

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1972 VOL. 24 PT. 2D NO. 70**

**MARKETING EXPENSE—THOSE ITEMS NOT DIRECTLY
ALLOCABLE: ALLOCATION AND CONTROL IN
MULTILINE MARKETING SYSTEMS**

Many insurance companies operate within a multiline distribution system, either marketing a number of insurance and equity products through the same marketing system or sharing a marketing system with an affiliated company. Such companies are faced with many important decisions with regard to the allocation and control of marketing costs.

1. What are some of the different lines of business for which products are sold by the same field organization?
2. What items of marketing expense cannot be readily allocated directly to the various lines of business? What general methods are available to allocate such items?
3. How should expenses of developing new marketing personnel and organizations be allocated?
4. Should marginal methods be used to allocate marketing expense to new lines of business? If so, at what point in time should a new line become a full partner?
5. How should the items of marketing expense identified in item 2 be controlled? Should the allocation and control methods be related?
6. What is the responsibility of the actuary as rate maker in the allocation and control of marketing expense? What is top management's responsibility?
7. (a) To what extent should the competitive positions of different product lines be determined by marketing expense allocations?
(b) Should the method of allocation be affected by the competitive positions of different product lines? For example, what procedure should the actuary follow in rate-making if a change to an "equitable method of allocation" results in allocating additional expense to an already unprofitable product line, but a product line which is reasonably priced in the competitive market and one from which the company cannot withdraw for other considerations? An example might be group medical expense benefits.
8. To what extent should federal income tax considerations affect the method of allocation?
9. Should the allocation be affected by the method of determining acquisition expenses to be capitalized in adjusted earnings statements?

CHAIRMAN WALTER W. STEFFEN: In the market operation of companies today, the marketing unit of a multiple-line distribution system may be selling the following products:

1. Individual life policies, perhaps both participating and nonparticipating policies.
2. Group life policies.
3. Individual variable annuities.
4. Group variable annuities.
5. Mutual funds.
6. A variety of individual health products.
7. A variety of group health products.
8. Individual pension benefits.
9. Group annuity benefits.
10. Collateral coverages, such as accidental death, disability, and the like.
11. Industrial or weekly premium benefits.
12. Property-casualty coverages.
13. Individual (fixed-dollar) annuities.
14. Credit life.
15. Credit health insurance.

Certain expenses are incurred in the marketing operation which might be easily allocated to these individual lines of business, such as the salary of a field specialist—a regional group manager. Others are more difficult to allocate. In general, these are (1) the home office overhead of establishing and operating the marketing system and (2) the field expenses of establishing and operating the marketing system. These will include many of the following expenses:

1. Agents' balances charged off.
2. Sales promotion, including agents' contest expenses.
3. Collection of agents' club membership data.
4. Training activities, such as agents' training school.
5. Market research.
6. Marketing conferences.
7. Advertising.
8. Nonrecourse financing plans and salaries paid to field men.
9. Recruiting of field personnel.
10. Regional marketing office expenses.
11. General agent or manager subsidies.
12. Agents' benefit plans.
13. Agency branch office expenses incurred by or on behalf of the agent and clerical staff, such as rent, utilities, furniture, and the like.
14. Field publications.
15. Other similar items.

Still other items of expense may be incurred by your company and might be listed. However, we are concerned primarily with a discussion of the

philosophical and practical considerations for handling this type of item in our record systems.

There may be three or four separate and distinct reasons for allocation:

1. Reports of statutory results made to regulatory authorities.
2. Reports for the investing public, such as the proposed adjusted earnings reports.
3. Internal reports to management to determine the result of operations for each line of activity.
4. Reports for rate-making purposes, which some will probably include as a part of item 3.

Refinement of allocation of all the above-mentioned expense items for each line of business is not required for reports to authorities or reports to investors. However, a sophisticated management will require an allocation to each line of activity in which the company operates for the reports to management and for rate-making purposes. This is the more difficult problem and one to which we shall direct our attention.

MR. GARY E. CORBETT: My discussion will be primarily from the practical point of view of one who has gone through the problems of allocating and controlling costs in a truly multiple-line marketing organization. Hopefully, the discussion of what our company has done in these areas will throw some light on the general problems and the possible solutions available.

Within SAFECO Corporation, I have been concerned with the allocation of marketing costs among the fire and casualty insurance companies, the mutual fund broker-dealer, and the life insurance company. Our primary agency force is the traditional American independent agency system. In addition, we have a substantial number of life-only general agents who operate in much the same way as the traditional general agents in any life insurance company. The marketing function is decentralized into eleven geographical divisions. In each of these divisions we have life and mutual fund specialists, but the multiline marketing representatives have the total responsibility for all insurance produced by their assigned agents. The proper allocation of the marketing representatives' expenses among companies is extremely important.

Within SAFECO Life itself we have two major profit centers—group and individual. We must break down the individual line between life and health in order that management can determine how we are doing on each line. For rate-setting, analyzing profitability, and plotting marketing strategy we must break the product lines down even further. For ex-

ample, on individual health we break down to accident principal sum, disability income, and basic hospital-surgical.

In our company the primary purposes of allocation are management reporting and rate-making, which, I believe, must be treated together. Reporting to stockholders is important, but it does not require the same depth of allocation, since we do not report to them by product line. Our statutory reporting generally employs the results of our management reporting, and none of my remarks are directed specifically to allocations for statutory reporting.

There are countless numbers of specific expense allocation methods that can be and probably have been used. But it seems to me that they can be classified in three major groups. The first group would contain those based on negotiations, the second would be those based on actual effort, and the third group would be those based on actual results.

I am sure that we have all seen expense allocation formulas based on negotiations. Although such methods are essentially arbitrary, there is one variation that is a valid management tool. With this method management makes a decision as to the portion of time or effort that a particular segment of the marketing force is to spend on a product line, charges that line with that portion, and then manages the marketing force with the goal of obtaining that portion of their time for the particular product.

Perhaps the most accurate methods are those based on actual effort. These methods require the measurement of the time or effort being spent on different lines. The most accurate allocation would be based on current activity, but frequently historical time studies are used. Such time studies may be based on samples, with respect to both the people and the time spans studied. In our company historical time studies are the main basis for allocations among companies and between group and individual. Methods employing actual item counts during the accounting period are an attempt to reproduce the results of current time studies. An example in the marketing area would be number of sales attempts.

The third family of allocation methods looks to the result of the efforts, usually measuring these results in dollars. One example is the marginal method. Here you might charge x dollars per unit produced to the marginal line and the remainder of the expense to the basic line. It is customary to allocate total expenses on the basis of such measures as total or first-year commissions. A more refined base might be the value to the company of the business produced. If dollar results are used, I believe that the unit used for allocation should be consistent with that being used to measure the effectiveness of the department whose expenses

are being allocated. If, for example, you are allocating a department's expenses on the basis of first-year commissions, the goals and objectives of that department should be stated largely in terms of first-year commissions.

In situations where you cannot identify the specific product being benefited by a marketing effort, it is probably best to allocate in proportion to the expense margins generated by the resulting production. We use this method to allocate most marketing expenses between individual life and health. The "acceptable expense" method has two advantages over methods based purely on production measures. First, you can reflect the possibly different margins available for expenses in different products. If the margins are different, management must see to it that less effort per unit is expended on the products with the lower expense margins. For example, we expect less field effort per unit of health annual premium commission than per unit of life. A second advantage of the acceptable expense method is that it is a very effective control method.

MR. JOHN M. BRAGG: I do not know how many of you are familiar with the *Intercompany Functional Comparison Analysis* prepared by the Life Office Management Association. Trying to prepare myself as well as possible for this discussion, I decided to familiarize myself with this study. Gentlemen, it was well worth the effort. First of all, I should say that the LOMA study is used by 124 companies representing more than 60 per cent of the Industry. The LOMA committee has been working on this for eighteen years—trying to find the items that are not readily allocable and wrestling with the questions of whether and how to allocate them.

Among many other blocks of expense, the LOMA study identifies a block which it calls "sales support" expenses, and if I list these I think we may have the literal answer to the first part of question 2:

- New-business stimulation
- Sales promotion, including contests and the like
- Training activities
- Recruiting of field personnel
- Market research
- Preparation of sales proposals for agents
- Processing direct mail and leads
- Collection of agents' club membership data
- Training and club meeting for sales force
- Legal work on any of the above
- Field newspapers

The LOMA assigns to this sales support category not only the direct expenses, of the above types, which can be found, but all work effort connected with them both at the home office and in the field, including salaries, rent, and electronic equipment costs.

These sales support expenses, then, might be our marketing expenses not readily allocable. For the fourteen combination companies used in the LOMA study, I tried to see how large these expenses are relative to total general expenses. They seem to be about 31 per cent of general insurance expenses—that is, line 23 of the Summary of Operations, or of Exhibit 5 expenses, excluding investment expense. In other words, these sales support expenses are a very substantial part of total general expenses. The methods followed by the LOMA in allocating these sales support expenses by lines of business will be described shortly.

Before I go on to that, however, let me point out something else that is very important. The LOMA identifies other large blocks of expense which it does not allocate, because of the difficulty of doing so. These are personnel services, employee services at the home office, general services and miscellaneous expenses, and general overhead, consisting of general management, general legal, general planning, public relations, accounting, budgets, and cost control, and all other general overhead. These expenses, which for easy reference we might call “hard-core overhead,” amount to no less than 20 per cent of all general expenses of the fourteen companies. These expenses constitute the real hard core of the expense which is difficult to allocate. The LOMA effectively says, “We don’t know any logical way to allocate these hard-core general expenses by line of business; all we can do is tell you what these expenses are in a big lump; in fact, we believe that they are separate functions in themselves and should not be further allocated; if you are forced to allocate them for any reason, you are going to have to determine how to do it yourselves.” I wish that the framers of our questions had left the word “marketing” out of the program, so that we could discuss these really hard-core expenses as well as the easier sales support kind. I hope you will forgive me if, at times, I forget about the word “marketing” and talk about all of these expenses that are difficult—both the sales support kind and the hard-core overhead kind.

Now to approach the second part of this question. What general methods are available to allocate sales support and hard-core overhead expenses? Here are some methods of which I am aware for the allocation of expenses by line of business for preparation of the Convention Annual Statement:

1. The LOMA allocates salaries, rent, and electronic expenses to lines of business by very detailed analyses of these items; for example, the time of each employee and officer is divided among the various functions on a judgmental percentage basis; detailed work surveys of departments are also used; the picture is put together from the composite of all these judgments. As pointed out above, the LOMA does not attempt to allocate hard-core overhead expenses to lines of business, and these amount to some 20 per cent of all general expenses. Therefore, the LOMA allocation is only partial. Allocation of hard-core overhead is left to the individual company.
2. Proration by premium income is a traditional method which can be used to allocate both sales support and hard-core overhead. Where this is used, I greatly prefer a modified approach, which goes along these lines: Where a weight of 1 is given to ordinary and industrial life insurance, give reduced weight to the following lines, in recognition of lesser expense resulting from different handling methods: individual annuities: $\frac{2}{3}$; group insurance on a home office accounting basis: $\frac{1}{4}$; group insurance on a self-accounting basis: $\frac{1}{8}$; group reinsurance such as FEGLI or SGLI: zero (but see that the small handling charge actually received is charged to the group lines).
3. Proration in proportion to the expenses that have been directly allocated.
4. Proration in proportion to sales attempts that have actually been made. This method seems quite sound, but there may be difficulty in obtaining or estimating sales attempts.
5. There is another method which is not actually used, because the present form of the Convention Statement does not permit it. However, I would like to put it forward for your consideration. It is what might be called the "corporate column" approach. Hard-core overhead would be charged to this column, in recognition of a belief that this type of money is spent to keep the company in business as a going concern and that hard-core overhead logically cannot and should not be allocated to any line of business. Perhaps the sales support expense also would be put in this column, if it is not considered "linear" with sales, and would be considered part of "overhead." The "preoverhead" profits of all the lines would pour into this column, net after the taxes which definitely can be attributable to them. The various lines of business would be thought of as profit centers to generate large preoverhead profits which would cover the company's overhead as well as its profit objectives. Incidentally, I would also credit to this corporate column all the interest earnings on the capital, surplus, mandatory securities valuation reserve, and so on. (This alone would prevent the artificially high profits now being generated by lines such as industrial life insurance which have high reserve accumulations and are, as a result, somewhat accidentally getting credit for the "shareholders' interest.") This is the corporate column approach. In some ways it is like an "internal" holding company.

MR. JOEL V. KAMER: In developing new marketing personnel and organizations, we are concerned with the following types of expenses:

1. Agents' finance plans or training allowances.
2. Agents' advances which have been expensed and are paid in lieu of finance plans.
3. Salaries paid to a general agent until he is established.
4. Expenses paid for a general agent not yet established.
5. Branch office agency start-up costs.

I will cover this topic first from the viewpoint of reporting for statutory results. The basic premise is that costs for development of new agents or agencies should be allocated back to the lines of business sold and serviced by the agents. More specifically, in regard to the expense items I have just mentioned, the following methods could be used:

1. The agents' compensation items would be allocated on a commission ratio; in other words, we are assuming that the salary type of pay provided by training allowances is a temporary replacement for the usual agents' compensation of commissions. A further question is how refined this commission ratio should be. Should renewal commissions be included with first-year commissions? Should the ratio be on a total-company, all-agents basis, or should it be based on new agents' experience only? I believe that each individual company will have to decide this question according to its specific situation, but some of the guidelines would be concerned with how many years the training allowance is provided (as an indication of whether renewal commissions ought to be used), whether new agents sell a different mix of business (for example, are group cases harder to sell in an agent's early years?), whether indicative data are available for new agents, and whether these data are provided by a sufficient volume of new agents so that drastic fluctuations do not occur from year to year. Personally, I favor the inclusion of renewal commissions in the ratio because I view the total commission structure as payment for the sales job performed, and the use of all agents' experience in the ratio because most new agents begin earning commissions immediately. A high turnover rate along with continuous new hiring means that a significant proportion of the agency force would be agents in their first few years; thus the practical problem of accumulating separate data for new agents can reasonably be avoided.
2. Salaries to general agents could be based on an override ratio (reasoning that the salary is in lieu of overrides that established general agents are receiving) or on a supervisory ratio obtained from a combination of agents' commissions and general agency clerks' salaries apportioned on the basis of a time study (reasoning that the general agent supervises his agents and clerks, and therefore his pay should be apportioned on their efforts).
3. Agency expenses paid for developing agencies should be allocated to line of business by attributing each piece of expense to either clerks', supervisors',

or agents' costs and running time studies of these men to apportion their time by line. Note that new-agency expenses could be one of the few places where new agents or agency costs are allocated much differently from those for existing agents or agencies, because, in the case of existing general agencies, where the expense allowance is based on a formula, the allocation by formula may differ significantly from one based on a time study (i.e., the difference between allocation based on actual results of efforts and allocation based on actual efforts, as Gary mentioned previously). This could create a problem of major shifts in allocation upon attainment of full agency status.

Thus we have seen that the special expenses which arise because of new personnel or new agencies in most instances are allocated in the same manner as comparable expenses for on-board personnel. This same reasoning could hold for the separation of such expenses into per cent of premium, per thousand, or per policy expense. Since training allowances and agents' advances are allocated to line on commissions, they too could be treated as per cent of premium expense. If existing branch office expenses and general agency expense allowances are apportioned between per thousand and per policy expenses, the same treatment should hold for new-agency expenses.

At the beginning of my remarks I stated that I was referring to allocation for statutory purposes. Now let us consider what changes might be effected for either reports to management or reports for rate-making purposes. The line-of-business allocations will not differ for these latter two reports, but some part of their development cost may be segregated to present a more accurate picture of annual costs versus extraordinary costs. Thus training allowances, advances, and general agents' salaries paid to new personnel to replace those lost from normal turnover would not be segregated, since they represent a normal (although perhaps undesirable) annual expense. However, where management has embarked on an extensive agency expansion plan, it would probably be interested in having all these costs segregated. Similarly, the costs of replacing agents (and agencies) lost through normal attrition would normally be directly included in gross premium derivations, while one-time agency expansion costs would probably be included in gross premiums on some (averaging) basis. Thus the above two situations raise the problem of designating extraordinary development expenses, but this should be straightforward if expenses are available on an agency basis.

MR. CORBETT: At SAFECO we have been faced with the problem of allocating two types of development expenses, one continuing and one extraordinary. The first is a training allowance that is available for use

by our division offices to subsidize the training of new salaried field employees. The allowance has been built into the premiums for each product as a constant percentage of the field expense allowance—in other words, in proportion to the acceptable field expense in each product.

A second type of development expense has been that incurred in building a general agency plant. These costs cannot be covered out of current premium income, but, in order to exercise control over them at the division level, we have established acceptable expense levels based on the age, size, and other definable characteristics of each general agency. The costs are allocated among the different product lines in proportion to the amount of business, measured by annual premium commission, currently being produced by the general agency plant.

MR. BRAGG: The question of whether marginal methods should be used is a difficult one. In the interest of time, I will not discuss it from the Convention Statement viewpoint. However, I will try to discuss it from the product pricing viewpoint. This brings us right into the question of vertical as well as horizontal allocations. As some of you may know, I have certain published views on this sort of question. Those views are given in a paper entitled "Prices and Profits" in the 1968 *Transactions*; a somewhat earlier exposition, and one which perhaps deals better with the expense question, occurs in the June, 1966, issue of the *Journal of Risk and Insurance* and is entitled "Prices and Commissions Based on the Theory of Games." There is nothing I can do but stick to my views in discussing this question. Trying to summarize them very briefly, and in the context we have been discussing above, here are the rules:

1. You operate as if you were charging your overhead to a corporate column. This would include the hard-core overhead and also the sales support expense, which is nonlinear with actual sales (you can make this assumption for pricing purposes, whether or not you use a corporate column for statement purposes).
2. The general expense factors which you use for product pricing purposes are just those which are appropriate for the expenses that are left in the line-of-business columns.
3. Provision to cover overhead, including the sales support kind, is certainly not left out of the price! It *is* included in the price in exactly the same way that profit is included, whatever that way may be. The philosophy is similar to that used in the retail merchandising business, where a markup method is used: markup is supposed to cover overhead as well as profit.

This is not the time or place to go into the details of this philosophy. Perhaps the essential points for purposes of this discussion are these: (a)

prices are normal, competitive ones for the market and are not encumbered by the enormous extra charges which would result if huge development expenses were to be recouped from scarce initial sales and (b) the new line or market becomes a full partner immediately.

MR. KAMER. I do not feel that marginal methods are correct, but a practical situation may arise where, to help price the new product at a competitive level, it is beneficial for the new line not to receive the full burden of overhead costs or some of our nonallocable costs. This burden should be borne "as soon as possible." Unfortunately, "as soon as possible" cannot be determined analytically but is a management decision. One final word of caution is that the actuary should beware of making any marginal method permanent.

MR. CORBETT: One can also employ marginal methods to allocate the cost of a stable marketing force. For example, you might introduce a new product line, such as equity products, and charge that line only for the units actually produced. This method, I believe, is proper only when the new line is in the nature of an experiment. Eventually, costs should be allocated on the basis of one of the other methods described earlier.

Referring to both the questions of control of marketing expenses and the relationship of the allocation and control methods, I begin by suggesting a few control methods, specifically pointing out the complications arising when a marketing department's expense is allocated to a product line. How can a product-line manager exercise control over marketing expenses allocated to his line?

Perhaps the most common method of controlling allocated marketing costs could be best described as "loud screams after your ox is gored in the hope that this will prevent further gorings next year." Typically what happens is that at the end of the accounting period a particular product line is charged with a large chunk of expense, and the managers protest vehemently that they did not receive benefits commensurate with the charge. One way to avoid such a situation is to use what I believe all of us would consider to be a preferable method of controlling allocated marketing expenses—budgeting.

We do not have the time, or the need, to describe the budgeting process here. Suffice it to say that, as part of the process, the product-line managers should be made aware of the approximate *dollar* expense that will be charged to them in the forthcoming year under a marketing department's proposed budget. A product-line manager's objection may

be cause for reworking the budget, either to reduce the total dollar amount to be spent or to change the allocation formula.

Methods based on acceptable unit expenses are, in my opinion, among the most effective means of controlling marketing expenses. We have been employing such methods for a number of years, even carrying the results through to the measurement of each geographical division's new-business results. Each quarter we calculate the acceptable expenses built into the business written during the quarter by each division, compare the actual expenses with the acceptable, and charge the divisions with the excess, positive or negative, of actual over acceptable. Recently, instead of emphasizing the expenses themselves, we have looked at the other side of the coin and emphasized the production required to support actual expenses. We label this "minimum production requirement," or MPR. We are presently calculating projected MPR's for 1973 based on each division's 1973 projected expenses. At the end of each quarter during the year MPR's based on *actual* expenses are calculated on a year-to-date basis, and actual production is compared with the MPR.

Separate MPR's are calculated for individual and group, since we generally know the formula that will be used to allocate expenses between these two lines in the forthcoming year. Within the individual line we give quite a bit of freedom to each division life manager to choose how much of his individual MPR will be satisfied by life as opposed to health production. In making this decision, however, he must take into account that health has a somewhat smaller expense allowance than does life, and therefore he must produce more health annual premium commission than life in order to develop the same expense ratio.

MR. KAMER: One important control applied to companies selling in New York is the limit set on field expenses by section 213 of the New York State insurance statutes. Even though the control may be involuntary, it is a significant restraint on unlimited marketing expense. However, the law applies only to ordinary, individual annuity, debit, and industrial insurance. However, the fact that some lines of business are exempted does not mean that allocation procedures can relax the control, since the allocation must, of course, be reasonable and the uncovered lines of business are faced with other legal restraints and severe competitive pressures.

Within the section 213 limits there are restrictions on some specific items of expense. For example, a not directly allocable item with such a restriction in the law is the training allowance. Additionally, the limits within section 213 are constructed on a unit expense basis. Therefore,

when a company operating in New York is considering its desirable level of marketing expense, section 213 limits provide a very real control of this expense level; furthermore, they provide it in a very explicit manner.

MR. BRAGG: I do not believe that there is much difference between the responsibility of the actuary and the responsibility of top management! Taking the matter of control first, I think that we do have a responsibility to see that sales support expenses and hard-core overhead expenses are kept reasonable, within the limits of what the company is able to bear. This is simply a matter of seeing that expenditures are not made which cannot be covered out of the margins from future expected sales.

As far as the allocation is concerned, the actuary as a rate maker has certain responsibilities. Some of my views on this were discussed previously. When you come down to the basics of the question, from the rate-making viewpoint, you have to realize that the rate you come out with has to be normal for the market—reasonably competitive, if you will. You can wrestle with the allocation of marketing expenses all you like, but you still end up with the knowledge that the rate must be “reasonably competitive.” This does not mean, incidentally, that it has to be a rate with a low margin. It might have a very high margin and still be competitive. The other basic is this: sales support and hard-core overhead expense can be covered only if the sales are large enough. We can wrestle with allocation methods and profit formulas all we like, but this basic fact still remains. Perhaps, then, the responsibility of the actuary as rate maker includes a responsibility, as far as he is able, to see that sales results are adequate.

MR. CORBETT: A vital role of the actuary as a member of top management is to assure the continued proper interrelationship among actual expenses, gross premium expense assumptions, and acceptable expenses. These three items can be considered to be parts of a never ending circle where actual expenses impact premium expense assumptions, the premium assumptions impact the acceptable expenses, and the acceptable expenses influence, through one method of control or another, the actual expenses, which then become the basis of the new rate-manual premium assumptions, and so on and on around the circle. The actuary is generally the only member of top management who is familiar with all three of these components. The controller, for instance, will often be involved with the actual and the acceptable expenses but not with the premium assumptions.

The actuary has a very significant, and often unshared, responsibility when expenses must be allocated within a product line where there are neither guidelines he can use to choose the proper method of allocation nor adversaries available to negotiate the matter. An example is the allocation of marketing costs between permanent and term policies. If one allocates such costs on the basis of commissions rather than, say, of face amount, one can produce much more competitive term rates. On the other hand, if face amount is used, the permanent lines are favored. Our answer to this dilemma has been to use the production measure which we think is most justified overall and let the results fall where they may. Currently we use annual premium commission, which has a consistent meaning for all individual and group products, to allocate individual life and health marketing costs. As a result, our term rates are probably more competitive and the product looks better from a profit point of view than do permanent plans.

MR. BRAGG: Should the method of allocation be affected by the competitive positions of different product lines? This is another extremely difficult and agonizing question. I might again point out that if we only had that corporate column we would at least be able to prevent the allocation of hard-core overhead expenses to the product lines, including the unprofitable product lines. Also, along the same lines, we could have a rate-making approach—include the linear expenses plus the markup which the market will allow us to include. The real problem is to bring enough of that markup home in the form of markup on actual sales, so that our overhead will be covered and an adequate profit made. Perhaps we are unconsciously doing our group accident and health marketing on that kind of theory. If it can break even and contribute something toward the overhead, it is worthwhile.

As a practical matter, if our group accident and health is hit by these new allocations, I think that we go through the motions of raising our group expense factors, trying to raise the rates as much as possible and trying to show a profit on the Convention Blank basis even with the new allocation. My experience is that if this is ever achieved, some even newer “equitable method of allocation” comes along to plague us all over again!

MR. CORBETT: I believe that additional expenses should be allocated to a line even though the effect is simply to increase the reported losses for that line. I would agree that expense must be analyzed marginally to develop corporate marketing strategy. However, even for this purpose,

I would be concerned if a significant amount of marketing expenses were classified as nonmarginal, or "overhead." Over a three to five-year period most marketing expenses tend to be marginal and should be treated as such in developing marketing strategy.

MR. KAMER: I have considered the federal income tax implications primarily from the Phase 1 point of view, but my remarks are also applicable to the Phase 2 situation of the federal income tax.

The taxpayer will attempt to minimize his bill by whatever legal means are available, and our concern is therefore whether or not allocation of marketing expense can affect the federal income tax favorably. The obvious question is whether any marketing cost can be allocated to investment expenses, since this will serve to reduce the investment yield. Where time studies are done to allocate branch office expense, the time spent handling policy loan applications, interest payments, repayments, and the like is correctly chargeable to investment expense. However, even for expenses allocated on a basis other than time studies (e.g., general agency formula expense allowance or agents' commissions), a special study may be done to obtain a basis for charge of policy loan expense. That is, in the case of a formula expense allowance, the expense payments to the general agent include an amount for servicing policy loans, and in the case of agents' commissions and service fees again there is an amount, although not explicitly designated, for servicing policy loans. Thus a study determines the amount of expense to the investment lines (deducted from the ordinary and annuity lines).

Therefore, from the federal tax point of view, as long as the allocation method is equitable and defensible, the primary concern should be not to shortchange oneself when allocating expenses to the investment line.

MR. CORBETT: Federal income tax considerations should not affect the method of allocating costs. As a practical matter, however, I would think that tax considerations might accelerate or delay the refinement of existing methods. As Joel has pointed out, tax considerations should cause one to seek out all possible expenses that can be allocated to functions or lines where the deduction is of maximum benefit. However, this is probably a one-way street. It would be very difficult to justify to the Internal Revenue Service going to a more approximate or gross method than was previously used if the effect of the change were to reduce taxes.

Since the IRS auditors have the right to question our allocations, it behooves us to ensure that our allocations are logical and the bases for the

allocations well documented. In practice we have found that the IRS auditors are willing to rely considerably on the state insurance departments' review of the allocations.

In answer to the question, "Should the allocation be affected by the method of determining acquisition expenses to be capitalized in adjusted earnings statements?" it seems to me that the reverse is generally true. The allocation is going to determine the acquisition expenses to be used in generally accepted accounting principles statements.

Even though a company may not report to its stockholders by product line, the allocation of expenses to the different product lines will affect the reported profits of the company if different expense amortization schedules are used for different products. It is for this reason that we must add the auditor to the already long list of people who have a specific interest in the methods we use to allocate marketing expenses.

MR. BRAGG: This is largely a question of vertical allocation. It is a matter of picking out of the first-year expenses those parts which the audit guide will permit to be considered as acquisition expenses for capitalization purposes.

Such expenses do not include all first-year expenses. Perhaps this is not the time or place to discuss the acquisition expense matter in detail. However, it is clear that marketing or sales support expenses, which are not readily allocable, are possible candidates for capitalization only if they vary with or are logically associated with the production of new business. Their inclusion as capitalizable acquisition expenses requires judgment, the overriding considerations being those of reasonable conservatism, consistency, and recoverability. Furthermore, the audit guide seems to imply that such expenditures, if capitalized at all, should be capitalized separately.

MR. CORBETT: We have seen that product-line managers, corporate management, state insurance department examiners, IRS auditors, and independent auditors all have an interest in expense allocations. To this list it would be fair to add, at least in the case of large health writers, members of congressional committees and consumer advocates. Many of these people would tend to favor one method over another because of the end result. Personally, I do not feel capable of assessing all the implications, present and future, of different methods, and therefore I feel that I must use methods that are logical and supportable without regard to the end results. It is best to play it straight unless you are not only extremely intelligent but also infallibly prescient.

MR. JAMES L. LEWIS: How do you decide on the amount to be added to the gross premium margin to cover markup for unallocable overhead expense?

MR. BRAGG: I will respond to Mr. Lewis' extremely fine question on a theoretical plane first. My paper "Prices and Commissions Based on the Theory of Games" (*Journal of Risk and Insurance*, June, 1966) sought to determine a perfectly balanced combination of the following: (a) prices that are "optimum" for the market, (b) a sales quota which would be binding, (c) a situation where total overhead of the company is covered, and (d) a situation where total profit of the company is maximized. From a theoretical standpoint, strategies of the type discussed in that paper are the only ones which guarantee that overhead is covered.

On the practical level, it is necessary to have a short-cut procedure; earlier in this discussion I referred to a markup method, which could be such a procedure. For the upcoming calendar year a company which for illustrative purposes is in the ordinary business only might (1) estimate or budget that its overhead will be \$5,300,000, (2) determine that its field force will accept a (reasonably binding) sales quota of \$500,000,000, and (3) determine that it desires to make a profit which will have a present value of \$4,500,000 from business sold next year.

It is, of course, necessary to take the attitude that next year's overhead is to be covered out of next year's sales and that the profit which is being considered is the present value of the profit which will emerge from such sales. (The method seeks to guarantee success only over the long run; actual emergence of margins will occur over the lifetime or premium-paying period of the business; actual statement results for the next calendar year, in terms of overhead coverage and profit, will be an amalgam of the emerging margins on all previous years' issues.)

The total of overhead and profit is \$9,800,000, or \$19.60 per thousand of sales quota. Actual premium calculations might, therefore, include direct costs plus a single-sum margin of \$19.60 per thousand in the first year only. The method is exactly parallel to a fairly traditional practice of including profit on the basis of a fixed amount per \$1,000, present value only. It is to be observed that achievement of the sales quota is just as important as achievement of mortality and interest assumptions and direct expense assumptions, if overhead is to be covered and profit desires met.

As outlined above, the method would call for annual redetermination of overhead, profit desires, sales quota, and prices. In practice, a longer (or shorter) period than one year could be used, but redetermination is

necessary as soon as material changes occur; overhead, profit desires, and sales quotas do tend to increase from year to year.

Other practical methods, parallel to the above, are certainly available. For example, it is possible to express the margin addition (equivalent to the \$19.60 factor mentioned above) as a percentage of annual premium. In this case the field force should accept a sales quota measured in terms of annual premium. Suppose, for example, that a sales quota of \$9,500,000 in gross annual premium is established. The total of overhead and profit is \$9,800,000, as above. However, it is necessary to convert this to an amount which is comparable to annual premium sold: each dollar of margin in annual premium sold is known to have a present value of \$9.39 for the mix of business assumed in this example; consequently, through division by this factor, it is seen that \$9,800,000 of overhead and profit is equivalent to \$1,044,000 in annual premium sold. The factor to be added to direct costs is therefore \$1,044,000 divided by \$9,500,000, or 10.99 per cent of the gross premium. The equivalent factor expressed as a percentage of direct costs is 12.35 per cent. Looked at in this way, the method does give a "markup" exactly parallel to those found in merchandising operations; also, it is suitable for forms of business such as health insurance, as well as for life insurance.

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6/10/74

ADJUSTED EARNINGS

1. Latest developments in the United States and in Canada
2. Unresolved issues
3. Implementation problems

CHAIRMAN HENRY B. RAMSEY: Comments and suggestions for changes in the exposure draft of the audit guide which have been submitted to the American Institute of Certified Public Accountants are now being reviewed by the Arenberg committee. After consultation with interested parties, the committee is expected to submit a final version of the audit draft to the Accounting Principles Board for approval and final release. The following remarks indicate some of the areas of principal commentary by the ALC-LIAA Joint Committee on Financial Reporting Principles (industry committee).

The industry committee has taken a very strong stand on the point that expenses should be permitted to be provided in a single reserve calculation and not be required to be separately shown as an asset item. The exposure draft indicates that actual acquisition expenses should be used in the calculations, and the committee is urging that assumed expenses be the normal approach, subject to prevention of abuse by prohibiting assumed acquisition expenses larger than actual costs.

The committee had two key recommendations with regard to the provisions for participating business. For participating business subject to earnings restrictions, the present draft provides only for the situation where the earnings recorded exceed the amount which is to flow through to stockholders. The committee has pointed out that it is essential that provision be made for the ultimate reversal of that situation. The committee has also requested language to make it clear that a company does not need to recalculate reserves if such a recalculation would have no impact on the earnings which flow through to stockholders.

The committee was concerned that the language of the guide calling for a specific provision for adverse deviation in each of the assumptions entering into the calculation of the reserves may lead to an inordinate conservatism; the committee therefore suggested that a sentence be inserted which places the emphasis on the adequacy of the valuation premium, with secondary consideration given to each of the variables in the assumptions.

The committee had several technical suggestions with regard to the

income tax sections and also made a number of comments about the disclosure requirements.

It should be noted that the committee felt that the present draft was a significant improvement over the December, 1970, exposure draft, but it again emphasized that it views the audit guide as but one step in a long series of steps leading to the establishment of a well-defined, generally accepted set of accounting practices for life insurance company financial statements to be used by investors.

With respect to the mutual company situation, the preface to the guide indicates that the guide applies to stock life insurance companies but not to mutual life insurance companies. It is anticipated that the types of opinions which have previously been given to mutual life insurance company statements will continue to be given after release of this audit guide. The committee emphasized in its response to the Arenberg committee that a complete re-examination of basic principles will be necessary if an audit guide is ever developed for mutual companies.

GARY E. CORBETT: I would like to discuss first the Joint Actuarial Committee's "Response to the Audit Guide." One could classify the points touched upon in this response into four groups. The first group consists of those points on which we disagree basically with generally accepted accounting principles (GAAP) as set out by previous *Accounting Principles Board Opinions* and thus realistically could not expect the Arenberg committee to make changes in the audit guide even if its members agreed with us. The second group deals with areas where we feel that changes could be made that would probably be in conformity with GAAP, but there is a disagreement between the members of the Arenberg committee and our committee. The third group consists of items which really do not constitute disagreement but rather express a wish to clarify the language to ensure the correct interpretation of the guide. The fourth is a one-item area where we have expressed merely a concern without suggesting a solution.

There are three areas in which we disagree with GAAP. First, we disagree with the use of a discounting (liability) approach for deferred income taxes. Second, we pointed out that the present accounting treatment of capital gains and losses is not consistent with the lock-in assumption as to interest. (We made an error in this section of our written response. If you will refer to the last sentence on page 25, you will see that it suggests spreading the capital gain or loss over the remaining term of the original investment at the yield rate of the original investment. Any of you who have read Dan Case's paper know that the capital

gain or loss should be spread over the remaining term of the original investment at the interest rate implicit in the sale of the original investment. I have written a discussion for Dan's paper that admits our error, so that there will be no apparent disagreement between his paper and our response.) Third, we feel that losses should not be anticipated unless gross premiums are deficient on the basis of best estimates at the time of issue. We are not convinced that the procedure we suggest would necessarily conflict with GAAP. Therefore, perhaps I should have included this comment in the second group of items.

There are three areas where we disagree with the Arenberg committee but not with GAAP. The first is the required showing of the expense element of the reserve as an asset, which requirement the Arenberg committee does not appear receptive to changing. Second, acquisition costs are still not adequately defined, and alternate methods are permitted which are not necessarily consistent in all respects with actuarial reserving theory. We understand that the definition of acquisition expenses in the audit guide will not be changed but that the description of the amortization method to be used when acquisition expenses are handled separately from the benefit reserves will be brought more into line with basic reserving theory. Finally, we suggested that the statutory balance sheet be a required footnote to the stockholders' equity section. This is a new suggestion by our committee and has not yet been considered fully by the accountants.

As I indicated at the outset, there are areas where we have made suggestions to ensure the correct interpretation of the guide. We wanted to go on record, at least to the actuarial community, as agreeing with the audit guide basic reserving method because it is an intermediate form release from risk method. The section of the audit guide that gives guidelines to the auditors should be clearly identified as being simply for the use of the auditor in reviewing the assumptions of the actuary and not intended as a guide to the actuary in choosing the assumptions. Also, the section of the guide on health insurance and other lines, including group insurance, must be reorganized and to some extent rewritten to make the meaning clear. I do not believe that in this area there are any real disagreements between the committees.

One other area of concern is the problem of treating policy dividends as a benefit. The problem arises when you use a release from risk method. The projected dividends will often, for instance, be calculated assuming higher interest rates than are used in the reserving formula after the interest assumption is delta-ized. The result could be premiums that are apparently deficient at issue, when actually this is not the case.

I would now like to discuss more fully the basic reserving method in the guide by comparing intermediate form release from risk to natural reserves. There are certain basic principles which are the same for both. Both take into account all projected income and outgo and all future happenings that might affect these amounts. The assumptions for both are related to the outlook at the time of issue and are not updated after issue as the outlook changes. Finally, deviations in experience from the best estimates are reflected in the year the deviations occur.

There are also basic differences between the two methods. One difference is in the assumptions used. Natural reserves use best estimates at the time of issue, while the intermediate form release from risk method uses assumptions which include provisions for adverse deviations (deltas). Also, there are differences in how expected profit (i.e., the difference between gross premium and best-estimate net premium) emerges. Under the natural reserve method the expected profit emerges each year as a constant per cent of gross premium. Under the intermediate form release from risk method the expected profit emerges each year as the combined financial effect of the deltas for that year plus, perhaps, a smaller constant per cent of gross premium. Whether profit is taken sooner or later under intermediate form release from risk depends on the relative size of the deltas assigned to difference assumptions and durations.

In my opinion there are a number of possible advantages and disadvantages of intermediate form release from risk over natural reserves. First, the advantages: release from risk is more compatible with the balance-sheet philosophy of having reserves sufficient to mature contracts under adverse sets of circumstances. Profit emergence is more closely tied to an investor's view of the risks taken by a life insurance company. Finally, intermediate form release from risk will often report slower earnings than will natural reserves. Now the disadvantages of release from risk, or advantages of natural reserves: Release from risk requires a determination of what are appropriate provisions for adverse deviations. The reported earnings are very dependent on the selection of deltas. For instance, the larger the delta you place on the first-year withdrawal rate, the more profit you report in the first year. It is more difficult both to analyze and to portray gains by source, and, finally, problems arise when benefits are based on best estimates but the reserving system is not (policy dividends). However, outweighing all these pros and cons is the fact that the intermediate form release from risk method has been accepted, for varying reasons, by the AICPA, Joint Actuarial, and industry committees.

My final comments will be on the role of the actuary in financial

reporting. First, let us look at what the audit guide says about the role of the actuary. In the section on "Use of Assumptions and Estimates" it is acknowledged that the actuarial assumptions and estimates used in determining annual revenue and costs are extremely significant and involve considerable judgment. It is further acknowledged that the choice of actuarial assumptions and the disciplining of that choice are primary responsibilities of the actuarial profession. The audit guide quotes a part of the Academy's Guides to Professional Conduct which, in essence, states that the actuary will see "that any assumptions made are adequate and appropriate, and that the methods employed are consistent with the sound principles established by precedents of common usage within the profession." The audit guide then goes on to point out that at this time there is a relative scarcity of published precedents or common usage to guide the actuarial profession in the choice of assumptions or the disciplining of these choices and that the American Academy of Actuaries can be expected to provide more extensive guidance at an early date.

The section entitled "Outline of Auditing Procedures—Utilization of Actuaries" describes how and when the independent auditor should use a qualified actuary. It points out that, although the independent auditor may be informed in a general manner about matters of an actuarial nature, he does not purport to act in the capacity of an actuary and therefore will need the advice of a qualified actuary in such matters. The guide goes on to say that the auditor either might work with an in-house qualified actuary or may need to utilize the services of a qualified consulting actuary (an out-of-house actuary).

Although the section on the utilization of actuaries does say that "the auditor should obtain a written opinion from the qualified actuary who calculated the reserves or who verified the reserves," the section "Auditors' Reports—Reliance on Actuaries" says that "it is considered preferable not to refer to the utilization of actuarial expertise in the scope paragraph." The accountants' reason for discouraging such reference is that the auditor can neither negate nor diminish his responsibility to satisfy *himself* as to reserves and therefore should not refer in his opinion to actuaries in a manner intended to indicate a division of responsibility. I believe that there have been some court cases recently that have held the auditor responsible for all aspects of the financial statements, not permitting him to divide that responsibility.

You can see from the audit guide that the accounting profession is relying on (that might be a bad choice of words) the Academy to provide guidance as to the choice of actuarial assumptions and the disciplining of

this choice. Since it was the actuarial profession, through the Joint Actuarial Committee, that urged very strongly that these matters were properly left in the hands of the actuarial profession, it was imperative that the Academy form a committee to address itself to these problems immediately.

The Academy Committee on Financial Reporting Principles was originally composed of fifteen actuaries but is now down to fourteen after the untimely death of its first chairman, George Davis. I believe that this committee has a good balance of members. Nine of the original fifteen were company actuaries, three were consulting actuaries, and three were insurance department or association actuaries. Eight of the members had been very much involved in the subject of financial reporting through membership on either the Joint Actuarial Committee or the industry committee. Three, including the new chairman, are members of the Casualty Actuarial Society, and eleven are members of our Society.

What has the Academy committee done? We have drafted a proposed interpretive opinion (A-6) concerning the application to financial reporting of the Academy's Guides to Professional Conduct. In this opinion reference was made to the fact that an actuary should be guided by the recommendations of the Academy's Committee on Financial Reporting Principles. These recommendations, which will be released periodically as the committee's research progresses, will form the framework of "generally accepted actuarial principles for financial reporting." The committee is mindful of the necessity to avoid limiting or detracting from the professionalism of individual actuaries. At the same time, however, it is guided by the belief that, if the recognition of the role of the actuary in financial reporting is to be maintained and enhanced, the profession must establish and codify professional standards of performance somewhat comparable to those of the accounting profession.

The committee has also recommended to the Academy a method by which recommendations of the committee might be promulgated. We have also studied the disciplinary procedures of the Academy to see how such recommendations might be enforced.

Up to the present we have drafted only one recommendation, which is titled "Actuarial Assumptions for Use in General Purpose Financial Statements." This is a rather general statement but a necessary first step in our attempt to give some guidance to the practicing actuary in the selection of appropriate assumptions for general-purpose financial statements. This recommendation does not do much more than translate some of the present language of the guide into actuarial language.

Our committee doubts that we can go much further in providing assistance in the selection of assumptions without considerable help.

Therefore, we have sent a letter to the president of the Academy, stating in part, "We feel that the work is of such importance and such magnitude that it will require the early application of considerable resources, financial and otherwise. The Committee has urged that such need be stressed in discussion with you and the Board and that your advice and assistance be urgently requested. A specific suggestion of the Committee is the assignment of a man who has appropriate background and experience, who has access to a computer, and who can devote a considerable part of his time for a period of several months." There is just no way a committee like ours, meeting once a month and composed of members who have full-time, or more than full-time, jobs outside their committee assignments, can accomplish the research necessary to come up with recommendations in this almost virgin area of actuarial thought.

Before closing, there is one other matter that I would like to touch on briefly—the problem of independence. Many of us would like to see the actuary placed on a par with the auditor by requiring an actuarial report along with an auditor's report on published life insurance company financial statements. The only reason we have not pushed regulatory bodies, such as the Securities and Exchange Commission, for such a requirement is the fear that they would require such an actuarial statement to be rendered by an independent actuary having no financial connection with the company. Many actuaries are willing to accept this result in order to get such a requirement for actuarial certification. However, many others would not accept such a requirement for independent actuarial certification. These two divergent views are held by substantial numbers of the actuarial profession, including those represented on the Joint Actuarial and Academy committees. Even if a majority of the members of the committees were willing to face the question of independence, we would be reluctant to take such a step, recognizing the split in opinion within the profession we represent. However, the problem is not going to disappear, and we should encourage discussions of the pros and cons of requiring actuarial certification.

ANDREW DELANEY: The viewpoint from which I speak is that of the management of a stock life insurance company. Management has two major interests in the development of GAAP for life insurance companies. These two interests are (1) the use of GAAP to measure management's performance and (2) the reporting of earnings to shareholders. The most important of these, the use of GAAP to measure performance, I will discuss last, because it deals directly with the central theory of the audit guide.

Let us consider first the reporting of earnings. Management's objective

is to report as accurately and meaningfully as possible the company's earnings to its shareholders. Really meaningful reporting of earnings to a life insurance company's shareholders is probably unattainable for many companies because of the quarterly-report requirements of the New York Stock Exchange and the SEC. Even if the NYSE and the SEC did not require quarterly earnings reports, the reporting practices of nearly all other kinds of companies in unrelated industries would place enormous pressure on management to report earnings on a quarterly basis.

This group, more than any other, is aware that earnings for a life insurance company over any relatively short period of time are not particularly significant. Perhaps earnings over a five-year period are meaningful, but I believe that I could make a good argument in many cases that even five years is too short. Certainly I think that all here can agree that quarterly and even annual earnings are not particularly meaningful. The choice is not ours, however, and those companies which are listed on the NYSE or which deal with the SEC must report on a quarterly basis.

Given these requirements, our objective must be to report earnings as accurately as possible. I believe that this group would agree without hesitation that statutory earnings, except in very unusual circumstances, do not represent the best estimate of the "true" earnings of a stock life insurance company.

Perhaps it would be worthwhile here to review the situation which existed fifteen to twenty years ago. Most stock life insurance companies reported statutory earnings to their shareholders and did not make any attempt to report their earnings more adequately. For American General, which was then a particularly rapidly growing company, statutory earnings so distorted our "true" earnings that we decided we must give our stockholders better information. Studies were made from which we determined the cost of writing new business, and, by using a conservative formula, we simply added back to statutory earnings our estimate of the cost of writing new business in excess of premiums. Implicit in this method, of course, was the assumption that the new business we were writing would ultimately produce a profit at least equal to the cost of placing it on the books.

Our method was not particularly elegant and was in no way a precise measure of earnings. We felt that it was a better answer than statutory earnings. Along with many other stock life insurance companies, we pressed for some generally accepted method of reporting a life insurance company's earnings. This was the time when each insurance analyst

developed his own method for adjusting earnings, with the result that general confusion reigned. This confusion about "true" earnings must have been one of the factors which contributed to life insurance stocks' selling at prices which were totally unrelated to either book value or earnings. The price of most life insurance shares were indefensible if any recognition was taken of "true" earnings.

As a result of the variety of methods for adjusting earnings, a committee of the Association of Insurance and Financial Analysts studied for a number of years the proper adjustments to be made to statutory life earnings to make them more meaningful. Early in 1969 they proposed a reasonably complicated method, which came to be known as the AIFA method, or the Best method because it was adopted by Alfred M. Best.

The fundamental problem with the AIFA method was that the only accessible information was that which was available in the Convention Blank. For example, there simply was no way for the committee to distinguish between a company which set up statutory net level reserves and one which set up reserves on a modified preliminary term basis. Thus their proposals, although a distinct improvement over statutory earnings, did not provide an acceptable long-term solution, and while many companies, including mine, adopted this method as better than statutory, we continued to press for a solution which we felt would be acceptable to all parties. This effort has resulted in the development of the present exposure draft, which has been discussed at length previously. It is clear from such discussion that the pattern of earnings which will emerge will vary in large measure with the assumptions which management makes.

As an aside, we might note that one of the fundamental purposes for the application of GAAP to life insurance companies was to make the reported earnings of different life insurance companies more directly comparable. Certainly GAAP earnings, as promulgated in the audit guide, will enable the investing public to make more meaningful comparisons between the reported earnings of two life insurance companies than would a comparison of the statutory earnings of the two companies. Unfortunately, I believe it is a fair conclusion that the earnings of two different stock life insurance companies will not be directly comparable if their managements have different viewpoints.

To illustrate, let us consider two life insurance companies which are identical in every respect—interest rate earned, mortality experienced, lapses experienced, expenses incurred, amount of new business, insurance in force, assets, capital and surplus, and so on. Let us presume further that the two companies' over-all interest rate earned in 1972 was 6 per

cent, and new money was invested at 8 per cent. Since the two companies have identical experience, it seems reasonable to believe that the mortality, expense, and lapse assumptions used in GAAP calculations for new business would be approximately equal and would not produce any significant deviation between incidence of earnings of the two companies. However, if the first company has an optimistic outlook as to future interest rates, it might press its accountants to use a rate as high as 6 per cent for the next ten, fifteen, or twenty years, whereas the second company, with a more cautious viewpoint, might expect interest rates to decline in the years ahead. It might assume a rate such as 5 or $5\frac{1}{2}$ per cent for the next year, reducing to, say, 3 or $3\frac{1}{2}$ per cent by the end of twenty years. You can well imagine how different the incidence of earnings reported by these two companies would be, and you can imagine further the dilemma which any accounting firm would have in denying either company the right to use interest assumptions which its management deemed to be reasonable when they are not only less than the rate currently earned but also distinctly less than the new-money rate.

This line of reasoning leads to an obvious conclusion: Given the inherent limitation that life insurance company earnings must be reported at intervals more frequent than are truly meaningful and must be dependent upon estimates of future experience, my conclusion is that it is not possible for any accounting system to provide a completely satisfactory answer to the problem of reporting earnings to shareholders. The proposed new audit guide is a distinct improvement over statutory earnings, and even over earnings as defined by the AIFA, but it will not necessarily provide meaningful comparisons among companies.

Let us turn to the more significant question, which is the use of an accounting system to measure management's performance. For most companies, in most businesses, the accounting system is designed to measure profit and loss. It is relatively easy for a company to tell whether it has been successful or unsuccessful; it can do so merely by looking at the bottom line. This has not been true in the life insurance business, and it is here that the use of GAAP might provide its greatest benefit. If a company's GAAP assumptions are truly representative of those which it has used in its pricing calculations, then the sources of profit and loss emerging in the GAAP system can be used to determine whether the company has, in fact, achieved management's objectives. Management must always bear the responsibility for knowing when the assumptions employed in premium calculations are designed to be those which are truly "most likely" and when an element of conservatism is introduced simply as a hedge. For example, most companies would truly expect to

make considerably more than $5\frac{1}{2}$ per cent on current new investments and probably more than $5\frac{1}{2}$ per cent on the average funds invested over the first twenty years from the business issued this year. Yet many companies will make their GAAP calculations on the basis of $5\frac{1}{2}$ per cent or less initially, with provisions calling for a decrease in the years immediately ahead. The company's management, in using GAAP earnings, must be totally aware of those places in which it has deliberately built safety margins. (One illustration of a situation in which a GAAP statement would be very helpful is that of a new life insurance company. It has been my personal experience that in such a company, no matter how many times the directors have been told by the company's management and actuaries, it usually comes as a shock to them to observe the magnitude of the statutory losses which emerge in the early years.) The theoretical basis of the audit guide is the so-called intermediate form release from risk theory. This concept of providing for adverse deviation is essentially a concept of conservatism which operates in the direction of deferring "true" earnings. Generally, the larger the provision for adverse deviation, the smaller will be the earnings currently reported and the larger will be the amount of earnings deferred but not recognized as being deferred earnings.

If no provision for adverse deviation is built into the underlying assumptions of the reserving system, and if the "most likely" assumptions so determined are valid estimates of what is likely to be experienced in the future, the chance of favorable deviations will exactly match the chance of unfavorable deviations, and the profit emerging under this system will fluctuate in equal magnitude on either side of a line which represents "true" earnings. Building in provision for adverse deviation means that the favorable fluctuations around the underlying "true" earnings will have a greater magnitude than will the unfavorable fluctuations. In the process a cushion of deferred earnings will be built up within the reserving system (where its magnitude cannot be seen) during the early years of a block of business, with corresponding reduction of the cushion to zero over the later years.

It was Bob Espie who first pointed out that this is a very useful theoretical approach to determining how much of emerging "true" earnings should be retained within the company as surplus or contingency reserve against future adverse deviations, but that, to the extent that the provision for adverse deviation exceeds an amount contemplated by GAAP methods having a degree of reasonableness and conservatism comparable to that considered appropriate for long-range estimates in other businesses, earnings may be unnecessarily distorted.

Turning back to the use of the GAAP accounting system by management, it becomes clear that the forced inclusion of a provision for adverse deviation in each of the elements entering into the premium and reserve calculations at least makes more difficult, and perhaps makes impossible, the use of the GAAP accounting device to measure the management's performance. The so-called intermediate release from risk theory has the effect of denying to management the ability to use its accounting for the principal purpose for which accounting should function, that is, the overall measurement of company performance. Instead, it requires a company to build in safety margins in each assumption, so that an entirely new set of calculations must be made if the contingency reserve caused by the provisions for adverse deviations is removed.

For a large, well-capitalized stock life insurance company, there is no sound theoretical reason for not using "most likely" assumptions in presenting its financial results to its stockholders. From an internal viewpoint, the use of "most likely" assumptions provides the measuring stick which management needs to see whether its expenses have been kept in line, whether its underwriting has produced the kind of mortality which it anticipates, whether its lapse experience is better or worse than assumed, and whether its interest earnings are the equivalent of those used in its pricing assumptions. The fact that some of the earnings are not available for distribution to stockholders, because of the requirements for statutory surplus (which I applaud), should not in any way diminish management's right to report earnings which, in its view, represent the best estimate of the company's performance. The protection that a stock life insurance company has against the possibility of adverse deviations and reserve assumptions is threefold. There is, first of all, such provision in the basic assumptions as is considered reasonable and realistic under GAAP. Second, there will be normally an excess of gross premiums charged over the valuation premium so derived; as long as this excess exists, that is, as long as the present value of future gross premiums plus the reserve on hand exceeds the present value of future costs, all determined on a "most likely" basis, the company's margin of protection against adverse deviations has not been wiped out. Finally, if the company has available surplus, it has further resources to withstand the losses developing from adverse deviations not covered by the first two kinds of provisions.

In theory, there is no reason for a strongly capitalized company to report earnings different from those of a company with minimum capital and surplus which is enjoying the same underlying experience factors. In practice, I think it quite likely that the management of the strongly

capitalized company would take a more optimistic view of future conditions than would the management of the company whose capital structure is weak.

The audit guide has emerged as a compromise between those who have been advocating the complete release from risk theory and those who believe that the natural reserve approach constitutes a sound basis for the development of adjusted earnings. At present the proponents of each viewpoint believe that they can live with the current audit guide. Everyone anticipates in the years immediately ahead that the guide will be changed as experience with its concepts develops. Those of us who believe that the intermediate release from risk approach leaves much to be desired from a theoretical viewpoint must watch developments with great care. If, for example, the American Academy of Actuaries committee, whose purpose is to study the theoretical factors involved in determining the amount of the necessary provision for deviation from expected experience, should reach improper conclusions as to the magnitude of the provisions required for adverse deviations, we might have a system for reporting earnings that we could not in good conscience follow. It is, after all, just as great a disservice to shareholders to understate earnings as to overstate them.

MICHAEL B. HUTCHISON: The development of adjusted earnings in Canada has followed the traditional pattern. It features essentially the same cast of characters as in the United States—the investment community, the accountants, the actuaries, the regulators, and the insurance companies. The difference lies in the outlooks of the various parties and the absence of many of the conflicts present in the United States.

INVESTORS

In the United States the investment community (more specifically, the SEC and the NYSE) has provided the major impetus for the development of adjusted earnings. The primary aim has been the preparation of meaningful financial reports for investors.

In Canada no such pressure currently exists. There are no SEC or stock exchange requirements. The investment community is certainly interested in more informative statements, but the number of stock companies is much smaller. Moreover, a good investment analyst has easier access to the management of most of the stock life companies and can get his information firsthand. He need not rely solely on published financial statements.

In Canada the goal, which seems to be shared by all the parties, is to provide more informative financial statements for a much wider audience.

The aim is to provide meaningful disclosure for all users of financial statements, be they investors, policyholders, regulators, or the general public.

REGULATORS

In the United States the focus of the regulatory authorities is on the solvency of the companies, as measured by rigidly defined statutory accounting requirements. The Canadian regulatory authorities put a similar emphasis on solvency but have considerably more flexibility in determining standards of solvency. The superintendent of insurance has broad powers to approve a wide range of valuation bases.

Therefore, there is far less inclination in Canada to reject regulatory accounting as "wrong" (for the purpose of reporting earnings) or as overly conservative; it is conservative, yes, but not excessively so.

ACCOUNTANTS

In the United States the use of GAAP is promulgated by the APB or its committees. The audit guide we now have is by definition GAAP and is the result of applying to the life insurance industry accounting principles already existing for other industries.

In Canada GAAP are developed through consensus and usage. At present, regulatory accounting practices are in fact GAAP by virtue of their general acceptance. The charge of the Canadian Institute of Chartered Accountants committee is to study present accounting practices of the life insurance industry and suggest improvements if appropriate. There is no attempt to stuff the life insurance industry into a mold. The committee has, in fact, been asked to consider to what extent auditors' reports for the life insurance industry should differ from those for other industries.

INSURERS

In the United States the interests of the insurers differ widely. The mutual companies have argued (apparently successfully, for the time being at least) that the whole exercise, with its focus on the interests of shareholders, is meaningless for them. At the other end of the spectrum, we have the small stock companies, which welcome a means of showing a better picture to their shareholders.

In Canada the interests of stock and mutual companies are much more closely related, especially with the broader focus on the needs of all users of financial statements. Moreover, the operating philosophies of stock and mutual companies are less clearly differentiated. Of thirty active federally registered stock companies in 1970, twenty-two wrote participating business; 55 per cent of the total premium income of these

twenty-two companies was participating. Of thirteen mutual companies, twelve wrote nonparticipating business.

Further, the Canadian and British Insurance Companies Act limits the proportion of participating earnings which can be diverted to shareholders, with the result that the participating branch of a stock company is operated in essentially the same manner as that of a mutual company. Thus the interests of the companies are quite similar. Stock and mutual companies are less likely to be given separate consideration.

If anything, the companies may be the major positive force behind the development of better financial reporting. The improvement in management information systems, together with the recognition of both the social responsibility and the economic necessity of providing more meaningful information about our business, not only in financial statements but generally, has contributed to this attitude. Several of the companies have already published information supplementary to the traditional statements—for example, a separation of policyholder and shareholder earnings, and earnings per share, some on a statutory basis, others on the AIFA basis.

ACTUARIES

In the United States the attitudes of the actuarial profession have been influenced by the absence of formal recognition of the role of the actuary. Much time has been spent attempting to define the respective responsibilities of the accountant and the actuary. This preoccupation of actuaries with the status of their profession, together with the rigid adherence by accountants to their professional dogmas, has to some extent distracted attention from the real issue in the adjusted earnings debate—better financial reporting.

In Canada the respective roles of the two professions are much more clearly established. The Canadian and British Insurance Companies Act requires an actuary's statement certifying that the reserves "in my opinion make good and sufficient provision for all unmatured obligations of the Company," an annual audit by an accountant, and an auditor's report. Moreover, the actuarial profession in Canada has the official recognition that has thus far largely eluded the profession in the United States. Thus the two professions meet on even terms in a much more co-operative environment. In summary, the scenario is much different in Canada; there exists a much greater community of interest among the parties involved.

We have our committees comparable to the United States committees—the CICA committee (counterpart of the AICPA committee), the Canadian Institute of Actuaries committee (probably the counterpart

of the Academy committee), and the Canadian Life Insurance Association committee (counterpart of the joint industry committee). We have no counterpart to the NAIC subcommittee (but supervisory authorities are well represented on the other committees) or to the Joint Actuarial Committee (since there has been nothing yet to which to react). These committees have interacted and have held joint meetings in pursuit of the common goal of better financial reporting.

The CICA committee will publish a research study, probably early in 1973. I should emphasize that this study has none of the binding impact of an audit guide or even the urgency of an exposure draft. It is a straw man, put up for discussion and comment by interested parties both inside and outside the accounting profession. The contents of the study will become GAAP only to the extent that they are accepted and become common practice.

Gordon Johnson, the chairman of the CICA committee, has, not surprisingly, refused to divulge the contents of the study to me, so we can only speculate at this time. However, with the shared objective of better disclosure to a broad audience, there is a good possibility that the end result will be a single, improved set of financial statements for all users rather than the double standards we now have in the United States. Mr. Johnson has suggested that "for any life insurance company to publish a statement with two sets of figures side by side and for any public accountant to certify those statements, leaves the public in a worse mess than it is in right now in knowing what a life insurance company made in the way of earnings, because there is no credibility for either set of figures."

The superintendent of insurance, in commenting on the adjusted earnings question in his 1970 report, indicated that "the Department stands ready to recommend changes in its statement forms and requirements where these can be justified."

Among Canadian actuaries, there is considerable support for the risk release reserve system, not so much as a replacement for a hopelessly conservative regulatory reserve system but rather as a theoretical underpinning for the regulatory reserve system. It is believed that risk release provides a more credible basis for determining and justifying "solvency" reserves and will produce reserves well within the range of reserve bases acceptable to the supervisory authorities.

With this much agreement on many of the issues, it is possible that the only major departures in Canada may be the treatment of deferred acquisition costs, which would probably be treated as a nonadmitted asset for solvency purposes and clearly labeled as such, and a clearer

distinction between the interests of policyholders and those of shareholders. Such a statement would provide much fuller disclosure of a company's affairs, with few of the administrative problems attached to the AICPA audit guide approach, thus enabling Canadian companies to compete much more effectively in the United States market.

BARTON H. CLENNON: My comments are directed to implementation problems encountered in adjusting the earnings of a stock life insurance company to a basis consistent with GAAP. Because of the limited time available, only two such problems will be discussed in any detail.

A very practical problem is the size of the job. Initial planning, defining the particular techniques to be used, and gathering the necessary data require considerable time and effort. After all this has been completed, the volume of calculating and processing can be staggering—calculation of reserve factors, applying reserve factors to insurance in force, and so on. This latter step is compounded because a number of years' data generally must be processed.

One technique that is being used to reduce this volume of processing and calculation work is modeling of the insurance in force. This is accomplished by letting a limited number of plan/issue age cells represent the company's total insurance in force. For instance, if we start with the company's grouped valuation records, that is, all data for like plan/issue age/duration combined, then modeling can include (a) the use of age groupings (i.e., let issue age 15 represent issue ages 13–17; similar groupings may be used for attained ages or expiry ages on paid-up coverages) and (b), in addition, the use of selected plan/issue age cells to represent the relatively unimportant plans.

It is very important that tests be made to determine that the model adequately represents the company's actual in-force insurance. This can be done by computing statutory reserves, annual gross premiums, insurance amounts, and acquisition expenses for the model and comparing these with the company's actual data. It has been our experience that under 10 per cent of the company's plan/issue age cells can be used to represent the total in-force. This is, of course, greatly influenced by the age groupings used; the use of quinquennial age groupings alone reduces the number of plan/issue age cells by about 80 per cent, and decennial groupings effect about a 90 per cent reduction. We have found that quinquennial groupings are generally preferable. The model generally reproduces the items included in the above-mentioned tests to within 1 per cent of actual, and generally much closer than that. This is demonstrated in Table 1.

In addition to modeling, sampling and projection techniques are being used to reduce the necessary volume of processing effort.

Another challenging area is the determination of assumptions for the reserve computations. The definition of the particular types of expenses that will qualify as acquisition expenses can require considerable study. Assembling the ratebook or "best-estimate" assumptions for mortality, withdrawals, and interest can be difficult, particularly when coupled with the documentation that is required to demonstrate that these assumptions are appropriate and adequate. Determining the margins, or deltas, for adverse experience to be used in conjunction with the ratebook assumptions will be very challenging. In defining these margins,

TABLE 1

COMPANY	NUMBER OF PLAN/ISSUE AGE CELLS			RATIO OF MODEL TO ACTUAL	RATIO OF ACTUAL TO MODEL		
	Age Groupings	Actual	Model		Insurance Amounts	Statutory Reserves	Gross Annual Premiums
A.....	Decennial	51,074	1,927	0.038	1.000	0.998	0.998
B.....	Quinquennial	3,833	359	0.094	0.999	0.993	0.994
C.....	Quinquennial	2,010	86	0.043	0.999	0.994	0.999
D.....	Quinquennial	20,800	1,768	0.086	1.000	0.994	1.003

I see two categories of problems. The first is in the area of defining the theory; the second is of a practical or implementation nature. In the first category are such questions as the following:

The audit guide states: "Conservatism in valuing assets and liabilities and in accounting for revenue and costs is necessary because of the uncertainties inherent in the use of actuarial assumptions and estimates for contracts guaranteeing performance over long periods of time and the risk of unfavorable variation (adverse deviations) from such assumptions and estimates. However, as contemplated by generally accepted accounting principles such conservatism must be reasonable and realistic." How does this reference to "reasonable and realistic conservatism" affect the choice of these margins? Can you look only to the size of the valuation premium in assessing conservatism, or must the level of the reserves be considered?

How are the appropriate margins determined? Should they be based on frequency distributions? If so, what are the source data for these frequency distributions? How is proper recognition given to the size and other characteristics of the company? How are confidence intervals and standard deviations, if available, properly used?

Once the theory is defined, there are a number of practical problems:

What is the effect on the valuation premium, the reserve levels, and the profit released of using various deltas? Specific margins affect different types of policies, life versus term, for example, in varying degrees and even in opposite directions.

What is the cumulative effect of specific deltas for mortality, withdrawals, and interest?

One of Gary's associates, Robert Maule, computed a number of reserves to study the effect of using various combinations of deltas for mortality interest and withdrawal assumptions. Two plans were studied, whole life and five-year renewable term—renewable to age 65, both for issue age 35. Reasonable best-estimate assumptions were used as the basic assumptions. The margins or deltas used were as follows:

Mortality (three sets)

1. Best-estimate assumptions with no margins.
2. Ten per cent of the best-estimate assumptions.
3. Twenty per cent of the best-estimate assumptions.

Withdrawals (three sets)

1. None.
2. (a) Whole life—5 per cent for the first policy year and none for renewal years.
(b) Five-year renewable term—5 per cent for the first policy year and 25 per cent of the renewal withdrawal rates for renewal years.
3. (a) Whole life—5 per cent for the first policy year and 20 per cent of the renewal withdrawal rates for renewal years.
(b) Five-year renewable term—10 per cent for the first policy year and 50 per cent of the renewal withdrawal rates for renewal years.

Interest (three sets)

1. None.
2. Minus $\frac{1}{2}$ per cent for all years.
3. Minus 1 per cent for all years.

Ten combinations of the various margins were used to compute reserves: one study with no margins (results can be viewed as the predecessor natural reserves); one study with second-level margins for mortality, interest, and withdrawals; one study with third-level margins for mortality, interest, and withdrawals; two studies with the two margins for interest only; two studies with the two margins for withdrawals only; and three studies using various other combinations of the margins. Several observations from reviewing these studies are summarized below:

1. Valuation premiums, as compared with calculations where no deltas were used.
 - a) Total valuation premium (benefit plus expense).
 - (1) For the whole life plan the introduction of any combination of deltas always increased the valuation premium.
 - (2) For the five-year renewable term the valuation premium was increased except when only the interest deltas were used.
 - b) Benefit valuation premium.
 - (1) For whole life the benefit valuation premium was increased except when only the withdrawal deltas were used.
 - (2) For the five-year renewable term the benefit valuation premium was generally lower except when only the interest margins were used; the premium was very sensitive to the combination of deltas for mortality and withdrawals.
 - c) Expense valuation premium: for both plans the expense valuation premium increased except when only the interest margins were used.
2. Reserves, as compared with the calculations where no deltas were used.
 - a) Total or net reserve (benefit plus expense).
 - (1) For the whole life plan the reserve was higher except when only the withdrawal margins were used.
 - (2) For the five-year renewable term plan the results were varied: the use of only the withdrawal margins generated lower reserves; for several combinations of deltas the results varied by duration.
 - b) Benefit reserves.
 - (1) For the whole life plan the benefit reserves were always higher.
 - (2) For the five-year renewable term plan the results were varied: the use of only the withdrawal margins generated lower reserves; for several combinations of deltas the results varied by duration.
 - c) Expense asset factors.
 - (1) For the whole life plan the factors were larger (that is, more remaining unamortized).
 - (2) For the five-year renewable term plan the results varied: generally the factors were lower (less remaining unamortized); this was not the case, however, when only the interest deltas were used.

What conclusions can we draw from this limited study? The theory and ground rules for determining the margins are not available at present. The effect on the valuation premiums and the reserves of various combinations of deltas can be difficult to predict. An increase in the valuation premium does not necessarily mean conservative reserves. This applies to the benefit and expense components. Since I view the audit guide as expecting these margins for adverse durations to result in "reasonable and realistic" conservatism, these margins create a very difficult problem. The Academy committee, which is studying this problem, has a sizable

task before it. I have some doubts that the necessary guidelines can be established.

There are many other phases of adjusted earnings work that can require considerable attention. Although some are not directly actuarial problems, the actuary is often asked to assist in their solution. Included are such matters as the following:

The introduction of withdrawals and expenses, adding considerably to the complexity of the formulas that are used in the computation of the reserves; closely related to this is the problem of maintaining consistency among the reserve factors, due and deferred premiums, the increase in loading, and the incidence of expenses and other benefits.

Demonstrating recoverability.

Loss recognition.

Establishing what adjustments will be made to the various lines of business and estimating the effect of using approximate methods.

Reconstructing the in-force records for the past years.

Determining the proper accounting techniques for purchased or merged business, and computation of the appropriate reserve factors.

If it were complete, this list would be long. Each company has its unique characteristics, with their accompanying problems.

CLAYTON A. CARDINAL: The following comments take issue with the emphasis given by the August, 1972, exposure draft of "Audits of Stock Life Insurance Companies" to one method of providing for the risk that actual performance of a block of insurance contracts may vary adversely from expected performance. The comments conclude by stating that a clarification, to the effect that other methods of providing for the risk of "adverse deviation" may be proper, should be included in the final version of the accountants' "Audit of Stock Life Insurance Companies."

Much of the controversy on the December, 1970, exposure draft of "Audits of Life Insurance Companies" as it related to stock life insurance companies concerned the provision, or lack of provision, in the reserving mechanism (the so-called "natural" reserve) for the risk of "adverse deviation." This controversy arose, notwithstanding claims by the AICPA insurance committee that the December, 1970, exposure draft made allowance for provision for the risk of "adverse deviation." This controversy was one of material substance.

The August, 1972, exposure draft clearly requires that provision for "adverse deviation" be made. If this were as far as the August, 1972, exposure draft went, that would be acceptable. In that situation, each

auditor would have to satisfy himself as to the form and as to the amount of the provision for "adverse deviation." This is not the situation, however. An important qualification, because of the emphasis given to one class of methods for providing for the risk of "adverse deviation," must be added to the final version of "Audits of Stock Life Insurance Companies" if the language of the August, 1972, exposure draft is to be otherwise adopted without modification. The qualification is needed because a number of insurance companies have developed methods of providing for the risk of "adverse deviation," which, although not improper (in fact, in some instances they are more proper), differ from the method emphasized in the August, 1972, exposure draft.

The methods for reserving for life insurance contracts which have been seriously considered thus far by the AICPA insurance committee have one important algorithm in common. That algorithm is the arithmetic used to provide for the risk of "adverse deviation," namely, the incrementing or decrementing of the various "realistic" assumptions in order to produce a reserve more conservative than that reserve which would result solely on the basis of expected or "realistic" values. Various philosophies of "matching" have been advanced to support the variations in *desired* results produced by the different "incrementing" methods. Presumably the reserves obtained, the reserve method, and the assumptions entering into their calculation are to be subjected to tests of reasonableness. Guidelines for these tests of reasonableness (if not the tests themselves), in particular, the so-called disciplining of assumptions, are to be developed by the American Academy of Actuaries.

The August, 1972, exposure draft emphasizes both directly and indirectly the use of an "incrementing" method as the basic algorithm for providing for the risk of "adverse deviation," to such a degree as to preclude consideration of any other method. The reasons for this emphasis are not readily apparent, but it may be surmised that it resulted from the copious comments on "incrementing" methods presented by controverters of the December, 1970, exposure draft to the AICPA insurance committee for its consideration. Consider the following excerpts from the August, 1972, exposure draft which illustrate the emphasis on "incrementing" methods to be found in that draft:

1. Page 4, lines 9-10: "The choice of actuarial assumptions and the disciplining of that choice. . . ."
2. Page 9, lines 2-4: "The inclusion of a provision for the risk of adverse deviations in arriving at reasonably conservative assumptions. . . ."
3. Page 27, lines 18-20: ". . . the assumed interest rate should include provision for the risk of adverse deviation. . . ."

4. Page 28, lines 24–25: “As in the case of other estimates, provision for adverse deviation should be included.”
5. Page 29, lines 26–28: “As in the case of interest and mortality estimates, provision for the risk of adverse deviation from such estimates should be included.”

That the August, 1972, exposure draft places excessive emphasis on this one method of providing for the risk of “adverse deviation” is unfortunate, in that such emphasis, if not qualified in the final version of the audit guideline, in all likelihood may result in the insistence by some auditors that companies which have developed methods other than an “incrementing” method abandon those methods in favor of “incrementing” methods. This point is further developed below. More important, the emphasis on “incrementing” methods may be inferential evidence that the fact that the various “incrementing” methods are no more than *practical* methods for providing for the risk of “adverse deviation” has been overlooked.

Richard G. Horn, in his paper on “Life Insurance Earnings and the Release from Risk Policy Reserve System,” which system encompasses virtually all the “incrementing” methods, prefaces the development of the release from risk system with these words: “The quantification of the risks of adverse variability can be accomplished in a rather practical manner.” More important, however, the Horn paper states just before the above words on “practical manner” that the quantification of risks of adverse variability should be based on risk statistics which involve the application of risk theory. The guidelines for “disciplining assumptions” which the American Academy of Actuaries is to provide to the accounting profession *must* necessarily be based on risk statistics involving risk theory.

An ironic observation can be made here. Since the quantification, as to both amount and incidence, of the risk of “adverse deviation,” theoretically and properly based on risk statistics involving risk theory, has not been adequately advanced, it is impossible to demonstrate that the “incrementing” methods of providing for the risk of “adverse deviation” result in an acceptable matching of “risk revenue” (that part of premium which funds the “risk expense”) and “risk expense” (a manifestation of an “adverse deviation”). Without the proper quantification, the demonstration simply cannot be made.

As previously indicated, the undue emphasis given to “incrementing” methods by the August, 1972, exposure draft, without further qualification, may have the result that some companies will have to abandon developed methods of providing for the risk of “adverse deviation”

which are not improper in themselves but differ from “incrementing” methods. It is evident to me, especially after observing the reaction of some in the accounting profession to implementation by a few insurers of general-purpose financial statement reserve systems based on but differing from a literal construction of the December, 1970, exposure draft, that it is unrealistic to expect many auditors to give any but a literal interpretation of the final version of the guidelines for audits of life insurance companies.

On the basis of the preceding considerations, I have concluded that the final version of the audit guideline which is presented to the Accounting Principles Board for its consideration should include a qualification or other appropriate wording to the effect that methods other than the “incrementing” methods (at least those methods based on risk statistics) may be proper for providing for the risk of “adverse deviation,” for the following reasons:

1. A literal construction of the final version of the audit guidelines is likely.
2. The undue emphasis of the August, 1972, exposure draft on “incrementing” methods without additional qualification will tend to preclude development of other and perhaps more proper methods and may result in some companies’ having to abandon proper methods, differing from “incrementing” methods, which were previously developed.
3. Methods based on application of risk statistics involving risk theory are more correct than “incrementing” methods in any event.

RICHARD S. ROBERTSON: I am very much impressed with Mr. Delaney’s argument supporting the importance of an accounting system which produces earnings which measure management performance as realistically as possible. I also agree with his demonstration that the use of “most realistic” assumptions will do a far better job of this than release from risk or intermediate release from risk reserves. However, these arguments appear to lead to a conclusion that a gross premium valuation based on “most realistic” assumptions would do a much better job of measuring management performance than any of the other accounting systems discussed. Yet I wonder whether a gross premium valuation meets the other criteria for an appropriate accounting system.

THE PROFESSION AND THE LIFE INSURANCE BUYER

1. Which of the arguments commonly heard for favoring (a) cash value life insurance over term insurance and (b) individual insurance over group insurance are valid, and which are invalid, and why? How can the actuarial profession make the relative merits of these forms better understood?
2. How can actuaries help to make price disclosure and price comparison function most effectively in the true best interests of the public? How can we prevent today's increased attention to cost comparisons from producing adverse effects on policy design and underwriting?
3. To what extent should and can sales and advertising messages be reviewed by actuaries? In such reviews what guidelines should apply?
4. What problems that could unfavorably affect relations between the life insurance industry and the public over the long term can our profession foresee and help to forestall?

CHAIRMAN ERNEST J. MOORHEAD: This session will be in two instalments: the first will require exercise of your imagination; the second will require even more imagination. During the first portion of the session, please imagine that our panel members constitute a Buyer Information Panel devoted to giving helpful answers to questions about life insurance asked by intelligent but confused members of the public. The role of our audience is to be that of the intelligent but confused members of the public, that is, either prospective or present policyholders.

After a question-and-discussion period participated in by audience and panel, we shall discharge the Buyer Information Panel. Then, in the second portion of the session, we shall discuss the actuary's professional responsibilities to the Canadian and the United States public. Finally, the chairman will try to obtain a pooling of ideas from the audience in seeking to establish a set of guidelines for actuaries in our relations with the public.

The subject matter to be discussed includes topics that somewhat overlap. This permits important questions to be approached from different angles. But, as we wrestle with questions that are asked by the public, we must always remember that people who are unhappy about our performance do not necessarily say so to us. They more often go elsewhere—to savings and loan associations, to savings bank life insurance, to social security.

[CHAIRMAN MOORHEAD'S NOTE.—Panel members took seriously their prior undisclosed instructions to provide conflicting advice even if this meant stating views, no matter how plausible, which were contrary to those actually held. Members of the audience also entered enthusiastically into their roles as confused members of the public. It would therefore be inappropriate to attribute either questions or answers to individuals. The wide range of questions, some of which are listed below, indicates the areas in which the audience felt that the public would be interested in advice and clarification.]

Q.: Some people say that term insurance is unsatisfactory because most deaths occur after most term insurance policies have expired, but in a book entitled *Consumer Rights: Battle in the Market Place*, an actuary says, "Most families have little or no need for life insurance after retirement of the breadwinner." How does the panel think the need for life insurance after retirement compares with the corresponding need before retirement?

Q.: A man born in July, 1937, writes: "Shortly before publication last April of the *Pennsylvania Shopper's Guide to Life Insurance*, I bought a \$10,000 whole life policy from the company which turned out to be the highest-cost company on the list. Would it be advisable for me to replace this policy with one from the lowest-cost company?"

Q.: Several years ago I bought a life insurance policy which I now think was a bad buy, but I hesitate to give it up and take the cash value because I think that insurance companies treat continuing policyholders better than terminating policyholders. Do you agree that this discrimination exists?

Q.: Mutual funds show how much of each deposit is credited to the individual's account and how much goes for commissions and other expenses. Why can't life insurance companies show the disposition of premiums by expense, mortality, and investment?

Q.: Why doesn't someone publish a shopper's guide not stressing cost but telling what to look for?

Q.: What good are cost comparisons if the low-cost companies say that you are uninsurable and you can get insurance only from the high-cost companies?

Q.: An agent has told me that dividend projections are an estimate of what is likely to be earned in the future and paid to me. Another agent told me that they would be what I would receive if the company continued to earn what it is now earning. A mutual fund salesman seemed to base his projections on past earnings. How can one make comparisons among companies and between insurance and mutual funds?

Q.: Is it true that companies and agents make more on whole life, and therefore promote it, even though term is better for the client?

Q.: During the recent "credit crunch," I was glad to be able to borrow on my life insurance policy at 5 per cent. Nevertheless, I wonder why I should have to pay any interest to borrow my own money.

Q.: I feel that my husband needs more insurance to protect me and the children, but the panel is giving the same excuses my husband gives. When I buy a refrigerator, I don't ask how much commission the salesman will receive or how much each component costs or how the cost is split between labor, raw material, and capital. I want to know what it will do. What will happen to me if my husband does not get the insurance he needs?

CHAIRMAN MOORHEAD: You have just seen a demonstration of the difficulty of giving satisfactory responses to insurance buyers. We are now ready to consider your positive suggestions for means by which the profession can better discharge its responsibility to the public.

MR. SAMUEL L. TUCKER, JR.: The variety of complaints and questions raised by life insurance buyers these days, as indicated by the "complaint bureau" approach of our panel, has brought strongly to mind one contemporary answer: that of the ombudsman. This could be the most obvious and the most effective method by which to convey facts and clarifications from actuaries to consumers.

The functions of an ombudsman, whether entrusted to one individual or to a staff, could include answering specific questions and giving general information to clarify some of the current complexities of life insurance products. Actuaries having special expertise in topics which frequently trouble the life insurance buyer could assist with the project.

Since the approach would provide the questioning consumer with a disinterested and professional source of knowledge in time of need, its possibility seems to be worth investigating. It could be a valuable service, mitigating adverse relations between the life insurance industry and the public.

MISS GRACE V. DILLINGHAM: If the ombudsman service were independent, as we assumed our Buyer Information Panel was, how would it be financed? Persons seeking advice could be charged for the service, but that would limit the panel's usefulness. Aside from the possibility that many people who could benefit from such a service might not be willing to pay for it, there would be no opportunity for preventing misunderstandings before they arose. On the other hand, if the panel were industry-financed, its freedom of thought and action, and hence its credibility, would be in doubt.

MR. STEVE P. COOPERSTEIN: Let me begin by paraphrasing one of the industry's current "spokesmen" as follows: "The actuarial mystique has lived long enough." As a corollary to this statement, I take the position that two somewhat apathetic groups—the actuaries and the buying public—must become as positively involved and concerned about their roles as a third—our salesmen—if we are to achieve a more satisfactory marketplace for life and health insurance.

To date, the public's main contact with life insurance has been through the industry's salesmen; these men have done their job well. However, in so doing, many of them have at least partially subverted their clients' interests to their own and thus distorted the life insurance story.

But the salesman is really not the one at fault. The industry (quite often in the person of the actuary), and the client himself, are primarily to blame for this distortion. To demonstrate, let me pose a few illustrative questions.

1. If a salesman is motivated by self-interest, shouldn't our compensation programs be designed to direct him toward desired objectives? Then,
 - a) Is there sufficient justification for higher rates of compensation on whole life and other permanent plans than on term? In any case, shouldn't the client know the facts—that the salesman makes more on a permanent plan; that permanent and term are variations on the same theme, with different funding schemes and/or durations of coverage; that the term portion of a permanent plan costs this much and the savings element that much?
 - b) Is the balance between sales and service compensation appropriate? Placing a policy may require greater sales effort, but isn't the long-run continuation of a sound insurance program our prime objective?
2. If we want our salesmen to sell our products "properly," shouldn't we supply them with proper tools? For example,
 - a) Isn't a company putting a salesman in a difficult position when its portfolio contains several policies with basically similar benefits but with significantly different costs, the difference in costs stemming from different commission rates?
 - b) Aren't we offering too many "gimmicky" benefits?
 - c) Don't we have the responsibility to explain clearly our products and services to our clients rather than merely provide them with sales promotional copy?
 - d) Shouldn't policy cost data be informational and factual rather than sales-oriented? Aren't we "looking the other way" when we go along with illustrations to age 65 with no recognition of the interest element in the accumulations? It is just as absurd as a bank's saying, "Triple your money in twenty years."
3. If salesmen are to carry the message properly, don't they have to be told what the proper message is?

Probably too often the order of the day is to give a new salesman a 1-2-3 course in insurance and some sales pitches to memorize and push him out into the street to meet sales quotas. He is rarely told that insurance is not sold for the sake of the sale; it is sold because it is a basic need of most people, and we are in business to satisfy that need. It is this fundamental principle that a salesman must adopt if he is to be successful in carrying our message to the public and in providing our service properly.

Thus, while it appears that the industry's salesmen provide an excellent medium for carrying the message, these few examples illustrate some of the ways we have "missed the boat." Rest assured that our salesmen will continue to do *their* job well; it is up to us and the public to make sure that they do *our* job well.

Unfortunately, the life insurance consumer, as well as other consumers, is not in a very good position to do much about the problem; often he is not even aware of it. It is our duty to change this situation, to make the consumer knowledgeable, and to give him the means to make his position known. Our salesmen represent a powerful resource through which consumers might organize their needs and make them known, but our salesmen themselves need organization, motivation, and more know-how about our business to achieve this end.

Thus it appears to me to rest with the companies, and the actuary as their technician, to undertake the lead. We have to recognize that we are not living in a vacuum. No matter how technically correct our approaches may be, they will fall far short if our salesmen cannot communicate with the public.

The following principles are offered as a guide to those actuaries who wish to practice their professional responsibility to the consumer more fully.

1. In doing his job, the actuary should put the consumer on at least an equal basis with his company and its salesmen.
2. He should design meaningful and proper tools and incentives for salesmen to provide our service.
3. He should educate salesmen, and in turn the consumer, by removing the mystique which has been built up around his job and the insurance product.
4. He should use his professional office to voice opinions on matters affecting the industry and the life insurance buyer.

It is regrettable but true that, without some form of pressure, movement may be slow toward implementing these principles. Rather than have such pressure come from governmental directions, I suggest that a group within our industry, perhaps within the Society, be established to exert such influence.

MR. ROBIN B. LECKIE: The actuarial profession, embracing as it does the most technical aspects of life insurance and an understanding of all the issues and elements and functions of our industry, ought to be able to help members of the public to make intelligent choices in determining what kind of life insurance to buy, and from whom, how much it will cost them, and how much they or their beneficiaries will receive. In addition, we ought to be able to relate the needs for our products and services with those of other financial institutions in a reasonably fair way.

It has been said that when the chips are down the actuary must and will be expected to act as the conscience of his company. If he were not to do so, there would be little justification for our services. Accepting this as true, should not the profession itself serve as the conscience of the industry and in doing so help the public to make rational choices?

The industry has always been more or less on the defensive, responding to the barbs of the critics and changing its ways only when compelled to do so. While it may be too much to hope that an actuarial body such as the Society of Actuaries could influence industry behavior significantly before circumstances require a change, it should be able to help keep the public as well as the industry informed of what the public is saying and the implications of what it is saying. Fortunately, our associations have moved significantly in the past several years in monitoring public opinion and in putting to our industry and our companies the question, "What are you going to do about it?"

MR. J. ALAN LAUER: We keep telling the consumer that he is safe as long as he deals with a reputable company. How is the consumer to know which companies are reputable and which are not? If the automobile manufacturers were to tell us that all their agencies are reputable and that we need only to put ourselves in the hands of a reputable auto salesman, with complete assurance that we would be treated fairly, most of us would probably just not believe it. I do not think that people believe us when we try to tell them that all life insurance companies and all life insurance salesmen are reputable and that the public can deal with them with complete confidence. If we cannot tell people how to identify a reputable company, we should stop telling them to seek out such a company.

MR. HERBERT J. BOOTHROYD: It would seem helpful to distinguish between two concerns: first, whether price comparisons for a given policy form are made fairly and, second, whether the right type of policy has been recommended for the consumer's particular needs. It appears to

me that actuaries bear a very heavy responsibility with respect to the first concern, and it ill serves the profession to associate ourselves with statements that "comparisons are impossible to make" or that "only time will tell" if we are to continue to hold ourselves out as the experts in determining proper gross premiums, nonforfeiture values, and dividends.

With respect to the second concern, actuaries are not responsible for the actual distribution of life insurance policies, so perhaps our responsibility here is limited to ensuring that policies are accurately described for what they really are.

MR. DAVID T. WARNER: I think that in many instances we spend too much time trying to make life insurance look like something else. Life insurance is an important product, and life insurance companies provide substantial social services to the community. Life insurance is unique in the quality of its guarantees and the financial protection it affords the beneficiaries of insureds.

MR. LECKIE: Company actuaries have a responsibility for reviewing the representations their companies make with respect to their products. Sales literature and advertising should be reviewed by the company actuary with the following questions in mind: (a) Is it accurate? (b) Is it sufficiently complete? (c) Is it confusing? (d) Is it misleading? (e) Does it infringe any laws, such as the Federal Fair Trades and Practices Regulations?

We as actuaries have a responsibility to provide the public with socially valuable contracts. We must contribute to this, not only in the design and the pricing of the products but also in the way in which they are presented to the public. We must reduce the number of gimmicks developed solely for sales impact or to hide an uncompetitive situation.

MR. LOUIS GARFIN: I believe that the actuary has assumed and should assume the responsibility to act as the "conscience" for his life insurance company. This should be not only in the design and pricing of insurance coverages but also in the treatment of insureds and claimants and in the representations which are made to prospective applicants. It has been my experience, for example, that sales promotion and advertising people may say things which are misleading simply because they do not understand all the facts or the implications of what they may be saying. They have appreciated it when I explained my understanding to them and suggested modifications to their material which would make it

more appropriate. The same kind of situation exists in service areas as well. I believe that we have an obligation as actuaries to take an active interest in these areas because we are uniquely equipped for the role of "conscience" of our companies.

MR. ARCHIBALD H. McAULAY: I sometimes feel that a life company may really have little need of an actuary, as an actuary. The amount of actuarial science required for operating a life company is not very great, and in any case the knowledge is readily available. This knowledge could be acquired by a man with some mathematical ability, experience in affairs of his own company, and access to information, available in public meetings or otherwise, on what his competitors are doing. However, the same life company may need a Fellow of the Society, not for his mathematical ability, but in the hope that his actuarial knowledge may help him to act with intelligence and wisdom as the conscience of his company.

The actuary is the only man in a life company who can be expected to appreciate what is happening in his company in all its complexities and uncertainties, to relate this knowledge to what has happened in the past in life insurance and is likely to happen in the future, and also to relate it to society as a whole. He is perhaps the one man who can even hope to resolve or at least balance the fundamental conflict of interests of the following:

1. The agent with his urgent need for new commissions. It can be argued that, at least in ordinary insurance, it was the agent rather than top management who built the company and that the agency viewpoint of growth should be supported.
2. Home office employees and officers (including actuaries), with their desire for growth and for continued and ever better paid employment. It can be argued that on the whole they have done a good job and that they are underpaid in light of their responsibilities.
3. The actual owners—in a mutual company, the policyholders. It can be argued that the pecuniary interest of a mutual life policyholder may call for zero or even negative growth, improvement in net cost with a decrease in first-year expenses and a decrease in home office staff, including—horror of horrors—a decrease in the need for actuaries. The interest of the mutual policyholders may also call for the elimination of such outside ventures as property insurance and ownership of stock companies.
4. A mutual company as an entity which may be considered as having a life of its own separate and apart from the claims of the field force, the home office force, and even the policyholder. It can be argued that this entity has the right to grow and to use at its discretion surplus belonging to all policyholders to finance what this entity considers as a suitable rate of growth and de-

velopment. This so-called right might be open to challenge either by old policyholders or by federal authorities.

5. Directors, who are expected to make or perhaps simply approve major policy decisions but who cannot be expected to understand the complexity of their company on the basis of a few pleasant, noncontroversial meetings held each year.
6. A public, which has the right to demand a viable alternative in the private sector to the takeover of all insurance activities by the federal government.

The conflict-of-interest problems in a mutual life company are in my opinion more numerous and more difficult to resolve than in any other sphere of activity in the private sector. In addition, the stakes are so huge as to be of national importance. The concerned actuary can expect little help from our literature, since we do not seem to have a philosophy on mutual life insurance which takes account of current realities inside the companies and the changing demands of our society. Somewhat facetiously, our philosophy has been paraphrased as, "Go ye into all the country and spread the gospel of life insurance—and increase the size of our company." If nothing else, such a philosophy would seem in some instances to run afoul of the current creed of consumerism.

The problem outlined above might seem to call for the actuary to have the experience, the wisdom, and the integrity of a justice of the Supreme Court of the United States, and actually there are some resemblances. For example, even though the actuary may not have his salary guaranteed for life, he has financial security probably greater than that of other professional men. I know of actuaries who have placed their jobs on the line when their conscience or professional integrity so demanded, but I have never heard of one who suffered financial losses as a result. I would go further and suggest that if there is, as they say, a Valhalla for departed actuaries, we should reserve it not for our mathematical friends but for those workaday actuaries who bear the burden and the heat of resolving on a pragmatic basis these difficult conflict-of-interest problems. In my opinion the future of our industry, particularly the future of mutual life companies, is in their hands.

MR. J. STANLEY HILL: "Buy term and invest the difference" advocates are addressing essentially an investment question. Whether they are right or wrong, they frequently ignore the most fundamental element of any investment—quality (i.e., security and liquidity).

In responding to questions on the choice of life insurance vehicles, actuaries often tend toward either of two extremes: (a) ignoring the financial comparison ("cost isn't everything—you must consider such

matters as . . .”), with no return to the cost question, or (b) overemphasis by a detailed analysis of cost which loses or confuses the reader or listener. A middle course would usually seem indicated. Such a course might be the use of the interest-adjusted cost where applicable, or the cost per dollar of standard mortality cost—in either case pointing out the major limitations and inviting further inquiry.

One might hope that our Guides to Professional Conduct would be helpful. Instead, they seem to point up the inference that an actuary working for a life insurance company has a conflict of interest between (a) his obligations to his employer to design and assist in “merchandising” a product line which is “attractive” and (b) a professional obligation to assist the buying public. I believe that the resolution of this conflict rests in a consistent, vigorous effort by the actuary in three areas often ignored, or at least seriously slighted:

1. To promote and participate in the presentation of college courses of high quality on “Life Insurance from the Buyer’s Viewpoint.”
2. Active, helpful co-operation with insurance professors, personnel from consumer affairs offices, Veterans Administration, and insurance commissioners’ offices. Too often these people have been turned off by their initial encounter with actuaries, only to seek counsel from those less informed about and less sympathetic toward our business.
3. Where needed, tactful but insistent support of the doctrine that our company will thrive best in the long run on a “truth in selling” approach.

MISS DILLINGHAM: The Special Committee on Life Insurance Costs might supplement its *Suggestions for Those Who Publish Company Listings Using the Interest-adjusted Method of Policy Cost Comparisons* with some suggestions for those who read such listings.

Perhaps the best thing that can be said about the interest-adjusted method is that it is not quite as bad as the surrendered cost method without interest. It has one other great advantage—it is not as complicated as any of the other proposals considered by the committee. One of the criteria for a reasonable method of comparison was that it be feasible to calculate without elaborate equipment, which hardly seems necessary for insurance department buyers’ guides. However, even the more elaborate methods had to ignore many details which could be of great importance to the buyer.

MR. LECKIE: Actuaries, and perhaps the actuarial profession as a body, should speak out on the subject of policy cost comparisons. They should set out some guidelines in assisting the public to make a rational choice.

Unfortunately, in my judgment the public has to date been somewhat misled as to the value it can place on the interest-adjusted cost index. The problem is that no one index, no matter how complex, can serve adequately as a means of assessing fair financial value. Net cost was a totally inadequate measure, but it has been used for a long period of time, presumably because of its simplicity. I would contend that its major advantage over the years has been its inadequacy. In other words, it has been so obviously inadequate that it has required the companies to highlight the other factors of importance to the policyholder, such as the cost if he should die (net payment) or his initial cost (the premium) or the service he will get from the company both at the point of sale, through estate analysis or programmed needs, or the continuing service he is entitled to under the policy. Unfortunately, with the current emphasis on interest-adjusted net cost, the public is being led to believe that this is a single price comparison that can be made, much as the price comparisons are made for other products. This is just not true and was certainly never intended by the originators. Nevertheless, it is bound to be too complex for the public, or even the insurance commissioners, to appreciate that an index calculated mathematically (i.e., interest-adjusted) cannot be used in this capacity.

I believe that the industry and the actuarial profession should join with the commissioner in Wisconsin in pointing out the dangers of using any single measure for price comparison of insurance products. Doing otherwise will lead to narrowing underwriting classes, poor service from insurance companies, an unnatural design of insurance policies, and special gimmicks. Furthermore, it will lead to exaggeration of possible dividend results and to pricing based on optimistic future expectations. Ultimately it could lead to the destruction of our industry.

Actuaries and the actuarial profession should pool their ideas on policy cost comparisons. It is important that we help the public to make intelligent financial choices. We as actuaries have an obligation to the future of this industry and to the people this industry can and should serve.

MR. JOHN C. MAYNARD: The actuary has played the role of the engineer in developing the rules which govern the design of life insurance contracts, for example, the legislation on minimum nonforfeiture values. They should play an active part in explaining the principles which underlie the rules and be prepared to adjust them from time to time if the public need requires this.

If papers and other forms of demonstration on topics of public interest

were discussed at Society meetings, actuaries would then be well equipped as individuals to join in discussions at meetings of their companies, in industry, and in their communities.

[NOTE.—As he had proposed in his opening remarks, the chairman went to the blackboard during the second part of the discussion and attempted to establish, from the ideas suggested by the participants, a set of guidelines for actuaries in our relations with the public. Although not everyone was happy with all of the suggestions, and it was recognized that they were binding on no one, it was felt that these suggestions, in the form in which they were listed on the board, should be part of the permanent record.]

SUMMARY OF SUGGESTIONS

1. A body within the Society of Actuaries charged with exploring means of removing causes of current misunderstanding.
2. High standards in the explanation of our product.
3. Conscience without arrogance.
4. Pooling ideas of actuaries on policy cost comparisons.
5. More influence through continuing education.

VARIABLE LIFE TECHNICAL PROBLEMS

1. Problems of product design
 - a) Are there any new basic designs?
 - b) Should the separate account performance be attributed to the policy reserve, the cash value, or some other value?
 - c) With what frequency should the death benefit be adjusted?
 - d) What are the policy loan alternatives? What about automatic premium loans?
 - e) Paid-up nonforfeiture benefits
2. Minimum benefit guarantees
 - a) Is an increasing minimum death benefit desirable? Feasible?
 - b) Isolated cash value guarantees
 - c) Type of charge for minimum guarantees
 - d) Proposed reserves for minimum benefits
3. General
 - a) Considerations in choosing AIR
 - b) Transfers from fixed to variable and from variable to fixed
 - c) Treatment of
 - (1) Substandard lives
 - (2) Modal premiums and premiums paid after the due date
 - (3) Interim cash values
 - d) Profit and surplus objectives
 - e) Net cost comparisons

CHAIRMAN WILSON H. SCOTT: Variable life insurance (VLI), as we propose to discuss it today, was defined by a special task force of the ALC-LIAA for purposes of Securities and Exchange Commission negotiations by the following requirements:

1. The contract must provide lifetime insurance coverage.
2. The contract must be issued for an initial stated amount of death benefit and must guarantee payment of a death benefit at least equal to such amount.
3. The amount payable upon the death of the insured in any year must be no less than a minimum multiple of the gross premium payable in that year by a person who meets standard underwriting requirements.
4. The entire contract must be a life insurance contract subject to regulation under the state insurance laws, including all required approvals by state insurance commissioners.

Hearings at the SEC proceeded, with breaks, from April 10 to June 7, producing some 2,336 pages of transcript and 58 exhibits. All parties have now completed the formal presentation of their views and arguments,

and it is now the function of the SEC staff to review the entire record, prepare an analysis for the commission, and recommend to the commission any action to be taken. The commissioners themselves will decide the fate of VLI and the federal securities laws. They will not be bound by the staff recommendation, although obviously they will be influenced by it. It is currently anticipated that the commission will reach its decision early in 1973.

MR. EDWARD SCHER: The basic design of a VLI policy is determined by the underlying reserve equation of equilibrium. Implicit in the equation is a specific method of allocating excess interest between the deaths and survivors of any particular valuation period. Alternatively, one could consider that a particular method of allocating excess interest has been specified, which in turn would imply a specific reserve equation of equilibrium. Before looking into new designs, it might be well to review the principal basic designs that have been considered to date.

Three basically different designs are involved in the policy submissions made in connection with the current SEC hearing. The first is the so-called fully variable Dutch design, in which the excess interest is allocated between deaths and survivors of a valuation period in the ratio $1:{}_tV_x$, and the premium varies just as the death benefit does. (All other designs considered here contemplate a fixed premium.) The second design is the New York Life-type design, in which allocation of excess interest is also in the ratio $1:{}_tV_x$. The third design is the paid-up design, in which the allocation of excess interest is in the ratio $1:A_{x+t}$.

Another design suggested in the *Transactions* is one in which the allocation of excess interest is in the ratio 1:1. This is equivalent to taking the excess interest and simply accumulating it in a fund. The face amount is equal to the basic initial face amount plus the amount of the fund. Similarly, the cash value is equal to the basic cash value plus the amount of the fund. Variations on this basic design are introduced by having the excess interest fund kept either in the general account or the separate account.

One could allocate excess interest using the extreme limits of the ratio, 0:1 or 1:0, instead of $1:{}_tV_x$ or $1:A_{x+t}$ or 1:1, as in the previous designs. Thus, if one used the ratio 1:0, it would be equivalent to distributing the entire excess interest of a particular valuation period to the deaths of that period, none going to the survivors of the period. The entire amount of excess interest would be used in calculating additional insurance for the deaths on the basis of one-year term insurance for that period.

At the other extreme, use of the ratio 0:1 would result in distributing

the entire amount of excess interest to the survivors of the period, none going to the deaths of the period. Of course, the deaths of succeeding periods would benefit from the current allocation, but the deaths of the current period would not.

In addition, one could use any ratio in between those two extreme values. It is, of course, practical and lends itself to convenient actuarial interpretation to pick ratios involving particular actuarial functions, such as ${}_tV_x$ or A_{x+t} . However, in theory there is no particular reason that one could not use any fraction in the whole range from zero to 1. Naturally, other practical considerations, such as the soundness of the design, would limit one's actual choice.

If one assumes that, under a VLI policy with fixed premiums, the net premiums are placed in the separate account and the death benefits are paid out of the separate account, then in that sense the separate account can be viewed as a closed system. In that perspective, all VLI designs are equivalent in the sense that the present values of benefits, with respect to the separate account interest rate, of all designs are the same. Essentially, each design can be looked upon as the determinant of the pattern in which accumulated excess interest is to be paid out as part of the death benefits in each period.

The more rapidly the accumulated excess interest is funneled to the deaths in the earlier years, the smaller will be the amount of excess interest available for deaths of later years, and vice versa.

The paid-up design referred to earlier releases excess interest to the deaths rather slowly in the early years and may be regarded as relatively unresponsive initially. If this is felt to be a negative feature, there are several variations that may be considered to ameliorate this situation.

One variation would have the basic life insurance policy provide increasing instead of level amounts of insurance, thus reasonably assuring a satisfactory benefit structure in the early years.

A second variation would retain the feature of a level amount of insurance in the basic policy but would use the excess interest in some way to increase the minimum death benefit guarantee (MDBG) in a ratchet-type manner.

Once the particular reserve factor (for example, ${}_tV_x$ or A_{x+t}) has been specified in the basic designs previously discussed, the variable face amount becomes the balancing item in the reserve equation of equilibrium.

A completely different approach which has been suggested is to keep the face amount fixed and to let the amount of the reserve fund be the balancing item. Thus, if the separate account were earning more than the

assumed interest rate (AIR), the reserve fund would build up to a greater amount than was actually needed to support the fixed death benefit. Consequently, the policy could be matured at such time as the reserve fund became equal to the fixed death benefit, providing, in effect, a variable maturity date. At the other extreme, if eventually the reserve fund were entirely depleted because the separate account had been earning less than the AIR, the policy could be terminated at that time, in the same way that a term insurance policy is terminated, providing in effect a variable term period.

In connection with this last policy design, some doubt exists as to just how favorably a state insurance department might look upon a variable period of insurance; there is even a question whether such a policy should be considered VLI. However, the latter is the more subjective question at this time, since there is no generally accepted definition of the generic term "variable life insurance."

It should be noted that several of the designs I have discussed would not qualify under the guidelines of the industry's SEC petition. I have introduced them, however, to indicate ideas that may prove useful as sources of other new basic designs.

As indicated previously, there is an underlying reserve equation of equilibrium associated with each VLI design. The "reserve" entity used in the equation may be the tabular reserve itself, or instead it may be the cash value, natural reserve, asset share, or whatever fund structure is appropriate for the particular design.

In practice, because premiums generally will not be paid into the separate account precisely on due dates nor will death benefits be paid out of the separate account precisely on dates of death, the actual fund built up in the separate account will be different from the "reserve" fund in the equation of equilibrium.

At the end of a valuation period, when the interest rate actually earned in the separate account has been determined, that rate is then used in the theoretical "reserve" equation to determine the excess interest available for allocation for that period. Thus, the interest rate earned during the period in the separate account is effectively attributed to the investment of a hypothetical "reserve" fund, which, as just indicated, is in general different from the actual fund invested. The result is that the total attributed interest for the period will be somewhat different from the actual interest earned.

Theoretically a company could use any attributed fund it wished, and as long as the resultant method of determining the benefits was clearly spelled out in the policy, there should be no complaints on that score.

It should be noted, however, that the company is subject to an investment risk to the extent of the difference between the attributed interest and the actual interest earned for any period. It would seem that the actual invested fund should be kept reasonably close to the theoretical attributed fund in order to minimize this risk. Moreover, substantial and significant differences between the two funds would seem to be undesirable from a public relations viewpoint and might be looked upon with disfavor by an insurance department.

There are practical difficulties involved in trying to maintain the separate account fund exactly equal to the attributed fund (even ignoring any question of surplus held in the separate account). For example, if the valuation period were equal to one day, so that daily movements of funds were called for by the theoretical basis, it might nevertheless prove unduly burdensome and inefficient in practice to actually move funds daily. Nonetheless, one can not simply transfer premiums to the separate account whenever they happen to be paid by the policyowner. Unlike the situation during the deferred period of a variable annuity, when the separate account is performing essentially a banking function, under VLI this procedure for moving premiums into the separate account would result in substantial difficulties, both practical and theoretical. All in all then, it would appear that a company should strive to keep the actual invested fund as close to the theoretical "reserve" fund as is reasonable, expedient, and practical.

The choice of how frequently the death benefit should be adjusted under a VLI policy is influenced by a number of factors, among which are the relative responsiveness of the basic design, the expense and practical problems of frequent adjustments, the saw-tooth effect of infrequent adjustments on the face amounts (particularly under New York Life-type designs), and equity considerations among policyowners.

If the basic design is relatively responsive, as, for example, in the New York Life type or particularly in the fully variable type, it seems reasonable to adjust the death benefit more frequently than would be appropriate for a design that is not as responsive. Similarly, if the basic design is relatively unresponsive, as, for example, in the paid-up design, infrequent adjustment is reasonable and practical. The aim in both cases is to avoid abrupt changes in the death benefit from one valuation period to the next.

If the death benefit is adjusted too frequently, the expense of maintaining and administering the system will be increased. The extent of the increase is moderated, however, because it is unnecessary to actually perform the adjustment calculations at each valuation period. For ex-

ample, if a policy calls for weekly adjustment of death benefit, one need not have the computer make a weekly file pass to produce current face amounts. Instead, one could maintain a historical file of net investment factors for each valuation period in the computer and update the face amounts for the individual policies only at specific times during the year, such as year end, anniversary, or time of a specific transaction (death, surrender, face-amount request, and so on). In this way, one could give precise effect to the frequency of adjustment intended, yet avoid the expense of concurrently updating the file.

One can draw an analogy between this procedure and the handling of one's personal checking account. If one knows the balance as of the end of the preceding month and wishes to obtain the balance as of the end of the current month, it is unnecessary to find the intermediate balances during the month at the time each check is written and each deposit made. Instead, one can simply add up separately all the deposits and all the withdrawals for the current month and use these subtotals to update last month's balance.

The analogy is not precisely exact, for although in the case of the checking account one can go directly from one month's balance to the next without having to calculate intermediate balances, in the case of the death benefit under a VLI policy, one cannot in general make a similar leap. Instead, one must determine face amounts in a recursive fashion, so that all intermediate face amounts must be explicitly calculated. However, it is true—and this is the main point—that the calculations for determining all intermediate face amounts can be done all at once at a convenient time.

It may be noted here, incidentally, that a company should be prepared to make some practical decisions to forestall embarrassing situations which can arise when the frequency rate of adjustment is high.

Consider the situation in which a policyowner wishes to reinstate a lapsed policy. He gets in touch with his agent to find out the cost of reinstatement; the agent in turn requests the information from the home office. The computer determines the cost of reinstatement as of the date of request (since the cost depends upon the face amount on the date of reinstatement), and this information is relayed back to the agent. Assume that the cost is \$2,750 as of the date of request, June 5. The policyowner writes out a check for that amount and sends it to the home office. By the time the check is received and processed, the date is June 8, and the computer determines that the cost of reinstatement is \$2,790. The check is returned, the new cost of reinstatement as of June 8 is forwarded to the policyowner, and the cycle starts all over again. Of

course, the situation can be satisfactorily resolved; I bring it up only to illustrate the perhaps unanticipated types of problems that can arise when the death benefit is adjusted very frequently.

The choice of frequency of adjustment is very much a decision for the individual company, and it may be noted that, of the proposed policies submitted to the SEC in connection with the current hearing, the frequencies of adjustment range from daily to monthly to annual.

Finally, note that regardless of how frequently the death benefit is adjusted, the company presumably will wish to vary the cash value daily in order to forestall investment antiselection.

It is perhaps appropriate at this time to mention briefly the choice of a reserving method and the selection of a particular AIR. Under fixed benefit life insurance, benefits are affected only indirectly by particular choices for these elements. Under VLI, however, these elements are really integral parts of the basic design, because of their bearing on the reserve equation of equilibrium. Thus, they directly affect the pattern of benefits that emerge. For example, one finds that, other things being equal, a modified reserve system produces face amounts that are less responsive than those produced under a full net level reserve system.

On the topic of reserving methods, I have heard of one company that wants to use face amounts based upon net level reserves but actually to hold only Commissioners reserves. This arrangement, contemplating at the outset an attributed fund intentionally different from the actual fund to be held in the separate account, would subject the company to an investment risk, as previously indicated, and might be looked upon with disfavor by an insurance department.

One alternative along those lines might be to hold the full net level reserves in the separate account but consider the excess of these reserves over the Commissioners reserves to be surplus. This setup would provide flexibility to the company and might prove more acceptable to an insurance department.

There is the same need under VLI as under fixed benefit life insurance for a loan provision which allows a policyowner access to his policy values without requiring a complete surrender. It appears, however, that the development of a satisfactory loan provision is one of the most difficult problems in the design of a VLI policy. There are many alternatives, depending on which account is providing the loan and depending on the nature of the loan interest rate, but none of those considered thus far is without some drawback.

One possibility is to provide a regular fixed loan from the general account. Since the funds to provide these loans are not contributed by VLI

policyowners, there would be inequity for the non-VLI policyowners to the extent that the fixed loan interest rate differed from the new-money rate otherwise obtainable. This drawback could be eliminated if the loan could be provided at new-money interest rates, but it is questionable whether insurance departments would accept such a concept.

Another possibility is to allow a fixed loan from the separate account. Here there is no problem of equity as between VLI and non-VLI policyowners; instead it is between VLI borrowers and VLI nonborrowers, since the effect of the loans is to dilute the amount of separate account funds invested in equities.

A third alternative is a variable loan from the separate account. In theory this is probably the cleanest and most equitable possibility. There is no question of inequity involved, but the prospect of the amount of loan outstanding varying with the separate account earnings rate may not be readily understandable or acceptable to a policyowner at a time of very favorable separate account performance.

A fourth arrangement permits a partial withdrawal of cash value, which in effect allows partial surrender of a policy with contractual right to restore the surrendered portion, subject to insurability requirements. At the time of partial withdrawal, the face amount, premium payable, and MDBG are all reduced proportionately. The disadvantage here is that a policyowner interested only in some immediate cash is required to forgo a much more considerable amount of his insurance coverage in the process, with the possibility that he may not be able to restore it.

A fifth type, a slight variation on the fourth, provides for a partial withdrawal, but with continuation of the original premium. The effect is to reduce the face amount less than under the fourth type. However, the reduction is still much more than would be the case under a conventional loan.

A sixth type would allow a fixed loan from the separate account, but the borrowing policyowner would be the only one directly affected by it. Thus the excess interest used to adjust the face amount of a VLI policy with a loan of this sort would reflect a blend of the fixed loan interest rate and the current separate account earnings rate, the blend being based upon the percentage of cash value loaned. The problem with this type of loan may be mainly in the area of company administration, since it results in face amounts unique to each policy having a loan on it. Also, unless one made provision for a special repayment, the face amounts would continue to be unique even after repayment of the loan.

It should be noted that all the provisions of the fixed loan type just mentioned would have to be "margin"-type loans, since it is possible

that the outstanding loan could become greater than the cash value during a poor market.

It would appear that the reason for having an automatic premium loan provision under VLI would be the same as under fixed benefit life insurance, namely, to keep a policy in force when the premium has not been paid. However, under most of the possible VLI loan provisions referred to, the effect of the loan on the face amount can be substantial, and consequently this feature may not be desirable as an automatic provision. Also to be considered is the greater complexity involved in the administration of a VLI loan, as well as the usual administrative problems associated with automatic premium loans under regular fixed benefit life insurance. With regard to paid-up nonforfeiture benefits under VLI, it would seem that companies would want to have the same two benefits that are offered currently under fixed benefit life insurance, that is, reduced paid-up insurance and extended term insurance. The question arises as to whether one, or both, or none of them should be on a variable basis, and there is also the possibility of providing them on both bases. It seems consistent with the underlying policy to have them on a variable basis, but this presents some problems. For example, it does not readily appear practicable to have the MDBG still in force (assuming that one has been funding for this benefit by a portion of the premium), since there are no longer any premiums coming in. It is possible to utilize a portion of the asset charge to pay for the benefit, or perhaps one could devise some prefunding arrangement, but this is a matter that depends on the company's particular VLI design, as so many features of the policy do. Judging by the nonforfeiture provisions of the sample policies submitted to the SEC, it is clear that we will see a variety of solutions in practice.

MR. DALE F. ETHINGTON: For companies using a traditional three-factor dividend formula the use of reserves for determining changes in face amount is a consistent approach. Likewise, for companies that use the fund approach to surplus distribution it is consistent to use cash values, which approximate the funds, in determining changes in face amounts. The main advantage in using cash values is that they approximate the policyholder's actual interest in the policy. The advantage of using reserves is that the company takes no investment risk, whereas with cash values the company stands to take gains or losses to the extent that cash values differ from reserves.

With a paid-up type of design annual changes make the most sense. Benefit changes in the early contract years will be quite small, and more

frequent changes are hardly worth the effort. Beyond this I feel that a policyholder should know what his death benefit will be if he dies. More frequent changes can be more easily supported for other types of designs, but I wonder whether these plans are not long on theory and short on practice.

I hope that the partial surrender provision, where the premium is *not* reduced, will ultimately be permitted. This involves the surrender of paid-up insurance, with a resultant reduction in natural death benefit and MDBG. This would allow the MDBG to fall so low in some cases that the minimum multiple specified in the petition to the SEC would be violated. If this technical problem can be solved, I believe that this is the best answer to the need for a loan provision in a contract of the paid-up type.

The requirements as contained in the industry's SEC petition do not include an increasing MDBG, and I know of no company that is working seriously on such a benefit.

Some possible advantages of such an increase are fairly obvious. For the policy issued at age 25 and still in force forty years later, the initial death benefit does not mean much—the variable face amount per \$1,000 issued could be \$4,000 or more. The guarantee here is of very little value (which incidentally is one of the reasons it is relatively inexpensive). The same considerations that make the initial MDBG desirable (i.e., the fact that the insured is relying on this policy to fill needs which do not fluctuate like the natural death benefit under a VLI policy) make an increased guarantee at the later durations desirable. If large values are built up over a long period, the insured is very likely relying on that general level of benefits in the case of death. Structuring an individual's insurance program solely on the initial guarantee might be the only safe approach, but it could result in overinsurance. Using the current natural death benefit would run the risk that needs will not be met if the insured happens to die at a market bottom.

One possible increasing guarantee to meet this need would consist of the initial minimum guarantee plus 50 per cent of the maximum excess over the initial amount. This could be called a "50 per cent ratchet" MDBG. A \$1,000 whole life policy issued to a life age 25 in July, 1915, under the New York Life design shows the need for the guarantee and the problem associated with a ratchet type of MDBG. Forty years later the natural death benefit for the \$1,000 initial face amount would have been \$6,921. On the other hand, a "50 per cent ratchet" would have hiked the minimum up to such an extent that in 1929 the minimum would have been greater than the natural benefit for each of the years 1931 through 1945.

The problem of having guarantees seriously out of line with natural death benefits is a future problem and probably one that should best be dealt with in the future. One way to secure these large increases for the insured would be to transfer the policies to a fixed basis. Another possibility would be to develop a rider which could be attached to the policy in the future and which would increase the MDBG. The cost to the insured would depend on the design of the rider and the degree of protection desired.

Another type of increasing guarantee unrelated to the need outlined above would be related to the consumer price index. This policy would have fixed premiums and death benefits that follow the CPI, and cash values would be the balancing item. Some tests that I have made indicate that this might be possible if higher gross premiums are charged, the CPI and the stock market are not seriously out of line for extended periods, federal income taxes are at reasonable levels, benefit increases cease at an age around 65, and suitable reserve methods can be developed and adopted. While the appeal is fairly obvious, I feel that the necessary conditions are such that we will not see this type of guarantee for quite a few years.

The next natural step in extending guarantees is the introduction of a "point in time" minimum cash value. If the "point in time" is far enough in the future, twenty years, say, the cost would be small if based on historical performance and typical lapse rates. Shorter duration points in time would cost more and presumably would be of more value. However, these guarantees seem to me to be of little value in VLI. Besides encouraging cash surrender, if the variable cash value is less than the guaranteed value, it places emphasis on achieving a certain asset n years hence. This seems to be a poor basis for insurance sales. The benefit could, of course, be designed so that one would not actually be required to surrender his contract, but the point of this cash payment to the contract holder escapes me. The only real value this type of guarantee might have is in those cases where it is known at issue that surrender is actually planned at that point in time. This would include pension plans partially funded through individual insurance contracts. The two main questions are, is the benefit optional, and how are short-duration contracts to be handled?

Many papers have been written recently on methods of determining the cost of minimum benefit guarantees under equity products. These papers calculate the cost as a net single premium per unit of either premium or face amount. An examination of the incidence of the benefits to which the guarantee gives rise indicates that there is no way to charge for this benefit so that the incidence of charges and benefits is well matched. Thus there is no logically compelling type of charge that should be made.

The two practical places to charge for minimum guarantees are in the premium and in the asset charge.

Since an asset charge seems to be a "natural" source of income in equity products, most companies will probably have one in their VLI policies. Thus, this source will be available to pay for the MDBG. The three companies that presented their contracts to the SEC had asset charges in their contracts. (Such a charge is essential to cover expenses, if variable paid-up nonforfeiture options are available.) One company indicated that this charge would be used, in part, to pay for the MDBG.

In fixed participating life insurance there generally is a direct charge for income tax and investment expense. In addition, there may be a charge for default or devaluation of assets. If MDBG benefits are thought of as asset devaluation guarantees, a charge against assets might be rationalized. In any event, a decision must be made to make the charge reflect the cost of the benefit either in the aggregate only or individually by age, sex, and plan.

Late last year the Variable Contracts Subcommittee of the ALC-LIAA Joint Actuarial Committee appointed a Task Force on Reserves for Minimum Death Benefit Guarantees under Variable Life Insurance contracts. This task force developed a proposed addition to the model variable contract regulations to cover MDBG reserves. This proposal was endorsed by various industry committees and was presented to the NAIC in June. A NAIC committee was assigned this proposal but has not yet issued a report. It is hoped that the NAIC will adopt this addition to the model regulation in December.

It was felt that an acceptable MDBG reserve system should have the following properties:

1. The MDBG reserve should be adequate to cover, under all but the most extreme circumstances, the MDBG death claims for the next year so that the regulatory authorities can be assured that the company will not run into financial trouble from this source before the next annual statement is filed.
2. The MDBG reserve system should call for an orderly accumulation of funds to cover the extra cost of the guarantee in the event of an extended period of poor investment performance of the separate account. To be orderly, it should not overreact to every downswing of the market and thereby cause the unnecessary diversion of funds from other sources to cover an unnecessarily conservative MDBG reserve. Also, the reserve should not decrease too rapidly in a sharp market upswing after a period of poor market performance.
3. The reserve should be held in the general account so that it will be backed by the general assets of the company, most of which are debt obligations permitted to be valued at amortized cost and therefore of a fixed-dollar nature.

4. The reserve should be subject to the same valuation standards with respect to mortality and interest as any other life insurance reserve, currently the 1958 CSO Mortality Table and a rate of interest not in excess of $3\frac{1}{2}$ per cent.

Because of these requirements the task force had to resort to a rather complex three-part reserve system rather than a simple reserve basis. The proposed three-part MDBG reserve system consists of (1) a retrospective accumulation of regular amounts allocated by the company to the MDBG reserve, less actual MDBG claims paid, subject to a two-part minimum equal to the greater of (2) a one-year term reserve to assure coverage of next year's claims and (3) a reserve designed to protect against an extended period of poor investment performance by the separate account. It should be noted that the two minimums are tested in the aggregate only.

In the first part of the system each company may use its own judgment as to the charges it wishes to allocate to the MDBG accumulation. Specifying a maximum reserve was not considered to be necessary or desirable at this time.

The second part of the system is the first of the two minimums. This part provides that in no event may the MDBG reserve be less than the aggregate total of the tabular one-year term costs of the MDBG computed individually for each policy based on the assumption of an immediate one-third depreciation in the current market value of the assets of the separate account followed by net earnings at the AIR.

The third part of the system is the second of the two minimums and is analogous to the pension cost method known as the attained-age level (AAL) method. This method has both retrospective and prospective elements. While it makes use of the difference between (1) the tabular present value of the future guaranteed minimum death benefits and (2) the tabular present value of the future death benefits that would be payable in the absence of such guarantee (i.e., the variable face amounts), it also takes into consideration the amount of reserve that existed at the end of the preceding year. Under the AAL method an individual policy reserve is computed, equal to any "residue" of the prior year's AAL reserve on the policy but not less than zero, increased or decreased by a payment computed on an attained-age basis. Such payment shall be computed so that the present value of a level payment of that amount each year over the future premium-paying period of the policy is equal to a minus b minus c , where a is the present value of the guaranteed minimum death benefit, b is the present value of the variable death benefit, and c is the "residue" of the preceding year's AAL reserve. The "residue" of the

preceding year's AAL reserve may not be less than zero and is determined by adding interest to the preceding year's AAL reserve and deducting the tabular cost of insurance for any excess of the guaranteed minimum death benefit over the variable death benefit during the preceding year. This part of the proposed MDBG reserve system requires that in no event may the MDBG reserve be less than the aggregate total of the AAL reserve on each policy.

MR. IAN M. CHARLTON: The three key considerations in selecting the assumed investment rate are probably (1) the effect of the AIR on the benefit scale, (2) the cost of the MDBG, and (3) the degree of consistency which seems desirable between the variable and companion fixed life policy.

With respect to the effect of the AIR on the benefit scale, the company must decide how much variation it would like to have. One criterion might be to have the variable sum insured follow generally the consumer price index. As we know from previous discussion, the three companies were asked by the Securities and Exchange Commission to determine the investment rate required by their policy plans to provide an increase of 3 per cent per annum in the variable sum insured for periods of ten, twenty, and thirty years. For the fixed premium variable life plan this rate varies by age and period of time; however, if the AIR is $3\frac{1}{2}$ per cent, a representative investment rate might be about $10\frac{1}{2}$ or 11 per cent plus the asset deduction. It might not be unreasonable to expect a separate account investing in equities to meet this investment objective, since Aetna Variable's separate account rate over the last eighteen years has been a little over 10 per cent plus an asset deduction of nearly $1\frac{1}{2}$ per cent. Since the consumer price index has shown an average annual increase of about $2\frac{1}{2}$ –3 per cent, a $3\frac{1}{2}$ per cent AIR would seem to be a reasonable selection.

It is the relationship between the net investment rate and the AIR which affects, mathematically, the benefit scale. This may be seen more dramatically by considering the change in death benefit from one valuation period to another under the variable premium design. Under this design, the premium and the benefit adjust at the same rate, so that the full effect of the investment performance is recorded. If we were to use I to represent the net investment rate after asset deduction and i for the AIR, benefits would change in the ratio of $(1 + I)/(1 + i)$. In the fixed premium design, while the effect of the investment performance remains the same, the effect on the variable sum insured is lessened by the premium adjustment factor which takes into account the relationship between

the terminal reserve at the end of the last valuation period and the initial reserve for the current valuation period. The terminal reserve factor takes into account the changed variable sum insured, but the net premium factor remains unchanged with respect to investment experience during the premium-paying period.

Generally it can be said that the greater the ratio between the net investment rate and the valuation interest rate, the greater the effect on the variable sum insured due to investment experience. However, in selecting the AIR, one must take into account the valuation net premium and the nonforfeiture values and the effect of both on the final gross premium. Table 1 shows for selected issue ages the effect of variation in valuation interest rates and net investment rates, assuming that the same profit objectives are to be reached.

TABLE 1

NET INVESTMENT RATE AND ISSUE AGE	ADJUSTMENT TO FINAL GROSS PREMIUM FOR AIR OF:		
	2½%	3%	3½%
6%:			
25.....	Add \$1.50	.....	Deduct \$1.35
55.....	Add \$1.90	.....	Deduct \$1.75
9%:			
25.....	Add \$1.60	.....	Deduct \$1.45
55.....	Add \$2.10	.....	Deduct \$1.90

These adjustments to the final gross premium are based on studies which were made, using a reasonable level of mortality, lapse, and expense factors, and assumed that the profit objective would not be materially different from that for a fixed life product, although the gross premium would be greater than that for a comparable fixed-dollar policy by some 10-15 per cent. These adjustments are to be considered as indications of magnitudes rather than precise variants, and it would not be appropriate to use them except within the parameters used in their development.

With respect to the second consideration, that is, the cost of the MDBG, it will be noted that the greater the AIR, the greater the possibility that the investment performance will cause the variable sum insured to drop below the initial amount of insurance. Thus, although the higher AIR permits the company to use a slightly lower gross premium, the actuary must take into account the opposite effect which the higher AIR has on the cost of the minimum death benefit. The various methods

of attacking the problem of the cost of the MDBG have already been discussed. The mathematical results show that the cost of the minimum death benefit rises fairly rapidly for the advanced ages at issue, since it is only a small fraction of the premium adjustments realized by assumed investment rate changes at the younger ages but is substantially all of the savings in gross premium for the advanced ages. Thus the company must take into account the expected mix of business by issue age. If a low average issue age is anticipated, then the effect on premiums might be to produce a slightly lower scale using the highest AIR, but if the average age is anticipated to be high, the company might determine that the lower AIR would be preferable.

The third consideration mentioned is the consistency in the valuation rate between the company's fixed- and variable-dollar products. The advantages of having a different rate might be that comparison is more difficult when the AIR's differ between the variable and fixed products; with the use of a higher AIR with a variable-dollar policy, a lower scale of cash values is possible. Among the advantages of using the same AIR for fixed and variable products might be the duplication of valuation factors and an essentially compatible dividend scale; in addition, one might point to the effect upon the agent—the impression that there is no particular difference in selling fixed and variable policies other than the basic nature of the contract.

It might also be well to consider the effect that the valuation method has on the three items mentioned above. With respect to the effect on the benefit scale, one might note that under the Commissioners Reserve Valuation Method, there is no essential change in the death benefit during the first policy year, since the first-year net premium provides only for the cost of mortality and, hence, there is no reserve buildup. With no reserve buildup, there is no reserve on which the investment performance can react. Thus, if one compares the scale of death benefits under the two methods, one finds that under the CRVM death benefits would trail those under the net level method by essentially one contract year. Although the main reason for adopting the CRVM would be the effect of surplus strain, the company also would want to note the effect of that decision upon the marketing aspects of the policy form.

It can be anticipated that the cost of the MDBG will be less under the CRVM than under the net level premium method. Two reasons for this would be that (1) the investment experience is delayed and (2) the effects of the lapse rate would mitigate the present value of the costs of the deficiency benefit. Generally, because the net investment rate can be expected to exceed the AIR, the effect of poor investment performance

would be greatest in the earlier durations, when the death benefit might be driven below the initial sum insured. This might be expressed along the lines that the n -year term premium for the deficiency benefit will reduce as n increases.

In considering transfers from fixed to variable products and vice versa, I will discuss (1) transfer of the policy and its records from one account to the other and (2) possible accounting records needed.

With regard to details of how to transfer cases in both directions between the separate and general accounts, thinking has been only preliminary. Transfers from variable to fixed may take place because of three occurrences: (a) a plan change, (b) transfer to nonforfeiture insurance due to premium default, or (c) transfer to fixed due to the loan provision.

Administrative details for different plan codes must be provided. This will permit the company, when transfer from variable to fixed occurs, to remove the appropriate policies from the valuation file, update the file, and allow valuation of the fixed business according to traditional methods. It is possible to carry the fixed amount of insurance in the fixed benefit valuation record which will permit the use of the same year-end procedures for both fixed and variable.

The transfer back to variable from fixed will be more complicated. For example, when a policy is reinstated to a variable basis, it would seem best to require that the policy be accompanied by sufficient funds to return the policy to the same valuation cell from which it was originally withdrawn. This would allow the company to value the variable business for reserve purposes and to assemble data for the policy exhibit on a duration, issue age, and issue date basis.

With respect to accounting transfers, the system should call for the premium to be paid into the general account. The general account will treat the variable policy in the same way as a fixed benefit policy except for transfers of premiums and reserve adjustments while on a variable basis. For example, on a monthly conversion, monthly net premiums would be transferred to the separate account on a monthly basis. If premiums are paid beyond the month of experience, then the general account must provide for net premiums paid but not applied. Such an account will also be used for premiums being advanced when the gross premium has not yet been received. Therefore, this account will contain both debit and credit balances.

In the analysis of the increase in reserves in the separate account, certain items will cause a transfer of funds back to the general account. These items may or may not include reserves released on account of death, reserves released by other terminations, and tabular cost. One

method might be to account for the cost of death benefits in the separate account, in which case the reserves released by death and the tabular cost would be used to offset the death claims paid and would cause an analysis of increase in reserves for the separate account. The other alternative would be to transfer these reserve accounting items back to the general account and pay the death claims (and cash surrenders) from the general account. This second method might seem more closely related to the transferring of moneys in and out of the reserve account for the traditional fixed life policy.

One way of viewing the construction of substandard premium rates is to subdivide the face amount of insurance into its two parts, the net amount at risk and the reserve released. In constructing the substandard premium, one might take the net amount at risk by policy year and multiply this amount by the appropriate mortality rate by age and duration. In the traditional life insurance policy, the net amount at risk for the whole life policy reduces by duration. In VLI, however, depending upon the investment experience anticipated, the net amount at risk may very well not decrease by duration. Thus it can be anticipated that the substandard extra premium for a VLI policy will be higher than the substandard extra premium for a fixed benefit policy. The natural assumption is that the investment experience will exceed the reserve interest rate, and the face amount of the policy may be anticipated to rise above the original amount. In the event that the MDBG is a part of the policy, clearly, the net amount at risk on a VLI policy will never be less than the net amount at risk for a fixed life policy of the same amount.

One approach to the actual gross premium would be to use multiple table premiums or flat extras similar to those used in fixed-dollar life insurance. Since the face amount can be anticipated to be above the original amount, the extras will have to take into account the payment of the higher face amount. The rate-up-in-age approach offers some advantage here because the investment results on the higher reserve tend to cover the substandard risk on the incremental face amounts.

With reference to premium payments on variable life policies, it is necessary to apply a net premium on its due date in order to have in the separate account the proper funds to compile the initial reserve, since the net investment rate in any valuation period operates on the initial reserve for the valuation period. This means that the company would have to pay special attention to the handling of net premiums.

If premiums are paid prior to the due date, then the net premium will have to be held, theoretically at least, until the proper time to apply such premium. This is true also for a premium which is paid exactly on time

but covers a period of time different from the valuation period. For example, if a company were to operate with true monthly premiums and a monthly valuation period, an annual premium would require that the company hold eleven monthly net premiums belonging to the future period in a suspense account. For premiums paid after the due date, the company will find itself in the position, theoretically at least, of having to advance the net premium or, in some other way, cover the investment experience of the net premium, had it been invested in a separate account on time. Thus the necessity of keeping the separate account in balance with the required reserve calls for the maintenance of some kind of adjustment account.

Special situations are created by new business whether or not such business is of the backdated variety, is issued with conditional binding receipt, or is on a C.O.D. basis. In the case of backdating, it will be to the company's advantage to have any policy fall into the same valuation cell that it would have occupied had it been issued on time with other policies of common issue date. In this case the company probably should make an adjustment in the amount required to place the policy in force at the backdate.

On applications received with conditional binding receipt funds, the company will probably adopt the same issue date as that of the application. While underwriting is being performed, it will be to the company's advantage to enter the net premiums in the separate account even before the risk is undertaken, unless it is willing to experience investment results and apply such experience to the policy when it is placed in force.

C.O.D. business is an easier matter, since the company is in a position to place a net premium in the separate account on the effective date it has selected for the policy. However, in the event that the policy is not taken, the company will have to reverse the premium payment to the separate account and accept the investment experience thereon.

The policy provision states that the interim cash value will be the product of the variable sum insured at the time cash surrender takes place, multiplied by the interpolated cash value in the policy form itself. This amount of cash will be drawn against the general account. At the end of the calendar month in which the valuation period of the separate account closes, the company will transfer the reserve released by surrender from the separate account to the general account. The gain from surrender, after the actual cash surrender value has been paid, would be directed to an account which would net out all adjustments.

Profit objectives can be established by methods similar to those used for fixed-dollar life insurance. A key difference, however, is in the adop-

tion of the interest factor. Traditionally, in nonparticipating insurance premium calculations, the actuary has selected an interest rate which leaves a margin for contingencies. In VLI the premium is not affected in the same way, since the investment experience is used to adjust the death benefit. However, there is an asset deduction made for investment expenses, mortality, and expense guarantees. For VLI, then, there is a specified margin placed in the asset deduction which causes some profit to be developed in relation to the policy's mean reserve. The capitalized value of the profit so developed by the asset deduction margin can be translated into profit assumptions specifically established in the gross premium.

The mortality contribution in VLI is similar to the contribution in fixed-dollar life insurance, with the exception that the net amount at risk can be expected to be larger in variable than in fixed-dollar insurance. Thus the actuary may decide to provide a slightly larger margin of protection for VLI.

In considering the portion of the premium allocated to expenses, it would appear that there is no reason to deviate from traditional assumptions, except with respect to a VLI policy with a variable premium. Since it can be anticipated that investment results will exceed the AIR, we might expect the variable premium to rise over the life of the policy. Thus the expense elements in the premium for a variable premium plan should take into account the effect of the rising premium.

Turning now to surplus objectives, it would appear reasonable to adopt the same considerations as those which apply to a fixed benefit policy, with possibly two exceptions:

1. There would be no need for surplus to protect against the contingencies arising from the interest rate assumption, since the effects of the investment results are borne by the policyholder.
2. With respect to mortality, we have both an MDBG and a larger net amount at risk to take into account. The problem of the larger net amount at risk is of less consequence than that of the MDBG.

Studies show that the need for surplus protection is particularly important, since, with poor investment results, there is substantial increase in the company's projected liability. Accumulating a reserve for the MDBG risk defies traditional actuarial solution because of the magnitude of change caused by investment results.

The question of net cost comparisons has been difficult in the fixed-dollar area and will be an even greater challenge for variable life. If such comparisons are needed (and they may be required by law in some states),

apparently they must take into account the varying face amount as an additional parameter.

MR. JAMES A. ANDERSON: At Lincoln National we have had a VLI task force for several years but still consider ourselves in the exploratory stages on product design. Ours is a variation of the Equitable approach, but we try to eliminate one of its disadvantages. Basically, our task force liked the paid-up addition method but was concerned about the marketing appeal of a product so unresponsive in the early years. Therefore, the excess earnings will purchase some paid-up life and some term insurance, with the portion that goes to term insurance grading down each year and being eliminated altogether after a certain duration. This product approximately grades into the Equitable approach at the later durations (it of course never grades in exactly).

MR. JEROME S. GOLDEN: Mr. Charlton, you indicated that for C.O.D. business the register date for a policy (from which all benefits are determined) would be produced by your policy issue system. Are you concerned that, if between the assigned issue date and the delivery date of the policy there were a decline in the market values of your separate accounts, the policyholder might refuse the policy, thereby increasing your NTO's?

MR. CHARLTON: I expect that NTO's should not be significantly different from fixed life, especially for us, since our reserve structure is based on CRVM, which all but eliminates fluctuations in face amount during the first policy year. I feel that the MDBG mitigates against NTO's also.

MR. GOLDEN: If you offer reduced paid-up variable insurance as an insurance nonforfeiture option, should you extend this option to substandard policyholders using a standard mortality table?

My concern in this area is that the variable death benefit under this option might increase substantially, resulting in a much greater mortality cost for the substandard business than if it were, say, fixed benefit reduced paid-up insurance.

MR. CHARLTON: In our case we are planning on nonforfeiture options on a fixed basis and also, of course, the reserve for the policy during the premium-paying period on the Commissioners basis. We consider that if a person opts to cease premium payments, he wants to change the nature of his contract, so we have assumed that we should remove the MDBG and just give him his policy as though it were a fixed life policy.

CHAIRMAN SCOTT: We believe that the fixed-dollar substandard extra premium will be appropriate for the paid-up additions design of VLI, since the ratios of the terminal reserve to the single premium are similar under standard and multiple tables. However, further research is required because of the greater likelihood that the minimum death benefit will come into play for substandard issues.

I would be interested in knowing what posture other companies may take with regard to transfers from variable to fixed-dollar life insurance. At other meetings Harry Walker has warned that this practice can be dangerous if, at the time of transfer, the new-money rate in the general insurance account is lower than the portfolio rate. There is also concern that a right to transfer from fixed to variable could impose substantial asset losses on the general insurance account.

MR. SCHER: I will make a general comment on substandard. It seems that the advantage of being able to use standard face amounts, values, and perhaps also dividend scales would be so great, as opposed to having to use substandard ones, that a company might well be leaning in that direction even before looking at specific figures. At New York Life we made several tests of this possibility. We started with a multiple table and, assuming substandard premiums and substandard reserves based on that table, computed the resulting substandard face amounts and compared them with the standard face amounts. The substandard face amounts jumped around quite a bit, considerably more than the standard ones, but were not too badly out of line in relation to them. Conversely, we then, on the basis of the multiple table, determined what the cost was of providing standard face amounts to a substandard life and compared that cost with the contemplated substandard extra charge now used under our fixed benefit life insurance. The comparison was sufficiently close to make us feel that was the way we wanted to go.

MR. HARRY WALKER: I would like to elaborate on the chairman's reference to this transfer from fixed to variable and variable to fixed as a contract right. For example, in our earlier conversation I discussed the experience the life companies had in the early 1940's when their new-money rate was around $2\frac{1}{4}$ per cent, considerably below their average portfolio rate. Companies like the Equitable—giant companies—chose to take no more than \$50,000 in single premium money from any one customer. Consider being again in that position at some time in the future when the average portfolio rate in the general account might be, say, $5\frac{1}{2}$ or 6 per cent and the new-money rate might be 2 or $2\frac{1}{2}$ per cent below

that. We do not expect it, but it could happen. One could then have a mass transfer under VLI policies from the variable to the fixed account, with one's variable customers buying into the $5\frac{1}{2}$ -6 per cent rate. This could be disastrous for a company. I caution any company against providing for the right to transfer from variable to fixed as a contract provision.

CHAIRMAN SCOTT: What would you do about the special case of a premium-paying variable policy exchanging to a reduced paid-up fixed-dollar policy? Would you allow this on the theory that investment anti-selection is less of a problem when the policyholder has to give up part of his insurance protection?

MR. WALKER: I am not concerned about that because on that transfer, at least in the case of a nonparticipating company, you are transferring into a reduced paid-up fixed benefit option on a nonparticipating basis involving only a 3 or $3\frac{1}{2}$ per cent interest rate.

MR. RICHARD W. KLING: Suppose that a company wishes to determine death benefits on a net level basis and reserve on a modified basis. Mention was made earlier that a reasonable level of separate account surplus might possibly be the difference between net level reserves and modified reserves. Is it not possible that such an approach might be interpreted as a means of circumventing the general account common stock investment limitations?

MR. SCHER: That is a good question. It seems that, if a company makes a determination at the outset to use an attributed fund distinctly different from the reserve fund that it is actually holding and investing in the separate account, it is necessary to resolve the question of just how much, if any, of these funds are subject to the common stock investment limitations. The point you raised is very well taken, since, under the design we just spoke about, which you referred to, the excess interest generated by the surplus would be used directly to adjust the death benefit.

MR. KLING: Since the death benefit changes only on a policy anniversary under the Equitable design, it is possible that, as of a particular valuation date, there might be substantial excess investment return which has not yet been reflected in the death benefits. Wouldn't this situation result in a substantial misstatement of reserves?

MR. GOLDEN: Under the Equitable policy the death benefit will change on policy anniversaries. However, the calculation of valuation reserves at year end will reflect the differences between the AIR and the actual net investment return between the policy anniversary and the valuation date.

MR. SCHER: I might mention that, if one does vary the death benefit on other than a daily basis, one is perforce in the position of allocating excess interest "prospectively." That is, a person who dies in a particular valuation period cannot benefit from the excess interest earned during that period. If a company is adjusting death benefits daily, however, it is in a position to reflect excess interest earned right up to the day of death.

MR. WALKER: I think that there is a little confusion on the matter of transferring gains from the separate account to the general account. There is no such requirement—you can keep your gains in the separate account and your surplus there. The only requirement under the model law is that the assets in the separate account be at least equal to the reserves.

CHAIRMAN SCOTT: It has been mentioned that it may be desirable to include a pro rata minimum death benefit in a variable reduced paid-up policy. Has anyone considered assessing a defined charge for the minimum death benefit against the cash value before applying the balance of the cash value as a single premium to buy paid-up insurance?

MR. SCHER: I think that is a theoretical way of providing for it, although clearly it is not precisely what you would take out. The funding of a MDBG, by its very nature, is not something that one can calculate accurately in advance. For a number of these various reasons, we decided that there would not be a MDBG applicable while premiums were not being paid, that is, under a nonforfeiture option. Perhaps it might be desirable, but it does not appear practicable because of the way one would have to try to finance it—either by prefunding during the premium paying period, based on estimates of what the extra cost would be, or by an asset charge, which also would not be completely straightforward. The method you have just suggested would certainly have to be spelled out precisely in the policy, since, in effect, you would be offering less than the full nonforfeiture benefit that would otherwise be required.

CHAIRMAN SCOTT: At the formal hearings did the SEC not question us as to whether there would be a minimum death benefit in the reduced paid-up variable policy?

MR. JACOB S. LANDIS: Yes, indeed. The SEC actually invited testimony on this matter by asking the precise question Mr. Scott refers to. In my testimony I said that the New York department does not see anything wrong in providing death benefits that do not have a minimum guarantee attached to them.

Perhaps I should say a few words on the subject of surplus in a separate account. The New York regulation requires the assets of a separate account to be at least equal to its liabilities, and thus clearly envisages the possibility of assets exceeding liabilities, the excess constituting surplus in the separate account which is subjected to the special investment requirements governing separate account assets. Through the operation of lines 25A on pages 2 and 3 of the Annual Statement, the surplus in the separate account is reflected in the company's unassigned surplus, even though it may be shown as earmarked surplus in the "green statement."

A second point: While there is no prohibition in the law against holding surplus in the separate account, we have been interpreting this as limited to surplus actually generated by the operations of the separate account. We would not consider that we have the authority to permit a company to transfer any amounts to its surplus, under whatever guise, to create surplus in a separate account or to augment it.

As to reserves, the law permits the holding in the separate account only of reserves which vary with the investment performance of the separate account. This works smoothly for the Sternhell design. For a "variable additions" design, the tabular reserve does not so vary, but "excess" interest thereon creates positive or negative "additional" reserves, so that the total reserve may be considered to vary with the investment performance of the separate account.

MR. SCHER: Actually, under the interpretation that the reserves in the separate account must be reserves supporting benefits that vary with the investment performance of the separate account, one could hold reserves for the MDBG in the separate account, since that benefit definitely varies with separate account investment performance.

MR. WALKER: Wilson, in response to your question as to whether the SEC asked about the MDBG under the reduced paid-up VLI non-forfeiture option, I would like to add to what Mr. Landis has said. The question was put to me directly in my cross-examination at the SEC hearings—why didn't our policy provide for such a minimum death benefit? My response was that it would cost too much. That becomes

rather obvious when you consider the case where you sell a \$10,000 VLI policy on which, at the time of lapse, the reduced paid-up insurance might be \$2,000. If you have a sudden decline in the stock market, the variable death benefit under the reduced paid-up option will be more sensitive to that decline than when the contract is on a premium-paying basis.

On the matter of nonforfeiture options, we had good reason under our policy to include a fixed benefit reduced paid-up option and a variable reduced paid-up option, giving the policyholder a choice. The point is that, if he is concerned with a floor on the death benefit, he can take the fixed benefit reduced paid-up option and get out of the separate account completely. Furthermore, we felt that there was an advantage in having the fixed benefit reduced paid-up option available for the policyholder who felt a little uneasy about the future of the stock market and who might be tempted to surrender his contract if we did not have a fixed benefit reduced paid-up option. On the other hand, we felt that the policyholder who bought into a VLI contract to start with and who wanted to stop paying premiums but continue his life insurance on a paid-up basis should not be forced to move into a fixed benefit contract.

MR. CHARLES B. BAUGHMAN: I just want to complain a little bit about this reserve for the MDBG. I think that somebody should write a paper on it and submit it to the Society so that other actuaries can discuss it.

I think the proposal has already gone to the NAIC, but only a handful of people have really looked at it. I will give an example. I did some calculations, and I found out that, on the basis of historic results using Standard and Poor, the reserve, for example, in 1932 should have been less than it would have been in 1929. This three-factor reserve formula is so complicated and so expensive in application that the cost of calculation is probably larger than the reserve itself. In spite of the expense, this reserve does not represent reality. In 1932 the reserves should have been less than those produced by this three-factor formula.

MR. SCHER: On what basis do you suppose that you are in a position to determine what the MDBG reserves should be at any time?

MR. BAUGHMAN: Nobody knows. The only thing I could fall back on was to suppose that in 1932 the company could foresee more clearly what the stock market was going to do than was the case in 1929. I have done this for every year since 1871, and it turned out that almost invariably the lower the stock market, the lower the reserve would have been. The

reason is probably that when the stock market is low, there is a better chance for the stock market to recover. When the stock market is high, there is greater danger that it will drop.

MR. SCHER: But that is the way the proposed MDBG reserve system does work. When the market is low, it does call for a high reserve. That's the nature of it.

MR. WALKER: I would like to point out that it was not just a handful of people who reviewed the proposal. The routine for submitting legislation to the NAIC is to have the Joint Actuarial Committee of the two trade associations, of which I am now chairman, submit to the Joint Legislative Committee a proposal which, in the case of variable contracts, goes to an Industry Advisory Committee to the NAIC. The proposal then goes to the NAIC, which submits it to an actuarial committee. This was the operation for this proposed issue. There was a Joint Actuarial Committee, a Subcommittee on Variable Contracts of the Joint Actuarial Committee, and a task force of that subcommittee. It was the task force that came up with this proposal, which was reviewed by the subcommittee of the Joint Actuarial Committee, then reviewed by the Joint Actuarial Committee, in turn reviewed by the Industry Advisory Committee, and then submitted to the NAIC, which, I believe, appointed an actuarial committee of its own. It has gone through many hands. I do not know how you can take a democratic vote on a proposal as complicated as this, but I agree with you, Charlie, that any member of the Society certainly should have a chance to read the document if he is interested—it is tough reading—and then comment on it if he so wishes.

MR. CHARLTON: I served on this task force, and I do not think the proposal was formulated in any particular haste, although a great amount of work was done in a short period of time. There is a benefit, and there should be a charge for it, and there should be a reserve. Also, it is highly volatile, so really there is no good, rigorous way of coming up with a reserve formula to do it. We know that there has to be some protection. There has to be a method of accumulation that creates a reserve reasonably, so that you do not have ups and downs. That is one criterion. Next, you have to take care of a short-term drop somewhere, and that is the reason for the one-year term portion of the minimum. But you also have to protect against some kind of sustained low level of investment performance, and to do this the accumulation method is not the answer, and the one-year term is not the answer; you have to go into some kind of

long-term funding—hence the concept of using the AAL approach. It does become complicated, but if, with this new product, we really do not know how all factors are going to operate on it, the aforementioned attack is actually going to protect well, and the supervisory people are likely to be satisfied. It is necessary, at least to start with, to have this kind of basis and to see where it goes from there. One aspect does need further study—the possibility that the “retrospective accumulation less claims” can become larger and larger in a favorable investment climate while the chance of minimum benefit claims diminishes. Some way should be found to get the fund back down again.

Much time was spent on it, and the more you think about it, the more the proposed reserve appears to be a really well-conceived solution to the problem—with the exception that it can become costly—and we will have to find some way to approximate on the AAL proportion of it.

MR. SCHER: I would like to add that, as has been pointed out, the nature of the MDBG benefit is very different from what we have generally considered in life insurance. It is highly volatile because of the market. In order to reserve for it, we have to put ourselves in the possibly arrogant position of feeling that we can tell what will happen to the market in the future. Really we are not more fundamentally justified simply because we can say that our results are based on historical experience. The method is not unreasonable, but no one can say how it will stand up in practice. A great deal of work went into developing it. I do not think that anybody on the committee would claim that the method recommended is the only possible one. However, on the basis of the voluminous studies that were made, it produces reasonable results relative to the criteria that were set up.

THE FUTURE OF THE PROFESSION

1. The situation today
 - a) What do actuaries do, and how are they viewed by others
 - (1) In Canada and the United States?
 - (2) Elsewhere in the world?
 - b) What are the differences, and why do they exist?
2. The prospects for tomorrow
 - a) How will the actuary's work role evolve—by intensification or by broadening? How will his professional posture change?
 - b) To permit, or accommodate, these developments, what changes will be needed in the structure and operation of the professional actuarial organizations? What changes in the education of the actuary?

CHAIRMAN CHARLES B. H. WATSON: The Society of Actuaries is today in a state of flux. Twenty years ago we had 1,500 members, ten years ago we had 2,300, and today we have 4,100. That is an amazing rate of increase.

Even more significant, not only is the number of members increasing fantastically but the number of students is increasing even more rapidly. In the last three years the number of examinations written has gone from 6,400 to 10,600, a 70 per cent increase.

The distribution of our membership is changing. Twenty years ago, 80 per cent of the members of the Society were employed by insurance companies, 8 per cent were employed as consulting actuaries, and the remaining 12 per cent were working for government, in academic circles, retired, and so on. By 1962 the situation had changed considerably. Seventy per cent were working for insurance companies, and 15 per cent were working for consultants. Today only 63 per cent work for insurance companies and 20 per cent for consultants. So there has been a tremendous shift in distribution in a very short period of time.

It is often said that those who ignore the past are condemned to relive it. But it is also true, I think, that those who ignore the future are condemned to live it as outside forces will shape it and not as they themselves might wish. We can see today examples of other professions, other trades, where there is a sudden crisis affecting their future. Look at the academic professions. Look at the difficulty of university students in finding jobs.

If we can find ourselves in trouble through ignoring the future, we must take a look at it. We have here today an extremely distinguished panel to do so: the presidents of two actuarial societies and two members of the Board of Governors of the Society.

We are going to set the stage for our examination of the future by describing the current situation. It is difficult to see how the future may change unless we see what is here today. We are going to begin by exploring the situation outside North America, especially in the United Kingdom. Then we will comment on the situation in the United States and Canada, with particular reference to the differences between North America and the United Kingdom.

MR. JOHN YOUNG:* The profession in the United Kingdom is of course regulated by the two professional bodies—the Institute of Actuaries in England and the Faculty of Actuaries in Scotland. There is a wonderful degree of co-operation between the two bodies. There are many professional problems that have to be resolved in the context of the United Kingdom as a whole, and this is harmoniously achieved.

Nevertheless, the two bodies do differ in certain ways. The remarks that follow will be mainly from the point of view of one Fellow of the Faculty surveying the situation today as it seems to apply to the Faculty.

We are not a large body—we are much smaller than the Institute or the Society. Yet we have approximately 450 members, of whom about 360 are actively practicing today. The first feature of our membership is the proportion practicing outside the United Kingdom—slightly more than one-third of our membership—mainly in South Africa and Australia but also in the United States and Canada. We are rather proud of this spread of membership over the English-speaking world. Another one-fifth of our Fellows practice in the other part of that world, namely, England itself.

In Scotland itself there is less than half of our membership—some 150 practicing actuaries. These actuaries are concentrated broadly in the central belt of Scotland, mainly in the cities of Edinburgh and Glasgow. This number has been increasing, if not at a spectacular rate of compound growth, from about 100 in 1938 to over 150 at the present time.

The character of the Faculty has three aspects. First, we have at home in Scotland a very compact fellowship, all being in fairly close touch geographically and indeed also in the broad nature of their employment, for some 140 out of the 150 work with life insurance companies. Other specific spheres of activity, such as consulting practice, pension consulting, and stock exchange activities play relatively little part in the local Scottish actuarial scene, and, since government actuarial departments are concentrated in London, there is no counterpart in Scotland. However, a

* Mr. Young, not a member of the Society, is a Fellow and currently President of the Faculty of Actuaries.

good deal of consulting actuarial work is carried out by life office actuaries in their private capacities in the fields of life interests, reversions, and private pension plans for the commercial companies and local government authorities, and even on a voluntary basis for the financial committees of the Church of Scotland.

All this adds up to quite an awareness of actuaries and what they do among the commercial and professional classes—lawyers, bankers, and members of other financial institutions such as investment trusts and mutual funds. The presence, too, of several important headquarters of life offices at which selection of lives takes place produces a significant working contact with senior medical specialists at the major hospitals and universities. The link of actuaries with the universities in Edinburgh is very strong now that the Heriot-Watt University has a chair in actuarial science financed mainly by the Scottish life offices.

Of the some 140 actuaries within the life office field, about 40 are engaged in pension activities, and the remaining 100 are spread about equally over five broad groups—namely, senior executive positions, technical actuarial work, new business and selection of lives, investment departments, and a group working at computer programming, systems analysis, and organization and administration.

Thus I would say that Scottish actuaries' activities in general are oriented mainly to the life office field, and within that field they tend in the earlier parts of their careers to be concerned with such technical actuarial aspects as fixing premium rate bases, surrender and forfeiture bases, valuation of liabilities, selection of lives, and actuarial problems concerned with pension plans, perhaps becoming involved in policy matters associated with sources of surplus and the distribution thereof, including bonus (which I think you call "dividend").

Later in their careers the tendency is to move on to work that increasingly involves administrative and executive problems, perhaps being concerned on the way to that state with computers and systems analysis. The general administrative and executive content of their work increases as questions of organization, personnel, legislation, and taxation intrude (if that is the word), and the purely actuarial content tends to diminish, although the training received through the examination system and the earlier practical working years does, I think, engender a certain attitude of mind—an "actuarial" approach, if you like—that remains and is often beneficial in tackling other problems that perhaps are not strictly actuarial.

Then there is a significant and rather specialized group, namely, those

in the investment sphere. In the United Kingdom the reputation of actuaries and their numbers in that sphere—both of those who work in life office investment departments and of those outside the industry—are growing. This tendency may well be due in the first place to the formal education in finance and investment which figures quite prominently in the examinations of both actuarial bodies; indeed, the actuarial examinations are, as far as I know, really the only ones in the United Kingdom that seriously undertake this essential education.

Turning to the second aspect of our association, we have the very strong link with the Institute, reinforced by our own Fellows who practice in England and in reverse by a number of Fellows of the Institute working in Scotland. While the majority of Fellows of the Faculty in England are employed in life offices, a significant proportion is spread over consulting practice, pension consultants, government service, and the stock exchange—particularly consulting practice and the stock exchange.

Third, there is the international link provided by the relatively large proportion of Scottish actuaries who work outside the United Kingdom. While reasons of geographical distance naturally prevent close physical contact such as we have with the Institute in England, there are, nevertheless, strong ties with the Institute of Actuaries of Australia and New Zealand and the Actuarial Society of South Africa, whose presidents in both cases are Fellows of the Faculty. There is co-operation particularly in the fields of education, including tuition and examinations, and professional conduct, although less so in the areas of legislation where the local variety must prevail. The fact that the practice of life insurance in these countries had tended to follow the British pattern helps to maintain interest there in the subjects discussed at sessional meetings of the Faculty. This is also maintained by the fact that most of their native-born actuaries have studied and passed the examinations of the Faculty or the Institute. The Faculty has played a considerable role there in the past—although, slightly sorrowfully, I must report that in recent years it has been the Institute rather than the Faculty which has played the major part.

The link of the Faculty with the United States and Canada rests mainly on personal factors; for example, there are nearly 40 of our Fellows in Canada and 8 in the United States. It is inevitable that our links here should be informal and personal, but I still feel a real sense of belonging whenever I find myself in a meeting such as this or when I have the occasional opportunity of meeting individual American or Canadian actuaries. Many of our practices may differ, but the underlying problems and principles seem very familiar.

MR. GEOFFREY HEYWOOD:* The Institute of Actuaries is a rather larger body than the Faculty. At the present time the total number of Fellows is just under 1,600. Of these, 1,100 operate in the United Kingdom, and 500 are overseas. Of the 1,100 in the United Kingdom, about 600 are engaged in the field of life insurance, 125 are consulting actuaries, and 30 are in the field of pension and insurance brokerage, so that there are roughly 55 per cent working in life insurance and about 11½ per cent in consulting practice. As in the case of the United States, these ratios have changed very substantially in the last thirty or forty years.

In 1925 absolute numbers were very much smaller, but the number of actuaries operating in the field of life insurance was then as high as 80 per cent, as against 55 per cent now, while the number of consulting actuaries was low as 4 per cent, as against something like 11 or 12 per cent at the present time.

I am a consulting actuary. I am a partner in a firm. It is a partnership and does not operate as a corporate body. There are nineteen partners, and we have a staff of something over one hundred; this is small by some standards over here in the States, but ours is one of the largest firms in the United Kingdom.

The business with which we are engaged consists of 70-75 per cent pension business and 15 per cent insurance companies; the rest covers a whole host of problems: assessment of damages, valuation of life interest relations—you name it, we do it, in that 15 per cent area.

There are two major ways of providing pensions: what we used to call insurance schemes, and the self-administered or privately invested funds. Twenty-five years ago, when I first started this business, these two areas were absolutely separate. Consulting actuaries were mainly engaged in the field of the self-administered fund. The insurance companies and the firms of insurance brokers were selling the insurance scheme.

The insurance scheme provided guarantees of mortality and interest. Benefits were fixed in return for fixed premiums. But as time has gone on, and largely because of competition from the self-administered fund, the insurance schemes have gradually evolved into the managed fund, a plan which is virtually identical with the self-administered, privately invested fund except that the investment is handled by the life office. If the scheme is big enough, the investments can be handled as a separate entity for that scheme alone. You can have a selection. You can decide whether you

* Mr. Heywood, not a member of the Society, is a Fellow and currently President of the Institute of Actuaries. He is also a Fellow of the Faculty of Actuaries. He is a past Chairman of the International Association of Consulting Actuaries.

want to put X per cent into the fixed-interest unit trust and 100 minus X into the equity unit trust. Or you may want to put something into a property unit trust. This flexibility has appeared in the past few years.

It is now difficult to distinguish between the old self-administered fund and the modern insurance scheme. They are virtually identical; it is really a question of who is going to decide the investment policy. That is the picture today. It emerged very quickly over the last two or three years. At a conference of this sort only two years ago, I said that I thought it might be another five to ten years before we got this identity of the two types of schemes. But it has come much more quickly.

Now how does the actuary fit into this? The old self-administered fund which is still operating is serviced by the 125 or so consulting actuaries to whom I have referred. They operate in partnerships and follow the professional way of life as we know it in the United Kingdom. This means no advertising, no canvassing, a very straight actuary-client relationship, the charging of fees whether advice is taken or not, and complete independence from all outside influence.

In the managed fund field, which succeeded the insured fund, most of this business in the case of larger corporations is now in the hands of pension brokers. As I said, only some 30 actuaries are employed in this particular field. They operate as corporate bodies, limited companies, and are therefore free to advertise and free to canvass and generally adopt a commercial approach.

The position of the actuary in these organizations has been a difficult one because of the rules of professional conduct. Up to quite recently, if you were an actuary working for a firm of pension brokers, or indeed if you were an actuary working for a life insurance company and you were engaged in the pension fund field, in signing a report to a client you were not allowed to disclose the fact that you were an actuary, because of the possibility that the client might feel that he was getting professional advice when he was really getting what we call a commercial proposition.

We felt that it was not really in the interests of the profession that the actuary should be kept in the back rooms and that he should not disclose himself to the public as an actuary. Therefore, about twelve months ago the rules were changed. An employed actuary working for a firm of pension brokers, or for an insurance company, can now sign the report as an F.I.A. or F.F.A., whichever he may be, but he must make it clear in that report that he is reporting to his employer and not directly to the client.

There was another recent change permitting consulting actuaries to advertise in a very limited way. One is allowed to insert a visiting card type of notice in the press indicating the type of services which one is

able to offer. But one is not permitted to say, "we are the biggest, we are the best, we are the cheapest." So far as I am aware, no consulting actuaries at home have yet taken advantage of this advertising position.

How are actuaries viewed by others? In the pension field even in 1972, there are still a lot of people who have never heard of actuaries. This is an extremely regrettable situation because, in my opinion, the actuary is at the very heart of the whole pension fund business. You still find finance directors, managing directors, and chairmen of large companies whose names are household words who express surprise and astonishment when they meet me as a consulting actuary and find out that I have something to do with pension funds. This is changing very slowly. I would like to see it change much more rapidly, so that when people talk of pension schemes, they immediately associate the profession of an actuary with them.

I would like to touch on the investment field. When I say that from 70 to 75 per cent of our practice is concerned with pensions, I include, of course, the investment problem as well, because we take the view that the actuary has not completed his task until he has also advised on the investments of the fund. We feel this because we are the only profession which examines in the fields of compound interest and investments. We understand the nature of pension liabilities and cash flow, and others just do not understand these things. As a practical investment adviser, I am of the opinion that the actuary is extremely well qualified to advise in this field.

Finally, I would like to say a word about education. To become an associate of the Institute, one has to pass seven examinations, and another three to qualify for the Fellowship. We do not have a chair of actuarial science in England, but, if one takes certain degrees from certain universities, degrees with an emphasis on statistics, economics, and that sort of thing, one can get exemptions from up to five parts of the associateship examinations. I believe that this system will change and that we shall follow what you call over here the alternate route and establish chairs of actuarial science. There is already one at Heriot-Watt in Scotland. We shall, I hope, see one in England in the not-too-distant future, and perhaps a third and a fourth. Ultimately one will attend a university and after three years be granted a degree in actuarial science and then be exempt from all examinations of the Institute up to the associateship level. This, I think, has many advantages. It gives one the advantage of the widening of one's outlook that goes with a university education. It also gives one the opportunity of doing some research in actuarial science while at the university. It will also save a lot of manpow-

er because, as in the Society, there is a tremendous number of Fellows of the Institute at the present time who are engaged in tuition and in setting and marking examinations.

MR. WALTER N. MILLER: Let me start off by summarizing the present situation from the standpoint of an actuary who works for a large mutual insurance company.

The areas of responsibility of our actuaries fall into two main categories. First, there are the functions that everyone would expect an actuary to be performing, stemming from the classical definition of actuarial science and actuarial work, such as calculation of premium rates, valuation of liabilities, and so forth. Second, there are some areas, such as work in connection with over-all planning and budgeting, where you might not necessarily expect actuaries to be functioning.

Especially in recent years, actuaries in our company have been getting more and more involved in areas that some people might expect to be handled by those in other professions or other disciplines. I am unable to say, however, whether this is generally true as far as life insurance company actuaries in the United States are concerned. In any event, it seems to me that one difference between our situation and that in the United Kingdom is that, in many areas, our actuarial brethren across the ocean are much more secure in their positions and areas of responsibility than may be the case here in the United States.

Another obvious area of difference is the great degree of involvement in investment matters by the actuary in the United Kingdom; in my company, and, I believe, among life insurance company actuaries generally in Canada and the United States, there is little or no such involvement at the present time.

Quite apart from the question of areas of responsibility, the character of our work is changing. Our actuaries have been getting much more deeply involved in administrative matters, as is apparently the case in the United Kingdom. Our actuaries are also becoming much more involved in dealing with regulatory agencies at the federal and state levels. The degree and multiplicity of regulation in Canada and, particularly, in the United States are apparently considerably greater than in the United Kingdom. Dealing with regulatory bodies is a good example of an area where, if we are going to do a good job, we have to be able to demonstrate competence outside purely actuarial areas. Anyone who has worked on a variable annuity prospectus will know what I mean.

We are here to talk about what is going to be the breadth of the actu-

arial profession and the actuary's involvements. I believe that, in large part, the future of our profession will depend on the extent to which actuaries can become and remain active in areas other than those related to the strictly classical definition.

How will we do it? I would like to tell you about an incident that occurred last year when I was attending one of our agency conventions. I was on the program one morning. At the coffee break, after I gave my talk, one of the agents came up to me. He said, "Congratulations. That was a terrific talk." "Well, thanks a lot," I said. "You know, you didn't have to be that good." "What do you mean?" "You're an actuary, aren't you?" "Yes." "Well, all you had to do was to be mediocre and you would have surprised us."

There is a moral to this story. How we succeed and how we are perceived by others are functions of the type of people we are. If others think that actuaries are smart people, effective people, that they are good to work with, they will think of our profession in the relatively broad perspective in which most of us would like to be viewed. But if other people do not react to actuaries in such a way, this will impose limitations on our opportunities. Let's face it, to the extent that actuaries have a "dry stick" image in some circles, such an image may be well deserved, or perhaps I should say self-inflicted. Unless we are willing to see our future activities and responsibilities circumscribed, we must remember that saying "I am a professionally qualified actuary" is not enough. The key is in who we are, how we conduct ourselves with others, and how well we perform. This point is important to keep in mind, especially in connection with our recruiting and training activities, since the future of our profession will be in the hands of the men and women we are recruiting today.

When I first looked for employment as an actuarial student in 1951, it seemed that the sole criterion among those who were evaluating my application was, "Does this fellow have the brainpower to pass the exams in a reasonable length of time?" These days, most of us realize that this qualification is necessary but not sufficient.

MR. WILLIAM A. HALVORSON: To project the future of our profession is to project the future of our political economy and the needs of the institutions in it.

Can we assume, for instance, that the economy of the year 2000 or 2050 will still have three champions of the economic security of the individual, namely, the employer, the individual himself, and the government? Or will governments be the sole source of such security?

Our politicians and the general public, not the actuaries, will provide the answer to this question. But the actuarial profession will play a role in this struggle between these champions. Therefore, both in the near term and in the long run, our future will be affected not only by the outcome of this contest but also by the struggle itself.

What are our present roles, and how are they changing? Primarily we work for private insurers, protecting the individual and his beneficiaries against loss caused by perils beyond his control. The chance of loss, and the value of the loss, are measured by the actuary and transformed into a plan providing reimbursement of such loss at the time of the occurrence of such loss, which is sold for a prespecified premium. The risk of potential monetary loss to the individual is thereby replaced by a degree of economic security. The actuary's function is that of advising the insuring organization on appropriate prices, dividends, and reserves.

Thirty years ago, most members of our profession were probably employed by insurance companies specifically for the servicing of personal insurance lines. It is a reflection of the vitality of the economies of the United States and Canada that since World War II the sale of insurance to individuals has grown spectacularly, providing growth opportunities for existing companies and for many new companies as well.

In fact, the number of new companies formed could be called almost a population explosion. During the 1950's the needs of these new companies provided opportunities for actuaries in private practice. Although the formation slowed in the late sixties, the demands on qualified consultants continued. As one consulting actuary has claimed, we started them, nurtured them, and then buried them, referring to the merger and acquisition of many smaller companies into larger, more viable units—a process that is continuing at the present time. Most of these new companies were supported through the sale of personal insurance by individual salesmen. Competition for agents has become intense, and the cost of selling insurance through individual salesmen has increased, making survival of new life companies somewhat perilous. These pressures have caused many actuaries to become more concerned with expense rates than with mortality, and with short-term projections of operations than with long-term reserve requirements. Investors in new stock companies have also become more concerned with measuring and obtaining a return on their investment, which in turn has caused actuaries and accountants to provide investors with information on the present value of future profits on new business written.

Labor unions and employers discovered the value placed on fringe

benefits by employees following World War II. A number of favorable labor law and federal income tax decisions and changes helped to set the stage for the growth of employer-paid plans of economic security. The rapidly expanding private economy, with surprising gains in productivity, made it possible for employees to realize gains in real aftertax income at the same time that employers were putting a growing percentage of wages into fringe benefit plans. Employees liked expansive fringe benefits, competition for employees was keen, and, fortunately, employers found it possible to meet most of the demands.

Such dramatic growth in employer-paid fringe benefits had a vast effect on the actuarial profession. Almost overnight, starting in the middle forties and continuing through the fifties, the demand for actuaries in the employee benefit area found an ill-prepared profession. In fact, many non-actuaries found that they did not need the training of our profession to become successful "actuaries" and consultants during this period. The demand was met both within insurance companies and in consulting firms, wherever one of these had the strength (or gall) to claim that it was able to design, price, and instal benefits for employees. (Many of our present professional recognition problems can probably be traced to the past shortage of actuaries to serve this field.)

In less than thirty years the percentage of actuaries serving employers in the employee benefit field, as consulting actuaries and as group or pension actuaries inside insuring organizations or insurance brokerage houses, had grown probably tenfold, all because employers and unions discovered fringe benefits during the unparalleled economic expansion of private enterprise.

Actuaries in the field advise employers on plans designed to maximize the security of the employee while keeping short- and long-range costs at a minimum consistent with employer viability and meeting the demands of the investors and owners. The tax and legal implications of these plans are complex. Proper management of employee security plans has become a specialty requiring a team of professionals, including attorneys, actuaries, accountants, industrial relations experts, personnel managers, and investment and insurance specialists.

Federal, state, and local governments, as competitors with private employers for employees, have kept pace in providing fringe benefits for their employees, and the growth in numbers of such employees has been faster than the growth in private employment since World War II. Actuaries have not always been successful in advising governmental units on the sound advance funding of retirement benefits, because of the

unusual political pressures on elected public officials and because the viability of governmental units is seldom questioned. It is likely that more actuarial attention will be given to governmental plans as these political and funding pressures continue to mount.

The governmental plans that have influenced the actuarial profession to some degree in the past, and perhaps will do so increasingly in the future, are social security and other public welfare programs. We must go back almost forty years to the beginning of our federal social security law. At least within its own walls, the actuarial profession argued strongly for a soundly funded plan. What has evolved is a popular plan of benefits for workers, financed on a pay-as-you-go basis, now called transfer payments, wherein the working generations support the nonworking out of current taxes.

It is easy to see that our federal government, although starting slowly, has advanced its position as a primary provider of plans of economic security. At first it provided old age pension and survivors' benefits. In 1956 our legislators added disability benefits, first to those over age 50 and later to all workers. In 1965 the law was amended to provide hospital benefits for most citizens over age 65, along with optional supplementary medical benefits. Over the years, but primarily during election years, cash benefits have been increased. Perhaps it is coincidental, but as the growth of our private economy has slowed since the late sixties, cash benefits under the social security law have been increased at an accelerating rate, far in excess of the rapid rise in either inflation or standards of living.

The number of actuaries employed by the federal government for the purpose of providing cost estimates to congressional committees and the administration has hardly changed at all, while benefits have expanded both in scope and in depth. So, as an employer of actuaries, the programs of the federal government can hardly be regarded as a growth industry.

As federal programs of economic security expand, and current taxes to support the programs multiply, it obviously becomes more difficult for either individuals or employers to expand or even maintain provision for their own economic security.

Moreover, the substantial bias toward inflation reflected by the economic policies of most modern governments in the free world has a pernicious effect on private savings and consequently on prefunding of future benefits. Advising savers and employers on prefunding, of course, has been the traditional concern and function of the actuarial profession. Since the ability to prefund is inhibited by governmental policies, what happens to the actuary in his traditional role?

Prefunding is also being attacked in the private economy, by legislators who would seek full vesting and immediate funding of all future benefits. Instead of resulting in more adequate funding, such requirements might have the effect of curtailing the level of benefits that employers can or will provide, again a movement that could hardly be considered beneficial to the actuarial profession.

MR. EDWARD A. LEW: I am very much concerned that actuaries seem to speak for the most part only to one another. Has anything been done by actuaries in the United Kingdom which might give us some idea as to how we could expand contacts with other professional organizations, with the government, and, most importantly, with the general public?

MR. HEYWOOD: This question is very near to my heart. One of the things we have to do at home, and probably in this country as well, is to promote the actuary to a greater extent than he has been promoted in the past. When I wonder where the profession is going in the last twenty-seven or twenty-eight years of this century, I think that public relations is one of our top priorities.

MR. HALVORSON: Mr. Heywood said that the actuarial profession in the United Kingdom is practically the only profession that is training people in business management, in mathematics of finance, and also as investment advisers. Are there certified financial analysts or investment counselors that are trained otherwise in the United Kingdom?

MR. HEYWOOD: There are no people trained in that field in the United Kingdom. There is an organization called the Society of Investment Analysts to which people are admitted by their practical experience in investments. The members of that organization are stockbrokers and people operating in the investment field in banks and merchant banks, plus a lot of actuaries. The past chairman is a Fellow of the Institute, and the present chairman is an associate in the Institute. It is not an examining body. At the present time, it has a committee set up to consider the possibility of examinations.

So far as I am aware, the Institute and the Faculty are the only two parties which examine this field at the present time. In the Institute, if one does not want to go on to the Fellowship, a Certificate in Investment is issued. This is accepted as a qualification for the investment field.

CHAIRMAN WATSON: So much for the situation in our profession today. What about the prospects for tomorrow?

MR. YOUNG: British actuaries have become less concerned with basic mathematical and actuarial techniques in the field of life insurance and pensions. In the *Transactions* of the Faculty and the *Journal* of the Institute, total contributions dealing with basic techniques dropped from eight per annum in the 1930's to four per annum in the 1950's and three in the 1960's. While interest in developing improved techniques in, for example, graduation, interpolation, approximate valuation methods, and purely mathematical subjects has by no means ceased, it has diminished quite considerably. I think that this trend may well continue. Possibly there are two reasons for this. First, the scope for further interesting and useful techniques has narrowed because past discoveries themselves leave fewer to be discovered; the rich vein of ore in that particular mine may be approaching exhaustion. Second, the need for such techniques, which were often designed to save laborious arithmetic, has itself diminished because of the introduction of the computer.

As actuaries concern themselves less in the future with mathematical experimentation, they will find increasing interest in the possibilities offered by continually developing computer facilities in solving these problems. Take, as an example, the use of models. There was a time when model offices were used to test the effects of different assumptions on the financial structure of offices. The number of variables which could affect the financial state of an office was then rather more limited than it is now, and these former models were of a rather static nature. The computer, however, allows actuaries to use models in a dynamic way to test the effects of the more complex and more numerous variables encountered today. Expense loadings can no longer be regarded almost as constants of the universe. Offices once confined investment to fixed-interest securities and considered that they had a major problem when the market rate of interest changed from, say, $3\frac{1}{2}$ to 5 per cent. We now have, under the influence of inflation, considerably larger variations. Moreover, offices in the United Kingdom invest substantially in variable income securities involving the concept of growth of dividends and capital values.

All this suggests that actuaries may become more interested in regarding the financial position of the office not so much as the difference between the present value of the assets and the present value of the liabilities but rather as the progression of two future time series of maturing asset proceeds and emerging liabilities. This suggests to me a model of the office into which alternative estimates of variables can be inserted and handled by means of the computer to give the future results. I feel that actuaries will be much concerned with such models in the future.

The interest of actuaries in the investment field will continue to increase. This is revealed by the trend of contributions to the British professional journals and the number of actuaries in life office investment departments and the stock exchange.

Another future field of activity for actuaries is nonlife. Hitherto motor and casualty insurance has hardly been considered by actuaries in the United Kingdom, but I am sure that this field will open up, and the educational basis for it is being actively considered by our Education Committee.

I personally think that the future trend of the work role of actuaries as a group involves broadening rather than intensification. At the same time, as far as individual actuaries are concerned, there is undoubtedly a limit to this process. There are already signs of specialization by individual actuaries in specific fields of activity. There is a tendency, for example, for actuaries who enter the field of investment, particularly those who enter the stock exchange, to specialize in this subject and remain with it for the balance of their careers. To some extent this also applies to actuaries working in the pension field and in the field of computers.

I do not think that these developments will involve great changes in the structure and operation of the professional actuarial organizations in the United Kingdom. Both bodies have a permanent secretariat which has grown to accommodate the increased work load and which can no doubt be expanded again to cope with future increases. A great deal of work is done by Fellows of the Faculty on Council, committees, Examination Board, and tuition services, and this is in addition to their normal professional activities. The work load of the Examination Board and of tuition has expanded because of the increased number of students and more frequent examinations as a result of a gradual move to half-yearly instead of yearly examinations. There has been also a tendency for legislation, taxation, and social insurance measures to increase, coupled with an increasing recognition by the appropriate government departments that the professional actuarial bodies have a good deal to offer by way of consultation. So the Council and committees of the Faculty have had a fairly heavy work load. Here again, there must be some limit based on available manpower. The present structure seems flexible enough to permit future developments to be considered in all those fields, but future developments may overload the time that available members can allow. This is a problem which in the past has been solved by joint co-operation with the Institute. The question of further joint co-operation in the future is one that I think both bodies have continually in mind.

MR. HEYWOOD: Looking at the future, I think that there will be ever increasing emphasis on the work of actuaries in the investment field.

In the area of professional conduct, I think that there will be relaxation of the rules for consulting actuaries. I think that very soon consulting actuaries will be permitted to practice as corporate bodies if they wish, provided that the capital of the corporate body remains 100 per cent in the hands of those who are practicing, so that they are free from outside influence. There are certain taxation advantages if one practices in this way. There is another advantage in that the unlimited liability which now falls on the consulting actuary disappears if he practices in a corporate body.

I think also that we shall be permitted to practice as mixed partnerships, with actuaries, accountants, and solicitors forming a joint partnership to give a complete package in the pension fund field. This we are not allowed to do at the moment.

The next area is that of public relations. I believe that we should move fairly rapidly into this field in the near future.

One other area is nonlife or general insurance. There is quite a strong feeling at home that the actuary should move into this field. At the moment very few actuaries are involved in nonlife, but the techniques are much the same. There will probably be some resistance to the actuarial profession from people at present in the nonlife field, but, if one plays this gently and not too aggressively, I think that we should be successful in moving into that field.

MR. HALVORSON: Several factors are likely to affect the future of the actuarial profession.

First, we will be largely influenced by the relative position of individuals, employers, and governments in their competing roles as providers of plans of economic security. A vigorous private economy is a must if our profession is to continue its fabulous growth of the last thirty years.

Second, in our work for insurers, including life, health, pension, and casualty organizations, we have the opportunity to become the principal source of objective information on those items of interest to management, regulators, investors, policyholders, and the general public. Our employers and clients will continue to be the management of insurers, but, as management responds to the need of investors, regulators, and others, for better information, we should be the principal source of such information.

As the actuaries working for the new life companies have discovered,

all parties need the guidance of the actuary in measuring performance against reasonable standards and in measuring the values created by management in the operations of their companies.

Old companies, also, are undergoing a revolution in management, where the actuary must provide the information needed by modern management in applying new management techniques. Corporate modeling, projections of operations, performance measurements, risk, reinsurance, and surplus management studies have become the new tools of the actuary in his working relationship with management. The actuary's ability to communicate clearly in "real time" becomes as important as the professional use of his actuarial tools. The input into his models and projections must now reflect external socioeconomic pressures on marketing, savings patterns, and interest earnings, as well as the familiar internal components of mortality, morbidity, persistency, and expenses. Finally, these actuarial tools become the framework for management information systems.

A specific area of growth for actuaries, in part as a result of changes of a statutory nature, would seem to be the entire casualty field. No-fault auto coverage may make possible the mass marketing of this important coverage. If productivity gains are achieved, there may be strong interest in casualty coverages as employee benefits. The need for qualified casualty actuaries would be expected to grow dramatically if such trends continued.

Third, in working with employers to provide economic security benefits for their employees, the actuary has the opportunity to become a key professional on a team of professionals, again being the prime source of objective information concerning expected costs. And we clearly have the responsibility of providing benefit information that can be communicated to employees and their beneficiaries.

Projections of cash benefit requirements, employee work force, and accrued cost under alternative programs of benefits and alternative assumptions as to future developments are the backbone of our services. But because of the evolving patterns of individual and governmental security programs, it is necessary for the benefit actuary to be more than a pension mathematician—he must have a thorough knowledge of tax laws and be prepared to consult on profit-sharing plans, thrift plans, and other forms of deferred compensation. A knowledge of investment alternatives and their long-range performance is also essential if he is to work effectively with the employer's professional team. He must also be able to anticipate employee reactions to alternative benefit programs by his

study of new developments throughout the world. Finally, he must be an adviser on risk and insurance, in order to protect the employer from unforeseen contingencies.

Fourth, in our work with governments we face all the problems of the benefit actuary but must also be sensitive to pressures within a political economy. Our professional concern for the security of promised benefits under essentially pay-as-you-go (if you can) plans requires astute demonstrations of possible future developments, based on a thorough knowledge of demography, economics, and our political system. The communications job that is and will continue to be required is awesome. The profession has an unusual obligation to be a prime source of credible projections and information on the cost and incidence of alternative benefit and financing plans for transfer payment programs of all types. Perhaps it is time that the profession seriously studied the problems and formulated recommendations to improve the depth and scope of objective information on the long-range implications of governmental proposals in the field of personal economic security programs.

Fifth, we are concerned with plans designed to protect the individual against financial loss that might be caused by perils or hazards which threaten his economic security or that of his dependents. But is it sufficient for us to be concerned only with the sources of financial insecurity brought about by specific perils?

The essence of man's being seems to involve many sources of insecurity. Should we, for instance, be concerned with man's lack of confidence in his ability to change sufficiently to meet today's and tomorrow's needs for new technological skills and knowledge, and thus remain useful to society? To some degree, unemployment insurance, supplementary unemployment benefit plans, disability and psychiatric benefits, and retirement plans all deal with this hazard. Can we help to prevent such fallout from society? Or can we develop plans which deal directly with this underlying fear itself? In what ways can we help improve our national mental and physical health without indulging in attempts to change man's underlying nature?

As mathematicians and consultants dealing with plans providing financial security for mankind, we should be aware that we are dealing with only one aspect of man's insecurity. Perhaps a re-examination of our programs will permit us to help man and his institutions cope more directly with internal as well as external sources of insecurity.

Ecology and zero population growth are both issues that have been thrust into the current political forefront by mankind's ability to perceive sources of present and future insecurities. There are virtually no

limits to man's ability to imagine insecurities, as modern democracies are discovering. So perhaps we as actuaries can also be of help in attempting to develop some measurements of security that can restore some kind of balance to our national mental state. As professional futurists within our fields of protecting man's economic security, perhaps we must broaden our scope and understanding of man's needs and lend our talents as measurers and projectors to the greater community.

If we are to meet the future demands on our profession and take advantage of the opportunities that are developing, it is clear that we need a strong national organization that unites our many specialties. In this country, we are fortunate to have the American Academy of Actuaries, and we must enhance its prestige by giving it more support and a bigger voice. Through the Academy and its constituent bodies, we can define and refine the principles of our profession as we deal with the real needs of our clients and they, in turn, meet the needs of their customers, employees, and others. And we must maintain the high ethical and proficiency standards of our profession and its members.

Finally, let me suggest that our professionals need more formal training in business and computer management, demography, economics, and communications. It seems clear that we also need considerable expansion of our specialty areas, particularly in the field of post-Fellowship specialties. In this way we might attract the more mathematically oriented business administration majors to become Fellows, recognizing that to be a qualified specialist in tomorrow's world will require continuing education and retraining for as long as we are actuaries.

There are some who claim that we have an identity problem. I do not think that this will be true in tomorrow's world, as long as we meet the changing needs of our clients and employers. We are the managers and consultants to managers of all plans promising personal security against the economic hazards of life, and we have an important job to do.

MR. MILLER: I am going to offer some comments on the education of the actuary in the future. One's view of this subject clearly depends on what he expects the actuary's role to be. As you would expect from my earlier remarks, my comments will be based on the assumption that our role will broaden rather than move back toward the narrower, classical definition of actuarial work.

First, let us consider what areas should be covered in the education of the actuary, and let us begin by examining the present syllabus of the Society's examinations. Starting at the beginning, let me say that I am one of those who believe that Part 1 should be discontinued. I say this

because it seems to me that, although the material covered on this examination underlies much of what comes later, it is so basic in nature that it should not be considered as a specific part of actuarial education. Next, we come to the rest of our associateship examinations, and here let us keep in mind that there have been some important changes in this area in recent years, namely, the restructuring of Part 3 and important changes on Part 5, including the bringing in of risk theory. With these changes, I believe that the material covered on Parts 2-5 should serve adequately as a good "core" education in the future.

As far as later education is concerned, our panel members have suggested two diverse trends, toward both increased specialization and broadening of the actuary's areas of responsibility. How can we educate adequately in both directions? I believe that the current proposal for restructuring our Fellowship examinations will go a long way toward improving our educational system in these regards. In this connection, it seems that the proposal to have a split route (i.e., "G" and "I") throughout all the Fellowship examinations will be helpful not only from the standpoint of handling needs for increased specialization but also because we will still be able to handle needs for broadening the topics and areas covered.

There are some areas not currently covered in our syllabus that it will be desirable to bring in at some future time. I think it is inevitable that Society members are going to become more involved in work associated with nonlife lines of insurance. Therefore, we should think of providing education in that direction, in areas which are now considered to be the province of casualty actuaries. This is a two-way street, of course, and, while I cannot speak for the Casualty Actuarial Society, it may very well be that they also are doing some thinking about broadening their educational system. It appears that recent trends toward joint sponsorship of education and examination activities by various actuarial bodies are in line with this type of thinking.

I would also hope to see us provide more educational material in the general area of investment and finance. Such material is necessary if actuaries in Canada and, in particular, in the United States are to get more deeply and legitimately involved in responsibilities in the investment area.

Let me turn now to the question of who should do the educating. The Society is unique in that its educational system is run on an almost purely "in-house" basis. Will this be adequate for the future? My answer here is no and yes. The "no" relates to the earlier portions of an actuary's education. In this area, I do not think that we are taking proper advantage of

a tremendous resource which is available to us—namely, the educational institution, represented by colleges and universities in Canada and the United States. At present we are considering a proposal, the so-called alternate route, which is responsive to this feeling. I do not believe that this is the right forum to discuss the proposal currently under consideration, and I have no idea whether it will emerge as something viable in the foreseeable future. From a long-range point of view, however, I am convinced that we will be making a critical mistake if we do not work out some way in which to take better advantage of what colleges and universities can offer from an educational standpoint.

As far as the actuary's later education is concerned, I believe that our present in-house system is excellent. We should try hard to continue it on the present basis, but I am frankly quite pessimistic as to whether we will in fact be able to do so. If we are to succeed, we must have more involvement among our own membership. The people who have participated in efforts to get new study notes written and adequate material prepared in connection with our continuing education program know that this is a very difficult process indeed. If we continue to have these difficulties, I fear for the future of the in-house system.

MR. RICHARD A. BURROWS: I think that one of the keys to the future lies in finding an answer to a problem in the training of actuaries. I have found a lot of frustrated energy among the young students. I do not think that we are working them hard enough or significantly enough. All we need to do is convince management that we should assign students, periodically, to the investment area, the sales area, the underwriting area, or any other nontraditional area. By the time they achieve Fellowship, they will be able to fulfill the role of risk management in its broadest form.

MR. HALVORSON: I think it is certainly desirable that an actuary should get training in sales, investments, and corporate management, but I am not sure that most actuaries know how to communicate adequately with people, so that they will help our cause as a profession. This is really a challenge to the educational system. How can actuaries learn something about management before they are exposed to the risks involved in dealing with nonactuaries?

MR. MILLER: I think that management is much more an art than a science, and I do not really believe that you can effectively teach management. I think that you have to concentrate on the personal characteristics that are important in success in a managerial or administrative job.

MR. HALVORSON: I disagree with Walt on this. Management is becoming a science. Sophisticated techniques of management cannot be learned in the same old tutoring procedures that we have had in the past, without the risk of our being bypassed by professional managers.

MR. LEW: Before the actuary can earn a place in management, marketing, and like fields, he has to make some concrete contributions to a better visualization of future developments. I would like to make a plea for intensifying our efforts to produce more useful projections.

I believe that the key to such an achievement lies in visualizing a variety of alternative futures. We must sharpen our foresight as to how alternative futures may be estimated.

MR. DAVID A. LEVENE: A recent *New York Times* article discussing career opportunities described opportunities in the actuarial profession as excellent. This article was probably read by many people who are in high school and by many people who are entering college.

Mr. Watson stated that there was a 70 per cent increase over the last three years in the number of actuarial examinations written. I wonder what will happen to the person who is now entering college. In four to six years he will be graduating and expecting to find opportunities in the actuarial profession. Will there be many openings for him if we are experiencing such a high rate of growth in membership? How do we project how many people we will need in this field?

MR. MILLER: In my own company we have tried to do some brainstorming about our future personnel needs in various areas. It is our feeling that we are going to need a very significant increase in our staff of qualified actuaries.

MR. WATSON: The Public Relations Committee has undertaken a study of future needs for actuaries. The last study was made six or seven years ago. At that time some very conservative estimates indicated that, by 1970, two hundred new Fellows would have to be matriculated each year. We still are not doing that, and it is now 1972. I might add that the estimate was conservative, because no allowance was made for any expansion of areas into which actuaries might move.

This is not to say that our profession can absorb any rate of increase in examinations written. We are certainly seeing a phenomenal expansion, largely because of the reduction of opportunities in other fields. We now have a very large number of candidates who are incredibly well qualified

in the academic sense writing the examinations. Whether they will turn out to be as good actuaries as we have now is another matter altogether.

MR. HALVORSON: During the later 1960's, when the private economy in this country slowed down, government programs expanded at a pace we have never seen before in this country. If the expansion in governmental programs continues, a question may be raised as to the future of the actuarial profession.

MR. ARTHUR J. STEEDS:* It seems to me that the Society has undue corporate modesty. From my own experience, individual Society members are articulate and able to present a case. Yet you say the Society has no expertise in the field of public relations. I think you should take your courage in both hands and get to it.

Actuarial training is training in problem-solving, which leads me to ask why there are no actuaries in one of the fastest-growing professions of the last two decades, management consulting. In the United States, are there actuaries in this field, and, if not, why are you not there?

MR. HALVORSON: I think that the primary problem is that most actuaries are not sufficiently trained in the management consulting game to do an effective job in terms of the broad expectations of the management teams that hire such consultants. Actuaries tend to be more concerned with the strictly professional actuarial aspects of products being sold than with the broader economic and demographic trends that are going to affect the company and its management.

MR. MILLER: I agree. People in areas such as management consulting tend to view actuaries as strictly specialists and technical men. One underlying theme of our discussion this morning is the wish to broaden the actuary's professional responsibilities. We have to demonstrate that we can do the job better than others. That is all it comes down to.

* Mr. Steeds, not a member of the Society, is a Fellow of the British Institute of Actuaries and deputy general manager, Mercantile and General Reinsurance Company, Ltd.



INSOLVENCY AND SOLIDITY TESTS

What laws and regulations are now in effect to protect the interests of policyholders of insolvent life companies? How effective have these been?

At what point should a life company be considered to be insolvent? What tests can be devised to give early warning of approaching insolvency or to judge when insolvency exists? What action should regulatory authorities take to prevent companies from reaching this situation?

If a company becomes insolvent, what should be done? How does this differ from what is appropriate for an insolvent casualty company?

What obligations does the industry have toward the policyholders of insolvent companies? What is the obligation of the government of a jurisdiction that has licensed a company that becomes insolvent? Are insolvency guarantee funds appropriate solutions?

CHAIRMAN RICHARD HUMPHRYS: The problem of insolvency and threatened insolvency of life insurance companies has not, I think, received the attention that it deserves. This is not difficult to understand. Supervisors have been, and still are, preoccupied with seeing to it that companies are established on a sound basis and with having corrective action taken before insolvency becomes a real threat. Officers of well-established insurance companies do not concern themselves with this problem, since insolvency becomes a remote possibility for a well-established life insurance company. The laws and regulations on this continent in both Canada and the United States have been, I think, highly successful in minimizing the number of cases that come to a really critical stage. Nevertheless, from time to time companies do become insolvent or at least get themselves into a state where insolvency is inevitable if the company continues in operation. It is of the utmost importance, then, that the system of regulation and supervision provide adequately for such cases so that the consequent damage and loss to policyholders can be avoided or at least minimized and the damage to the life insurance industry generally can also be minimized. I say this not so much from the point of view of damage to the industry as a business and profit-making enterprise as from the point of view that the social purpose of life insurance is to provide security—financial security—to the policyholders, and anything that threatens the policyholders confidence in the capacity of the industry to deliver this security is a worry and a threat to the public.

The fact that over the years there have been relatively few instances of life insurance companies getting into serious financial difficulties, at least

to the extent of becoming either insolvent or so nearly so that their existence had to be terminated, may suggest that the problem is a minor one and does not need attention. However, for the policyholder who may lose through a company's insolvency, the matter is of extreme importance, and the fact that his is an isolated case is no particular consolation. Because of the infrequency of these events, it sometimes happens—perhaps too often—that the law, the rules, and the regulations that must be used to deal with the problem are out of date. I am sure that many supervisors have encountered this situation. When no problem of this type is immediately evident, the tendency is to turn one's attention to other, more pressing things. However, when an insolvency does appear, it is too late to bring the legislation and the rules up to date.

I think it is better to contemplate the possibility that some of these unfortunate events may occur, and try to devise ways of minimizing losses, than to take the course of making the legislation and supervision so elaborate that insolvencies can never occur. The latter course would, I think, be almost tantamount to restricting entry of new companies into the field and stifling development of new ideas.

MR. NEAL N. STANLEY: Solvency in the life insurance industry is maintained by the use of the following:

1. Minimum surplus requirements
2. Investment limitations and asset valuation requirements
3. Securities valuation reserves
4. Reserve requirements based on conservative interest and mortality assumptions
5. Deficiency reserve requirements
6. Expense limitations and the requirement that first-year expense be charged as incurred
7. Annual statements and periodic examinations by regulatory authorities
8. *Limitations on dividends to stockholders and policyholders*
9. Guarantee funds

Because of the above time-tested requirements, the life insurance industry has established a reputation for solvency unequalled in any other business. During the Great Depression, when stock markets crashed and banks failed, the principles undergirding this industry were sorely tested but were not found wanting; and in the recent recession there was no Penn Central or Lockheed Aircraft to be found in our ranks. With such a record of success, one would suppose that the solvency standards of the industry would merit the support and defense of those

charged with the responsibility for managing the life insurance companies. Unfortunately, in my judgment, this is not the case.

Let us consider the trend today in some of the areas that currently protect solvency.

1. *Minimum surplus requirements.*—There is a tendency to increase the minimum surplus requirements. It has also been proposed that new companies be required to submit a “game plan” (giving a ten-year projection of future operations) at the time a company is started. Deviation from this “game plan” would have to be justified to the insurance department. A present weakness in minimum surplus requirements is the failure of state statutes to require increases in minimum surplus as the size of the company increases. Also, these laws neither recognize that some lines of business carry greater risks of loss than other lines, nor do they differentiate between a company which holds net level reserves on a 2½ per cent interest basis and a company which holds CRVM reserves on a 3½ per cent interest basis. Finally, such laws do not differentiate between a company with investments largely in marketable securities protected by a large mandatory securities valuation reserve and a company with investments primarily in mortgages and real estate which have no protection from the securities valuation reserve.

2. *Investment limitations and asset valuation.*—It has been said that a major factor in the attempt to move assets out of insurance companies into the parent holding company is the desire to avoid the investment limitations which apply to assets of life insurance companies, and it appears that the trend in this area is toward increasing the freedom of investment choice for life insurance companies. A new term, “surplus surplus,” has been coined, and there is some sentiment that investment limitations should not apply to this excess of surplus over required surplus. Unfortunately, after a few years of losses, what was once “surplus surplus” may become required surplus, and investments that are admissible for “surplus surplus” would not be admissible for required surplus. Although this is perhaps a radical suggestion, it is conceivable that if an insurance operation has considerable surplus in excess of the amount needed to carry on the enterprise, the proper management decision might be to pay larger dividends to stockholders and/or policyholders rather than to expand into new investment areas or new operations.

3. *Securities valuation reserve.*—Although shown as a liability in the Annual Statement, there is a growing tendency to regard this item as appropriated surplus. There may be some merit in incorporating the securities valuation reserve as a part of a company’s minimum surplus requirements rather than showing the item separately. Another deficiency in this area is that the reserve is set up on high-grade bonds where the probability of loss is small, but no reserve is required on mortgages or real estate, where the probability of loss is at least as great.

4. *Reserve requirements on a conservative basis.*—The ALC-LIAA Joint Actuarial Committee has recently proposed that a maximum 6 per cent valua-

tion interest rate be allowed for single premium immediate annuities and all group annuities, and that a maximum $4\frac{1}{4}$ per cent valuation interest rate be allowed for all other life and annuity benefits. A new annuity mortality table is also proposed. Adoption of such a valuation basis will ease the surplus strain and deficiency reserve problem for those companies which are willing to market policies with relatively low cash values. Also, earnings on future business with a $4\frac{1}{4}$ per cent interest rate assumption would be more in line with those proposed under "generally accepted accounting principles." It is probable that the adoption of a $4\frac{1}{4}$ per cent maximum interest rate would cause most companies to use a split-interest assumption in their reserve calculations in order to produce competitive cash values.

5. *Deficiency reserve requirements.*—There is sentiment among some companies for the abolition of deficiency reserve requirements. If this were done, it is not clear what alternative would be proposed to prevent a company from writing large volumes of business at inadequate rates and staying in business by selling stock on the basis of "adjusted earnings" until the bubble bursts. As in the case of the securities valuation reserve, however, there might be merit in treating deficiency reserves as additional required minimum surplus rather than as a liability. In other words, a company which chooses to write business with a gross premium lower than the net premium might properly be required to back its judgment by holding a larger required surplus than a company which does not.

6. *First-year expense limitations.*—First-year expense limitations are constantly under attack by the industry, and the accountants are advocating that deferred first-year expenses be recognized as assets in the industry accounting statements, although the accountants do give lip service to the statutory method of accounting as being appropriate for solvency determination. Nevertheless, it will be more difficult for a state regulator to enforce solvency provisions when the company can show with audited statements that it is doing well on a "generally accepted" basis.

7. *Annual statements and periodic examinations by the state insurance departments.*—A major weakness in the audit procedures of state insurance departments appears to be a concentration on detail checking of trivial items. If the audit were confined to items of a material nature and a greater attempt were made to detect and correct deteriorating trends in the solvency of a company before actual impairment, both the policyholders and the stockholders would be better served.

8. *Limitations on dividends to stockholders and policyholders.*—It is evident that the interests of the policyholders must be carefully considered when large dividends are paid by a life insurance company to a parent holding company, although the payment of such a dividend is not necessarily improper if adequate surplus remains in the life company.

It seems clear, at least to me, that present trends in the industry generally are in the direction of less stringent solvency requirements.

This probably is natural in view of the fact that for the last twenty-five years interest rates have increased, mortality rates have decreased, inflation has caused larger average-size policies to be sold, and computers have helped keep costs in line. As a result, it has been very difficult to fail in the life insurance business during the last three decades. Solvency problems have been rare, while competitive pressures have forced lower gross premiums, which in turn call for lower net premiums in order to avoid deficiency reserves. At the same time, inflationary pressures and higher available yields have led to the sale of term insurance and whole life plans rather than the higher-priced limited-payment life and endowment plans.

We have now entered a period where mortality has leveled off, interest rates are near historic highs, it is becoming difficult to offset increased expenses with larger average-size policies, and competitive pressures continue to mount. When one adds consumer problems, regulatory problems at both the state and the federal level, and competition from other forms of savings, it is easy to conclude that solvency problems for the industry over the next thirty years may be greater than they have been over the last thirty years, unless the leaders of the industry and the regulators of the industry have the wisdom, the foresight, and most of all the will to cling to the stringent standards of solvency that have proved effective in the past and will, if maintained, prove effective in the future.

It is very difficult to determine at what point a life insurance company becomes insolvent. The normal definition of inability to pay debts when due certainly does not apply, and a statutory deficit alone really is not an adequate test. Such items as the adequacy of gross premiums, the liquidity of the assets, the investment yield on assets compared with reserve requirements, and the competence, integrity, and dedication of the management, employees, and agents of the company are variables not reflected on the balance sheet. Therefore, one must conclude that the question of when a state regulator should act against a company is and must necessarily remain a matter of subjective judgment. The only rule of thumb that I could suggest is that it is better to err on the side of acting too soon rather than on that of waiting too long. It is also important that the regulators act quietly, if public confidence in the company involved is to be maintained. Once the public has lost confidence in the financial standing of a life insurance company, it is virtually impossible to protect the policyholders. It becomes necessary to prevent surrenders by a moratorium or by temporary or permanent liens against the cash values of the policies in order to prevent a run on the company.

CHAIRMAN HUMPHRYS: Although I have suggested that the actual problems of insolvencies have not received enough attention, I do not for a moment suggest that the main emphasis of supervision should not be placed upon the early detection of financial problems and approaching insolvency, so that corrective action can be taken or arrangements for reinsurance can be made before there is any real danger of assets becoming inadequate to meet liabilities incurred. I think, therefore, that careful and active attention should be directed to the general question of devising minimum standards and warning signals that will start the necessary corrective action at an early enough stage to avoid a crisis.

When, in spite of all the best preventive efforts, a company appears headed for disaster, one of the real problems facing supervisors is to decide at what point some action should be taken. Additional difficulties arise if the critical point has to be set forth in legislation. One of the major problems is to determine just when a life insurance company is insolvent for legal purposes. Actuarial reserves would not be regarded as liabilities for purposes of normal bankruptcy legislation—they are not “debts.” Outstanding insurance policies may be regarded as “executory contracts” and thus may be subject to some evaluation, but the question would be vague without specific reference in the law.

In Canada we are now struggling with this matter in a proposed revision of the Bankruptcy Act. This is a federal act, and it must apply to provincial companies as well as federal companies. However, it can apply to provincial companies only if they are insolvent, and it is a nice question to determine the scope that exists under federal jurisdiction.

In the United States it seems that this problem has been partially solved by making the general bankruptcy legislation inapplicable to life insurance companies. As I understand it, the legislation applicable to bankruptcy excludes life insurance companies which are dealt with under state law. Each of the states then has in its insurance law some provisions relating to the termination of life insurance companies in certain defined circumstances. Usually these circumstances are based on an opinion by the regulatory authority. Indeed, one quickly comes to the conclusion that the point at which a life insurance company becomes insolvent is a matter of opinion rather than a matter of determinable fact. It seems necessary, therefore, to provide for some authority to exercise responsible opinion in this regard while there is still time to see to it that all the policyholders are paid in full. If action is not taken soon enough, claims are paid as they arise, but the position of the remaining policyholders becomes worse and worse.

Although the substitution of a subjective opinion for an objective

fact may seem to provide a solution, we must recognize the variability of such opinions. It is sometimes extremely difficult for any supervisor to know at what point he should act, at what point the continuation in business would be hazardous to policyholders and other creditors. He has to contend not only with management and shareholders but perhaps also with creditors who feel that their chances may be better if the company continues than if it closes. This again emphasizes the value of having some objective tests to precipitate action.

MR. ROBERT L. PAWELKO: I shall comment upon the idea of tests and other early-warning devices which are useful to insurance departments in determining the need for action against an insurance company in an early stage of the company's difficulties.

As a preface, I should like to define the term "solidity," a word which we have used in the Illinois Department of Insurance for the last three years. Solidity regulation, in contrast to solvency regulation, emphasizes strict attention to problem companies and to problem areas of specific companies rather than over-all general regulatory attention to all companies. Once solidity regulation has replaced solvency regulation in a given department of insurance—and this might take a period of many years—it is our hope that routine examination functions on the well-run or "good" companies operating in a given state will be de-emphasized and possibly even eliminated. Instead, all examination efforts will be aimed either at the problem companies alone or at the problem companies and the problem areas in specific "good" companies. For example, if your company has approximately 85 per cent of its business in the ordinary life forms and the remaining 15 per cent in accident and health business, with the accident and health business causing significant difficulties or starting to develop specific difficulties, we would not examine the life side of your company but would rather concentrate all our efforts on the accident and health portfolio to determine wherein the difficulties lie. If the solidity regulation mechanism is properly tuned, we can detect problem areas in companies as they are developing rather than after they have already developed. This, of course, is the key to solidity regulation.

After wrestling for some time with the concept of solidity regulation versus solvency regulation, we recognized that some type of early-warning system must be developed so that we would be able to determine whether or not a financially solvent insurance company was approaching a situation in which it could become insolvent. This early-warning system had to be broad enough to address itself to the primary areas of

insurance company operations, but it should not be so broad as to make it unwieldy for the insurance departments with limited staffs. Because of the diverse nature of the operations of the various life insurance companies and health insurance companies operating throughout the country, it was felt that no specific tests existed which would pinpoint accurately the exact problems in all insurance companies. The tests which we designed were developed to point out those areas of a company's operations wherein that company deviated from the average. A deviation does not necessarily indicate a sign of bad management but rather merely indicates that the given company is operating in a manner which is not consistent with the average. Further exploratory investigation into the actual operations of the company is necessary. This further exploration may mean a very detailed analysis of the company's annual statement; it may mean a complete financial examination; or it may mean a simple meeting with the officers of the company to discuss exactly how they operate in this specific area. It must be emphasized that no specific test exists which necessarily proclaims that a given company is good or bad.

The solidity test package developed by the Illinois Department of Insurance is of a general nature designed to observe the company's deviations from the median. Where a significant deviation from the median exists, it is an indication that the company is operating in a manner significantly different from that of the other companies operating in the state. This difference in operations may well be indicative of a problem within the company. We feel that the tests point out that a company may be approaching a difficult financial position.

The solidity program as now utilized by the Illinois Department of Insurance is actually composed of five separate entities, as follows:

1. *Basic audit tests.*—In any insurance department one of the primary sources of input relative to a company's operations is that contained in the annual statement which must be filed in each and every state in which the company is licensed to transact business. Questions frequently arise as to whether or not the numbers contained in the statement are indeed correct or, at least, reasonable. To help satisfy ourselves that the annual statements which a company files in consecutive years are reasonable and are in balance, we have developed a series of basic audit tests. These tests are designed simply to verify whether or not the annual statement in year T flows correctly into the annual statement filed in year $T + 1$. At the present time we utilize thirty-three basic audit equations. The formulas have been set up so that we can utilize electronic data processing equipment to verify whether or not the statements are in balance. The only difficulty in using EDP equipment, of course, is the veracity of the input data. The basic audit tests, however, are the initial step in the solidity test

program. The *first* thing we do is verify the correctness of the annual statement which is filed.

2. *Reserve comparisons.*—An area of great concern and of great importance in any life and accident and health insurance company has to be that of the liability items. Because life insurance companies have a large degree of flexibility in the reserve levels which they establish, it has been extremely difficult to establish a specific testing formula to determine whether or not the reserves are indeed adequate. We have not yet found a formula which specifically points out whether or not the reserve liabilities established on life business are adequate. Consequently, we have devised a reserve comparison test which is designed to detect whether or not the reserves established by a company are *consistent* over the years. At the present time, all Illinois domestic companies are filing such a reserve comparison with the Illinois Department of Insurance. The comparison requires a breakdown for each plan of insurance sold within each mortality table utilized, within each interest rate and within each reserve method utilized. This breakdown indicates the total insurance in force for each plan, the reserves generated for that plan, and the reserve per \$1,000 in force. By having such comparisons spread over a three- or four-year period, we can readily detect any significant change in the makeup of the business which the company has on its books. Additionally, we can readily determine whether or not the reserves established appear reasonable relative to what the company has been establishing in the past. By means of reserve comparisons we have been able to detect instances where companies apparently have been “canceling” guaranteed renewable or noncancelable accident and health business. The lapse rate or the drop-off rate of this business has been too great to be within reason. To give another example, the comparisons have proved valuable where companies have inadvertently misclassified a policy in a given year. A large decrease or a sudden increase in a given year in the reserve level of a specific policy automatically indicates that an error has entered into the valuation system or that something else is wrong. The reserve comparisons themselves do not verify whether or not the reserves established are correct or adequate. We must rely on the examiners who visit the company on a regular basis to determine whether or not the reserves are correct. However, once an examiner has been in a company and the reserve comparison technique has been initiated, we can easily follow the development of the reserve patterns within a company. As long as the reserve development is progressing smoothly, there is little or no need for concern. If there is a sudden fluctuation in any single item, then we will send examiners into the company to review this. I might add that, if these reserve comparisons had been used in South Carolina several years ago, the current insolvency there would have been detected much earlier.

3. *Solidity ratios.*—The next step in our review of a company's operations utilizes a series of ratios. At the present time this series contains twenty-eight separate ratios which are broken into two separate groups. The first group contains static tests and is composed of ratios which detect a company's financial position at a specific point in time. The second group of ratios is referred to as

dynamic tests, and it reflects the change in a company's position over a two-year time frame. The solidity tests are indicative but are not conclusive concerning a company's operations. The ratios are designed to indicate wherein a specific company deviates from the median of all companies operating in the state. Upon isolating those areas wherein a company deviates from the median or the normal operations of the other companies operating in the state, we are able to focus our attention on those specific areas. It may be that financial examiners should be sent in to determine exactly why the company deviates from the median. It may be that a simple conference with the officers of the company will suffice to explain why the company deviates. It may also be that a thorough review of the annual statement will prove self-explanatory. The ratios only indicate those areas where the company deviates from the median. At that point, it is the duty of the department of insurance to follow up more thoroughly on those deviations to determine exactly why the company deviates. The ratios cannot explain why the deviation exists. The solidity tests were developed to serve as red flags of potential soft spots in a company's operations. In no way are they intended for ranking companies as good or bad. The solidity ratios deal only with asset and operations items from the annual statements and do not include any reserve liability items.

4. *Complaint ratios.*—A fourth area which is critical in the regulation for solidity revolves around that of complaints filed relative to a company. It has been noted that the complaints filed relative to a company often precede the manifestation of any financial difficulty. That is, we have noted that many companies exercise extremely strict claim-processing techniques when they approach a financially difficult situation. This strict claim processing automatically triggers the filing of complaints with the department. Any deviation from the normal level of complaints filed against a company is closely monitored. We have developed complaint ratios which are based on the number of complaints filed with the department as related to the number of policies in force and complaint ratios based on the number of complaints filed as related to the premium volume in the state. As suggested, any change in these ratios frequently precedes a change in the company's financial condition. The input which is necessarily derived from the complaints filed relative to a company's operations is most valuable in an over-all review of that particular company.

5. *Legislative.*—Finally, before any insurance department can utilize the information which it develops relative to a company, it must have the authority to take action on this information. The insurance codes of most states allow the department of insurance to take action on a company only after it has consumed its entire surplus account and the capital account has been impaired. The Illinois Insurance Code was recently amended, and section 244.1 was included. This section—commonly referred to as the “trending to hazardous section”—gives the Illinois Department of Insurance the legal authority to take action against an insurance company regardless of its surplus position if we can demonstrate that continued operation of the company in the manner in which it has been operating will lead the company into a hazardous financial condition. Thus we

can now take action against a company with \$50,000,000 in surplus if we can prove that continued operation of the company without corrective action will result in a financially difficult position within a short period of time. We are now able to take *legal action* against a company before it becomes impaired. Another valuable tool which the Illinois Department of Insurance has just added to the code is what is known as the "quick-take" provision. If we find a company in an extremely hazardous condition, we now have the authority to take over complete management of the company within a very short period of time—for example, within 24 hours. Previously the only way in which the department could actually assume control of a company was through a detailed hearing process. We recently used the quick-take provision in the state of Illinois. As a result of the various tests we ran on a company, we noted that something was obviously wrong. We sent examiners into the company and found that the president had been stealing money. Under the old laws we would have had to call a hearing and prove what we suspected to be true. With the quick-take provision we were able to walk in and take control of the company immediately. Sufficient legal remedy is available—namely, that of requesting a hearing on our action—to protect the company's interest.

An additional legislative proposal which we are attempting to introduce in this state is the insurance guarantee fund. With such a fund the policyholders in a state are guaranteed the benefits which have been promised by an insurance company whether or not an insurance company remains a financially viable entity. It is understandable that the well-run insurance companies have reservations about insurance guarantee funds promulgated by the various insurance departments unless specific steps are taken to ensure that the chance of an insolvency is remote. We fully endorse insurance guarantee funds under the simple concept that a single insolvency will do more to harm the industry's image if the policyholders are hurt than it could possibly cost for the industry as a whole to help provide the payment of the insolvency. We feel that the various tools which we have developed coupled with a guarantee fund will help eliminate the chance of such financial ruin. Hopefully, we should be able to enter a company before it is actually in a financially difficult situation. There are certainly instances in which companies will manage to get into difficulty no matter what we attempt to do. The insurance guarantee fund will help protect the policyholders from some of these contingencies of asset misuse.

To summarize, solidity regulation can best be defined as a compendium of at least five distinct components: (1) the basic audit tests, (2) the reserve comparisons, (3) the solidity ratios, (4) the complaint ratios, and (5) the proper legislative tools. The results of no one test should be considered completely sufficient for taking action against a company. In all likelihood a company failing one of the tests will fail several others as well. It is our hope and feeling that proper utilization of these tests will improve significantly the confidence of the general public both in the insurance industry and in the insurance regulators.

CHAIRMAN HUMPHRYS: If a way has been devised to determine when a company is insolvent or if sufficient authority has been granted to permit the supervisor to take action where he is satisfied that a company is headed for disaster, the question is then what to do. There are a number of possibilities. One can try to reinsure the portfolio, hopefully on a basis whereby the accepting company takes over all the assets and all the liabilities, including not only the insurance liabilities but also all other liabilities. Another is to arrange for the business to be run off as a closed fund. A third is to liquidate the assets and distribute them to policyholders. Clearly, the first possibility is the desirable one, and this is in fact the course that has been taken many times over the years. It can be very flexible and can serve even to take care of cases where the financial position has deteriorated in an extreme way. Liens on cash surrender values and even on death benefits have been used where the assets were insufficient. The procedure is not easy, however. One must find a company willing to take over the business, and this is rarely easy to do. Usually companies in serious trouble do not represent any profitable opportunity for other companies. There are many costs involved, including executive time and administrative costs. There are problems of asset values and of actuarial reserves. There are problems with conservation of the business.

If one attempts to run off a portfolio on a liquidation basis, there are serious difficulties. Perhaps the main one is that at some time in the history of the fund it will become impossible to be certain that the assets are going to be sufficient to meet all the obligations. Expenses rise as a proportion of the assets and income from the fund; problems arise in distribution of surplus if the business is participating, and the mere fact of the time involved creates problems such that one must arrange for another life insurance company to do the job. This course seems to lead inevitably to absorption of the residue of business at some time in its history.

The third course, liquidation, is rarely used and is extremely difficult. The problems here are legion. The valuation of the interests of the policyholders in the assets is a major difficulty. One cannot necessarily use the reserves as shown on the company's balance sheet, nor can one necessarily use the cash surrender values if one is attempting to achieve equity. The question of priorities among the various creditors is a serious one. One must decide whether policyholders rank ahead of all other creditors, whether outstanding claims should be paid before cash surrender values, whether funds left on deposit should rank equally with cash surrender values of policies that have not become claims. The

treatment of reinsurance balances is difficult. The cost of liquidation is a major expense that has not been provided for in the balance sheet. The problem of liquidating segregated funds must be considered. Apart from all this, the sheer time taken to distribute the assets, the loss on liquidation of assets, and the overwhelming loss on the part of those policyholders who are in ill health and cannot replace their insurance create serious problems and have received considerable study.

In connection with the question of what to do about companies that have reached this serious state, the current interest has been in the establishment of guarantee funds. I think that all of you must know of the activity going on in this field. The NAIC has adopted a model bill, and a number of states have enacted legislation. This has followed similar legislation applicable to nonlife insurance companies adopted in a widespread way a short time ago.

MR. RICHARD V. MINCK: Generally, insolvency guarantee laws establish state associations which will indemnify losses of policyholders of insolvent companies and which will be supported by assessments against solvent companies. The laws fall into several different categories. The indemnification may be required only if the company failing is a domestic company, or it may cover all admitted companies. The policyholders to be indemnified may be all policyholders or only those resident in the state. The indemnification may be unlimited in amount or may be limited to a specified amount per policyholder. The companies assessed may be only domestic companies or may be all companies admitted to the state.

The concept underlying guarantee laws originated in the field of bank regulation, finding its major articulation in the 1933 Federal Deposit Insurance Corporation Act, which guarantees up to certain limits deposits in banks which fail. In the late 1930's and early 1940's the idea spread through scattered state enactments to the fields of workmen's compensation insurance and public motor vehicle liability insurance.

In 1941 New York enacted section 224 of the New York Insurance Law, establishing the Life Insurance Guaranty Fund. This fund protects all policyholders wherever resident against losses arising from insolvencies of New York-domiciled life insurance companies and is supported by subsequent assessments against life insurance companies domiciled in New York.

In the ensuing thirty years, there have been two cases in which the superintendent took action. In 1941 the superintendent found the Postal Life to be insolvent and gave the company a guarantee certificate of

\$1,500,000. The other companies were assessed for such an amount, and the funds were invested in government bonds held by the New York Guaranty Corporation established by section 224. The Guaranty Corporation supervised the management of Postal Life until 1954, when the company became solvent. The assessments, together with interest paid on the government bonds, were then returned to the other companies.

After another thirteen years had elapsed—in 1967—the superintendent conferred with the Guaranty Corporation about Hamilton Life. At the department's request, an actuarial investigation was made to determine whether the Hamilton should be liquidated. The actuaries involved concluded that the existing business could be run off at a profit, but only over a fairly long period of time.

In 1968 an order of rehabilitation was obtained. Two years later the Guaranty Corporation entered into an agreement with the Union Mutual Corporation under which the Union Mutual would put up \$1,500,000 and the Guaranty Corporation would furnish a \$1,000,000 guarantee certificate for twenty years. The guarantee certificate was backed up by promises from the other New York-domiciled companies to pay when required to do so by the superintendent. These companies also paid about \$200,000 in legal and actuarial expenses.

Recent history of the application of the concept of guarantee funds to insurance generally begins with investigations of the United States Senate Subcommittee on Antitrust and Monopoly in 1960. These disclosed an alarming number of casualty insurance company failures, particularly among companies writing high-risk automobile insurance.

A critical question raised by the subcommittee was how effective regulation could be in the prevention of insolvencies which result in losses to policyholders. The subcommittee reports show that the existence of failures in the face of comprehensive state regulation primarily designed to prevent them was felt by some members to raise doubts concerning the success of state regulation in general. Nevertheless, specific action was not taken by the Antitrust and Monopoly Subcommittee, probably in the belief that states would take the necessary steps to solve the problems pointed out by the investigation.

However, this condition continued only until 1965, at which time there was a resurgence of interest which, combined with the emerging "consumer protection" movement, created pressures for specific legislation on the subject of insolvency protection. Emphasis continued on the disturbingly high number of documented failures of high-risk automobile insurance companies.

The renewed congressional interest in producing some form of federal

insolvency guarantee legislation helped spur the NAIC and the casualty insurance companies to increased activity to find a satisfactory alternative at the state level, and in 1969 the NAIC promulgated a model guarantee act for property and liability insurance, which has since been enacted into law in forty-five states. These laws specifically exempt life and health insurance.

In 1969 Wisconsin became the second state to adopt a law providing guarantees in the field of life and health insurance. The Wisconsin law provides for the payment of unpaid claims to Wisconsin residents. Assessments would be made against all companies admitted to Wisconsin.

At its meeting in December, 1970, a model insolvency bill covering life and health insurance was adopted by the NAIC. The bill differed considerably from the model property and liability insolvency law. The property and liability bill provides for payment of claims pending at insolvency and those arising in the following thirty days. This seems adequate, since the policyholder can virtually always obtain new coverage from another carrier within that period. This was obviously not an adequate solution for life insurance. Policyholders might be unable to obtain new protection. A replacement policy might be on much less favorable terms to the policyholder. Payment of cash values—even if money is available—may not constitute equitable treatment for all policyholders. Provision needs to be made for continuation of coverage. This leads to solutions involving assumption of reinsurance and variations in guarantees depending on the coverage involved. If a company operating in many states becomes insolvent, the operation of an indemnification plan is more complex.

These considerations—together with the track record of the New York Guaranty Corporation—led some insurance company representatives to conclude that the New York approach should be adopted in preference to the other alternatives being developed. In theory, after such bills were broadly enacted, all policyholders would be protected. However, two facts led to the defeat of such an approach. First, legislatures are concerned primarily with their own citizens. A bill which leaves all those insured by out-of-state companies unprotected does not have much appeal. Second, the domestic companies in some states were not in financial condition to carry the burden of potential assessments alone.

Under the model bill adopted by the NAIC, when a company is impaired, the total amount to be assessed, aside from administration expenses and coverage for local residents not covered under another guarantee law, will be allocated to each state in which the impaired insurer is authorized to transact business, in the proportion that the im-

paired insurer's premium income in the state bears to its total premium income. The amount allocated to each state will then be assessed to member insurers, in each case in the proportion that the member's premium income from such state bears to all premium income of member insurers from that state. The method of assessment is broken down even further into three types of premium accounts to reflect the types of business done by the insurers. The three types of accounts are life insurance, annuities, and health insurance. This breakdown into accounts was intended to apply only for the purpose of computing assessments, and the amount raised was intended to be available for any and all losses, whatever line of business gave rise to them.

The NAIC has argued strongly that their model law is necessary in order to protect life and health insurance policyholders from losses caused by insolvency.

Although factual information on life and health insurance company insolvencies is sparse, these insolvencies have occurred regularly over the years since the Armstrong investigation. *Best's* lists twenty-nine insolvencies between 1960 and 1970. Although it is suspected that most of these are "technical," there is recent evidence of insolvencies which have caused, or probably will cause, substantial actual losses to policyholders. Examples are Federal Old Line Life Insurance Company (\$4 million) and New South Life Insurance Company (\$9 million).

Insurers have argued that, of course, insolvencies should be prevented, asserting that prevention is one of the primary purposes of insurance regulation and that insolvency guarantee laws subvert this principle in that they weaken the solidity of assessed companies. Furthermore, insurers argue that such laws are inequitable to policyholders of assessed companies, thereby subverting another primary principle of insurance regulation.

Having made these arguments, the insurers developed a set of principles that they felt would be needed for a model bill in order that it be acceptable. These principles state that such a bill should do the following:

1. Provide for continuation of coverage.
2. Apply to all policies of domestic companies and to policies written by out-of-state companies on all residents.
3. Provide for postimpairment assessments rather than preimpairment assessments.
4. Avoid duplication of benefits from other states.
5. Provide for issuing certificates of assessments to be permitted as assets.
6. Permit assessments to be offset against premium or income taxes payable to the state.

7. Contain a reasonable dollar per life limitation on indemnification.
8. Provide for the use of temporary liens on cash values or moratoriums, subject to approval by the insurance commissioner.
9. Provide that only insolvencies occurring after the effective date of legislation be covered.

The NAIC model bill included all the principles urged by the industry except the tax offset.

The legislative history of insolvency bills applicable to life and health insurance is summarized in Table 1.

The NAIC model bill is intended to apply only to companies becoming insolvent after enactment. Of course, the question of when a company becomes insolvent may be subject to some different interpretations and may have to be settled by a court. However, the property-liability laws

TABLE 1

LIFE AND HEALTH* INSURANCE INSOLVENCY GUARANTEE LAWS

PRE-NAIC MODEL ACT

1. *New York*. Enacted 1941. Applicable only to domestic companies. Covers all policyholders of domestic companies regardless of place of residence. Does not cover New York policyholders of foreign companies. No tax offset.
2. *Wisconsin*. Enacted 1969. Applicable to foreign and domestic companies. Covers only Wisconsin policyholders regardless of company domicile. No tax offset.

POST-NAIC MODEL ACT

3. *Washington*. Enacted 1971. Variation of NAIC model act with some significant differences. Covers, as model act, all policyholders of domestic companies and resident policyholders of foreign companies. No tax offset. In litigation. *Aetna et al. v. Washington Life and Disability Insurance Guaranty Association*.
4. *Maryland*. Enacted 1971. Almost identical with NAIC model act. No tax offset.
5. *New Hampshire*. Enacted 1971. Almost identical with NAIC model act. No tax offset.
6. *Vermont*. Enacted 1972. Almost identical with NAIC model act. Contains full tax offset.
7. *Kansas*. Enacted 1972. Almost identical with NAIC model act. Contains full tax offset.
8. *South Carolina*. Enacted 1972. Almost identical with NAIC model act. Contains full tax offset.
9. *Connecticut*. Enacted 1972. Almost identical with NAIC model act. Contains 50 per cent tax offset. Also contains per life limitation of \$25,000 (model law limitation is \$300,000).

* Although Pennsylvania does not have a guarantee law applicable to life insurance, its "property-liability" guarantee law applies to health insurance.

and some of the life-health laws have retroactive effect—that is, the laws could be applied to companies which were insolvent before the enactment of the laws.

Both segments of the industry have become sufficiently disturbed about this feature of the laws to resort to litigation to test their constitutionality. On the property-liability side, significant actions have been brought in Ohio (*Smith v. Ohio Valley Ins. Co.*, 27 Ohio St. 2d 268, 272 N.E. 2d 131 [1971]) and Arizona (*Firemen's Fund Ins. Co. v. Arizona Ins. Guaranty Ass'n.*, Super. Ct., Maricopa Co., No. C254880 [1971]). The United States Supreme Court has declined to review the Ohio case, leaving in effect a ruling of the Ohio Supreme Court which does not treat the issue of retroactive application and, moreover, does not touch broad issues of constitutionality. The Arizona case, now on appeal from an adverse decision in the trial court, presents broad issues of constitutionality, including due process of law and equal protection of the laws, which reach beyond those presented in the Ohio case.

On the life-health side, an action has been initiated to test the Washington law on broad grounds similar to those in the Arizona case (*Aetna v. Washington Life and Disability Guaranty Ass'n.*, Super. Ct., Thurston Co., Cause No. 46108 [1972]). This class action includes injunctive relief from a total assessment of \$2.6 million to indemnify a company which was insolvent before the enactment of the guarantee law. However, a curious situation has grown out of the application for injunctive relief. The court has said that in granting the injunction it will require payment of a portion of the assessment, since the defendant will otherwise not have funds with which to defend itself in the action. Thus the insurance business is faced with the prospect of paying for both sides of the lawsuit.

The NAIC model bill was passed in four states in 1972 and in each case contained a premium tax offset. There is some indication that the Washington law may be amended to provide for such a tax offset. If the NAIC model bill is changed in this fashion, I believe that it will be enacted in the next few years in virtually all states.

At the federal level, various national health insurance plans are being considered. Some of these plans provide that such insurance would be written by private carriers. In the event that one of these plans is enacted, it seems clear that Congress will demand that benefits be guaranteed against the insolvency of a carrier. Perhaps this can be done by a set of state plans. However, other approaches are being considered by Congress.

The shape of future insolvency legislation—and who will administer it—will probably become very much clearer in the next few years.

MR. STANLEY: It is easy to say that the industry and the regulators have an obligation to the policyholders of insolvent companies and that therefore insolvency funds should be established to ensure that the policyholders of insolvent companies will not suffer. Unfortunately, this is a simplistic solution to a complex problem. In the first place, a policyholder has more to lose than just the cash value of his policy. The policyholder also has the need, particularly if he is uninsurable, to have uninterrupted continuance of his protection. The problem is not the same as that facing an insolvent bank where the FDIC can just pay off the depositors and close the doors. In the second place, if insolvencies are caused by general economic conditions, such conditions will probably fall on all companies in the industry at the same time, and assessments to guarantee funds will aggravate an already bad situation for all companies. If there are to be guarantee funds, they should be funded during good times, not during bad times. In the third place, the very existence of such a fund makes it unnecessary for a policyholder to concern himself with the financial integrity of the company with which he deals. Why should a policyholder pay \$3.00 per thousand for term insurance from a well-run company if he can get term insurance for \$2.00 per thousand from a less conservatively run company with the assurance that a state insolvency fund is going to bail him out if the company selling the cheaper product gets into difficulty? It would indeed be ironic if the company which sold the term insurance at \$3.00 per thousand were assessed by a guarantee fund in order that the policyholders who paid only \$2.00 per thousand will not lose their coverage. Even more ironic, no advance funding is provided for the guarantee funds, and therefore the policyholders of the insolvent company, who are the beneficiaries of the fund, make no contribution at all, while the policyholders who bought from the well-run company pay not only for their own insurance but also for the lack of prudence of those who bought from the company with inadequate rates. It is wrong that a company which operates in a sound and solvent manner should be expected to pick up the obligations of an insolvent competitor who perhaps got the business in the first place because of an inadequate premium or an excessive commission.

It is clearly the function of the state insurance departments to prevent insolvency. The officers and directors of our company have the responsibility and the obligation to run our company in a sound and solvent manner; however, we have no control over the acts of our competitor companies. To say that we should be assessed for insolvency protection implies that insolvency is a catastrophic type of disaster which is just as likely to fall on the policyholders of one company as on those of another.

I do not believe this to be the case. The vast majority of insolvencies in the life insurance industry are traceable to inadequate capital investment, poor investments, overproduction, downright dishonesty, or a lack of insurance knowledge on the part of management. These are conditions which are discoverable and preventable, and it is the responsibility of the insurance departments to discover and prevent them. Insolvency and solidity tests along the lines of those developed by the Illinois department are a good first step toward detecting companies heading toward insolvency; however, detecting such companies is relatively easy. Once they have been detected, strong regulatory action is needed for the protection of the policyholders. It is the second step that is difficult.

Although responsibility for the protection of policyholders against insolvency belongs to the regulators and not to the regulated, the banking industry has found it nevertheless desirable to be able to assure its clients that their deposits are insured by the FDIC, and it may well be in the interest of the life insurance industry to assure its policyholders that they are similarly protected. However, banks that come under the protection of the FDIC have to operate under certain guidelines and are subject to regulation by the FDIC. Not every bank is eligible for such protection, and a charge is made for the coverage. It would seem that a similar arrangement might be desirable for the life insurance industry, where a guarantee corporation could be established under the auspices of the NAIC on a nationwide basis. Those companies able to meet the requirements of the corporation could join if they were willing to operate under the regulations established by the corporation and would have the advantage of being able to assure their policyholders of insurance against insolvency. The policyholder of a company which chooses not to join or cannot meet the requirements for membership would be in no different position than a depositor in a bank not covered by FDIC insurance. He would just have to take his chances.

It is clear that, particularly in a nonparticipating company, the policyholder does not share in the good fortunes of his life insurance company. It is therefore our very strong responsibility to see that he does not share in the misfortunes of his company. Toward this end it is imperative that minimum capital and surplus requirements be related realistically to the obligations of the company. Also, trends toward insolvency must be detected earlier and corrective action begun before minimum capital and surplus are impaired, if industry support for guarantee funds is to be achieved.

MR. NAFTALI TEITELBAUM: Mr. Stanley has given us an in-depth analysis of the major areas affecting life insurance company solvency, as well as current trends in those areas. I question, however, the complete efficacy of the efforts to strengthen these areas.

It seems to me that among those companies that have failed in the past, there were companies that became insolvent despite proper solvency requirements, by understating liabilities or overstating asset values, for example. On the surface, then, any surplus requirements set by regulators would appear to have been met.

Has anyone ever categorized the causes of insurance company failures to determine the relative frequency of these types of insolvency?

Mr. Pawelko's solidity tests might not bring to light much surreptitious hanky-panky, but I believe that his efforts provide a giant step toward policing this area.



MARKETING/AGENCY SUPERVISION

1. The actuary's role in helping the marketing division to supervise its agencies on an effective basis, involving such factors as the following:
 - a) Prediction of lapse rates.
 - b) Study of production and agents' survival patterns.
 - c) Suitability of commission scales (heaping, vesting, service fees).
 - d) Development of an appropriate new-agent financing plan.
 - e) Relative stress as between agency builders and personal producing general agents.
 - f) Policy loan profiles by agency.
 - g) Studies of business by age group, premium mode, proportion of sub-standards, percentage of term, and so on.
2. Measurement of profitability of an agency.
3. Problems relating to the traditional method of marketing life insurance.

MR. HAROLD G. INGRAHAM, JR.: Discussion of these topics seems particularly relevant to me because of the increasing emergence of actuaries as marketing people in the broad sense.

The stereotypes so familiar in the past—the arch-conservative actuary with no feel for the market or for agents' attitudes, on the one hand, and the agency officer concerned only with sales goals and indifferent to the attendant expenses and profit margins, on the other hand—cannot be condoned today if life companies are to succeed in the marketing role that will be crucial to their growth and vitality in the long run.

MR. LEONARD R. CARGILL, JR.: My remarks will deal with the first six parts of item 1 of the program outline.

“Prediction of lapse rates”: While actuaries differ on the magnitude of the effect of poor persistency, with the differences centered primarily in the allocation of expenses, I think that we are all in agreement that good persistency is a valid objective.

The LIAMA has made a number of surveys designed to assist the agent in achieving good persistency. These are to be used primarily as predictive devices based on characteristics of the insured and relate to such demographic factors as age, income, family status, and prior insurance. They also include such variables as frequency of premium payment and size or type of policy. Many of these factors have been put together in the persistency rater that the LIAMA offers for use. This information is readily available to agency department personnel, and, although it is based on actuarial studies, no actuarial training is required for its use.

Actuaries, or at least actuarial studies, come into play in measuring

the persistency results of a given agent or agency. Lamar Life is probably not too unlike other companies in the form in which we prepare reports on these results. We prepare computer runs monthly that show, by agent and by agency, the percentage of business written that has lapsed within the first thirteen months. These percentages are shown on a policy basis and on an amount basis and are given separately for the current calendar year and the preceding calendar year. These runs are fine for measuring the ultimate persistency of an agent or an agency, but they are of little use in agency supervision, since it is early in calendar year $x + 2$ before the persistency of year x is complete.

Our agency superintendents find that talking to our field representatives about persistency on business written two years ago has little impact. In order to provide information more useful for supervisory work, we now compute an expected lapse rate for the year to date, an expected thirteen-month lapse rate, an actual-to-expected ratio for the year to date, and a product of the expected thirteen-month lapse rate and the actual-to-expected ratio. This gives us a projected persistency on current business. The expected lapse rates are based on both the level and the pattern of lapses by mode and method of premium payment and are taken from Norman Buck's excellent article appearing in the 1960 *Transactions* (XII, 258). A company's own experience might be preferable, but my trial calculations based on past records indicated that Mr. Buck's factors predicted our lapse rates very well. Also, characteristics other than premium mode and method could be used. We did not attempt this, since we wanted to be able to use our existing computer run.

We then compare the projected lapse rates to those expected for the product mix according to our asset share assumptions and give the agency a rating of satisfactory, borderline, or unsatisfactory. The agency superintendents then examine the agencies whose ratings are borderline or unsatisfactory. In small agencies early in the year, one or two lapses can cause a borderline or unsatisfactory rating, so this prediction is a supplement to, rather than a replacement for, judgment. So far, it has helped us to catch and correct several unfavorable situations earlier than we previously would have.

A simpler approach is to predict persistency from percentages paying the second premium. In our case, I was unable to find factors based on this information that predicted with any degree of success.

"Study of production and agents' survival patterns": We have found our experience to be very similar to that reported in LIAMA file 410 (Manpower and Production Survey). This file indicates that survivors are up to more than 90 per cent of their ultimate production by their second year. We also found that those who failed in the first three months

had much smaller production than did those who failed in the first year but after the first quarter. This latter group had about the same production as did those who failed in the second year, but much less than those who completed two years. I suspect that this pattern is at least partially due to our previous financing plan, which is discussed below.

“Suitability of commission scales (heaping, vesting, service fees)”: The advocates of heaping renewals claim that it improves persistency of business, but I know of no validation of this. It is popular with the field force and helps them to meet the problem of inflation, but it could lead to an income tax problem for major producers. This latter problem may be alleviated somewhat by the use of a deferred compensation plan for agents.

Vesting of renewals helps recruit and hinders retention. For those companies that are attempting to build agencies (either by agency-building general agents or by managers), vesting is difficult, since those companies make heavy investments in new men and are then subject to losing them to personal producing general agent and brokerage companies. Agency-building companies usually have graded vesting. The philosophical justification for vesting is supposed to be that renewal commissions represent deferred compensation for the sales effort. Since practical considerations appear to completely dominate conversations on vesting, I feel that this is after-the-fact reasoning.

Service fees appear to be a recruiting tool only, although they may help to remind the agent that a particular policyholder is still alive and may be a source of future sales. Some companies have attempted to make some or all of the service fee contingent upon at least a contact with the insured. However, supervision of service contacts may be disproportionately expensive relative to the financial benefit to the company. These companies may have taken the position that they will incur the extra expense to ensure that their policyholders are contacted.

Another compensation element is a bonus payable for production above a certain level and/or persistency higher than a certain figure. This may be computed and paid in forms limited only by man's imagination. These bonuses should do more for persistency than do the heaped renewals, because a lapsed case can reduce a bonus paid on an agent's total production, whereas that same lapsed case would reduce heaped renewals only on that one case. These bonuses also help recruit men who write persistent business, help retain effective agents, and discourage brokerage activity on the part of large producers.

Persistency bonuses should, I feel, be based on some form of running study rather than on a classical actuarial-type study. That is, the thirteen-month and twenty-five-month studies that are normally used by

actuaries for asset share assumptions do not appear to be as effective in improving agency performances as are those studies that utilize more recently written business. While this latter approach leaves one open to antiselection on a short-run basis, we feel that the value of the increased agency motivation more than makes up for this.

“Development of an appropriate new-agent financing plan”: At Lamar Life we have an agency-building general agents operation. We previously had a financing plan for new agents that had very low first-year validation requirements and relatively high second-year validation requirements. The bonuses paid to the general agent during the first six months of a successful new agent’s career were independent of his financing level and the amount by which he exceeded requirements. The company assumed the liability for the first \$600 per month of financing, and the general agent assumed total responsibility for the excess. The result was that the majority of our new agents were financed for \$600 per month, and they were not weeded out until late in the first year or early in the second.

Our new plan has stiffer early requirements (although they are still low by industry standards), lower later requirements, and a general agent’s bonus that is a function of the agent’s performance. The general agent does not begin to share in financing (or receive his bonus) until the beginning of the fourth month, but he shares thereafter on a percentage basis regardless of financing level. We hope by this plan to pay greater rewards to the general agent who does a superior job, help him recognize probable failures early, avoid terminating potential successes, and encourage our general agent to recruit a better class of agent.

Our general philosophy about a validation schedule is that it should be low enough so that very few potentially successful agents fail to meet it, and it should expose the certain failure in the first few months.

“Relative stress as between agency builders and personal producing general agents”: Most agency-building contracts depend to some degree on company averages, thus tending to pay major producers less proportionately than is paid to smaller producers. This makes the agency-building company vulnerable to losing its big producers. Offering both contracts in the same company could cause antiselection, as the more effective general agents will tend to take the personal producing general agent contract. We are working toward a contract that has elements of both, but we recognize the danger that the result may satisfy neither. My friends in personal producing general agent companies tell me that this method of operation puts you into a dog-eat-dog world, one that can lead to an instant depletion of your field force.

“Policy loan profiles by agency”: We have one particular contract on

which we are attempting to discourage minimum deposit. We will not prepare illustrations in the home office, nor will we accept first-year premium net of a policy loan. We recognize that the policyholder can pay his first premium and then borrow the loan value, but we do not want to take the step of endorsing the policy to make the first-year loan value not available until the end of the first year. We feel that the policyholder is not likely to borrow to pay his first premium unless the agent has discussed this procedure with him. Accordingly, on this policy only, we prepare a monthly report showing outstanding loans and available loan value by agent and then follow up on problems.

MR. INGRAHAM: With respect to the income levels of agents, the following questions seem particularly pertinent:

1. How do agents' survival rates compare with those of salesmen in other industries?
2. Do agents grow in the business? In other words, does their production tend to increase as they develop experience?
3. What is the likelihood that an experienced full-time career agent will make a "decent living"?

A recent LIAMA study of agents' survival patterns and production levels disclosed that approximately 15 per cent of the new men hired by the companies contributing to the study survived to the end of their fourth calendar year. However, this 15 per cent average figure conceals significant variations among company size-group classifications and extremely wide variations within each size group. For example, the fourth-calendar-year average agent survival rate for the largest company size group studied (companies with at least \$4 billion of ordinary in force on January 1, 1968) was 17 per cent, as opposed to comparable figures of 10, 14, 13, and 7 per cent for successively smaller company size groups. Moreover, within the largest company size group, fourth-calendar-year average survival rates ranged from highs of 37 and 31 per cent for the top two companies to a low of 11 per cent for the bottom company.

The LIAMA has been involved during the last two years in a study with the National Industrial Conference Board, in which an attempt was made to determine the survival rates of salesmen in other industries. Findings published by the board indicate a fourth-calendar-year survival for other salesmen substantially higher than the 15 per cent figure applicable to the insurance industry—with some figures in the 40-50 per cent range.

It would appear that one significant difference between insurance companies with higher agent retention rates and those with poorer retention rates lies in the income level of their insured customers. Companies

whose agents are primarily oriented to higher-income (over \$15,000) buyers exhibit far superior agents' survival rates, which, in turn, correlate with higher production levels and higher levels of agents' incomes.

The LIAMA study referred to above showed that there is little evidence of increasing average volume production among agent survivors of various groups studied—in fact, production seemed to plateau after the third calendar year under contract. On the other hand, the study indicated that commissions and annualized premiums from all lines of business exhibit slight increase patterns for survivors. This is probably attributable to the selling of larger policies and higher premium policies.

The LIAMA study is careful to point out that each set of averages exhibited is based on a different class of agents. Thus, variations (or

TABLE 1

YEAR	ORDINARY INSURANCE		EQUITY PRODUCT COMMISSIONS	TOTAL
	First-Year Commissions	Renewal Commissions		
1966.....	\$5,799	\$ 727	.....	\$ 6,526
1967.....	5,993	1,483	.....	7,476
1968.....	7,005	2,375	.....	9,380
1969.....	7,991	3,299	\$181	11,471
1970.....	9,589	3,989	157	13,735
1971.....	9,313	4,273	165	13,751

lack of them) in observed results from one experience class to another may be due simply to differences between the different classes of agents instead of representing true changes with experience on the job.

With this in mind, a study was made of the average commission earnings of sixty-two agents hired by the New England Life in 1965 who survived to year end in 1971, as shown in Table 1. The study shows that commission earnings for this group increased rather rapidly until the sixth calendar year since hire. However, an analysis of this distribution of these sixty-two agents by earnings class is considerably more revealing. It shows that the bottom 50 per cent of the group earned less than \$10,000 in 1971, whereas the top 13 per cent earned more than \$25,000 in 1971.

Another study of New England Life agents' earnings, involving agents with three or more years of service, found the percentage distribution of agents by earnings category shown in Table 2. It is seen that there has been a significant increase in the proportion of experienced New England Life agents earning more than \$15,000 or \$25,000 over a relatively short

recent time period. However, it should be noted that over 50 per cent of these experienced agents earned less than \$15,000 in 1971, which is cause for concern if \$15,000 is to be regarded as a valid "decent living" income bench mark.

MR. JOSEPH R. LAWRENCE: Commission scales in the new small company are generally set to offer more dollars to an agent in exchange for his willingness to sell for the new company. This produces, where permissible, higher commissions for the first year and possibly some heaping in the first three years, but usually a traditional approach to other renewal commissions. When the business produced is on a nonexclusive basis, renewals are often vested.

TABLE 2

Earnings	1969	1970	1971
Over \$25,000.....	18%	23%	25%
Over \$15,000.....	37	42	45
Over \$ 6,000.....	75	78	83

Also in new small companies, many of which are started by former agents, there is a reluctance to engage in agent financing. Companies either will be going into a specialty market or will be trying to attract personal producing general agents.

MR. INGRAHAM: On the subject of commissions, it is worth noting the comments on "servicing" commissions made by B. William Steinberg, a Massachusetts Mutual general agent in New York City. Mr. Steinberg, in an address in 1971 before the New York State Association of Life Underwriters, suggested splitting the agent's renewal commission into sales and service parts, the latter to be paid only to the agent actually on record for servicing the policy, whether he is the agent who sold the original policy or not. He pointed out that "[i]f such a servicing fee was an integral part of the policy, [agents] who truly service a client's portfolio, no matter in which company the existing policies were in force, could be adequately repaid for their time and effort on the client's behalf." "We suggest there would be less orphaned and unassigned policyholders," he said. "A policyholder failing to receive the service would be able to change agents and rectify this deficiency."

Mr. Steinberg also noted that the insurance industry would have little to worry about from the consumerism movement if life companies delivered service in the quantity and quality that they promise.

MR. W. TRIS STEVENS: With respect to studies of business by premium mode, Interstate Life ceased issuing monthly premium notice ordinary two years ago. Our thirteen-month lapse ratio for each of the two succeeding years has shown an improvement of 15 per cent. In addition, the administrative confusion and delays surrounding this type of business have been removed. We have been very pleased with the results and surprised at how little negative reaction was received from the field.

Our agents and our insureds still have available to them monthly policies paid for on either a monthly debit or a preauthorized check basis. If neither of those options is acceptable, then the policy must be sold on a quarterly basis, and we have seen a significant increase in quarterly business.

Persistency of our monthly debit business is good. The same can be said for our preauthorized check business—that is properly sold. Unfortunately, our normal market includes many who do not really know how to handle checking accounts or who have no checking accounts at all. Obviously, the sale of an insurance policy is not an acceptable reason for opening a checking account. Therefore, in these situations we have merely transferred the problems of the monthly premium notice business to the monthly preauthorized check area. If and when we can control this type of problem in the monthly preauthorized check area, we expect further improvement in our persistency.

MR. LAWRENCE: It is difficult to see how the life insurance industry can expand its share of the savings market by eliminating regular monthly business. A larger amount of regular monthly business might persist if premiums were paid on a ten-month basis, as from September through June. Many fuel bills are budgeted on this basis.

MR. STEVEN A. SMITH: In studying check-o-matic persistency, you should remember that in many cases the check-o-matics are changed to some other premium mode, such as regular monthly, before the lapse actually occurs. An adjustment to the exposure of the premium mode being studied might therefore be considered. Or should the resultant lapse be included with the check-o-matic mode instead of the mode on which the lapse ultimately occurred?

A more general question would be whether persistency should be studied by premium mode at time of lapse, by mode at time of issue, or, if a modal change has just occurred, by mode just prior to lapse. For many companies (including my own), if the premium mode has been changed since issue, the mode before change is no longer available without going to the policy files. This means that the study will most often be by

premium mode at time of lapse. If the number of modal changes made just prior to lapse is at all significant, and if some adjustment is not made either to the exposures or to the category of decrement, depending on your point of view, then the resultant persistency rates by mode could conceivably be quite distorted.

MR. THOMAS H. DANCY: The items discussed thus far all affect profitability, but measuring them independently does not produce a profit figure. It is their mix, as well as many other factors, which determines profit.

I use the term "profit" as if it were defined, but in reality I can only support the quotation at the beginning of LOMA Report No. 19:

Compared with other industries the Life Insurance industry still has to develop considerable knowledge in practical pricing and profitability of operations. One of the greatest areas of lack of knowledge is that of sales and service costs, and the profitability of agency operations. We just do not know, on an objective basis, the real differences in a profitable and unprofitable agency, which represents one of the largest areas of controllable expenses.

Hopefully our discussion will shed some further light on this elusive profitability of an agency.

First, let us consider from whose point of view the measure of profitability is taken. Is it a guide to the agency manager so that his actions will be influenced to optimize profitable growth? Or are we looking at agency profitability from the actuary's point of view in determining pricing or dividends? This raises a philosophic question of significance of profitability in a mutual company; such a company is an economic entity and as such must generate sufficient excess cash flows to provide working capital for current operations and the financing of growth. In addition, of course, a company must retain a balance on hand sufficient to weather financial storms caused by such things as heavy claims or unfavorable investment situations.

Still another point of view in measuring the profitability of an agency is that of the investment officer, who may be considered as competing for the same money. This is important in considering agency expenditures, because each generation of younger actuaries concludes that to maximize future profit the agency operation should be eliminated and no new business written. It is interesting to note that this maximum profit figure tends to rise over the years as additional business is written. This type of measure of the progress being made by the company might be the one adopted by the chief executive officer in a company, since he has the ultimate concern for its long-term profit and growth.

I would suggest, then, that while we are focusing attention on the profitability of an agency, we should keep in mind the flow-through to a more total concept of profitability.

Perhaps by now you realize that I cannot provide a pat answer on this question of profitability. My company is committed to developing a profit measure, and I am, indeed, indebted to my associates for most of the ideas I will present. We have always been interested in the subject of profitability measure, particularly since we operate internationally, and although we are now a mutual company, we have substantial volumes of nonparticipating business in different territories.

The LOMA has published a basis for measuring the profitability of an agency, using what might be described as an actuarial approach with an added element of human-resource evaluation, since it is prospective in nature. One problem, of course, is that new business written produces a current loss. Worse still, the cost of financing expansion in the agency force puts an added dimension to this strain; not only is money spent financing the new agent, but, when he becomes established, the new business he is writing adds to this strain. The LOMA approach deals with this problem.

The answer to the apparent loss caused by writing new business is the asset share technique familiar to all of us. That is, asset share values are applied to the actual policies written by the agency. The measurement of profit in respect to the particular agency is accomplished by modifying the asset shares to introduce the particular agency's performance on expenses, persistency, and survival rates for agents. There can, of course, be considerable variation among companies in the factors deemed to be significant in assessing an agency's performance. Clearly, this part of the formula discounts future expected profits and so overcomes the strain of writing increasing volumes of new business.

The other part of the LOMA calculation is the inclusion of the change in capitalized value of the agents by discounting back to the present time the profitability of the business expected from them in future years. This is calculated from the same asset share assumptions, but with agency development expenses eliminated. The probability of obtaining the projected business is dependent on the agents' survival and level of production. These factors are determined for the particular agency. This part of the formula then provides a useful measure of whether the agency development costs are producing bona fide gains in the agency force, which is the intention of the expenditure.

These two elements can provide a satisfactory answer to an agency manager who wants to know whether his agency is profitable for the company as well as financially rewarding for himself. It is possible to

include a profitability factor in his compensation once its credibility has been established. Establishing this credibility may be difficult because the calculations are totally dependent on the assumptions used in the projections, which means that the control lies with the actuaries rather than with the less mathematically sophisticated managerial group. To reinforce his decisions, the cautious actuary will look at what happens when the assumptions are changed.

Relating agency profitability to a more total concept of company profitability requires rather complex calculations. In addition, to help establish credibility, it would be desirable to reconcile these profit projections with annual statement returns which adds another layer of complexity. While this may not be a necessity, it does bring rather heady calculations back to reality. In this respect the traditional solvency tests prescribed by the authorities are a salutary discipline.

So much for what might be termed an actuarially slanted approach to measuring agency profitability. How might an accountant view the situation? It is unlikely that he would be prepared to recognize transactions occurring over long periods into the future as a base for current earnings. For capital budgeting purposes, projections of expected earnings in relation to capital employed would lead to a return on investment (ROI) measure for ranking the attractiveness of proposed projects. For example, would the company obtain a greater return from opening a new agency or purchasing a common stock, bearing in mind the risks in each transaction?

For determining over-all profit as opposed to isolating a project, the accountant would be endeavoring to match expenses incurred with the period when the income is derived. This involves accumulating excess initial expenditures and running them off over the lifetime of an insurance policy, with reserve liabilities in the interim being calculated on a realistic basis so as to allow the income contributions to emerge at the proper time.

The ROI concept used by accountants can be extended to measure operating earnings, that is, earnings as a percentage of assets invested. This is a common measurement in business enterprises and results from the rate of return on sales times the rate of sales in relation to assets.

Algebraically the return on assets employed might be defined as the ratio of income less costs to sales volume times the ratio of sales volume to capital invested. Since the sales volume appears in both the numerator and the denominator, the temptation is to cancel it out, but this negates the advantage of examining each ratio separately.

In our business, as indicated in the LOMA approach, a major asset item is the company's agency force, and this is particularly important when considering the measuring of agency profitability. Thus, following

the ROI approach, we would be deriving two measures for each agency: earnings as a percentage of sales, that is, sales minus specific selling expenses, other specific agency expenses, and realistic reserve values; and the rate of sales in relation to assets employed. The capitalized expenditures would be the cost of establishing agents, acquisition expenses such as commissions, and such physical items as alterations, furniture, and equipment.

Although using ROI for measuring operations comes logically from ROI project assessments (expanded to cover the entire agency operation), there is a heavy weighting from previous business which dilutes the emphasis on the selling activities of an agency. The method unfortunately introduces a reserve element, which is a subject still not entirely settled within the industry.

In measuring the profitability of an agency, I would like to see profit figures calculated as closely as possible from current operations (over a one-year period) divided between sales, manpower development, and the agency's contribution to servicing existing business. This seems to me to be the kind of measure an agency manager can understand in relation to his objectives. Furthermore, it avoids too much weighting from the past or from the future.

MR. JOSEPH R. BRZEZINSKI: Several years ago, when I entered into the work that the LIAMA was doing on agency profitability, I thought I was in for the tail end of a project that had been pursued off and on for over thirty years and would shortly be completed. At that time, the final versions of LOMA Report No. 19 were going to press, and we had hopes that, in doing much of the groundwork in implementing such an approach, we would be able to give our membership both help and advice in installing agency profitability systems of their own. With considerably more research behind us now, we are realizing that the theoretical obstacles to developing the LOMA profitability measure are in many ways minor compared with some of the practical difficulties involved.

Except for several trivial adjustments, the LOMA formulas are theoretically correct—in fact, they closely parallel special cases of the old gain and loss exhibit of the Annual Statement. As with the gain and loss exhibit, a critical element is the choice of reasonable standard assumptions. The gain and loss exhibit assumed a uniform loading so that profits did not emerge uniformly over the lifetime of a policy. In contrast, the LOMA measure assumes that all future expected profit on present and future expected business should emerge at the time an agent is hired. This assumption needs to be modified to match the recognition of performance more closely with the occurrence of that performance.

Another problem that we are investigating is the separation of true differences in performance from chance fluctuations caused by small populations—especially of experienced agents—in evaluating the performance of an agency. This problem is greatly exaggerated by the basic calculation of capitalized value, which recognizes only future performance. To clarify this point, our studies have shown that expenses of established agents are roughly 25–50 per cent of those of inexperienced agents on a unit-of-production basis and 50–75 per cent on a per capita basis. These results, combined with production, quality of business, and survival curves that plateau over a six-month to six-year period, create a situation that makes even “poor” established agents fairly valuable. For instance, an experienced agent’s peak value can be from around \$40,000 to \$500,000, depending on expectations about his future performance. The loss of any established agent can therefore be a disastrous event for a particular agency, since the proposed measure will count nearly all of this value as a negative.

At the LIAMA we are using simulated agencies (in which we “control” the quality of agents and business) to measure the effect of different rates of production per agent, agent survival, persistency, expense, and agency growth on profitability. We also hope to see what the effects of chance fluctuations may be and are investigating methods of dampening the effects of chance while maintaining some adherence to the objective of recognizing and measuring true performance. Sometime next year we will publish the first of a series of reports on our progress.

MR. LAWRENCE: There are many statistics available to a company which has not been able to develop data for a detailed profitability study. Most of these are in the category of sales statistics, but they are also crude measures of profit in an agency, at least from the company’s point of view. Some of these items are the following: (1) agency volume of business production in a period, (2) leading producer statistics, (3) commission leaders by agent and agency, (4) expense or allowance payments, (5) recruiting results, and (6) production by agent.

Using these statistics, it would be possible to apply asset share values to the production of an agent or an agency, broken down by plan. Variations in commissions could be determined by comparing actual commission levels with the asset share assumptions for the agents or agencies being tested. The combination of these items and a ranking for those groups under study would give a relative measure of profitability.

A nonmathematical measure, but one which could have great significance, can be obtained from talks with the underwriting staff. Underwriters generally know the agencies and the individual agents quite well.

They know those who require special handling and those who produce high-amount or substandard business, and they are aware of the many other activities which produce additional cost, additional benefits, or both, to the company. Combining this qualitative approach with the quantitative measure mentioned first can, if nothing else, serve to establish characteristics for new agencies which the company might open.

MR. LAWRENCE: My comments will be limited to the area of ordinary insurance. I think we would agree that the traditional method of marketing life insurance is through the commissioned salesman, who is part of a company's sales force trained to sell its particular products. Depending upon the structure and size of this agency force, the salesman can be related to his company either through a hierarchy of supervisors or directly with no go-betweens. Definition of this relationship also depends upon the company's philosophy, age, and size, as well as on the value of the particular salesman to his company. The agent may be tightly bound to his company through its compensation structure and fringe benefits, or he may be loosely tied and able to represent a number of companies.

An agent begins his career by selling what is commonly referred to as "single needs"; as his experience develops and he is trained further, he proceeds into areas such as estate planning, business insurance, and pensions. Often the successful salesman settles into his own niche, writing most of his business with a particular product or in a particular situation.

For his efforts the agent receives as his primary reward a percentage of the premiums to be paid by the buyer. This percentage is usually higher in the first year than in later years, with the later-year payments guaranteed or not, depending upon his continuing association with his company and other features of the company's compensation plan, such as service or volume of new business. In addition to commissions, the agent may receive a production bonus, a convention qualification, company club membership, and many other forms of encouragement which the company may use to increase the amount of business it receives from its sales force.

With that introduction, I would like to enumerate some of the problems involved with that system. Probably the major problem is in just keeping the system going. In order to maintain the system, new blood must be brought in. Companies hiring trainees to become agents have been looking to the college graduate. With recent starting salaries of college graduates of about \$9,000, the financing or subsidization of these men while they are learning has risen to average \$700 per month for many companies, with a peak of \$1,000. In order to pay for himself in the first

year, the trainee must produce in excess of \$1,000,000 of insurance volume, which less than 2 per cent of these agents can do in the first year. Although the level of financing has been increasing, the average production of the financed agent has not been significantly increasing.

If a company is willing to build its sales force by hiring trainees, it should consider the statistics which show that even a successful company must hire half its total agency force each year. Finding potential salesmen to fill these spots, testing them to judge their expected success, and establishing a training program which will promote success are all problem areas, aggravated by the fact that so many of these trainees leave.

If a company chooses instead to hire a proved agent, it must compete for this man's services and pay out much of the savings. It then must supply the product and services necessary to keep this agent producing. The problem of cost becomes partially one of maintenance.

Another serious problem today is the continuing decline in the price per unit sold. Competitive pressures have prompted new products with lower prices, particularly new term products, which drastically lower the price per unit and reduce the agent's commission, from which he must make his living. The trend toward and emphasis on selling larger amounts have helped to counteract this; moreover, experienced agents will concentrate on the over-age-40 market in order to keep the premium per unit at a level which produces adequate compensation. This has left a void in certain areas of the market that the traditional system is not covering.

The mere fact that the system is traditional is also a problem, because we live in days when traditional concepts are questioned. However, selling, whether of life insurance or of toothbrushes, is a business of innovation, a continual looking for something which is new. It must and will change with the times.

Over the last twenty years, significant change has resulted from at least two developments. One is the proliferation of new companies. Between 1951 and 1971 the number of life insurance companies in the United States increased by over 1,100. The need for these new companies to develop a sales force of their own has led (and continues to lead) many of them to innovate on the traditional sales distribution system, prompting reactions by the more "traditional" companies.

The other development has been the shift in product mix. In 1951 approximately one-fifth of the total insurance was group; in 1971 the proportion was two-fifths. Credit insurance was less than 2 per cent of the business in 1951 but amounted to 6 per cent by 1971. Such shifts have brought and will continue to bring changing business methods and compensation patterns.

Pressure for change comes frequently from consumer groups and consumer advocates, who go so far as to call for the end of the front-end load system. Because no way has yet been found to compensate the salesman adequately without the higher first commission, such pressure, if successful, would eliminate the salesman.

The very fact that the traditional sales method has been successful has resulted indirectly in cries for reform. The success of the system breeds imitation, and imitation brings with it the urge to outdo the opposition. Unfortunately, the questionable practices which sometimes result cause even the innocent companies to suffer in the subsequent storm.

For the future, a significant problem may be the continuing increase in pensions, in both private and government plans. Some of that increase, of course, has been provided by the sales of individual policies, but much of it has come from annuities or uninsured plans. This increase in guaranteed retirement benefits tends to lessen the case for cash-value life insurance and introduce more term and other lower-priced products.

Finally, the increased sophistication of the sales force will bring problems. In recent years the emphasis in many companies has been on the sophistication of sales efforts and includes the development of insurance sales based on tax considerations and estate planning. Lately there has been a tie-in of insurance sales with many other financial services, such as real estate investment trusts. One problem with this is that the development time for an individual sale becomes quite lengthy, and another is that the agent begins to divert his insurance sales effort into the development of these allied services.

Attempting to make a list of industry problems without recognizing that all of them do not apply to any one company tends to leave a very negative impression. Recognizing that the situations do vary by company, we must also recognize that none of these problems are new or unique to the life insurance industry. In attempting to solve these problems, changes such as the following have already been made in marketing methods:

1. Direct-mail selling.
2. Exchange of products with salesmen from other financial institutions, such as mutual fund organizations.
3. Building marketing companies to take over the sales function.
4. Emphasizing life as another product to the independent agent.
5. Savings bank life insurance.
6. Association and multiemployee trust group insurance.
7. Employee salary deduction packages sold by commissioned personnel and enrolled by salaried employees.

With all the problems which remain, it seems certain that we will see more and more attempts to depart from the traditional marketing approach.

MR. DANCY: The widows study conducted by the LIAMA indicates a severe deficiency in providing adequate insurance coverage to the public. Nearly all widows had some form of insurance benefit, but coverages were inadequate and had not been kept up to date. Thus we seem to be reaching the public but not keeping their insurance programs in line with their changing needs.

MR. INGRAHAM: Historically, the marketplace for individual insurance has been covered by using two basic distribution systems—combination and ordinary. The combination system has over the years dealt successfully with the low and lower-middle income groups, but combination companies are now moving their attention somewhat higher on the income scale.

The ordinary distribution system has been used to cover the higher-income balance of the market. Companies that have particularly focused their market thrust on the more affluent customers seem to have generally enjoyed higher levels of production for both new and more experienced agents and better rates of agent retention.

However, LIAMA demographic studies indicate a burgeoning and relatively untapped ordinary market of the future comprised of people earning \$10,000–\$20,000 per year. LIAMA buyer studies show that industry sales and sales frequency in that sector of the marketplace have decreased in the past few years. The LIAMA has pointed out that agents' activity patterns have not adjusted properly to the relatively rapid rise in required new-agent financing levels and that companies have compensated for this by directing agents to higher-income markets and larger cases. To the extent that this is accepted as the most viable solution, it will contribute to the lack of penetration in the middle-income market.

Perhaps a third form of distribution system is needed which would represent a blend of the combination and ordinary systems. Perhaps within such a distribution system, a modification of traditional concepts relative to both agents and agent compensation is worth considering. It is certainly true that the entrepreneurial and self-starting characteristics of the extremely successful agents operating at the top of the market are beyond the capacity of most men attracted to life insurance selling. Hence, for the vast body of agents, is it not possible to employ a different compensation philosophy, one which would incorporate more of a "salary

plus bonus" concept? Might not these agents be the ones who could make an adequate living selling to the aforementioned middle-income market?

As I mentioned earlier in this session, agent compensation plans should place a greater emphasis on individual service to existing clients. A truly consumer-responsive arrangement would provide among other things, service fees in renewal years that could be paid to agents actually servicing the policies in force—recognizing that such transferable fees would in many instances be paid to agents other than the original agent and that the cost of such transferability would have to be reflected in the pricing structure and constrained within any pertinent future expense limitations required by state laws such as New York's section 213.

The entry in the late 1960's of many insurance companies into mutual fund and variable annuity marketing operations reflects an embrace of an expanded financial service organization. Under a nonintegrated approach, parallel marketing operations within an insurance company would function by using different distribution systems. An example might be a company using the traditional agency system to distribute its ordinary products, which also forms a subsidiary using mass-marketing methods in special marketing situations such as salary savings cases, so that its clients are reached directly.

Under an integrated approach, on the other hand, the individual agent would remain as the central pivot of the marketing effort. However, he would be supported by a staff of product specialists at least quasi-salaried and probably regionally situated. Such product specialists would work horizontally with general agents or branch managers and the individual agents to provide the necessary expertise in market situations where it would be unrealistic to attempt to train agents to perform competently. Consideration of this approach by companies may be particularly relevant with regard to products and services that are subject to a high degree of federal regulation, such as mutual fund-life insurance packages, variable annuities, and variable life insurance.

CASUALTY INSURANCE AND THE LIFE ACTUARY

Current developments and trends in casualty insurance, with emphasis on the interrelationship with health insurance and resulting impact on the life actuary. Primary attention to three lines of insurance:

1. No-fault automobile
2. Workmen's compensation
3. Medical malpractice

CHAIRMAN FREDERICK W. KILBOURNE: There is much going on these days in the casualty insurance field—far more than is customary in the staid and stuffy business of insurance. Premium rates are suddenly required to be both competitive and, horror of horrors, reflective of investment income. Property-liability coverages are mass-marketed, and the independent agent asks to be placed on the endangered species list. The federal government fixes its stare on everything from rates (through the Price Commission) to coverages (medical malpractice and workmen's compensation insurance)—and even decides to try the water itself (flood and crime insurance). Perhaps most shocking of all, one line of casualty insurance has generated so much turmoil that it has become a household word—"no fault." The sentences that are built of this word and others in households across the land tend to be less than complimentary to the insurance industry.

Please note that I said "insurance industry," not "casualty insurance industry" nor even "casualty half of the insurance industry." There is a marked tendency among insurance people, and perhaps notably life actuaries, to view those working on the other side of the life/casualty rift as being part of an entirely separate industry—and to evaluate that industry as a consumer rather than as a knowledgeable professional. This view of the industry is not shared by the man in the street—whose view ultimately prevails in such matters. He sees us as all being in the same boat, and calls it "insurance." Thus, when we life actuaries smell smoke and hear fire bells regarding the casualty insurance business, it is incumbent on us not to fan the flames, for there is no record yet of half a ship going to the bottom. Our job is rather to help solve the problem, which of course starts with our gaining a degree of knowledge of the situation.

But goings-on in the casualty business affect life actuaries directly as well as indirectly. We are all familiar with the activities of all-lines groups such as the Travelers, the Aetna, and the Prudential. While it is not a foregone conclusion that all-lines insurance products (meaning

life and casualty coverages in a single policy) will one day be upon us, it does seem certain that there will be a greater degree of co-ordination of life and casualty coverages than we have at present. A brief review of the history of multiple-line insurance may be appropriate at this point.

For most of the years that automobile insurance has been written in this country, it has been necessary that you buy your physical damage coverage from a fire insurer and your public liability coverage from a casualty insurer. About twenty-five years ago public pressure (in the final analysis) resulted in the passage of multiple-line legislation under which a single insurer could write a single policy bridging the then yawning gap between fire and casualty insurance. Combination automobile insurance policies resulted, as did the concept of homeowners' insurance, and the fire and casualty insurance "industries" eventually merged. The process was not smooth, it took years, many experts foresaw incompatibility, and some vestigial traces of the dichotomy persist to this day—but the merger of two subindustries happened, and it will probably happen again.

A word of explanation is needed at this point. I have used the term "casualty insurance" ambiguously, both as a generic term encompassing all lines of nonlife insurance, and also as a specific term excluding "fire insurance." My excuse in the former case is merely an attempt to simplify the unwieldy phrase "fire and casualty insurance"—or the corresponding euphemism, "property and liability insurance." This last travesty must be blamed on your public relations men, of course, and their insistence on perverting "life and health insurance" out of the perfectly good phrase "death and disease insurance."

Consider the public pressures that tend toward all-lines insurance, at least in the broad sense of co-ordination of benefits. Suppose, for example, that I am attacked by a telephone pole while driving to the Miami airport after this meeting. What will the monolithic (in my mind) insurance industry do for me? Will my California auto insurer honor my claim under the Florida no-fault law? Will my workmen's compensation carrier step forth on the grounds that I was effectively at work? Will my group, or individual, health insurer wait to see what happens here before paying "covered" expenses, as limited? And which of them will want to subrogate against my recovery from the carrier covering the emergency-room doctor for his medical malpractice? Should I hire a hall for the insurers to come together on my claim? Or will I, as (quite literally) the man in the street, apply slow but relentless pressure on the insurance industry to co-ordinate my benefits? After all, what I need from the one and only insurance industry is reasonable reimbursement of medical expenses and

lost earnings, not the proverbial buffalo-stampede policy. Problems of product design and the like should be solved by you actuaries, not by me. That's what I pay you for.

Now it may seem that no-fault automobile and workmen's compensation and medical malpractice insurance are far removed from the familiar old health insurance that we know and love so well. If we will but step back three paces from our desks, however, and take a critical look at what we really have to sell—reasonable protection from medical expenses and lost earnings—we will see that no-fault automobile and workmen's compensation and even medical malpractice insurance are really health insurance in disguise. Each is merely a special form of named-peril medical expense and income replacement coverage, regardless of the third-party involvement. In fact, with a further step back from the desk we can even extend the health insurance label to embrace life insurance itself as lump-sum disability income insurance having a simplified definition of disability—namely, that body temperature and room temperature be convergent.

What are the important current developments and trends in casualty insurance, with emphasis on the interrelationship with health insurance and the resulting impact on the life actuary? We will attempt to answer this question.

MR. ROY R. ANDERSON: One of the frustrating things about discussing no-fault auto insurance is that this term lacks precise definition. The expression "no-fault" has been applied indiscriminately to almost every conceivable type of plan that would represent a change from the present systems of tort law and auto insurance coverages. Plans that have been called "no-fault" span an entire spectrum.

No-fault proposals that are to the left of the present system on the spectrum involve a reduction in a person's rights under tort law. In this context, a no-fault plan that would completely eliminate the tort system would be at the extreme left of the spectrum. An example of such a plan is the one originally proposed by the American Insurance Association in October, 1968. Another example is Senate Bill S. 945, which is the no-fault bill endorsed by Senators Hart and Magnuson. It was voted out of the Commerce Committee this summer but was effectively killed for this session of Congress when it was referred to the Judiciary Committee. I would also place the recently released Uniform Motor Vehicle Accident Reparations Act, commonly referred to as "UMVARA," to the left of center. UMVARA was the model bill drafted by a special committee for

the National Conference of Commissioners on Uniform State Laws under a grant by the Department of Transportation.

No-fault plans which would require little or no change in the tort law could be described as being to the right of center. They are classified as "no-fault" because they require that all auto liability policies include certain first-party bodily injury coverages under which benefits would be payable regardless of fault. Examples of such plans are those of Delaware, Maryland, and Oregon.

Then there are plans that lie somewhat near the center of the spectrum, but to the left of the present system, since they involve some form of limitation on a person's right to sue under the tort laws. Examples are the plans of Massachusetts, Florida, New Jersey, and Connecticut. These plans are sometimes referred to as "modified no-fault."

All of these plans are going to have an effect on health insurance, and vice versa, but the relationship will be different for each of the two main types of health insurance. For the purpose of this discussion, the two types of health insurance can be defined as (1) medical expense insurance, which includes all forms of medical care coverage (hospital, surgical, doctors' bills, nursing, and so on) provided by all systems of insurance and financing (private insurance companies, the Blues, Medicare, state and federal plans, uninsured plans, and others), and (2) wage-loss insurance, which includes all forms of protection for wage loss (private insurance [both individual and group], state and federal plans, uninsured plans, social security disability benefits, and so on).

What effect will no-fault auto insurance have on medical expense insurance? Logically, the spread of no-fault auto insurance into more and more states should precipitate a resolution of the question, Will auto insurance or health insurance provide primary financing of medical care for those injured in auto accidents?

One would have expected this question to have been resolved by now, but, as of today, most victims of auto accidents can collect twice for their medical bills. Even in the states that do not have no-fault, about three-quarters of the injured persons are covered under the medical payments coverage of an auto policy, and under no-fault virtually 100 per cent of the injured persons will be covered. At the same time, over 90 per cent also can collect a second time under group plans, Blue Cross, or Medicare. This opportunity for persons to collect twice for their medical expenses is, at the least, an uneconomical use of the nation's funds that are available to finance medical care. At the worst, this duplication can induce both unneeded extra medical care and inflated bills as the patient becomes aware of his opportunity to profit from duplication of coverage. This

danger will be especially great in those states where the amount of coverage for medical expenses under the no-fault plan is rather high and the injured person is also covered under a major medical plan. In such cases, a seriously disabled person could undergo extensive medical care and receive benefits under both his major medical and no-fault auto coverages. Such a situation could easily occur in New Jersey, where the no-fault plan provides unlimited medical coverage.

The drafters of the various proposed plans have not been unaware of the need to avoid duplicate medical payments. For example, in the various state no-fault plans, medical coverage is made excess of medical payments under workmen's compensation. Except for this, however, most state plans contemplate that auto insurance will be primary. But other systems of health care financing make the same assumption, and the duplication-of-coverage problem continues. In general, the position of each insurance company (or trade association) has been to advocate that whatever line is major for that company be kept primary. Consistent with this, Blue Cross has actively advocated that they remain primary under no-fault auto insurance and that the auto insurance companies become secondary (or "excess").

Now let us consider the interrelationship between no-fault auto insurance and the wage-loss type of health insurance. Here, as with medical expense coverage, the issue of which line of insurance should be primary is still unresolved. With a few exceptions, a person collecting wage-loss benefits under no-fault plans, both those in effect and the many that have been proposed, also can collect under other types of wage-loss or salary-continuance plans. The opportunity for an injured person to collect disability benefits from more than one source, either or both of which could be tax-free, presents an opportunity for malingering that must boggle the mind of a person with experience in the field of disability insurance. Yet I do not regard duplication of coverage as, in the long run, the major problem with respect to the wage-loss coverage in no-fault plans. I believe that the problem will demand a solution before too long; one line or the other will have to be made primary. Here I believe the arguments are heavily in favor of making auto insurance primary, except perhaps for compulsory state or federal disability income plans.

The major problem that I see with respect to the wage-loss coverage under no-fault insurance is that the benefit structures of many of the plans that have been enacted or proposed are far too liberal and utterly unrealistic. They could have been developed only by individuals who have had no practical experience with the problems inherent in disability insurance. This is probably because, for all practical purposes, auto insur-

ance policies have not contained a significant amount of wage-loss coverage on a first-party, no-fault basis. Auto insurance companies have had substantial experience in administering the medical payments coverage on a first-party basis but only negligible experience with first-party wage-loss coverage.

In general, the more a person's rights under tort would be reduced under a proposed plan, the more generous are the first-party benefits that would be provided under the no-fault coverages. In retrospect, I believe that the promise of unrealistically liberal wage-loss benefits had its origin several years ago when the no-fault issue first gained attention. Those who wished to propose the complete elimination of tort realized that they had a rough sale to make. In order to make their proposal more attractive, they evidently felt that it was necessary to hold forth extremely liberal benefits for the seriously injured.

To illustrate this, I note here features of wage-loss benefits found in some of the no-fault plans that have been enacted or proposed. Most no-fault plans provide reimbursement of a very high proportion of an individual's wage loss—85 per cent is a typical figure. Some no-fault plans provide an inner limit on the maximum amount of wage loss, up to \$100, \$150, or \$200 per week. Other plans, in lieu of an inner limit, limit total first-party payments; Florida has an aggregate limit of \$5,000 and Delaware a limit of \$10,000. Some plans require that companies offer supplementary wage-loss benefits on an extremely liberal basis. For example, the New Jersey law defines an additional coverage which the insured can purchase at his option which would provide him with a disability income of \$35,000 a year, payable to age 65.

But even more dangerous concepts are being introduced into the wage-loss coverages of some of the no-fault plans. It is hard to believe that those who have come forth with these ideas have had any practical experience in the administration of first-party, income disability benefits. To illustrate, consider the original proposal of the AIA. Take the case of the young student who became totally and permanently disabled. It was held by the proponents of that plan that such an injured young person would receive compensation for the rest of his life—starting when he would have entered the work force and at the rate of earnings that he would have enjoyed.

This same concept was contained in Senate Bill S. 945. In addition, S. 945 would have provided periodic increases in disability benefits, as described in the following language: "Such sums are to be periodically increased in a manner corresponding to annual compensation increases that would predictably result but for the injury." But S. 945 goes still

further. It would have imposed substantial interest penalties in the event that disability claim payments were delayed. Even more important, it would have required that the insurance company pay the fee of the claimant's lawyer in the event of a dispute—absent a fraudulent, excessive, or frivolous claim.

These features of S. 945 that I have just described may also be found in UMVARA. Earlier I described both of these plans as being at the left of the spectrum—that is, as plans which would involve a major change in the tort law. Two of the advantages that are held out by those who advocate such plans are as follows: first, there would be much less attorney involvement and, therefore, a greater portion of the premium dollar would be available to claimants; second, the cost of the system would be less.

I do not see how either of these objectives would be achieved. In my judgment, the ultimate result of either S. 945 or UMVARA would be another system that would be conducive to attorney involvement. The injured person would have everything to gain and nothing to lose by hiring a lawyer. A lawyer would help him attempt to collect higher amounts of wage-loss benefits or to claim prolonged disability. And, in the absence of fraud, the insurance company would have to pay his lawyer's fees.

I could go on and on with examples of the problems I see in no-fault auto insurance as viewed in the perspective of my background in accident and health and disability income insurance. I could illustrate contractual language, required by law, that produces ambiguities. I could describe the various, imprecise ways in which the amount of wage loss incurred by an injured person is supposed to be determined. I could refer to the dangers inherent in not being able to exercise any underwriting judgment for many types of wage earners.

However, I am reminded that I am also supposed to comment on the impact that these issues will have on life actuaries. So I would say to each of you who has any responsibility with respect to health insurance, and especially wage-loss insurance, that it is high time you became fully aware of the types of no-fault plans that are being proposed, at both the federal and the state level. These plans will have an adverse effect on your own health insurance plans. The duplication-of-benefits problem will become increasingly important, and the issue of which line is to be primary must be resolved.

I would like to extend a special welcome to the actuaries of the Prudential, the Metropolitan, and the John Hancock, and others who are with companies that are becoming interested in entering the auto line.

You and I may well disagree as to what type of no-fault plan we believe is best for the public—that is, how far to the left or to the right on the spectrum we believe the plan should be with respect to changes in the tort system. But when you analyze the type of first-party wage-loss coverages that are being proposed in some plans, especially at the federal level, I am sure that you will share the concerns I have expressed.

One final thought. They say no-fault auto coverages are “just like health insurance.” Believe me, they are not!

MR. ROBERT C. GOWDY:* Before sharing with you some of the developments in the workmen’s compensation insurance field, it might first be appropriate for us to review briefly what workmen’s compensation insurance is.

Workmen’s compensation insurance provides cash benefits, medical care, and rehabilitative services for workers who suffer work-related injuries or diseases. Each state has its own workmen’s compensation insurance act. No two acts are exactly alike, but the concept is the same in all of them. Workmen’s compensation benefits are paid even when the employer is free of negligence or fault. It might be said that it was one of the first liability systems to turn to the “no-fault” concept. The only criterion required for an employee to receive benefits is that he receive a personal injury arising out of and in the course of employment.

STUDY COMMISSION

Now let us review recent developments in workmen’s compensation insurance and try to relate them to the life and health field. As you may be aware, workmen’s compensation benefits in some states are low and inadequate. Cash benefits for both disability and death are, in some cases, only a fraction of actual requirements. Medical care may be limited. Because of these circumstances and for other reasons, a National Commission on State Workmen’s Compensation Laws was established to study the workmen’s compensation system. They have completed their report and submitted their recommendations to the President and to Congress. The report which was released in July of this year has already received strong support, and it appears that many of its recommendations will be implemented.

Some of the things the national commission calls for are the following: (1) There should be unlimited medical care for personal injury arising

* Mr. Gowdy, not a member of the Society, is a Fellow of the Casualty Actuarial Society and is assistant vice-president, Industrial Indemnity Company, San Francisco, California.

out of employment—there should be no dollar limit on the medical care provided to an injured employee. (2) Each employee should be entitled to two-thirds of his lost income for disability, up to a maximum amount of 200 per cent of the state's average weekly wage. (3) The death benefit should take the form of a widow's pension, whereby a widow receives two-thirds of the employee's average weekly wage for life or until remarriage.

EFFECT ON LIFE AND HEALTH MARKETS

There is little doubt that the past inadequacies of workmen's compensation insurance have provided a market need that many life and health carriers have successfully served. As workmen's compensation insurance benefits are increased, some of these market opportunities may be affected. For example, first, the market for all forms of accident insurance sold to employer-employee groups may be reduced. Some of the motivation to purchase accidental death or accidental injury coverage stems from inadequate workmen's compensation protection. Second, the need for so-called business travel coverage may also be reduced once there is an adequate death benefit under workmen's compensation insurance.

Aside from the possible adverse effects on products of the accident-only type, the new workmen's compensation trends will have some very positive effects on other life and health products, particularly group products. As a direct benefit, workmen's compensation will be made to cover an ever enlarging range of industrial illnesses. This will not only save the group life and health insurer from the cost of an occasional heart attack, but, more importantly, it will absorb a large portion of the tremendous costs associated with industrial illnesses that strike the employees of an entire industry, as has recently been determined with asbestosis.

Indirectly, the improvements in workmen's compensation insurance should increase the demand for more comprehensive employee benefit protection. The increased medical, disability, and life benefits provided on the job will help create greater demands for higher benefits off the job. Thus it should foster the growth of group life, long-term disability, and medical insurance.

REHABILITATION

Another development in the workmen's compensation insurance field is the increasing importance of rehabilitation. Often in the group insurance field a carrier may be insuring only one benefit—medical, disability, or life. When a person becomes seriously disabled, the carrier then has to provide only for the cost of this one, often limited, benefit. In this situation, the carrier may have only a limited concern with the claim and

limited funds for rehabilitation. In the same situation, if the carrier provided unlimited medical *and* disability benefits, the carrier would have greater involvement in the claim and a greater financial stake as well. Only with total involvement can rehabilitation be successful. Rehabilitation involves responding to the total needs of an injured person as opposed to paying money damages. Because of their involvement with the total claim, I believe that many workmen's compensation insurers have been more successful and more aggressive in the use of rehabilitation than have the life and health insurers.

TREND TOWARD EMPLOYEE BENEFITS

Another trend which I see emerging is in the manner in which workmen's compensation insurance is viewed by the insurance industry. Traditionally, workmen's compensation has been treated as casualty insurance. More and more it is being viewed as employee benefit insurance and an important part of an employee benefit program. I think that more insurance carriers, particularly casualty-oriented companies, will be working to combine the workmen's compensation insurance with disability, life, and medical insurance.

The combining of workmen's compensation insurance with the more traditional group coverages appears to have considerable sales appeal to all employers. The larger-sized employer is primarily interested in the more simplistic, co-ordinated approach to employee benefits that a combination plan offers. The smaller employer is attracted by the greater coverage he can secure because the potential adverse selection is reduced through the package concept. Workmen's compensation insurance, which historically has been profitable, provides an extra cushion to absorb the life and health experience. Further, with the combination approach, the insured's loss experience should have greater stability and more credibility for experience-rating and pricing purposes.

My own company is in the midst of launching a new employee benefit product quite similar to that which we have been describing. It is a package product consisting of workmen's compensation insurance, group life insurance, group health insurance, and group disability insurance. In effect, we are taking the concept of workmen's compensation's full protection for medical, disability, or death and applying this concept to off-the-job coverage.

SUMMARY

Reviewing briefly, I have tried to share with you the recent developments in workmen's compensation insurance and the possible impact that they may have on life and health insurance. Proposals for increases in the

workmen's compensation benefit structure may affect adversely the market for products of the accident-only type; at the same time, however, they will contribute to employee awareness of the need for improved off-the-job employee benefit protection. I have also pointed out that rehabilitation appears to be more effective and practical whenever an insurance carrier is providing total benefit protection to an employee and his dependents. Finally, there is little doubt in my mind that group life and health insurance and workmen's compensation insurance are moving closer together. Someday in the future there may be little distinction between protection afforded on or off the job to an employee and his dependents.

MR. FREDERICK J. KNOX: In the next five years, one out of every three United States surgeons will be sued for malpractice! That staggering statistic comes from a survey by the American College of Surgeons and points out quite dramatically why medical malpractice insurance has become one of the most expensive and problem-plagued coverages in the property-liability insurance industry. The effect of these problems has been felt in other areas, including the health care delivery system and the health insurance industry. These effects are the subject of my discussion.

Medical malpractice insurance is the oldest line of professional liability insurance. The purpose of professional liability insurance is to protect the professional man against liability for damages (and the cost of defense) based upon his alleged or real professional mistakes. The correct name for this particular type of insurance is "Physicians', Surgeons', and Dentists' Liability Coverage," but it is often referred to by its earlier, unpleasant and incorrect name, "malpractice insurance."

Under terms of the insurance agreement, the professional liability insurer promises to pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of injury arising out of the performance of professional services rendered or which should have been rendered by the insured or by any person for whose acts or omissions the insured is legally responsible. Additionally, the insurer shall have the right and duty to defend any suit against the insured seeking such damages, even if any of the allegations of the suit are groundless, false, or fraudulent.

The insurer has the right, with the written consent of the insured, to make settlement of any claim or suit as it deems expedient. Note that the insured must give his written consent. The reputation of the professional man is an important asset, and he may not be in a position to

admit responsibility or liability and thus may prefer to contest and to incur court costs and even the possibility of a heavy adverse judgment.

The medical professional liability policy provides coverage not only against liability for such tangible damages as medical expense, loss of earnings (present and future), and disfigurement but also against intangible damages such as pain and suffering, mental anguish, loss of consortium, and slander.

An action to recover damages for malpractice must be grounded on the negligent actions of the defendant. A basic definition of negligence is "failure to do those things which a reasonable and prudent man would do under the same circumstances" or "doing those things which a reasonable and prudent man would not do under the same circumstances." Such negligence constitutes a tort, which is a civil wrong and an invasion of the rights of the third party. The law does not presuppose that for every injury there must be a recovery. For recovery to be made, there must be negligence resulting in injury.

The elements of a medical malpractice action are (1) the existence of a patient-physician relationship, (2) the existence of a duty on the part of the physician toward the patient, (3) failure of the physician to perform that duty, (4) an injury, (5) the existence of a causal relation between the injury sustained by the patient and the physician's failure to perform his duty, and (6) freedom from fault on the part of the injured person. The burden of proof is upon the patient to establish each of these elements by a fair predominance of credible evidence. If the patient fails to prove any of these elements, there can be no recovery of damages.

During the last ten years, the frequency and severity of medical malpractice claims have increased astronomically, and premium rates in most states have increased anywhere from 400 to 500 per cent and in some isolated cases significantly more. Increased premium costs have affected directly the cost of health care; more importantly, however, malpractice suits have affected the quality of health care, the location and availability of health manpower, and the utilization of health care facilities. To some degree the malpractice problem can be considered a legal and an insurance problem; however, it is primarily a health care systems problem that poses a serious threat to our entire health care delivery system. The complexities of the medical and legal issues involved and the diverse interests of plaintiffs, defendant physicians, insurance companies, courts, and juries mitigate against any simple analysis of the crisis.

Let us consider some of the elements that have given rise to the present malpractice maelstrom:

1. The practice of medicine and surgery is becoming more complicated each year. New diagnostic procedures, medications, and extensive surgical procedures have helped physicians save more lives and bring many age-old medical problems under control; however, medical advances often are coupled with increased hazards and complications, some of which are unknown to the physician until after the injury occurs. Each day the gap between medical knowledge and clinical practice is growing, increasing the physician's burden of keeping abreast of new developments in his field. Medical progress demands that today's physician assume a level of knowledge and skill never before demanded by our society.
2. The nation's mass media have popularized advances in medical science. People are interested in medicine and are greatly impressed with its scientific and technological capabilities. Unfortunately, the publicity and interest have developed expectations out of proportion to what medicine is capable of delivering. The public has not been made fully aware of the serious and unexpected complications that sometimes result from health care or of the fact that individual reactions to even the safest medication and procedures cannot be predicted. This lack of awareness, coupled with a tendency to view medical care as a commodity and to expect results commensurate with the price paid for the product, leads many patients to seek compensation for all injuries caused or allegedly caused by their physician.
3. The disparity between public expectation from medicine and individual results from health care has contributed to the gradual deterioration of the image of the physician. In addition, since the average patient does not fully appreciate the complexities of modern medical practice, he often is prone to blame his physician whenever the final outcome is not what he expected.
4. Perhaps the most potent psychological factor influencing increased malpractice litigation is the changing nature of the patient-physician relationship. The shortage of physicians in the United States, particularly general practitioners, and the general mobility of the population have contributed to reducing the traditional long-term relationship between physician and patient and the positive rapport such relationships can create. Patients, often with justification, complain of the perfunctory care they receive and of the lack of understanding, sympathy, and respect which their physicians display. Lacking sound rapport, patients feel little hesitancy in seeking compensation when real or imagined injuries occur. This impersonal relationship is not restricted to the physician but is common with hospitals. The hospitalized patient's enforced passivity, loss of privacy, and natural anxiety and fear of illness, when coupled with a depersonalizing attitude on the part of hospital personnel, tend to magnify his dissatisfaction with any real or imagined injury.
5. Today the consumer is king, and we have witnessed a dramatic increase in the consumer's power to obtain redress of grievances through the courts, not only in matters pertaining to the medical profession and its practice but also in many other areas.

There are many who blame our changing legal climate, particularly more liberal judicial interpretation of certain legal doctrines, for our crisis in malpractice today. However, I think it is reasonable to ask why. I would like to discuss several liberalizations of legal doctrines.

1. It may be years after medical treatment before an injury is discovered, and under the statute of limitations a patient may be prevented from pursuing legal action against his physician. Consequently, many states have extended the statute of limitations to run from the time of the discovery of the injury and not from the time of medical treatment. This creates a large open-ended exposure of the physician to malpractice suits and has made actuarial computations for rates and for incurred-but-not-reported claim reserves a nightmare.
2. The burden of proof generally is upon the plaintiff patient. Because most lay people cannot give expert opinions on matters of negligence and causation in medical matters, an expert witness must testify that, in his opinion, there was negligence or that something which should have been done was not. Failure to obtain expert testimony greatly lessens the chance of completing a successful legal action. Because of the difficulty of finding physicians willing to give adverse testimony against their peers, the doctrine *res ipsa loquitur*—"the thing speaks for itself"—has been used with increasing frequency. Under this doctrine, the burden of proof often can be shifted to the defendant, requiring him to prove that he was *not* negligent. Many fear that an expansion of this doctrine could lead the courts to fix the liability of the physician without regard to fault. The physician would become responsible for every undesirable result of medical care, even if the risk was inherent in the treatment and the injury beyond anyone's control.
3. In order for negligence not to exist, the physician is expected to exercise the ordinary degree of skill, care, and judgment exercised by members of his profession practicing in the same or a similar locality in the present state of medical and surgical science. However, this concept has been broadened so that the standard in his community may not necessarily be considered ordinary care. If the physician has a higher capacity, a greater knowledge, he cannot lay that aside. He must keep up with advancing medical knowledge. Consequently, the average physician, in order to protect himself— or perhaps we should say in order to guarantee the best care to his patient— must rely on consultants or physicians who either specialize or are more expert in the area of care he is rendering to his patient.

A somewhat related problem concerns prescription drugs. A physician may be forced into recommending drugs by brand name rather than by their generic name. The physician normally will be held responsible for only the adverse effects listed in the literature describing the particular brand-name drug.

In summary, negligence law in its application to medical liability has been liberalized greatly in recent years, the trend tending to expand the base of injured persons eligible to be compensated.

What are the consequences of the medical malpractice crisis on our medical care delivery system? Here are just a few that have accrued over the past few years:

1. One far-reaching consequence is the understandable reluctance of the physician to risk delegating tasks to paraprofessional personnel, at a time when manpower cannot keep pace with patient demand, since the physician will be held responsible for their acts or omissions.
2. Physicians will decline to innovate or try risky techniques for fear that subsequent failure will result in a suit.
3. In states where "good Samaritan" laws fail to protect health care professionals, accident victims may go uncared for, with no one the wiser.
4. There is a growing trend among physicians to practice "defensive medicine" to protect themselves against possible malpractice litigation. For example, many physicians freely admit to prescribing additional and unnecessary X-ray and other diagnostic tests, hospitalizing patients more readily, and keeping them hospitalized longer than necessary. The added costs of these measures are passed on to the patient and his insurance carrier, adding to the already spiraling cost of health care throughout the country. In some instances, physicians refuse emergency-room duty at local hospitals and consciously avoid accepting complicated and high-risk cases in their offices.
5. The threat of a malpractice claim and the staggering insurance premiums are driving a number of doctors into early retirement, shortening their productive lives.
6. The specialists in part-time practice, such as the anesthesiologist who teaches in a medical school and practices clinical medicine one or two days a week, are abandoning clinical practice altogether, rather than pay full-time malpractice premiums.
7. Medical educators are concerned that the burdensome malpractice premiums, unparalleled in other professions, may discourage young men and women from entering health careers, particularly in clinical practice. The already critical shortage of health manpower in the United States is further intensified by these actions.

How does the medical malpractice crisis and its effect on our medical care delivery system affect the health insurance industry? Consider the above-listed consequences and relate them to health insurance.

1. At a time when the insurance industry is trying to encourage the development and use of paramedical personnel, physicians are reluctant to support vigorously such a change in medical practice.

2. The increase in insurance premiums has contributed to the inflationary costs of health care which make it difficult for health insurance carriers to develop adequate health insurance rates.
3. The supply of physicians is being curtailed by early retirement and by the reluctance of medical school specialists to practice part time, thus creating a greater imbalance between supply and demand.
4. The liberal use of specialists or consultants adds to the insurance costs.
5. Physicians who are reluctant to try newer or riskier techniques may prolong patient care with safer and more conservative practices, adding to the ultimate costs of care.
6. The practice of defensive medicine in all likelihood does improve the quality of care, but at a questionable increase in cost.
7. Group practice may eventually gather the above-average physicians in a limited number of groups covering higher-density population areas, leaving the average or below-average physician to cover the balance of the population, thereby increasing the existing maldistribution of medical care. Also, the better physicians may be reluctant to practice with those less able because of the greater likelihood of a claim against the latter, thus creating an additional liability for the association or corporation.

How is the health insurance actuary affected? This is a difficult question to answer. Any of those factors that have in fact affected the cost of health care have already been reflected in rate-making, even though the actuary may not have known what caused the increased cost. An idea that I have not yet pursued is the use of changes in medical malpractice rates by geographic areas as a possible barometer to assist in the development of prospective health insurance rates. The actual malpractice premiums have a small direct effect on health care cost but have a significant indirect effect.

The health actuary should have a general awareness of the factors that affect health care. However, the few actuaries that are involved in developing health maintenance organizations (HMO's) should also be aware of the potential problems. It is imperative that the HMO (1) clearly delineate physicians' responsibilities and provide rules for consultation; (2) maintain timely, complete, and accurate medical records; (3) develop a program to maintain the best possible patient relationship (this can be accomplished by having each patient assigned to a specific family practice physician or by an effective education and communication program); (4) ensure proper supervision of paramedical personnel; and (5) establish a good patient follow-up system.

The social and judicial environment in our society today is forcing changes from our English-acquired principles of negligence and third-party liability to concepts of no-fault and first-party reparation systems.

This concept of "no fault" is not new. The introduction of workmen's compensation laws over fifty years ago changed the employer's liability with regard to his employees. At present it is occurring with the development of no-fault auto insurance. Whether it will occur to a significant degree in medical malpractice insurance in the future is questionable at this time. However, as we drift from third-party liability concepts to first-party reparation systems, the life companies and the life actuary will be directly affected. Benefit design and pricing must provide for the integration and co-ordination of overlapping indemnity coverages. Also, the ultimate possibility of life insurance companies writing such coverages would have a major impact on the whole insurance industry and on the life actuary.

MR. HOWARD H. KAYTON: Roy Anderson and Bob Gowdy indicated that a strong case can be made for having the compulsory insurance as primary coverage, with any other coverages as excess. However, while this would be proper for the development of a brand-new coverage, it may not hold in a situation such as we have, where there are in force many policies which provide primary coverage for disability income. These include group long-term disability policies, where the benefits could not be changed for several years, as well as individual disability policies, which could never be changed. Furthermore, there is no provision for co-ordination of benefits in individual policies that are being issued currently. Since, as Roy mentioned, there is the possibility of individuals receiving as much as \$1,000 and \$2,000 per month under the present no-fault coverages, this will create a dangerous situation involving heavy overinsurance.

Therefore, I would suggest that it might not be possible at this time to make the compulsory coverage the primary coverage. Furthermore, I believe that it is feasible to make the compulsory coverage excess; the carrier of the long-term disability policy will have an incentive to notify the auto or workmen's compensation carrier of the existence of the group or individual coverage, since he too has a strong interest in preventing overpayment of disability benefits.

MR. GOWDY: Workmen's compensation insurance traditionally has been the primary insurance with respect to most other insurance coverages. This probably stems from the fact that in most states workmen's compensation has been compulsory for a long period of time and nearly all employees are covered by its benefits. Now that there are prospects for compulsory and universal national health insurance and no-fault

automobile insurance, the original reason for the primacy of workmen's compensation insurance may not be as strong as it once was.

Aside from tradition and current practices, however, I believe that there are several significant reasons to continue to make workmen's compensation insurance primary over other forms of insurance, including automobile insurance, health insurance, and some government programs such as social security:

1. I believe that it is equitable that the total cost of injury arising in the course of employment should be borne by employers as a cost of production. Any intrusion by automobile insurance, health insurance, or tax-supported programs simply relieves the employer of his responsibilities and passes the costs of production onto some other public system. Any dilution of the primacy of workmen's compensation insurance in effect will amount to a subsidy of an employer's operation by the public.
2. Workmen's compensation insurance provides for both health care and wage-loss benefits. If health insurance coverage became primary over workmen's compensation insurance, there would be a benefit split, with the injured employee receiving his health care from one source and his disability income from another source. There would be two separate claims handled by two separate insurance organizations. It seems that the injured employee would be better served if he could look to one source to satisfy his needs for all losses suffered in connection with his injury.
3. Workmen's compensation involves responding to the total needs of an insured person as opposed to only paying monetary damages. The rehabilitation concept, which is an important aspect of workmen's compensation insurance, is not present in most health care insurance programs. It seems obvious that the effectiveness of any rehabilitation program would be curtailed if the health care and wage-loss benefits were split apart.
4. One of the advantages claimed by the health insurance industry for making health insurance primary is that health insurance has a much lower cost of operation. These claims of greater efficiency of the health insurance industry mechanism are somewhat misleading. The practices of the health insurance industry have been to pay only monetary damages, which is a relatively simple claim process. The responsibility of workmen's compensation is, first of all, to prevent injuries and, second, once an injury occurs, to respond to the total needs of the injured person. The greater scope of workmen's compensation insurance requires the industry to expend parts of the premium dollar for other than cash losses. This has nothing to do with the efficiency of the workmen's compensation system vis-à-vis the health insurance system. If the health insurers were charged with accomplishing the same objectives as the workmen's compensation insurers, I am sure that their operating costs would be substantially higher.
5. The advantage of making workmen's compensation primary is that it

neutralizes the effect that a person's occupation may have on the costs for other forms of insurance. For example, should a truck driver pay more for his individual, no-fault automobile insurance than an office worker? If workmen's compensation insurance takes care of the truck driver's on-the-job exposure, then these two people can be treated equally for automobile insurance. However, if workmen's compensation insurance becomes a secondary coverage, then the truck driver will have to pay an inequitably high premium for his individual automobile policy. Similarly, a construction worker is likely to have more work-related injuries than a white-collar worker. If the primacy of workmen's compensation is not preserved, then the construction worker will have to pay higher health insurance costs than the office worker. This does not seem equitable.

As far as I know, all the no-fault automobile insurance laws that have been passed in the various states have preserved the primacy of workmen's compensation insurance. Similarly, most of the national health care proposals continue the primary position of workmen's compensation insurance. This recognition of the importance of keeping workmen's compensation benefits primary is in the best interest of the injured workmen and the public at large.

