majority of employees will have either lower or higher salaries, years of service, or retirement ages than the average. These employees would receive total benefits that were either smaller or larger than the benefits that are provided under the present noncovered plan. The study group did not appear to express any concern over this fact.

SANDOR GOLDSTEIN

Bruno Stein, *Social Security and Pensions in Transition,* pp. 308, Free Press, New York, 1980, $14.95.

The final sentence of Professor Stein's chapter on financing social security states a fundamental difference between the analytic approach to social security of economists and that of most actuaries: "The system simply cannot be examined apart from the rest of the economy." Actuarial training and practice tend to focus on careful and prudent design of conservatism, while assuming the "rest of the world" to be stable and not affected by our plan design recommendations, or, to use the economists' language of partial differentiation, "ceteris paribus." *Social Security and Pensions in Transition* is a readable, comprehensive description of the current state of economic analysis of social security and pensions. Actuaries interested in how policy planners see the system affecting the "rest of the economy" will find this an excellent source.

Professor Stein provides in the first half of his book a broad and interesting description of public income maintenance systems and employer pensions. A number of unforeseen interactions between various public sector plans are carefully described. His description of the employer-sponsored plans offers little new to actuaries, although he is surprisingly concerned with the scope and effects of offset plans. To this reviewer he seems to exaggerate the extensiveness of such plans and to take an unduly hostile attitude toward them.

What is most interesting to actuaries is the economic analysis of social security in the last half of the book (those familiar with the basic retirement income structure can easily skip the first three descriptive chapters). This review briefly examines five of the principal interests of economists in social security and how Professor Stein deals with each: (1) the effects of social security on savings and capital markets, (2) the effects of labor force participation, (3) interaction and distortions, (4) macroeconomic considerations, and, finally, (5) tax incidence and equity.

1. EFFECTS ON SAVINGS AND CAPITAL MARKETS

One of the comprehensive analyses in Professor Stein's book is that of the economic theories and empirical studies of how social security has affected United States saving behavior, distribution of income between labor and capital, and economic growth. This is clearly a set of issues for which a "ceteris paribus" approach to plan design is inappropriate. Chapter 5 of *Social Security and Pensions in Transition* describes the original econometric approach to these questions by Martin Feldstein (as recently as 1974) and the ensuing research by a number of economists refuting or extending his conclusions. In Feldstein's model, families consider the present value of future social security benefits as an "asset," which permits them to reduce their accumulation of other assets in preparation for retirement. Consequently, social security depresses private saving. Using the postwar national income account data and a straightforward application of multivariate analysis, he finds that a significant coefficient attaches to the social security wealth variable. Using that coefficient, he finds that social security has caused a 50 percent decline in savings. He then estimates a resulting reduction in the private capital stock of 38 percent, and a gross national product 15 percent lower. Some other research has confirmed his findings (this reviewer used a similar technique to estimate that 60 percent of survivor benefits paid under OASI would have been provided by private life insurance in the absence of OASI, or, to put it differently, the private life insurance business is less than one-half the size it would have been had SI not been added to OA in the 1939 legislation). Still others have refuted his results, and no consensus among economists exists. Professor Stein's guarded conclusion is that the weight of the evidence is that social security has *some* negative effect on saving, albeit probably small. Since the date of publication of Professor Stein's book, Feldstein has acknowledged an error in the computation of the present value of social security benefits, which appears to destroy the validity of his results.

2. LABOR FORCE PARTICIPATION

The author also reviews the longer series of studies on the impact of social security on labor markets. In some sense, attitudes toward the "fairness" or "equity" of the earnings test and the retirement age depend more on the current level of unemployment than on any inherent plan-design goals. The author has a neat summary: "The younger workers pay a tax whose yield is used to bribe the older workers to leave the labor market—that is the carrot—and the earnings test, together with mandatory retirement, is the stick used to beat them out of the labor market." He then questions whether driving "human capital" out of use at age 65 is really desirable or is an anachronism reflecting the depression era birth of the system. He subsequently favors raising the full benefits entitlement age of 65 in order to deal with the twenty-first-century demographic bulge.

3. INTERACTIONS AND DISTORTIONS

Throughout the book, Professor Stein tries to identify the unintended interactions between social security, public welfare plans, and private pensions. He has written previously on welfare systems, and he seems particularly on the mark in his analysis of those interactions. His analysis of private pension interactions sometimes misses, however, particularly, in this reviewer's opinion, when he criticizes integrated plans: "This, at least in part, violates the goal of social security as a foundation for future retirement benefits, because the addition of a foundation stone by social security leads to the subtraction of at least part of a stone by the employer." One might ask whether the height of the building must be unbounded?

A good deal of economic literature over the decades has been devoted to finding what kinds of taxes distort economic behavior and how to design taxes that reduce undesirable distortions. Professor Stein brings this methodology to bear on various aspects of social security—particularly the FICA tax. One might not find it intuitively obvious that "general taxes, especially the personal income tax, are less distortionary than payroll taxes." Professor Stein admits, however, that not much evidence exists that the FICA tax has yet significantly reduced the supply of labor.

4. MACROECONOMIC CONSIDERATIONS

Most actuaries would probably agree with Professor Stein's conclusion that "economic stabilization is simply not a proper goal for the system." The idea of tinkering by policymakers with the payroll tax rates or benefit levels, in the interest of stimulating or dampening demand, is hardly appealing for a system relied upon for long-term retirement income.

The author also describes several proposals by Feldstein for full-funding the system, with significant extra taxes for a five- to ten-year period. Feldstein's primary motive is to increase national savings, thereby increasing output and the ability to provide retirement income promised for the retirement cohorts. It is hard to conceive of the political possibility of such a proposal, but the spelling-out of the financial consequences of doing so is valuable. Stein concludes that there is really no reason to tie the purpose of increasing national savings to Feldstein's proposal for full funding of social security, since the existing national debt gives plenty of scope for Congress to run huge surpluses (incredible as that seems) and to create government-induced saving by withdrawing government bonds from private holders.

5. TAX INCIDENCE AND EQUITY

A substantial portion of the economic theory of public finance is given over to trying to know who finally pays various kinds of taxes (it is not necessarily the person or entity that writes the check). The personal income tax, for instance, is clearly paid by the individual (it is not "shifted"). Business taxes are much more tricky. The sales tax is an obvious example—the businessman writes the check to the state, but doesn't he usually shift the tax directly to his customers? For social security the debate focuses on the final incidence of the payroll tax paid by the employer. Do businesses shift the tax to employees, to customers in their prices, or to capital by reducing their profits? Obviously it depends on the circumstances of the business, but economists, by studying relative returns to capital and labor in entire economies, are in broad agreement that most of the tax is shifted to employees in reduced wages. (I submit that this is not intuitively obvious to practicing businessmen!)

If one accepts the consensus of the economists, then the regressivity of the tax becomes a greater concern. This view pervades *Social Security and Pensions in Transition,* even though the author carefully acknowledges the progressivity of the benefit structure and the possibility that some employers may not be able to shift the tax to employees. Accordingly, Professor Stein favors some form of general revenue financing for social security, sees problems in extending the payroll tax to all wages, and cites the regressivity as a major problem in Feldstein's full-funding proposal.

If the employer tax really is paid by employees in lower wages, the equity issues become much more difficult. The author applies the usual methods of public finance in analyzing equity: examining "horizontal" and "vertical" equity of the tax, that is, between two people with similar earnings but different family or other circumstances (horizontal) and between two people with similar circumstances but different earning levels (vertical). Professor Stein identifies many inequities that are not obvious, particularly in the horizontal category (clearly Congress will need to do something about divorced women's benefits). As an economist, he does not see the progressive benefit schedule as an inequity. In this sense there is real difference between "economic" and "actuarial" equity.

Social Security and Pensions in Transition is a well-balanced, readable description of the current thought of economists about social security, and, in fact, it turns out to be a good demonstration of the need to see the social security system in the context of the entire economy.

JOHN H. BIGGS

Reports of the Quadrennial Advisory Council on Social Security, pp. 366, Reprinted by the Committee on Ways and Means, WMCP 96-45, 96th Cong., 1st sess., United States Government Printing Office, January, 1980.

The Social Security Act requires the appointment every four years of an Advisory Council on Social Security consisting of a chairman and twelve other members, representing the general public, the self-employed, and organizations of employers and employees. The 1979 Advisory Council on Social Security was appointed by the Secretary of Health, Education, and Welfare in February, 1978, and issued its final report on December 7, 1979.

The Advisory Council is required to review the status of the four social security trust funds (old-age and survivors insurance, disability insurance [OASDI], hospital insurance [HI], and supplementary medical insurance [SMI]) in relation to the long-range commitments of the social security program. In addition, it is required to review the scope of coverage, the adequacy of benefits, and all other aspects of the program, including its impact on public assistance programs under the Social Security Act.

If there was ever a time when social security needed an impartial and fundamental analysis such as is implied by the Advisory Council's mandate, it is now. Much of the public views the present tax rates as too high, yet if the program is not revised the tax rates will probably double—and perhaps triple—during the working lifetime of today's youth. Social security benefits are widely perceived as unfair, yet the present generation of youth entering the job market will receive far less value compared with their tax payments than did prior generations. The public is anxious about social security's present financial condition, yet current problems are insignificant when compared with the potential financial problems of tomorrow. There is widespread misunderstanding about every aspect of social security, a condition that must be remedied if the public is to be content enough to continue its financial support of a program that will cost almost $3 trillion during the next ten years. In view of these circumstances, our expectations for advisory groups should be high. The public has a right to an impartial, fundamental, and perceptive analysis of social security. Unfortunately, this is not what the 1979 Advisory Council on Social Security gave us.

One of the major weaknesses of the report is that it cannot be taken at face value but must be read with care and skepticism. This makes it very difficult for the reader—even the most informed—to separate the facts from the propaganda and thus derive any benefit from the report. Here are a few examples of the equivocation with which the reader must cope throughout the report.

SECURITY OF BENEFITS

The basic job of the Advisory Council is to identify problems of the social security system and propose solutions. This particular council assumed another duty, however, that of assuring the public that all is well with social security. The council went overboard in attempting to assuage the public's growing fears about social security's ability to pay the benefits it has promised (in other words, about the capacity of the working population to provide the nonworking population the benefits specified in the Social Security Act). The first page of the council's report contains this reassuring statement: "After reviewing the evidence, the council is unanimously convinced that all current and future social security beneficiaries can count on receiving all the benefits to which they are entitled."

Not only does that statement sound good, it is literally true. But the council failed to point out that Congress can change the benefits to which beneficiaries "are entitled" on a moment's notice. The council also failed to note at this point *two major deliberalizations* in benefits which it suggested later in the report and which vitiate this statement of reassurance:

1. A majority of the council recommends that half of social security benefits be included in taxable income for federal income taxes.
2. A narrow majority of the council urges that serious consideration be given to enactment now of an increase in the normal retirement age under social security that would be effective at about the turn of the century.

The effect of the recommendation to tax benefits would be to reduce benefits for about half of the beneficiaries. A later normal retirement age would constitute a substantial benefit reduction for everyone who retires after the turn of the century (approximately 76 percent of the population now less than age 65).

A further deliberalization, although relatively minor, was not mentioned at all in the council's report but is implicit in the recommendation that the HI program be financed by general revenue instead of by the payroll tax. Millions of retired persons who paid HI taxes in the past thought their financial obligation to support the program had been discharged; many of them would now find, under the Advisory Council recommendation, that they must pay for the HI program again—this time through increased personal income taxes. This HI financing proposal is, in effect, a benefit reduction for the sector of the population—active as well as retired—having to pay additional personal income taxes to support the HI program.

Still another deliberalization for certain male beneficiaries was implicit in the recommendation that persons divorced after at least ten years of marriage receive retirement benefits based on shared earnings from the years they were married. Divorced women generally would receive higher retirement benefits and divorced men lower benefits on the basis of their shared earnings than they would receive under present law.

Although the council made no definite recommendations for significant reductions in future benefits (apart from the four effective reductions already mentioned), it did suggest that such reductions may be necessary for those retiring early in the next century. Unfortunately the suggestions are so subtly presented that the average reader will have difficulty in ferreting them out. References were made to "reducing the growth of scheduled benefits"; "benefit reductions as a means for achieving financial balance in the system"; "reduction in the rate of growth of real benefits"; "if these projections are borne out, social security revenues would have to be increased or benefits would have to be cut."

These council recommendations and suggestions for benefit reductions, direct as well as indirect, are not necessarily inappropriate. In fact, many of them may well be desirable. The point is that they are completely inconsistent with the implication, if not the literality, of the council's assurance that "all current and future social security beneficiaries can count on receiving all the benefits to which they are entitled."

FINANCING THE PROGRAM

Social security has financial problems that are relatively minor now but that will become significant in the future. The Advisory Council followed a path that has been used all too often as the high costs of social security have become more apparent: first, attempt to hide the cost; if that fails, attempt to minimize the significance of the cost; and if that fails, apologize for the cost.

The council managed to ignore the long-range future cost of SMI just as it (as well as Congress) has done in the past. The council took one look at the serious financial problems of the HI program and devised a scheme that it apparently believes will enable everyone to ignore its high future costs—and, worse yet, perhaps postpone payment of those costs until a later generation. The council made a halfhearted attempt to solve the long-range problems of the OASDI programs but postponed the real solutions for another day and another advisory group.

All the while the Advisory Council was avoiding making any hard decisions about how to handle the high future costs of social security, it kept assuring the reader that such high future costs would not materialize or, if they did, would not really cause any problem. For example, the council stated:

> The costs of social security will not become an intolerable burden on taxpayers in future years. If the projections turn out to be inaccurate, the costs of the system may turn out to be slightly greater or less than we now think, but the projected costs are unlikely to diverge from the actual (sic) to such an extent that major, unexpected tax increases will be required.
>
> The scheduled cost . . . in the middle of the twenty-first century could easily be met by a payroll tax rate well below the levels prevailing in many industrialized countries today.

These statements of assurance are grossly misleading. The total cost of social security (OASDI, HI, and SMI programs) was equivalent to about 13 percent of taxable payroll in 1979. Projections by social security's actuaries indicate that this cost will rise to some 26 percent of taxable payroll within forty-five years—that is, during the working lifetime of today's new entrants in the work force. This is according to "intermediate" assumptions about future events. As pointed out in the council's report, future costs "may turn out to be slightly greater or less than we now think" but the report does not say *how much* greater or less.

Under more pessimistic (but not unlikely) assumptions, the costs could rise to an estimated 36 percent of taxable payroll within forty-five years. This is almost three times the present costs of 13 percent of taxable payroll. Even under optimistic assumptions total costs are projected to rise to about 20 percent of taxable payroll, almost 50 percent higher than present costs.

In view of these rising costs, it hardly seems an appropriate time to relax and give the public a false sense of security. It seems more like a time for straightforward, truthful, and open discussion.

SPECIFIC RECOMMENDATIONS OF ADVISORY COUNCIL

Space does not permit a comprehensive listing of all the recommendations made by the Advisory Council, much less a detailed analysis thereof. The following summary of the principal recommendations, generally without commentary, will alert the interested reader to items that may warrant further investigation.

HI Financing

Finance the HI program (Part A of medicare) entirely from general revenue rather than from payroll taxes.

To get an idea of the extent to which this would shift financing from payroll taxes to general revenue, consider the present and projected payroll taxes that would be required if no shift were made. The HI tax rate in 1980 is 1.05 percent for the employee and 1.05 percent for the employer, a total of 2.10 percent of taxable payroll. Under present law the total tax rate is scheduled to increase to 2.60 percent in 1981, 2.70 percent in 1985, and 2.90 percent in 1986, remaining level thereafter. This ultimate tax rate of 2.90 percent is inadequate, and projections indicate that the total tax must rise to about 5.0 percent by the year 2000 and 7.5 percent by the year 2025 when the majority of the children born during the post-World War II baby boom have reached age 65.

OASDI Financing

Increase the payroll tax for the OASDI program from 5.08 percent to 5.60 percent in 1980, and to 7.25 percent in 2005. This would be the tax rate payable by an employee; a matching amount would be paid by employers. Presumably, the self-employed tax rate would continue to be one and one-half times the employee tax rate.

Repeal the ad hoc increases in the earnings base scheduled for 1980 and 1981. After 1979, increase the earnings base only to reflect increases in the level of average wages.

Make payments to the trust funds from general revenue during periods of high unemployment if trust fund balances are less than 60 percent of annual outlays.

Authorize the trust funds to borrow from the general fund if reserves fall below 25 percent of annual outlays (with various provisions for repayment).

Combine the old-age and survivors insurance trust fund with the disability insurance trust fund to permit revenue transfers between the two programs.

Taxation of Benefits

Include half of all social security benefits in income of a couple or of an individual who is subject to federal income taxes.

Exempt Earnings

Increase the amount of exempt earnings (the amount that can be earned without relinquishing benefits) for those under age 65 to the same level as for those aged 65 and older.

Retirement Age

No recommendation was made to increase the normal retirement age; however, a narrow majority of the council believed that serious consideration should be given to enacting in the near future an increase in the normal retirement age to become effective after the turn of the century. An example of the kind of change that the majority believed deserves consideration is a gradual increase in the normal retirement age from 65 to 68 during the period from 2003 to 2020.

Benefit Formula

Alter the social security benefit formula so that workers with a long history of low wages will receive a benefit sufficient to keep their incomes above poverty thresholds and so that high-wage workers will be assured a benefit that provides a more generous return on their social security taxes than they receive under current law.

Women's Benefits

Begin to update the way in which women are treated under social security to take account of the massive increase in female labor force participation and in divorce since the present structure of social security was developed in 1935 and 1939.

Specifically, the council recommended that persons divorced after at least ten years of marriage receive retirement benefits based on shared earnings and that aged widows and widowers receive survivor benefits based on their own earnings plus the earnings of the deceased spouse.

Universal Coverage

Extend social security coverage to federal employees either through mandatory coverage for new hires or through a transfer-of-credit plan. Extend social security coverage to newly hired state and local employees and newly hired employees of nonprofit organizations.

Until such time as all workers are covered by social security, the council recommended several interim steps, including the following: all current and future agreements implementing coverage for state and local workers should be made irrevocable. If this is not adopted, termination should be permitted only after a vote of affected employees.

Disability Benefits

Liberalize the definition of disability in several respects, impose limitations in certain instances, and tighten administrative procedures. The net effect of these recommendations is an increase of about 7 percent in the benefits and in the cost of the disability insurance program.

CONCLUSION

The 1979 Advisory Council report contains valuable information for anyone interested in social security. The findings and recommendations are frequently couched in obscure language, however, since the report is essentially a compromise of various viewpoints. To avoid being misled, one must be very selective in drawing information from the recommendations, footnotes, and supplementary statements (sometimes clarifying and sometimes dissenting) made by individual members of the council. In some cases the council members were divided in their viewpoints, in some cases there was not adequate time to study the subjects thoroughly, and for some, if not most, of the questions considered there is not an obviously right or wrong answer. In this reviewer's opinion, it would be ill-advised for social security to be revised solely as a result of recommendations contained in a report that is far from the last word on how to perfect the social security program.

Although the council perceived restiveness among the public about various aspects of social security, it did not take this uneasiness seriously enough. Instead of facing up to the rising costs of social security and proposing mitigating changes, the council recommended a further expansion of the program at increased costs—and then tried to devise ways to camouflage those costs even more than is the case now. In the face of a public mood for closer correlation between taxes paid and benefits received, the council actually moved farther away from this principle of "more fairness"—all the while paying lip service to it.

In spite of public uneasiness about rising taxes (of all kinds), the council still seemed preoccupied with expanding the benefits and meeting the needs of the unfortunate. Equal recognition should be given to the taxpayer who makes all these benefits possible. The needs of 35 million persons receiving benefits must be considered, but so should the needs of 115 million persons paying social security taxes. It is unfair, and unrealistic, to assume that these active working taxpayers will continue to pay unquestioningly for an ever expanding level of benefits that inactive persons (and planners) believe they need or are entitled to.

People do not have an inalienable right to retire in their early sixties and be supported by those who are still working. We should constantly remind ourselves that before one dollar can be paid in benefits to a person not working, it must first be earned and paid in taxes by a person who is working. And we must remember that under a long-range system of pension benefits where promises are made *now* to pay benefits as much as *seventy-five years in the future,* it is entirely possible to promise more than can be delivered. As actuaries, we still have a long way to go to persuade policymakers to heed our longer-range projections of the consequences of decisions made today.

It appears that rational solutions of the problems of social security are not going to be developed until there is a louder public outcry for reform. If we have an interest in the solvency of social security, the soundness of the nation's economy, and the long-term well-being of America's citizens, we should review the recommendations of the 1979 Advisory Council and begin to participate in the debate. Social security will move ahead with or without our participation. Its direction of movement will be improved by an investment of our time and effort.

A. HAEWORTH ROBERTSON

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.

SOCIAL SECURITY NOTES

Harry J. Kingerski, *Retirement Experience of Old-Age Insurance Beneficiaries, 1966–1976*, pp. 4, Actuarial Note No. 91, Social Security Administration, Baltimore, Md., August, 1977.

This note analyzes the trends in retirement rates from 1966 to 1976 for those aged 65–71. Possible causes for the recent trend toward earlier retirement are examined, and the likelihood of this trend continuing is commented on. The note includes tables of the proportions of insured workers who were receiving retirement benefits or actuarially reduced retirement benefits.

Francisco R. Bayo and Howard Shiman, *Mortality of Charter Beneficiaries, 1970–1977*, pp. 4, Actuarial Note No. 92, Social Security Administration, Baltimore, Md., November, 1977.

This actuarial note analyzes the mortality experience of social security beneficiaries who became entitled to monthly benefits for January, 1940, and who continue to be so entitled. Actual survivorship from January 1, 1970, to January 1, 1977, is compared with estimates based on 1969–71 United States and 1968–74 medicare experience. The analysis is given by sex. The group of charter beneficiaries studied provides reasonably accurate age data at the higher ages (96–103).

Orlo R. Nichols, *Actual Replacement Rates for Retired Workers*, pp. 5, Actuarial Note No. 93, Social Security Administration, Baltimore, Md., October, 1977.

This note analyzes the replacement rates (the ratio of initial benefits at retirement to preretirement earnings) for a sample of nearly nine thousand actual retirement cases under the social security program. Four different measures of preentitlement earnings are used, each based on a varying number of years of earnings which are either unindexed or indexed to wages or the consumer price index.

Tables are presented containing average replacement rates by sex, benefit amount, and preretirement earnings measure.

Francisco R. Bayo and Joseph F. Faber, *Actual Replacement Rates for Disabled Worker Beneficiaries*, pp. 14, Actuarial Note No. 94, Social Security Administration, Baltimore, Md., January, 1978.

This note contains tabulations of actual replacement rates for disabled worker beneficiaries, based on a sample of initial awards made in October, 1976. Distributions of actual replacement rates for various measures of earnings prior to onset of disability are tabulated by age, sex, and benefit amount. A table of theoretical replacement rates assuming the provisions of the 1977 social security amendments illustrates the effect on benefits to young disabled workers.

Orlo R. Nichols and Richard G. Schreitmueller, *Some Comparisons of the Value of a Worker's Social Security Taxes and Benefits*, pp. 17, Actuarial Note No. 95, Social Security Administration, Baltimore, Md., April, 1978.

This note contains calculations of the relationship of present values of future benefits and the worker's share of future taxes under the OASDI portion of the social security program: the "money's worth" question. The authors present selected examples of hypothetical workers by age, sex, earnings level, years of past coverage, and family status. They conclude that a majority of workers can expect to receive their "money's worth," although they caution that the analysis is limited and depends on the assumptions used.

Bruce Schobel and Sam Weissman, *Termination Experience of Disabled-Child Benefits under the Old-Age, Survivors, and Disability Insurance (OASDI) Program*, pp. 13, Actuarial Note No. 98, Social Security Administration, Baltimore, Md., November, 1979.

The Social Security Act, as amended in 1956 and 1958, provides for the payment of monthly benefits to the disabled children of retired, disabled, and deceased insured workers. These benefits are currently payable to children aged 18 and over who become disabled before age 22, but not necessarily after passage of the applicable law. Actuarial Note No. 46 (September, 1968) presented a study of disabled child benefit termination rates based on experience in calendar years 1962–65. This note presents data on similar experience in calendar years 1975–76 and includes comparisons of the termination rates experienced in the two periods.

Harry J. Kingerski, *Projecting OASDI Long-Range Program Cost as a Percentage of Gross National Product*, pp. 8, Actuarial Note No. 99, Social Security Administration, Baltimore, Md., January, 1980.

Projected expenditures of the old-age, survivors, and disability insurance (OASDI) programs are usually expressed as a percentage of taxable payroll. This note presents projected OASDI expenditures as a percentage of both gross national product and taxable payroll, compares the two, and presents a method to convert from one to the other. Factors in the conversion, and implications of this new statistic, are discussed.

History of the Provisions of Old-Age, Survivors, Disability, and Health Insurance, 1935–1979, pp. 15, Social Security Administration, Baltimore, Md., January, 1980.

This booklet presents in tabular form a short history of the social security system from its beginning through the changes occurring in 1979. Included are sections on covered employment, requirements for becoming insured, benefit calculations, beneficiary categories, and financing provisions. Also included are the average annual earnings amounts from 1951 to 1978, and the social security figures derived from those amounts, including benefit formula bend points.

Steven F. McKay, *Computing a Social Security Benefit after the 1977 Amendments*, pp. 15, Actuarial Note No. 100, Social Security Administration, Baltimore, Md., February, 1980.

This note describes the five types of social security primary insurance amount (PIA) benefit computations currently in use. Detailed examples are presented of the methods using the PIA table, wage-indexed formula, and transitional guarantee. Also included are the December 1978 PIA table and the average annual earnings series from 1951 to 1978. This is a permanent reference for persons who compute primary insurance amounts on the basis of the 1977 social security amendments.

Social Security Studies

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This study analyzes the 1972–76 incidence and termination experience of disabled worker benefits under OASDI. Tables of disability incidence rates by age, sex, and year of entitlement are presented. Termination rates with a five-year select period are shown for death and recovery separately by age and sex. Also presented is a brief analysis of past trends in disabled worker incidence and termination rates since the start of the OASDI program in 1956.

Francisco R. Bayo, Howard W. Shiman, and Bruce R. Sobus, *United States Population Projections for OASDHI Cost Estimates*, pp. 40, Actuarial Study No. 77, Social Security Administration, Baltimore, Md., June, 1978.

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Kevin Wells, *Estimated Amount of Life Insurance in Force as Survivor Benefits under OASI, 1975–77*, pp. 17, Actuarial Study No. 79, Social Security Administration, Baltimore, Md., November, 1978.

This study presents estimates of survivor's benefit protection under social security by sex of insured worker and by type of benefit. The 1977 estimate is further distributed by age of insured worker. A rough estimate of the total amount for 1978 is presented. Tables also present estimated average amount and estimated average annual cost per insured person. Also presented is a comparison of life insurance protection under OASI, under other government programs, and under private insurance.

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This actuarial study presents data on the incidence and termination experience for the periods 1974–77 and 1975–78 of disabled worker benefits under the old-age, survivors, and disability insurance program (OASDI). Tables provide specific rates of the incidence and termination of disability by age and sex of the exposed population. Termination rates are further subdivided according to the length of time (duration) of entitlement to DI benefits. Also included are an analysis of year-by-year trends and a comparison with earlier published figures on terminations.

This latest study indicates that DI incidence rates have declined since the mid-1970s, while termination rates have increased.

Health Statistics

Publications of the National Center for Health Statistics may be obtained from:

U.S. Department of Health and Human Services
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics
Center Building
3700 East-West Highway
Hyattsville, Md. 20782

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Statistics are presented, based on data obtained from a national sample of office-based physicians, on the provision and utilization of ambulatory medical care in physicians' offices during 1977. Utilization patterns are described in terms of patient characteristics, visit characteristics, and physician and practice characteristics.

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Statistics obtained from a national probability sample of office-based physicians are presented on the utilization of ambulatory care by women aged 15 and over. Visits are described in terms of patient age, sex, and race; patient condition; and management of the patients' problems. Selected comparisons are made with similar data on visits made by men. Family planning visits by women aged 15–44 years are described according to patient characteristics, reason for visit, and services rendered.

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National Center for Health Statistics, *Divorces by Marriage Cohort,* pp. iii, 28, Data from the National Vital Statistics System, Series 21, No. 34, Hyattsville, Md., August, 1979.

A study of national trends in divorce by marriage cohort, a group consisting of all couples married during a given calendar year. For each year of marriage from 1922 to 1931 and from 1948 to 1974, this report presents and analyzes national estimates of the divorces that were granted between selected marriage anniversaries to the respective marriage cohort.

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Estimates of incidence of acute conditions, number of persons reporting limitation of activity, number of persons injured, hospital episodes, disability days, and frequency of dental and physician visits. Based on data collected in the Health Interview Survey during 1978.

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Statistics are presented on the number of persons in the civilian noninstitutionalized United States population 20 years of age and over who smoke cigarettes, drink coffee, use aspirin, and use sleeping pills. The data were collected in health interviews during 1976. The use and amounts of use of these four drugs or habit-forming substances, distributed by selected demographic and social characteristics, are described. Indicators of health are presented for persons who used and for persons who did not use them.

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An analysis of national trends and patterns in first marriages for the period 1968–76, including national estimates, variation by state, and first-marriage rates by age and sex. Discusses selected characteristics of persons marrying for the first time, specifically, age, race, residency, nativity, education, and previous marital status of spouse.

National Center for Health Statistics, *Acute Conditions Incidence and Associated Disability, United States, July 1977–June 1978,* pp. iv, 65, Data from the National Health Survey, Series 10, No. 132, Hyattsville, Md., September, 1979.

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, 1977–June, 1978.

National Center for Health Statistics, *Caloric and Selected Nutrient Values for Persons 1–74 Years of Age: First Health and Nutrition Examination Survey, United States, 1971–1974,* pp. iii, 88, Data from the National Health Survey, Series 11, No. 209, Hyattsville, Md., June, 1979.

Presents findings of the Health and Nutrition Examination Survey on the dietary intake of various nutrients in a probability sample of the United States population, 1–74 years of age, by age, sex, race, and income level, 1971–74.

National Center for Health Statistics, *The National Nursing Home Survey: 1977 Summary for the United States,* pp. iii, 213, Data from the National Health Survey, Series 13, No. 43, Hyattsville, Md., July, 1979.

Data collected in the 1977 National Nursing Home Survey (NNHS) are presented in the 43 tables according to standard sets of descriptive variables. The tables are grouped into six categories: facility, staff, financial, resident, discharge, and charge characteristics. Data are presented that measure utilization, staffing patterns, cost of providing care, health and functional status of residents and discharges, and payment for care. Information on completed episodes of care is available for the first time from this survey system based on data collected on persons discharged during 1976. The 1977 NNHS covered all types of nursing homes in the conterminous United States.

National Center for Health Statistics, *Office Visits for Diseases of the Respiratory System: The National Ambulatory Medical Care Survey, United States, 1975–76,* pp. iii, 56, Data from the National Health Survey, Series 13, No. 42, Hyattsville, Md., July, 1979.

Statistics based on data obtained from a national sample of office-based physicians are presented, describing ambulatory medical care during visits for treatment of diseases of the respiratory system. Utilization patterns of visits that included diagnoses of acute and chronic respiratory conditions are presented in terms of demographic and clinical characteristics. Highlighted diagnoses include acute upper respiratory infections, influenza, pneumonia, emphysema, asthma, hay fever, and other chronic respiratory conditions. Data regarding influenza visits for 1974, 1975, and 1976 are also presented.

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Data on podiatrists providing patient care, by primary clinical activity and principal form of employment, are cross-classified by demographic and employment characteristics. Conclusions are based on data from the 1974 Survey of Licensed Podiatrists conducted by the National Center for Health Statistics in conjunction with the American Podiatry Association.