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ON LEVEL PREMIUM POLICY LOSS RATIOS

by Clayton A. Cardinal

With the recent increases in frequency and severity rates in health insurance, many insurers have filed or are filing premium increases on their individual policies. Understanding the need for a premium increase on guaranteed renewable level premium policies is difficult for many regulators because of the "confusion" caused by the active life policy reserve. The purpose of this essay is to present a perspective on loss ratios for level premium policies which may be helpful to an insurer in reflecting a regulator's or consumer's viewpoint.

Three classes of loss ratios may be established, which when taken in a predetermined order constitute an important pattern. This pattern can be used to explain the need for a premium increase and also to demonstrate that the amount of any increase is not excessive.

First Class

Past premiums through any point of time on any increasing risk level premium contract must be sufficient to fund benefits incurred since inception and also to fund the policy reserve resulting from the level premium funding mechanism. Said differently, since the policy reserve is an estimation of the excess of the present value of future benefits over that of the future funding for future benefits, it follows that the policy reserve must be added to the present value of past benefits when relating (1) the total funds set aside for benefits (past and future) out of past premiums to (2) the past premiums. Accordingly, the first class of ratios represents the relationship between (1) the present value of the sum of past benefits and the present policy reserve (here, and elsewhere, adjusted to net level premi-

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CAPSA

M. D. R. Brown
and
K. H. Cooper

The first public conference of the Canadian Association of Pension Supervisory Authorities was held in Quebec, June 11-12, 1975. The Association is composed of representatives of government bodies which administer legislation governing private pension plans in Canada. To date, this legislation operates in four provinces and for certain plans under federal jurisdiction. Similar legislation will come into effect, probably in 1976, in three other provinces.

The organizers of the conference solicited submissions from employer and labour groups and professional and trade organizations. The fourteen briefs submitted were the basis for discussions at the conference. Each session dealt with a particular aspect of pension benefits legislation, and was presided over by the senior person responsible for pension regulation in one of the jurisdictions.

The topics discussed covered a wide range: the need for stricter standards of mandatory vesting and/or locking-in of employee contributions (the present minimum standard is age 45 and 10 years' service); the need for greater public awareness and understanding of existing legislation; pressure for more disclosure in the areas of financing and administration (Canadian legislation lags far behind the U.S. here, though far in advance in other respects); the impact on pension benefits legislation of the growing thrust of "Human Rights" (anti-discrimination) legislation; and the concerns of legislators in the investment area, including the fiduciary responsibility of various parties and the need for professional standards of conduct, among pension fund investment managers.

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ADVISORY COUNCIL ON SOCIAL SECURITY

Reports of the Quadrennial Advisory Council on Social Security, pp. 239, Superintendent of Documents, U.S. Govt. Printing Office, Washington, D.C. 20402, $1.95.

by K. Arne Eide

Gigantic size and awesome complexity are two of the characteristics that impress most people who study the social security system in the United States. To analyze its many programs and emerge with a clear conception of the system's intricately interwoven structure and multitudinous operations is not an easy mental exercise. Even when consideration is restricted to the old-age, survivors, disability, and health insurance (OASDHI) programs which commonly, but mistakenly, are thought to constitute the social security system, the task of analyzing the programs is a formidable one. Yet making such analyses and coming up with recommendations for improvement in the programs was the assignment of the 1975 Advisory Council on Social Security. All in all, this reader of the Reports believes the Council completed its assignment in a most commendable manner.

The statutory authority for the Advisory Council states that it shall be appointed "for the purpose of reviewing the status of the Federal Old-Age and Survivors Insurance Trust Fund, the Federal Disability Insurance Trust Fund, the Federal Hospital Insurance Trust Fund and the Federal Supplementary Medical Insurance Trust Fund in relation to the long-term commitments of the old-age, survivors, and disability insurance program and the programs under parts A & B of Title XVIII, and of reviewing the scope of coverage and the adequacy of benefits under, and all other aspects of, these programs, including

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their impact on the public assistance programs under this Act." This is a tremendous assignment under any circumstances but doubly so for the 1975 Council whose appointment was delayed for almost a year so that its period of deliberation was reduced to about nine rather than customary eighteen or nineteen months. As a result, the Reports contain relatively little analyses of important areas such as Medicare and disability benefits.

The format of the Reports lends itself to easy reading. For those whose time is limited, scanning the "Summary of Major Findings and Recommendations" and the "Introduction" will provide a good general picture of the contents of the Reports. Each topic is discussed at length in the seven chapters that comprise the report on the cash benefits program. In addition, certain in-depth studies were developed by subcommittees appointed from the Council's membership. These are printed in the Appendixes. The subcommittees on financing employed a group of outside consultants — actuaries and economists. Last, but by no means least in importance, is a section entitled "Statements of Council Members" about which the Summary states, "The Council's findings and recommendations reflect a consensus of the Council and not necessarily the precise view of any individual member on any issue. To the extent that Council members have chosen to express their differences from the Council's findings and recommendations, such expressions are contained in the section of statements at the end of the report." Only by reading these statements can one ascertain how often and how far the viewpoints of individual members vary from the consensus.

There was a consensus on the following major findings and recommendations:

1. *Purposes and principles of OASDI.* The earnings-related OASDI program should remain the nation's primary means of providing economic security in the event of retirement, death, or disability. It should be supplemented by effective private pensions, individual insurance, savings, and other investments; it should be undergirded by effective means-tested programs. Future changes in OASDI should conform to the fundamental principles of the program: universal compulsory coverage, earnings-related benefits paid without a test of need, and contributions towards the cost of the program from covered workers and employers.

2. *Benefit structure-replacement rates.* Provisions of the present law for computing average monthly earnings and for adjusting the benefit table to increase in the CPI may result over the long range in unintended, unpredictable, and undesirable variations in the level of benefits. The benefit structure should be revised to maintain the levels of benefits in relation to preretirement earning levels that now prevail. Benefits for workers coming on the rolls in the future should be computed on the basis of a revised benefit formula using past earnings indexed to take account of changes during their working lives in the average earnings of all covered workers. As under present law, benefits for people on the rolls should continue to be increased as price levels increase.

3. *Retirement test* should be liberalized by reducing benefits by one dollar for every three dollars of earnings between the exempt amount and twice the exempt amount, and by one dollar for every two dollars of earnings above that level. In addition, except in the first calendar year of benefits, the provision under which full benefit may be paid for any month in which a beneficiary earns less than one-twelfth of the annual exempt amount should be eliminated.

4. *Equal treatment of men and women.* The requirements for entitlement to dedependents' and survivors benefits that apply to women should apply equally to men. At the same time, the law should be changed, effective prospectively, so that pensions based on a person's work in employment not covered by social security will be subtracted from his social security dependent's benefits.

5. *Universal compulsory coverage.* Social security should be applicable to all qualified employment.

6. *Minimum benefit.* The minimum benefit in the present law should be frozen at its level at the time the new benefit structure recommended in 2 above goes into effect and the new system should not pay benefits in excess of 100 percent of the indexed earnings on which the benefit is based.

7. *Definition of disability.* The definition of disability should be revised to provide disability benefits to workers age 55 or over who cannot qualify for benefits under present law but who are so disabled that they can no longer perform jobs for which they have considerable experience. These benefits should be 80 per cent of the benefits granted for those who qualify under the present law.

8. *Miscellaneous recommendations.* Further study should be made of (1) effects of the social security program on different racial and ethnic groups, (2) ways of simplifying the social security program and its administration, and (3) the frequency of cost-of-living adjustments in benefits. In addition, a general study of social security should be made by a full-time non-governmental body, covering such matters as funding vs. pay-as-you-go; possible effects of social security on capital formation; productivity; the proper size of the trust funds; the incidence of payroll taxes; and other basic questions.

9. *Actuarial status of cash benefits programs.* A comparatively small amount of additional financing is needed immediately to maintain the trust funds level. Beginning about the year 2005, the program faces serious deficits. Steps should be taken to assure the financial integrity and long-range soundness of the program.

10. *Tax rates—(a) employee-employer.* No increase should be made, beyond those already scheduled in present law, in the total tax rates for employees and employers for OASDHI. However, the OASDI tax rate should be gradually increased, as OASDI costs increase, and the increases should be met by reallocating taxes now scheduled in the law for Part A (hospital insurance) of the Medicare program. Income lost to the hospital insurance program by this reallocation should be made up from the general funds of the Treasury. Hospital insurance benefits are not related to earnings, so should be phased out of support from the payroll tax.

(b) *self-employed.* The present 7 per cent limitation should be removed and the OASDI tax rate should be the same multiple of employee contribution rates as was fixed when self-employed were first covered—150 per cent.

11. *Retirement age.* Current demographic projections show a sharp rise in the number of people who will have

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reached retirement age relative to the working age population in the first several decades of the next century. Although not recommending an increase in the age of eligibility for social security retirement benefits, the Council does believe that such a change might merit consideration in the next century, when the financial burden of social security taxes on people still working may become excessive.

It is quite apparent, that not all of the foregoing eleven findings and recommendations of the Council are of outstanding importance—except, of course, to those who might be affected directly or indirectly by the operation (or non-operation) of a particular provision. Those of greatest importance would seem to be (1) financing — the actuarial status of the trust funds and (2) replacement ratios — the problems caused by the linked operation of the automatic escalator provisions which apply to benefits and to the taxable wage base. Both of these problem areas call for the application of actuarial expertise in the quest for solutions. The Reports contain ample evidence of the professional contributions made by some well-known members of the Society.

The Sub-committee on Financing confirmed the conclusions of the 1974 Trustees Report as to the deficit position of the funds over the next 70 years. The Report refers to the 1975 Trustees Report then in preparation (see *The Actuary*, June 1975) and also to the Report of the Panel to the Committee of Finance U.S. Senate (see *The Actuary*, May 1975). The reader will find it worthwhile to review the Report of the Sub-committee on Financing, including the report of the consulting actuaries and economists which covers the analysis in detail.

The projected Current-Cost of the OASDI program, when compared with present and projected tax rates shows a relatively small deficit over the period 1975-2005, but a very much larger deficit from 2005-2050. The sub-committee's report states, "While there are several reasons for this shape of the deficit, the most important one is demographic." Of the prinicpal demographic factors — fertility, mortality, and migration — fertility is at present, and likely to remain for the foreseeable future, the most unpredictable and influential. The relatively few people born during the depression years of the 30's were followed by a sharply increased number of births in the war baby boom that followed WW II. Thereafter, the total fertility rate began to decline until at present it has reached the very low rate of 1.9 which is below the population replacement rate. As the subcommittee points out, "it is this historic birth pattern that largely determines the deficit." They note further that costs will rise slowly in the near future because the working population has been growing rapidly as the war babies have entered the work force and this will continue for some years. ". . . After all of the war babies have entered the work force, costs will still rise slowly for a short period during which the relatively small numbers of depression babies start to draw retirement benefits. Starting about 2005, however, the process reverses itself. Then the war babies begin to draw social security benefits in ever larger numbers, while the work force is not increasing at a commensurate rate because of the low fertility rate now existing and forcasted for the future." The effects of these demographic changes may be noted from data presented in the subcommittee's report: In 1950 there were only 6 beneficiaries for every 100 workers; today there are 30 beneficiaries for every 100 workers; by 2030 it is estimated that the relationship will be 45 beneficiaries for every 100 workers.

Although economic assumptions account for a much smaller portion of the deficit, the financial subcommittee treats these assumptions in a very thorough manner, stressing their importance and the need to consider them most seriously in any corrective proposals. The most important factors are the rate of increase in wages, both stated and real, rate of increase in the CPI and, of lesser importance (and not considered in the formal studies of the committee), rates of unemployment and labor force participation. Under the present law, benefits are often unpredictably influenced by relative (and absolute) rates of increase in wages, CPI, and real wages. The subcommittee recommended that the wage base escalator and the benefits escalator be "decoupled" and that under a new system "a person's benefits shall rise solely in accordance with wages during his working years and shall rise solely in accordance with the CPI in years after his retirement." To accomplish this decoupling, benefits would be linked to *indexed*, rather than crude wages, based on the ratio of average covered wages in the year of retirement, to covered wages in the year earned, and the benefit formula simplified and adjusted to something of the form 100% of the first $123 of Average Monthly Indexed Earnings (A.M.I.E.) plus 31% of all A.M.I.E. above $123 (the $123 adjusted upward each year as average covered wages rise).

The formula cited is merely illustrative — a three-factor formula also was suggested. The subcommittee stated that it "is convinced that decoupling is by far the most important step to be taken to improve the system." Actuaries probably will not have the same interest in some of the other topics discussed in the Reports that they have in the sections that pertain to the financial status of the trust funds and the problems of "decoupling". Some who, in the past, have had the opportunity of reading a summary of the principles that heretofore have characterized social security will find Chapter 2 of special interest, even if they do not necessarily agree with all of its statements of "purpose and principles of Social Security." This reader found Appendix D rather interesting. It lists the recommendations of previous advisory councils and the legislative action taken on each recommendation. The "pass" list is quite impressive.

Two insurance executives were among the thirteen members of the 1974 Advisory Council: Mr. J. Henry Smith, F.S.A., then Chairman of the Board, Equitable Life Assurance Society of the United States, and Mr. Edwin J. Faulkner, President, Woodmen Accident and Life Company.

Actuarial Meetings

Oct. 9, Baltimore Actuaries Club

Oct. 15, Seattle Actuarial Club

Oct. 24, Middle Atlantic Actuarial Club

Nov. 6, Baltimore Actuaries Club

Nov. 19, Seattle Actuarial Club

Nov. 20/21, Actuaries' Club of Southwest