

PHILOSOPHIC ISSUES IN DIVIDEND DISTRIBUTION

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ABSTRACT

This paper grew out of a study note on "Philosophies of Dividend Distribution." It summarizes traditional actuarial thinking on individual policy dividends and some of the current concerns. Specific topics covered include the concept of dividend class, the effects of reserves and non-forfeiture values on dividends, terminal dividends, dividend assumptions and illustrations, early dividends, permanent contributions to surplus, and changes in dividend scales.

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INTRODUCTION

**M**OST of the actuarial challenges in surplus distribution for individual insurance flow from the practical problems of developing a dividend scale. Beneath these operating issues, however, lie philosophic questions. A grasp of the philosophy of dividends is essential for understanding the practical aspects. Consequently, the course of reading for Part 8 of the Society's examinations includes a study note on "Philosophies of Dividend Distribution." The note touches on several issues of current interest.

The Education and Examination Committee believes that the note would benefit from the discussion that would be generated by its publication for the entire Society. This paper is a recasting of the study note for that purpose. The author shares the view that both students and the profession as a whole would benefit from broad discussion of these issues.<sup>1</sup>

The paper begins with a brief statement of the traditional view of dividend distribution. It then takes up a number of specific issues in the context of traditional thinking and in the light of current conditions. It draws primarily on the framework of ordinary life insurance issued by a mutual company, since that business provides the main source of surplus distribution theory in North America. Thus the paper would benefit from discussions relating to the participating business of stock companies.

<sup>1</sup> The Society's Committee on Dividend Philosophy is addressing many of the same questions. The chairman of the committee feels that current discussion of the issues will be a source of help to the committee.

## TRADITIONAL VIEW

“The first fundamental of mutual life insurance is the idea of the mutual cooperation of a sufficient number of persons to insure their own lives at cost.”<sup>2</sup> Joseph Maclean described the essential philosophy of mutual life insurance in those terms almost fifty years ago. In doing so, he presented the view that had been accepted generally for a much longer period.

One immediate consequence of the concept of insurance at cost is the need for averaging. Clearly, insurance at cost does not mean simply that each individual policyholder pays the cost of providing the benefits that actually arise under his policy—this would violate the whole notion of a collective venture, which is essential to all insurance. Rather, what must be meant is insurance at some kind of averaged cost: each policyholder is assessed the actual costs of benefits and expenses that apply across some broad aggregate to which he belongs.

Beyond the averaging within the aggregate to which a policyholder belongs, there must be some additional averaging that crosses the boundaries between separate aggregates or blocks of business. Some blocks of business will encounter particularly adverse circumstances. These adversities may arise in mortality levels, interest rates, expenses, or possibly in withdrawal rates or other factors. Somebody has to cover the losses in those blocks of business that are not self-supporting. In a mutual company the only sources for this financing are other blocks of business. Thus the policyholders in the blocks of business that currently are providing for their own costs must pay a surcharge. Clearly, the surcharge should be kept small. In theoretical terms it is unreasonable to promise insurance at cost to a block of policyholders and then to levy significant additional charges against them for other blocks. In practical terms such a procedure would be unsupportable competitively.

A second consequence of insurance at cost arises from the need to keep risk-sharing charges low. Since only small charges can be collected to cover losing blocks, there must be few of them. Therefore, for each block of business the probability that it will be financially self-supporting must be high—that is, there must be a strong likelihood that the gross premiums at issue will be sufficient. A major concern in setting a scale of gross premiums for mutual insurance is possible future adversity. The actuary will attempt to judge the plausible extent to which interest rates may fall, expenses rise, and mortality deteriorate. The gross premiums should be adequate to enable most blocks of business to absorb

<sup>2</sup> Joseph B. Maclean, *TASA*, XXXII, 158.

without subsidy any future adversity that is plausible, even if unlikely.

At issue, the entire burden of making a block of business self-supporting rests on the gross premiums. After issue, this burden shifts gradually to the accumulated funds. The capacity of the block to weather future adversity depends on the sum of the accumulated funds and the present value of future gross premiums. Clearly the future premiums dominate this sum in the early years, but the relationship changes as the funds grow.

There is a complementary relationship between gross premiums and fund accumulations. Together, they represent the provision for the future; hence they should be considered together. When the actuary is constructing a scale of gross premiums, he also is considering the funds that the block of business should accumulate at future points in time. Once the gross premiums for a block of business have been guaranteed, the only variable that is subject to significant control is the fund accumulation. The mutual company actuary considering the appropriate level of policy funds is concerned, as he also is when developing gross premiums, with the degree to which future events may be unfavorable. The question that must be considered is: How much money must be on hand to ensure a high probability that the business can be matured without subsidy under adverse conditions?

Dividends furnish the means for controlling the fund accumulations. They are the amounts that the company can afford to pay while still maintaining funds on hand that, together with future gross premiums and investment income but without subsidy, have a high probability of maturing the block of business.

The regulation of fund accumulations is a vital element in surplus distribution, but this does not mean that all mutual companies use, or should use, fund methods in dividend determination. In fact, most do not. Nevertheless it is important to recognize that the actuary's judgment of the funds required is at least an implicit, and frequently an explicit, element in the development of dividend policy and dividend formulas. The actuary needs to determine the amount that the company must retain in order that it will have a very good chance of carrying out its original undertaking with the policyholder: the provision of insurance at cost.

#### DIVIDEND CLASS

The question of what constitutes an appropriate aggregation, or dividend class, arises immediately from the averaging aspect of participating insurance. Two somewhat competing theoretical requirements are

evident. One is the need for a reasonable degree of homogeneity among the members of a dividend class; the other is the requirement that the class be large enough that random fluctuations in experience rarely will have significant financial impact.

Less obvious are the criteria that are appropriate in defining a dividend class. The view generally held seems to be that the definition should rely on characteristics existing at the date of issue (or, where there has been a policy change, characteristics existing at the date of change). A more restrictive philosophy limits the defining criteria to characteristics actually relied upon for rating purposes. This difference is significant where rating practices are changed. The change to sex-distinct life insurance premiums provides an example. A company following the former philosophy might introduce a sex distinction into the dividends on older issues; a company following the latter philosophy would not.

Either view permits dividend distinctions to be based on the rights available to a policyholder—for example, disability benefits under the contract or the maximum policy loan interest rate. Whether the *exercise* of the right provides sufficient basis for varying dividends is a more difficult question. May dividends reflect the amount of disability benefits paid, the amount of a policy loan, or the costs of processing a beneficiary change?

The sharp increases in policy loans have led to a searching review of the concept of dividend class. Kraegel and Reiskytl<sup>3</sup> discuss the background and a number of possible actions comprehensively. It is sufficient here to sketch the history and philosophic issues.

During most of this century, contractual policy loan interest rates have exceeded market rates. The situation reversed in the mid-1960s, and since then the yields on Treasury bills and savings accounts have invited arbitrage. In addition, for those policyholders who have had to borrow somewhere, the difference between market lending rates and 5 or 6 percent policy loan rates has been a powerful incentive to choose policy loans. This issue was examined on an industry basis in the early 1970s. That examination led to the adoption by the National Association of Insurance Commissioners of model legislation providing for a variable policy loan interest rate with a maximum rate of 8 percent. This model legislation has spread through the states, and a number of companies now differentiate their policy forms by state. This differentiation is regarded generally as establishing separate dividend classes, with the requirement that for cash-value issues the dividends illustrated in 8 percent states be higher than those illustrated in 6 percent states.

<sup>3</sup> Wilfred A. Kraegel and James F. Reiskytl, "Policy Loans and Equity," *TSA*, XXIX, 51.

The legislation has eased the policy loan problem for new issues. It has no effect on in-force business, however, which necessarily will be the source of most of the problem for some time to come. These circumstances reopen the question of dividend class. In the current economic climate, those policyholders who borrow reduce the yield for everyone. Owners of large policies, presumed to be financially sophisticated, have been borrowing more heavily than those with smaller policies. Should the non-borrowers suffer from this action? That is the result if, for dividend purposes, the policy loan assets are averaged with the 7-10 percent returns the company can obtain through other investments. The alternative of reducing dividends for borrowers, however, is seen by some as negating the guaranteed policy loan interest rate.

Before we examine the question of varying dividends by amount of loan, one other practice should be mentioned: varying dividends by loan usage under different plans of insurance. One source of policy loan volume has been extensive borrowing under high-cash-value policies, particularly those designed to support minimum deposit programs. Some companies have treated these plans separately in determining interest credits for the dividend formula, using a lower investment return rate than for other cash-value issues of the same series. This practice reduces the cost of policy loans to policyholders (both borrowers and nonborrowers) under the other plans while increasing the cost for policyholders under the high-cash-value plan. It increases the homogeneity of the dividend classes somewhat, without confronting directly the issue of reflecting individual loan activity.

Most of the discussion of using amount of policy loan as a dividend factor has focused on a generalized notion of equity: charging nonborrowers for loan costs is seen as unfair. The basic purpose of cash-value life insurance is to provide permanent protection for a level premium. Borrowers are taking advantage of the system at a cost to everyone. Under this theory, the concept of dividends as a return of unneeded earnings, allocated to policies on the basis of contribution to these earnings, should provide an answer. It should accommodate an adjustment for the differences in contribution arising from differences in loan usage.

Proponents of this line of reasoning tend to emphasize the matter of volition or control. Policy loans are made at the choice of the borrower. He alone controls the outcome. The structure of risk-sharing and risk-spreading through insurance requires the reverse; it works only where the outcome cannot be influenced significantly by the insured. The financial impact of policy loans is thus not insurable and hence is not susceptible to the averaging process. The homogeneity of a dividend class represents a homogeneity of exposure to insurable risks. Conse-

quently, the variation of dividends by amount of policy loan does not violate the averaging process.

The contrary view holds that, while policy loans may not represent an insurable risk, the right to borrow on a policy is unquestionably an insurance benefit. Indeed, it is one of the most frequently used insurance benefits. Life insurance companies promote this benefit vigorously in the sale of their policies. The features of guaranteed availability and of a guaranteed maximum interest rate both receive heavy emphasis. Can the companies properly say that this insurance benefit will not be subjected to cost-sharing? This question reaches well beyond the limits of actuarial theory, into the domains of business policy and law. The final answer may well come from the courts.

#### RESERVES, NONFORFEITURE VALUES, AND TERMINAL DIVIDENDS

If the fund accumulation objectives contemplated at the issuance of the company's business are met, the total of these objectives will approximate the assets accumulated on behalf of the total in-force business. From the standpoint of statutory solvency, it clearly is necessary that this amount be at least equal to the statutory reserves for the in-force policies. For this condition to be met, the fund objectives and the reserve basis for a block of business must be considered together.

In the classic view, the determination of the fund objectives comes first. The fund objectives represent the amount that the actuary thinks the company *ought* to have on hand. In this sense the fund objectives can be thought of as liabilities, since a company's liabilities are the measure of its obligations. Thus the actuary will try to select from among the reserve standards available to him one that produces aggregate reserves that are closely comparable to the aggregate funds planned for the total business. In practice this result is usually accomplished by relating the targeted funds to the reserve standard by formula.

At the very earliest durations, accumulated funds are necessarily less than statutory reserves, even on a modified basis. This situation is anticipated at issue, of course, and is no cause for alarm. It does require, however, that at some later duration the fund objectives exceed the statutory reserves in order that the total assets cover the statutory liabilities. If funds exceed statutory reserves, there arises a theoretical problem in connection with the treatment of terminating policyholders. *Nonforfeiture theory* calls for allowing these policyholders the amount that leaves the continuing policies unaffected by the termination. At the later durations this amount is close to the pro rata fund for the terminating policy. (Typically, an exact pro rata amount is not appro-

priate because of the costs of processing the termination and because of residual effects such as higher mortality costs from self-selection by terminators and higher unit costs resulting from a smaller expense base.)

Valuation laws require that the reserve on each policy be at least equal to the guaranteed surrender value. Consequently, if funds are to exceed the reserve they must exceed the guaranteed surrender value. Yet the surrender value allowed should approximate the funds. The solution to this apparent dilemma is a nonguaranteed termination supplement. This supplement takes the form of a dividend, under such titles as "terminal," "termination," or "surrender" dividend. The annual statement liability for terminal dividends covers only the amount estimated to become payable in the following year. In this way most of the excess of funds over reserves on policies at the later durations is available to cover the statutory surplus strain on more recent issues.

While the theoretical basis for terminal dividends has long standing, two events combined to bring them into general use. The first was the reserve strengthening of the 1930s and 1940s. Companies reduced annual dividends to build up larger funds, which were required in view of reduced investment yields. A policy termination, however, eliminated the need to earn future investment income. Contribution theory called for restoring to the policyholder the amounts by which annual dividends had been reduced in order to strengthen reserves.

At about the same time, punched-card equipment came into general use. This equipment permitted substantial refinements to be made in the recognition of individual policyholder equities. The gains from surrender that previously had been spread across the annual dividends could be distributed more precisely to their contributors. Moreover, terminal dividends reduced the net cost figures used in sales illustrations. The need for terminal dividends and the capacity to handle them coincided, and their use spread rapidly in the period immediately following World War II.

#### DIVIDEND ASSUMPTIONS

Both legally and philosophically, dividends are a distribution of earnings that no longer need to be retained. This definition gives surplus distribution a strong retrospective appearance: dividends come from the earnings of the past. At the same time, however, dividend determination has a prospective aspect. Only those earnings that are no longer needed should be distributed. The need in question is a future need—the required level of retained earnings depends on estimates of possible future events.

The traditional approach to dividends treats these two aspects sepa-

rately. First, determine what the earnings are. Second, decide how much must be set aside for future contingencies. Third, distribute the balance to the policyholders who contributed to these earnings. The New York law embodies this view explicitly.

The rapidly changing circumstances of the last decade have called this step-by-step approach into question. Should the expense element in the dividend formula be based only on past expenses, or should there be some recognition of continuing inflation? For cash-value policies, increased interest earnings may be available to cover increased renewal expenses, but how should term insurance dividends be determined in a period of rapid inflation?

An allied question concerns the interest factor—should it be an average portfolio rate or a rate developed by year-of-investment techniques?<sup>4</sup> The general practice has been to use an interest factor based on the average portfolio rate for the individual branch. However, in the last half-dozen years, with new-money yields substantially above portfolio rates, pressures have been generated to move to a year-of-investment approach for individual policy dividends. The principal source of this pressure has been competition with other savings media. Most products of a purely investment nature automatically involve new-money rates—savings accounts and to some extent savings bonds represent the major exceptions. Dividend illustrations based on current average portfolio rates of interest show participating insurance in a poorer light, compared with these alternatives, than the facts warrant.

In appraising the use of new-money rates for individual insurance dividends, at least the following four significant issues have to be considered:

1. Are year-of-investment yield rates and fixed surrender values compatible? In investment terms, the new-money approach provides the yield characteristics of a series of fixed-income bonds. Yet it does so without the associated market-value risk of bonds. In a period of sharply rising interest rates the policyholder can cash out without market loss. Under the current treatment of policy loans he can go even further; he can borrow and invest the money at current yields. When interest rates decline, he can sell his appreciated investments and buy back into high interest years of investment in the insurance company, investments to which he contributed no funds.

<sup>4</sup> An important distinction must be recognized here. In virtually all companies that engage in a substantial group annuity business, and in many that do not, investment yield is allocated to branches of business by a year-of-investment method. Allocation among policyholders *within* a branch may nevertheless be made on the basis of that branch's average, or portfolio, yield rate.



This danger exists under an average portfolio approach also, but not to the same extent. The transaction friction involved in making and repaying loans probably has helped. Even without this protection, savings banks have survived with guaranteed principal investments providing average portfolio returns. It is much harder to find a successful example of an instrument with both a guaranteed principal and a new-money return.

2. The use of year-of-investment interest rates in the current situation benefits the more recent policyholders. It would seem that older policyholders must suffer, since divisible surplus is unaffected by the change. For most of the last twenty years, the existing policyholders have received dividends based on an average portfolio rate that has been below the new-money rate. Their dividends would have been higher under a year-of-investment approach. They have paid the price of an average portfolio rate method. This raises the philosophic question of whether they now should be required to forgo the benefits.
3. On pragmatic grounds, a move to a new-money dividend formula can be a dangerous one-way street. The only certain fact about interest rates is their cyclic nature. New-money rates have been above portfolio rates about half the time and below them about half the time. A company that breaks with the industry pattern while new-money rates are high will enjoy an immediate advantage in its dividend illustrations. The advantage is temporary, however, since sooner or later interest rates must cycle down. Forceful arguments have been made against permitting a company to jump back and forth between the use of average portfolio rates and new-money rates for its illustrations. If a move to the year-of-investment approach is irreversible, the company may be at a serious competitive disadvantage when interest rates decline. A case can be made that it is better for the company to acquire a disproportionate share of new business when interest rates are high and to forgo business when they are low. This position overlooks the problems of maintaining a sales staff, not to mention that because of the long-term nature of the interest cycle an entire generation of management might have to sit out the competitive disadvantage when rates are on the low side.
4. The significance of dividend illustrations for the purchase decision of a prospective policyholder is an increasingly important issue, as is discussed in the next section. A part of the issue concerns the reliability of illustrations. Reliability is connected closely with the frequency and extent of changes in the dividend formula. Since new-money interest rates are inherently more volatile than portfolio rates, the difference between actual and originally illustrated dividends is likely to be wider under a dividend system based on new-money rates.

The method of developing dividend assumptions, particularly the interest assumption, is currently the subject of lively debate. The Society's Committee on Dividend Philosophy is examining this question as part

of its review of dividend theory and practice. Company practices diverge, although the majority still appears to be strongly on the side of the use of average portfolio rates. There is authoritative support for both the portfolio and the year-of-investment approach.

#### DIVIDEND ILLUSTRATIONS

Giving meaning to the participation rights of prospective policyholders has been a continuing challenge for participating life insurance. The standard contractual provision to pay such dividends as may from time to time be declared by the board of directors is not very informative for a purchaser. Consumerism has intensified the problem of giving meaning to the dividend clause. All observers seem to hold the view that some array of prospective dividends is required. The problem is how to construct and constrain this array.

The traditional view, backed by the force of law in a number of states, holds that the best way to provide a numerical display is to apply the current dividend formula throughout the period under consideration. The applicable laws and regulations require that the resulting display be characterized as an illustration, and specifically not an estimate or projection. It has been said that the use of illustrations requires a company to put its mouth where, in the form of current dividend payout, it is putting its money.

Actuaries long have been uneasy about this process. It is unlikely that a dividend formula will continue unchanged for any significant period, certainly not for the twenty-year duration that is commonly used for dividend illustrations. There also are some important practical drawbacks. For one thing, there is little accountability to the buyer. He makes his decision on the basis of an illustration; if the company later revises its scale downward, he may feel he has been misled. This potential for misunderstanding is intensified by the common practice within the industry of comparing dividend histories with illustrations published at the time of issue. Owing to the generally rising interest rates over the last twenty years, the results of such comparisons over that period have been superficially gratifying. For virtually all participating companies, actual dividends have been better than the dividends originally illustrated. Of course, this outcome has had little to do with the "credibility" of the illustrations; it simply has been a reflection of the rising interest rates.

A frequent response to these problems has been the suggestion that the companies should try to project dividends rather than merely illustrate the effect of the current formula. Immediately, there arises the question of what earnings factors to use for the projection. One approach is to

mandate a universal set of assumptions for all companies. Aside from the difficult question of how these assumptions should be determined, this method would ignore the real differences in results attained by different companies.

An alternative version calls for each company to project its own experience and display the dividends it would pay under the resulting circumstances. Two obvious problems attend this approach. The first is the mechanical difficulty of determining and calculating what the divisible surplus would be and how it would be distributed. More important, no one has yet come up with a satisfactory way of policing the assumptions that would be used in competing for new business.

Not surprisingly, the actuarial profession, faced with choices that all have significant disadvantages, leans toward the conventional wisdom as embodied in existing law. The general preference seems to be for dividend illustrations, coupled with increased efforts to inform the user of their limitations. The search for a better answer continues.

#### EARLY DIVIDENDS

Common sense suggests that dividends should be "earned" before they can be paid, and New York law requires this condition in the first policy year. This requirement raises the question of whether any dividends should be paid before accumulated funds equal statutory reserves. The traditional view is that they can be. The support for this view rests on the contribution theory of dividends, which requires that funds no longer needed for the operation of the business be returned to the policyholders from whom they came. It is not sufficient that the company pay out to some members of a block of policyholders all of the funds not needed for the payment of claims, expenses, and an appropriate permanent contribution to surplus. To the extent possible, these payments should be made to those policyholders who have contributed to the unneeded funds. The company cannot wait twenty years and then start paying dividends. As soon as it is reasonably certain that some of the earnings on a block of business will not be required to mature it, these earnings should be declared as dividends.

At time of issue, the gross premiums are the only source of financing for a block of business. As has been discussed, the gross premiums are determined on a basis that is estimated to cover any plausible future adversity. Accordingly, they are redundant for average circumstances. As a block of business moves through its history, the actuary is in an ever stronger position to appraise the likelihood that the business will encounter the kind of adversity that the gross premiums were designed

to accommodate. If, after a few years of that history, the prospects that difficulties will arise do not seem any stronger, it is safe to return some of the accumulated redundancy as dividends. By extending this concept to the first year of insurance, a portion of the provision for adversity can be returned on the first anniversary if future circumstances look no worse than they did at the time of issue. Indeed, equity to policyholders who withdraw fairly early requires that they receive some return as soon as it can be made to them safely. Surrender values provide a return, and if they are relatively high the need for early dividends may be reduced. However, guaranteed cash values cannot reflect actual experience; only dividends can.

#### PERMANENT CONTRIBUTION

Should a mutual company seek to distribute all the funds accumulated on account of a block of policies to that block as it goes off the books? Setting aside the practical problem of semicontinuous dividends for the last survivors of the block if the development of accumulated funds is too conservative, there remains the theoretical issue of the company's proper objective. Some would answer the question affirmatively; because of the objective of providing insurance at cost, the company should not retain any money after it has been relieved of all the risks that it assumed.

*The dominant view appears to be the opposite, that most blocks of policies should leave a permanent contribution to the total company. The argument is made that there is a basic justification for retaining a premium when a risk has been assumed. The company collectively—the entire body of policyholders that compose the mutual organization—has assumed a risk with respect to the block of business now going off the books. That risk was the need to subsidize this group if its premiums or accumulated funds proved to be inadequate. While this adverse result may not have materialized, the risk nevertheless was present. On this basis, the broader collective, acting in a sense as a reinsurer, is entitled to retain a reasonable risk premium.*

A somewhat parallel line of reasoning rests on the dynamic nature of a corporate enterprise. A vigorous company is constantly changing and innovating. In a successful organization most of the changes will be beneficial, but inevitably some will turn out to be financial mistakes. The cost of these mistakes has to be allocated to the policyholders in some fashion. It may not be possible to reflect this cost in the earnings factors for each block of policies, and, even when it is, the use of a permanent contribution element in the formula may be more appropriate.

Another reason for permanent contributions is to provide growth

capital. It is widely believed that growing organizations are more efficient than stagnant ones. They are more able to attract and retain effective employees and to energize their abilities. Consequently, current policyholders benefit from participating in a dynamic, growing company, and a levy to finance sound growth is justifiable on this basis.

#### DIVIDEND CHANGES

Changes in a dividend formula are of three types. First are the fairly routine periodic adjustments to recognize changes in earnings factors. One purpose of dividends is to regulate fund accumulations. The dividend payout therefore must be adjusted from time to time as the buildup of funds changes because of shifts in the underlying factors of interest, mortality, and expenses.

Refinements in the way divisible surplus is allocated to classes of policies produce a second type of formula change. Examples are changes to reflect sex of the insured or size of policy in dividends for existing policies. An adjustment in dividends based on amount of policy loan, as has been proposed, would be another example.

Much more difficult adjustments are required when the fund accumulation objectives themselves are called into question. Since the basic fund targets are established at the issue of a block of policies, it is inevitable that succeeding events occasionally will cast doubt on the original targets. This situation has occurred on a general basis once in recent times; in the late 1930s and early 1940s most companies scaled down their estimates of the interest that they reliably could expect to earn. This change in expectations necessitated an increase in the level of funds that the companies needed, and caused a general readjustment of dividend formulas to achieve these higher levels. Since the new circumstance involved a changed judgment as to the amount of money that the companies felt they ought to have on hand, it also resulted in the adoption of stronger statutory reserve bases—quite generally for new policies, and in many cases for in-force business as well.

#### CONCLUSION

The analysis and distribution of surplus engage the actuary's faculties to the fullest extent. They require judgment, good sense, careful thought, and an understanding of the underlying theories and philosophies. In addition, the actuary must maintain an awareness of changing conditions in a field that reaches far beyond the purely professional domain.

