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Financing the U.S. Military Retirement System

by A. Haeworth Robertson

The United States military retirement system has been the focus of considerable attention in recent months, particularly as a result of rising government expenditures and the continuing debate over federal budget deficits.

In fiscal year 1986, the system paid $17.6 billion in benefits to some 1.5 million retirees and survivors. These expenditures amounted to 6.3% of the total military budget of $281.4 billion and 50% of basic payroll. Benefit expenditures have risen steadily over the years, but the system is relatively mature and expenditures are projected to stay in the range of 47% to 54% of basic payroll during the next 75 years.

Revised Financing Procedure

Until fairly recently, the military retirement system was operated on a "current cost" basis; that is, with annual appropriations for the Department of Defense budget equal to projected expenditures for the year. Public Law 98-94, enacted in September 1983, changed this procedure and provided that effective October 1, 1984, the military retirement system would be advance funded by the annual payment to a newly established retirement fund of the normal cost plus an installment to amortize the unfunded accrued liability.

The Board of Actuaries appointed by the President to oversee the financing of the system has determined that the normal cost is 51.3% of basic pay for FY 87 (the fiscal year

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A Comparison of Actuarial Practice in the U.S. and U.K.

by J. Phillip Turner

The actuarial profession in the U.K. is a more tightly-knit community than the fragmented profession in the U.S. Given the relative size of the two countries and the ease of travel to London from the other U.K. cities, this is not surprising. The Institute of Actuaries in England and Wales and the Faculty of Actuaries in Scotland are the only bodies which set examinations and professional standards for actuaries in the U.K.

The Institute's principal meetings take place in the evening at the venerable Staple Inn Hall, which has been home to the Institute library and administrative offices for exactly 100 years. It is a comfortingly familiar professional home to most U.K. actuaries. An Institute meeting is typically devoted to the discussion of a paper presented by a member. Although the paper may deal with a specialty subject, the attendance is not usually confined to actuaries practicing in that field, so there is a good deal of intermingling between the different specialties.

In recent years there has been a weakening of the traditional ties to London. Many insurance companies have moved their principal offices out of London, and regional societies, such as the Yorkshire Actuarial Society, have become increasingly important as professional forums. In 1986, for the first time, the Institute held a two-day convention similar in format to typical Society meetings here in the U.S. The meeting, held in Birmingham, dealt with life insurance issues. A similar meeting is planned this year to deal with pension issues.

As an actuarial student, I found the organization of the Institute's correspondence courses for the actuarial examinations extremely helpful. The courses for the actuarial examinations are presented as a series of lessons, each followed by a test. Each student is assigned a tutor who will mark each test and return it, together with model solutions and comments. There is a strong correlation between students who complete these tests and students who are successful on the exams. This system requires a

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good deal of voluntary effort on the part of Institute members. I perhaps obtained the best of both worlds by studying under the system and then leaving the country before taking my turn as a tutor!

An interesting philosophic difference between the two countries is the concern in the U.K. about the independence of an actuary from corporate control. As a consequence, the major U.K. consultants have traditionally been organized as partnerships of self-employed actuaries rather than corporations. More recently, the Institute has permitted actuaries who work for corporations to describe their service as "independent actuarial advice," provided that the directors of the corporation write to all their actuaries stating that the corporation will not attempt to influence this advice. The Association of Consulting Actuaries in the U.K. will still only admit self-employed actuaries as members.

Though the language of compound interest and mortality theory is essentially the same in the U.K. as in the U.S., when I moved to the U.S., I noted a much greater focus on funding methods in pension practice. This is undoubtedly a consequence of the way minimum funding standards, maximum contributions and financial reporting requirements are defined in the U.S. It may also result from the existence of a much more creative range of plan designs than are encountered in the U.K.
In the U.K., though it is common for future contributions to be made up of both level amortization payments and a percentage of payroll, there is much greater flexibility in apportioning the total contribution between these. An additional item, "surplus" or "deficiency," is usually shown in the equation of balance and carried forward from year to year to avoid frequent changes in the contribution percentages. However, the 1986 Finance Act requirements (including prescribed actuarial assumptions), which deal with overfunding, and the long arm of the FASB have resulted in a greater awareness of funding methods and a move towards the projected unit credit method in the U.K.

The U.K. state pension consists of a level amount plus a "second tier" earnings-related amount. Employers with qualified plans may elect to provide this "second tier" benefit from their pension plan in lieu of paying a portion of the Social Security taxes. This is referred to as "contracting-out," and much of a pension actuary's work in the U.K. is related to this issue. In addition to the decision whether or not to contract-out, which depends primarily on the age and sex distribution of plan participants, a contracted-out plan must maintain minimum funding levels for this part of the total benefit. These requirements are expressed as a minimum relationship of assets to liabilities rather than as the ongoing contribution requirement for minimum funding standards here in the U.S.

Another significant part of an actuary's work in the U.K. relates to the calculation and disposition of "transfer values." A direct plan-to-plan transfer of assets is usually made for an employee who changes employment — where both employers have qualified plans. In exchange for the transfer value, an incoming employee is awarded a notional period of back-service in the new plan which will be included in the service used to calculate the final benefit from his new employer. The actuary is required by regulations to ensure that transfer payments represent reasonable value for the alternative deferred benefits allowing for the economic conditions at the time.

Certain employers, most notably in the public sector, belong to "clubs" with an agreed-upon basis for transfer between two plans in the club. These may achieve perfect portability in the sense that, if an employee spends his career with different employers who have identical plans, his final benefit would be based on his final salary and his full career of service.

Many pension valuations in the U.K. are performed using discounted cash-flow techniques to establish an actuarial value of assets. Although this ties in neatly with the valuation of liabilities, the choice of a rate of growth of dividends for equity investments becomes the unpredictable factor in the assumptions, which may or may not leave the actuary comfortable with the results.

Given the higher rates of personal taxation in the U.K., the actual choice of investments tends to place more emphasis on the differing tax positions of a pension plan and other investors.

My first exposure to "life-office" work in the U.K. was as a consultant to Friendly Societies. These delightful anachronisms, which provide mainly sickness benefits of a few pounds a

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week to a handful of members, enable the student to experience the preparation of an entire valuation by hand on one large sheet of paper using amazingly antiquated 19th century sickness tables, no more recent tables being available.

When I first moved to the U.S., I was surprised by the extent of reliance on the statutory basis in life insurance company valuations. My current impression is that the development of the role of the valuation actuary here in the U.S. has made the responsibilities of U.S. life actuaries more similar to those of their U.K. counterparts, while new policy forms and the increasing use of profit-testing techniques in the U.K. have made product development in the U.K. more similar to the development of new products in the U.S.

I believe it would be a fair summary to say that, although there are differences between the actuarial professions in the U.K. and the U.S., the underlying trends in many areas are convergent. To our increasingly internationally minded clients and a public long confounded by the mysteries of actuarial science, this must be most welcome.

My wife claims that it makes no difference whether she is in the U.S. or the U.K.; she can recognize an actuary a mile away. It would seem that certain professional characteristics have converged already!

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Military Retirement Cont'd.

ending September 30, 1987) and that it will decline gradually to the ultimate rate of 40.3% in FY 2016 and later as an increasing proportion of participants become covered by the reduced benefits applicable to those entering service on or after August 1, 1986. (Benefits were reduced approximately 17% for such entrants.)

Moreover, the Board has determined that the initial unfunded accrued liability, as of October 1, 1984, is $528.7 billion and that it is to be amortized by the payment on October 1 of each year of approximately 29% of basic pay for such year. This will result in the amortization of the unfunded liability in about 60 years. Accordingly, the contribution to the retirement fund during each of the next 60 years is projected to be in the range of 70% to 80% of the active duty basic payroll.

N.B.: Since basic pay is approximately 76% of "total pay" (basic pay plus a quarter's allowance and a subsistence allowance, and the federal tax advantage accruing to such allowances since they are not subject to federal income tax), the percentages cited should be multiplied by 76% to yield approximate figures expressed as a percentage of total pay. For the remainder of this discussion, however, all costs will be related to basic pay in order to be consistent with the usual practice of the Department of Defense.

Effect of Funding

When the system was operated on a current-cost basis, the entire cost was paid from the Department of Defense budget. Under the new advance-funding procedure, the normal cost is paid from the Department of Defense budget, but the payment to amortize the unfunded liability is made by the Treasury. The normal cost is projected to decline gradually from 51.3% of basic pay in FY 87 to an ultimate level of 40.3%, while the actual benefit expenditures are projected to increase gradually from 49.7% in FY 87 until they peak at 53.8% in FY 2005. Thereafter, benefit expenditures are projected to decrease until they reach an ultimate level of 47.1% in 2052. Therefore, future retirement benefit expenditures from the Department of Defense budget will generally be somewhat less under the new procedure than under the old procedure (except for the years 1987-88, when normal costs are expected to be slightly higher than projected expenditures).

Any excess of benefit expenditures over the normal cost will be met from the trust fund which will accumulate as the unfunded accrued liability is amortized. These figures do not tell the whole story, however, since the assets of the trust fund are required by law to be invested in Treasury securities and since the Treasury payment to amortize the unfunded accrued liability can arise from either of two entirely different sources. For example, additional taxes can be collected currently in an amount equal to the amortization payment. In this event, the nation's current taxes will increase; the current deficit will decrease, the total national debt will be unchanged; the portion of the national debt held by the public will decrease; and the portion held by the government will increase. This procedure will clearly result in a change in the national economy, a change that presumably will strengthen the economy and make the payment of future benefits more secure.

An alternative way to "fund" the accrued liability is to issue new Treasury securities and place them in the retirement fund. In this event, the nation's current taxes will be unchanged; the current deficit will be unchanged, the total national debt will increase; the portion of the national debt held by the public will be unchanged; and the portion of the national debt held by the government will increase. This procedure will not result in a change in the national economy and thus will not make the

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AERF Request For Proposal

There is a need for a monograph on the intellectual foundations of the actuarial profession. A great deal of soul searching has gone on within actuarial circles seeking to define the unique expertise of an actuary. The answers will come, in large part, by defining the intellectual foundations of the actuarial profession as a whole. To this end, the Actuarial Education and Research Fund is announcing a request for proposal (RFP) to write a comprehensive monograph on the fundamental concepts of the actuarial profession. Essentially, this project is to identify and delineate the common ideas used in all areas of actuarial practice. The need to define fundamental actuarial concepts has moved the Interim Actuarial Standards Board to promote a monograph on the intellectual foundations of the actuarial profession and the AERF to sponsor such an undertaking. The monograph is to include sections on economics of risk, time value of money, random variables, individual insurance models, conservatism, adjustments, collective or individual balance, and classification. Additional concepts are to be added as deemed appropriate. Interested parties should contact the AERF office at 500 Park Boulevard, Itasca, IL 60143 (312) 773-3010 for a detailed copy of the RFP. Proposals will be accepted until January 31, 1988. A review draft of the monograph must be completed by November 1, 1988. AERF intends to publish this work by June, 1989.