NOTES ON THE RELATIONSHIP BETWEEN ACTUARY AND INVESTMENT MANAGER

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Introduction

This note is written in the hope of stimulating discussion of the appropriate relationship between the actuary's assumptions and the investment strategy followed by the pension fund manager.

The need for some discussion of this topic is aptly shown by the following situation. A client, very much disturbed by the failure of a strongly equity-oriented investment policy during 1971 to 1977 and very much aware of "actuarial losses" occurring because of the failure of the fund to earn the actuary's interest assumption of 8%, suggested moving a substantial portion of the plan's assets into guaranteed investment contracts with insurance companies. In the client's eyes, this, move would have two advantages:

1. in the short-term, it would avoid year-to-year fluctuations in asset values with a consequent smoothing of plan costs, and
2. in the medium term, by assuring a strong likelihood that the actuarial interest assumption would be met, it would avoid the possibility of higher costs due to investment performance lagging the actuarial interest assumption.

The actuary's response to the proposed course of action was that his 8% interest assumption was based on the client's quite aggressive, 100% equity oriented investment approach. The change to a more conservative investment approach would therefore cause the actuary to anticipate lower future rates of return, and therefore to reduce his interest assumption and, consequently, raise plan costs.

In the client's eyes this created a paradox. His effort to provide greater assurance that the actuarial interest assumption would be met caused the actuary to reduce the interest assumption; thus an action taken with the expectation of stabilizing costs results in an immediate increase in cost.

In this particular example, the actuary was setting his interest assumption based on his client's investment strategy while the client was basing his investment strategy on the actuary's interest assumption. This would appear to be an unsound posture for the actuary and his client to be in. Although the above example is cast in black and white, in practice it is probable, at least in the United States, that to some degree actuaries *are* taking into account the plan sponsor's investment strategy while at the same time the plan sponsor is including, as one of the goals of his investment policy, the achievement of the actuary's interest assumption.

Assuming a philosophical unsoundness in the situation described above, this note is intended to stimulate discussion on whether

1. the investment manager should set his strategy based on the actuary's interest assumption, or
2. the actuary should base his interst assumption on the investment manager's strategy, or
3. a veil should be drawn between the actuary and investment manager, so that the investment manager is unaware of the actuary's interest assumption and the actuary is unaware of the investment strategy.

It should be noted that the term "investment manager" is used somewhat loosely in this note; it is intended to refer to the entity which establishes investment policy for a pension fund and could, therefore, be an independent firm, a committee of the plan sponsor, etc.

The Investment Manager: Should He Use the Actuarial Interest Assumption as a Goal?

The first of the questions posed above may appear to be the easiest to answer. The long-term nature of the actuary's interest assumption should preclude its use as a goal in setting investment policy which is usually (although not necessarily) based on short-term considerations. It is really the differing time scales used by the actuary and the investment manager which led to the situation which was used in the introduction to this note.

It may be agreed among actuaries that it is quite unsuitable for the actuarial interest assumption to be set as an absolute goal for the investment manager to meet. However, in the United States there appears to be a significant trend for plans sponsors to establish formal written investment policies which very often include achievement of the actuarial interest assumption as one of the policies.

How should the actuary respond to such misuse of his interest assumption? One attitude could be to ignore the issue. In the author's opinion, however, the actuary should take responsibility to communicate his interest assumption in a manner designed to prevent its misuse and to do his best to provide further advice if he sees his interest assumption being used in an inconsistent manner. This would seem to require that

1. The actuary should sufficiently qualify the descriptions of his interest assumption that it cannot be misconstrued by a reader of his report as being an appropriate investment goal.

   Where the actuary makes an explicit assumption about inflation, it would seem desirable to always associate the interst rate with the inflation assumptt ion in a manner that makes clear the actuary's expectation that the interest rate is associated with a particular economic environment.

   On the other hand the actuary who makes no explicit assumption regarding inflation, and who thereby presumably has a lower interest rate, should make it clear that his interest assumption is deliberately unrealistic and not suitable as an investment goal in any other than relatively noninflationary environments.
2. In many cases, regrettably, the actuary will not be informed of his client's written investment strategy.

The actuary should include as part of the information he requests to perform his valuation, information on the investment strategy followed by his client (as to other reasons for requiring this information, see the discussion below). If he perceives that the actuarial interest assumption is being used in an inappropriate manner as a guide, he should so advise his client.

The Actuary: Should He Base His Interest Assumption on the Investment Strategy?

It would be difficult for the actuary to be totally unaware of his client's investment strategy. Since he must value the plan assets, he is likely to infer some strategy from the distribution of assets or from changes from year to year. Moreover, in order to properly value the plan assets he must have a deeper understanding of his client's investment strategy than can be inferred from the schedule of assets. For example, it would be appropriate to value bonds by discounting the periodic interest payments and ultimate face value at the actuarial interest rate if bonds are to be held to maturity; however, such a valuation method is inappropriate if the bonds are actively traded. Thus to properly value the bonds the actuary must know what investment strategy is being followed. A similar situation may well exist with equity securities. Since the actuary cannot infer the strategy from the listing of securities held on the valuation date, he must therefore require a statement of investment strategy to adequately value the assets.

However, the question posed is whether the actuary should take the investment strategy into account in determining his interest assumption. To be more specific, should the actuary vary his interest assumption depending on one or more of the following factors:

a. the allocation of the fund among different classes of investment (e.g., stocks, bonds, real estate);

b. the allocation of the fund among different classes of investment managers (e.g., insurance companies, banks, investment counselling firms); and

c. the adoption by the fund of a particular strategy (e.g., market timing, use of index funds).

If the actuary feels that none of the above factors should affect his interest assumption, it is difficult to see what would logically permit him to use different interest assumptions for different clients other than

d. past fund performance; however, in the United States at least, the majority of funds have changed investment strategy so significantly within the past few years that prior performance is probably not a realistic guide;

e. client preference; with the passage of ERISA tailoring interest rates to client preferences would seem to be a dangerous practice.

The conclusion from the above discussion is that if the actuary is to justify logically differing interest assumptions between his clients it must be by acknowledging that, at least on a subjective basis, the differing interest assumptions are due to differences in the investment strategies followed by his clients.

If this position is accepted then it follows that the actuary should

1. be able to rank the interest assumptions used for his various clients and justify the ranking by reference to the differing investment strategies of his clients, and

2. respond to changes in investment strategy by changing his interest assumption (assuming that if his interest rate does not change that is due to an active evaluation that the change should not affect the interest rate rather than passively ignoring the question).

However, in order to accomplish either goal the actuary must

3. have some conceptual framework as to the effect that various investment strategies will have on the pension fund's expected rate of return and therefore on his interest assumption, and

4. have some formal way of determining initially, and at the time of each actuarial valuation, what investment strategy is being followed (assuming that it cannot adequately be inferred from a "snapshot" of the assets on the valuation date).

The author believes that the actuary must either totally abstain from allowing investment strategy to influence his interest assumption or he must make specific allowance for investment strategy as outlined in the four points above; the middle ground, which is where the author and, he suspects much of the actuarial profession, resides is an unsound place to be.

Actuary and Investment Manager: A Veil Between

A sound theoretical case could be drawn for operating on the basis stated in the third proposition in the introduction to this note, i.e., that a veil should be drawn between the actuary and investment manager, so that the investment manager is unaware of the actuary's interest assumption and the actuary is unaware of the investment strategy.

However, in practice such an arrangement is impossible. In many cases the plan sponsor and the investment manager (as the term is used here) are one and the same, so withholding of the interest rate is not feasible. Moreover, as pointed out above, the actuary must have some idea of the investment policy in order to properly value the plan assets.

Actuary and Investment Manager: A Closer Relationship

The above discussion suggests the strong need for a closer relationship between the actuary and the investment manager to prevent both parties from misunderstanding what the other is about. In a more positive vein, a closer relationship might help the investment manager in establishing his strategy and provide the actuary with more input into the process by which he determines his interest rate. It appears that such relationships, either formal (e.g., on a committee) or informal, occur infrequently in the United States. It would be of interest to learn whether this is the case in other countries.