TRANSACTIONS OF SOCIETY OF ACTUARIES
1972 VOL. 24 PT. 2D NO. 69 AB

VOL. XXIV, PART II MEETINGS NO. 69A AND 69B

TRANSACTIONS

MAY AND JUNE, 1972

DIGEST OF DISCUSSION AT CONCURRENT SESSIONS

HEALTH INSURANCE IN TRANSITION

Atlantic City Regional Meeting

CHAIRMAN JAMES H. HUNT: The title of our panel session today, "Health Insurance in Transition," implies change. It implies that health insurance is in a process of evolving from what we have known in the past to something different—something that will probably be called "national health insurance." A recent poll shows that Americans favor some form of national health insurance by a two-to-one majority. Also in favor are such disparate groups and individuals as the American Medical Association, the major labor organizations, the National Chamber of Commerce, the Health Insurance Association of America, the American Hospital Association, the Nixon administration, Senator Kennedy, and many others. In fact, I do not know of any health-related trade association or prominent politician opposed to the idea. Of course, there is vast disagreement over what kind of national health insurance we need.

How did we ever get to this present state of affairs, in which the traditional foes of government involvement in the financing of health care—the AMA and the HIAA—are promoting legislation of their own in this field? I suppose that you could get many answers. I believe it is a combination of, first, a growing feeling on the part of most Americans that decent health care services should be assured all Americans as a matter of basic right, possibly analogous to educational services, and, second, a consensus that health care costs are out of control and that only government can bring such costs within acceptable parameters.

I would like to review with you three statistical studies or indicators which may serve to summarize the cost pressures prevalent in the health care delivery system today—pressures which permit politicians to express great concern about the viability of our present system, or nonsystem as many call it.

The Nixon administration's white paper entitled "Towards a Comprehensive Health Policy for the 1970's" states that in the decade of the

1960's hospital charges rose four times as fast as the consumer price index (CPI), while physicians' fees rose at twice the rate. Actually, if you do a little arithmetic with the CPI, you find that these multiples of 2 and 4 are actually 1.7 for doctors' fees and 3.6 for hospital charges. Next, it is necessary to reflect on the CPI itself and what it represents. I believe that the economists refer to it as the relative price, at a particular point in time, of a representative market basket full of goods and services. Doctors' services and hospital services, of course, are not goods.

When we compare the increase in hospital charges and doctors' fees with the component of the CPI which measures the relative change of the cost of all services excluding goods and excluding medical care, we find that during the decade of the 1960's doctors' fees increased 1.3 times as fast as services generally, while hospital charges went up 2.7 times as fast.

Because doctors' fees represent only 23 per cent of the total health care dollar, it is evident that, even though physicians' fees went up 1.3 times as fast as other services, this had a relatively minor impact on medical care inflation. On the other hand, hospital services, which went up 2.7 times as fast as other services, comprise about 43 per cent of the total health care dollar. Quite clearly, the villain of the inflation piece has been the hospital. About 60 per cent of the typical health insurance dollar goes for hospital care, so you can see what effect the rapid inflation in hospital charges has had upon the health insurance business.

A recent study completed by Martin S. Feldstein, professor of economics at Harvard University, gives us better insight into this matter of rapidly rising hospital costs. Among other findings, Professor Feldstein concludes that health insurance, which reduces net price to the patient of entry to the hospital, induces a demand for expensive care, which, in turn, gives a false signal to the hospitals about the type of care the public wants. He further concludes that the production of high-cost hospital care is a self-reinforcing process. That is, the risk of very expensive hospital care stimulates patients to prepay hospital bills through relatively comprehensive health insurance, while the growth of such insurance makes hospital care more expensive. In short, our current method of financing hospital care does not give consumers an opportunity to register their preferences as between higher- and lower-cost hospital care.

It is interesting to explore in greater detail this concept of the "net price" to the hospital patient of hospital care. Professor Feldstein points out that, while the average cost per patient day (ACPPD) rose from $15.62 in 1950 to $61.38 in 1968, or 293 per cent, the *net* cost to patients of a day in the hospital, that is, net of third-party reimbursement by insurers and government, rose only from $7.59 to $9.70, or about 28 per

cent. When this 28 per cent increase is adjusted for the increase in the CPI during that time, it can be shown that the deflated net cost of a hospital day has actually *declined* 16 per cent since 1950. Feldstein concludes, "It's not surprising that patients' demands for more and better hospital services have increased!"

Finally, as an indication of the extent of overutilization of hospital services, we can make reference to a recent study of the Federal Employees Health Benefit Program entitled *Enrollment and Utilization of Health Services, 1961–1968*, prepared by George S. Perrott of the Health Services and Mental Health Administration, United States Department of Health, Education, and Welfare. This study demonstrates as dramatically as any evidence can that there is much potential for reducing unnecessary use of costly hospital in-patient services. The Federal Employees Health Benefit Program is a nationwide program in which Aetna participates as an administrator of one of three principal kinds of plans available to federal employees. The study shows the following utilization data: for the Blue Cross–Blue Shield plans, 924 hospital days per 1,000 covered persons in 1968; for the indemnity plan, 987 days; for the seven different prepaid group practice plans, an average of 422 days of hospital care per 1,000 covered persons per year, or less than half the number shown under the fee-for-service reimbursement plans. As you may know, prepaid group practice plans operate in such a way as to provide financial incentives for the plans' doctors to keep subscribers out of the hospital. The effect of these financial incentives is shown dramatically by these figures. A similar review of certain kinds of surgical procedures within these seven prepaid group practice plans shows a similar pattern; that is, only about half as many common surgical procedures per 1,000 subscribers per year are carried out within the seven prepaid group practice plans as are performed in either the Blue Cross Plan or the Aetna plan.

I hope that these comments have given you a good sampling of the kinds of cost pressures which are contained within the present health care system. Nevertheless, despite these cost pressures, I think I can safely predict that no national health insurance plan will be enacted in this election year, at least none of any comprehensive variety. The matter is far too complex and far too controversial for enactment in an election year. Actually, because of the debate that would have to take place over whose national health insurance plan is best, it is perhaps reasonable to expect that national health insurance may not even be talked about to a substantial extent during this campaign.

The only major piece of health financing legislation that has a chance of passing this year is the so-called Long amendment. This is a social

security-financed measure which would offer to all those covered by the social security system protection against those costs of medical care which reach catastrophic proportions. In this case, a medical catastrophe would be defined financially as being charges for Medicare-type benefits which arise after sixty days in the hospital and/or $2,000 of doctors' bills in any year. If one figures a hospital day at an average of $100, including miscellaneous fees, then the "deductible" under the Long amendment would be around $8,000.

At the present time it is impossible to predict whether the Long amendment will pass or fail. It is very close to passage. My guess is that it will not pass this year, because labor opposes the measure on the theory that it would help to patch up the present health care delivery system and thus thwart potential reform of that system—reform which labor supports and is working toward.

Will health insurers have a meaningful role to play under whatever national health insurance legislation emerges, or will they be relegated to an incidental role, as in Canada? Who knows? Perhaps one could venture the opinion that third-party payers will have to show some success at controlling costs in the next year or two to have any real chance at staying in the health insurance business as we now know it.

MR. EUGENE J. RUBEL:* These days the alleged inadequacies of the health care delivery system suffer extensive criticism. More doctors, more paramedics, prepaid group practice, and new programs are being called upon to solve the health care crisis. Perhaps one of the most important elements of the system, however, has been significantly overlooked—the patient. Patients provide an untapped paramedical resource. Using patients to help with their own care requires no revolutionary upheavals in our present system and could contribute greatly to alleviating some of the pressures it now feels. Such action, however, demands an emphasis on expansion of consumer health education, which has thus far been narrow and unimaginative.

A potentially important vehicle for change, the president's Committee on Consumer Education, was created by the president on September 4, 1971. It was charged with (1) recommending the most effective ways to develop health consumer citizenship and (2) helping every American achieve and maintain a reasonable level of health.

The committee has been presented with a unique opportunity, and it is important that their recommendations reflect the seriousness of the

* Mr. Rubel, not a member of the Society, is assistant to the undersecretary—health insurance initiative, in the Department of Health, Education, and Welfare.

problem and the opportunities for imaginative change. Because of the scarcity of personnel and the high cost of services, consumer education represents one of our greatest hopes for providing health care at a reasonable cost.

Incredibly, the demand for health care services has increased 170 per cent, from $26 billion in 1960 to $70 billion in 1970 (and by 11 per cent in the one-year period 1969–70). Americans are indeed receiving improved services but are continuing to expect still more improvements in the future—that famous revolution of rising expectations. At the same time, many of the defects and complexities of the health care delivery system are only now becoming apparent.

A number of these defects are related to inefficient use by both providers and consumers of our expensive system. Management of that system was previously considered the sole province of health professionals. We must now re-educate both the health consumer population and the health care providers to make optimal use of the system. The traditional, narrow concept of consumer education is inadequate in view of today's complex of problems. It must extend beyond hygiene, nutrition, family planning, or topical education for illness. In sum, the consumer should know when to seek medical help, what kind to seek, and at what cost.

Desirable improvements should include (1) greater efficiency in the provision of health care, (2) more efficient consumer utilization of the health system and its professionals, and, of course, (3) consumer education relating to an individual's knowledge about his health and how best to maintain his physical well-being.

For a variety of reasons, consumer education rarely measures up to the modern challenge. The consumer, in fact, generally plunges into the health care system totally unprepared to deal with it, frequently at a time when he is sick or fears that he is sick.

Once access to and progress in the health system is sought, it is most often controlled through the narrow funnel of the overworked M.D. or a high-cost institutional facility. A consumer-become-patient exercises control only up to the point of initiating his first visit to a health practitioner or facility. He then becomes the usually passive recipient of health services provided by one or more health professionals.

Even the educated consumer, but particularly the "little" or uneducated individual, feels out of his depth. He is ignorant of the vocabulary and is totally dependent upon any explanation offered to him. He has no access to equipment (which he would not know how to use even if he did have access) or to other than patent medicines, and he is often frightened. Rarely does a human being feel more vulnerable and unprepared than

when he is stripped of his clothes and his identity and forced to wait patiently for someone to diagnose his ailments and prescribe any necessary treatment.

In contrast to the profusion of do-it-yourself car-repair manuals, there are unfortunately few good health care educative materials. Available consumer materials, like standard consumer education, tend to be extremely limited in scope (how vitamin C prevents colds, spot commercials on television or radio, and the like). As a result, consumers, because of ignorance or fear, often pre-empt the valuable time of health professionals (particularly M.D.'s) for minor complaints or reassurances that they are, in fact, well. Such vulnerability and ignorance on the part of most patients perpetuate the mystique of the mysterious activities of health professionals and their seeming omnipotence and omniscience. The patient believes that such an individual is able to cure any malady, and, moreover, he accepts information or advice imparted to him by these professionals with little real question.

Once the consumer-patient has made his initial contact with the health care system, he becomes the passive recipient of services. He tends to use the most expensive types of services: physicians and hospitals. Few economic or other incentives currently exist for the provider or the patient to use the health care system intelligently. Consumer education should play a crucial role in fostering more intelligent utilization, but it has rarely been measured as a cost-control device.

Problems of unnecessary utilization will become even more acute as we move toward comprehensive health insurance for our citizens. There is little or no motivation to use these already-paid-for services efficiently, and increased demand for services will tax the overburdened system beyond its ability to respond. Although health care is undoubtedly a right, our health system is already unable to deliver on that pledge because of unreasonable demands placed on it by both providers and consumers. We cannot allow increased demand to be created without simultaneous changes in the system.

Although one of the guiding principles of insurance is to anticipate unknown expenses, medical care does not generally qualify as such a risk. Even if an individual cannot control the onset of disease, he can exercise considerable discretion in seeking medical care, particularly if he has received comprehensive education in preventive maintenance, first aid, and efficient use of the health system. The policy question then arises—what services should be covered by insurance?

Copayments and deductibles, for example, have great potential as devices for promoting cost-consciousness and controlling utilization of

services, but they are often used improperly. Broad consumer education rarely accompanies these charges, and, without this essential knowledge, copayments can (and do) prevent the poor from seeking help until they are seriously ill, thus decreasing the use of optional preventive care. At the same time, they do not deter affluent worried well persons from using health services indiscriminately.

If properly used, these charges can exert a tremendous positive influence in controlling and directing demand. Most empirical evidence on copayments and deductibles indicates that they reduce total utilization and expenditures, although the extent of the reduction varies.

Preliminary findings in a study of the Group Health Plan at the Palo Alto, California, Clinic indicate that, when a 25 per cent coinsurance rate was levied for outpatient services, the demand for medical care was significantly reduced, resulting in a 25 per cent reduction in physician visits. It is also extremely significant that the study reflected a decrease in the volume of annual physical examinations. Because of the importance of preventive medicine and the optional nature of this service (vis-à-vis insurance coverage), it is necessary to balance reductions in utilization with care which is desirable in the long run. Utilization should not be constrained by price, as it is in many cases where the individual does not perceive the long-term value of prevention. This is particularly true in the case of the poor, who must often spend money designated for necessities if they wish preventive care. Consumer education could again play an important role in teaching about coinsurance as it relates to necessary preventive care.

It would appear that health maintenance organizations (HMO's) and other prepaid groups should be extremely interested in comprehensive consumer education because of the effect these changes would have on costs and utilization. For some reason, most have been slow to realize the impact that broad consumer education can have and have not embraced these changes on a large scale. A few novel programs, however, have been initiated.

Multiphasic screening is one of the better-known systems improvements being utilized by HMO's, Head Start programs, and some physicians' group practices. Before the patient sees a physician, he receives a full battery of tests; the physician is called in when abnormalities are detected and, in general, for consultation. In numerous experimental programs, traditional responsibilities of nurses with direct patient care have been expanded to include patient teaching.

The Harvard medical plan, for example, has begun to provide preventive maintenance education for its members. Although there is as yet

no co-ordinated program of education, the plan teaches its patients about preventive and self-care during illness (e.g., movies about accident prevention for mothers of toddlers). There are also an all-day telephone service and a screening program.

A most innovative concept dealing with consumer education is an outgrowth of a family health care course given by a former private physician in Herndon, Virginia, Dr. William Renner. Now director of the Family Practice Program at the University of Wisconsin Medical School, he has described his Herndon experience as a "way of life" rather than a course. Because of his concern with total family education, he issued a doctor's kit to his students and instructed them on its use for detecting minor illness or treating minor injuries. He also brought in outsiders (often patients) to teach the class about specific subjects, such as dealing with a retarded, disturbed, or deaf child.

As a result of his experience in Herndon, Dr. Renner has expanded his current activities to include a number of projects crucial to imaginative consumer education: a proposed eleven-county consumer education program with a standard curriculum and an extensive collection of materials; an ongoing survey to analyze and assess health materials in popular magazines; and a collection of lay materials on medicine made available to patients at the medical library. The program is aided by the county health extension people, as well as by medical school personnel. Dr. Renner is by no means unique, although he is one of a still small number of doctors participating enthusiastically in comprehensive consumer education.

Such innovations are of great interest, but the value of an endless catalogue of these programs is limited. It would be more relevant to focus our attention on the future. Let me first reiterate that consumer education alone cannot solve all problems in the delivery and high cost of health care. A number of changes must occur simultaneously to improve the status of American health and to preserve it. The public is growing increasingly aware of these necessary changes, which include alterations in the access route to care; greater availability and appropriate use of lower-cost alternatives to institutional care; better controls on utilization of services; and measures to provide greater adequacy and effectiveness of services.

It makes little sense, however, to create a system designed for more efficient delivery of necessary health care services without educating one of the major actors in the system to take advantage of the efficiencies it offers.

Consumer education should be redefined and broadened to include the following:

1. There should be continuing, comprehensive dispensing of facts to all Americans—before they become patients—on maintaining their health and contending with minor ailments.

2. The consumer-patient must be informed, in a clear and understandable manner, of his health insurance benefits and, at the same time, about the complex workings of the health delivery system. He should learn about the relative costs of various types of care (e.g., care for acute versus early illness) or the costs of seeing a physician as opposed to some other kind of practitioner and about differences among various specialists and hospitals. In other words, the consumer should know about the optimal uses of the system, have incentives to use it correctly, and participate in planning, managing, and changing it.

3. Information should be conveyed to the patient relating to a specific ailment or condition—for example, diet and physical limitations for the coronary patient or careful and complete explanations during an illness. In most cases this is already a widespread practice, although constraints on health professionals' time often preclude adequate explanation. This idea could also be expanded to include providing the patient with adequate information to avoid unnecessary additional physician visits, to minimize the possibility of recurrence, and to detect a recurrence of an ailment at an earlier more easily treatable stage.

One physician illustrated the point: A child has a case of otitis media (in "English," an infection caused by plugging of the Eustachian tube during a common cold). He gets a shot, and his mother receives prescriptions for an antibiotic and a decongestant, along with instructions to come back in two days. Two days later they are told that the infection is subsiding, but to please come back in a week. A week later the physician pronounces that the child is cured.

The only thing the mother has learned about otitis media is that it takes three trips to the doctor and $52 to cure. By taking an additional ten minutes on the first visit, the physician could have imparted enough knowledge to the mother to eliminate the following two visits and could have given her the capability of minimizing a recurrence of such an infection in her child.

Until consumer education includes these various aspects of health care, essential changes in our health delivery system will not solve existing problems: physicians will continue to be the center of the health care universe and, as they are now used, will remain scarce or overworked. Health care costs—because of our continued emphasis on care for acute illness—will continue to spiral. Bad health, hygiene, and nutrition practices will be perpetuated among both the poor and the affluent.

If consumer education is expanded to include all of these different concepts, the consumer will ultimately be trained to take an active and constructive role in his own health care and in the management of the system. The health delivery system we will develop to better utilize scarce and expensive resources will then be able to capitalize on increased sophistication of the health care consumer.

MR. BERNARD J. VILLA: The year 1970 was a busy one for social legislative proposals in Canada. In the spring of that year, the Honourable Bryce Mackasey, Minister of Labour, presented his white paper "Unemployment Insurance in the 70's." Shortly thereafter, the Honourable John Munro, Minister of National Health and Welfare, presented his white paper on "Income Security for Canadians." Together, these white papers made significant proposals in the social insurance field, the impact of which has been felt and will continue to be felt by the Canadian insurance industry over a number of years.

First, let us talk about the unemployment insurance white paper. The government proposed to make extensive revisions and liberalizations in the treatment of unemployment insurance. Previous to this time, unemployment insurance had been limited to its traditional bounds. The new white paper proposed that unemployment due to sickness and pregnancy should also be included under the government scheme, since the government felt that the working force should also be protected from interruption of earnings due to sickness and pregnancy. Constitutional requirements made it impossible to establish a separate disability income program, and therefore the government used the unemployment insurance program as a method of bypassing the British North American Act. The proposals also included extensive liberalizations in the unemployment benefits and expanded coverage to an almost universal basis.

Briefly, let me summarize the results of the proposals which were enacted into law on June 14, 1971. As of June 27, 1971, the contribution table was extended to provide for contributions on weekly earnings up to $150. The benefit structure was also increased to provide benefits of two-thirds pay to a maximum of $100 per week for a period that could extend as long as fifty-two weeks. Unemployment due to sickness or pregnancy was included as benefits under the new plan. As of January 1, 1972, the Unemployment Insurance Plan was extended to cover many employees who were previously exempt from coverage, that is, those earning over $7,800 per year and certain government employees.

These new sickness and pregnancy benefits are most important to the insurance industry in Canada. Personal health insurance policies with

short waiting periods had government benefits of fifteen weeks superimposed over them. Group disability plans designed to cover short-term illness are now competing with the new government benefits. The government, in its original intent, had stated that it did not intend to disrupt the existing insurance programs, and to that end the government program was designed to provide benefits on a second-payer basis. The government felt that a minimum disruption of insured plans could be accomplished by providing a credit to employers who had approved plans. Essentially, an approved plan had to provide sickness benefits comparable to or better than government benefits—that is, at least fifteen weeks of benefits of 60 per cent of pay to a maximum of $90 per week if tax-free, and 66⅔ per cent of pay up to a maximum of $100 per week if taxable with an elimination period of fourteen days or less. No maternity benefits were required of approved group plans. At this point, let me interject a comment on taxes. Prior to 1972 all insured disability income benefits were tax-exempt. Benefits for disabilities commencing after 1973 are generally taxable. Certain transition arrangements apply to benefits for 1972 and 1973. All unemployment benefits are taxable after January 1, 1972. The government credit for approved plans is a reduction in the employer's tax of up to $0.40 per week per employee. We have estimated that this credit will be inadequate to cover the cost of a private plan in normal industries, and if we consider high-risk industries such as mining, steel manufacture, and the like, this rate is most inadequate. Because of the relative level of expenses on small groups, insurance companies will be or have been pushed out of the small group market. In the large group market, because of union pressure and employers' desires to control claims due to sickness, we feel that insurance companies still have a viable product.

Our policyholders have tried various arrangements as a result of the new government Unemployment Insurance Plan. Some have simply dropped their former plans in favor of government benefits. Others have left their plans unchanged or have raised their levels of benefits where necessary to qualify for the credit available under the government program. We have also experimented with various arrangements whereby we pick up where the government benefits leave off and continue our benefits for a specific duration. For larger employers, where it is economically feasible and where the employer specifically requests, we have attempted to cover benefits both before those provided by the government and after government benefits cease. Unfortunately, arrangements of this nature have led to many administrative complexities because of problems encountered by the government paying claims initially.

The white paper on income security was an all-inclusive social policy proposal. In addition to reaffirming the goals and proposals of the unemployment insurance white paper, the income security white paper made specific proposals in relation to the Family Income Security Plan, the guaranteed income supplement, old age security, social assistance, and the Canada Pension Plan. As we have already said, unemployment insurance has been enacted. The guaranteed income supplement and old age security were also enacted. Under these changes, old age security benefits are no longer indexed and have been frozen at a flat $80, and a guaranteed income supplement is provided for those who meet certain need criteria. Old age security recipients who also qualify for a guaranteed income supplement are entitled to a maximum 2 per cent annual escalation on the combined total to reflect price increases. Proposals in regard to family income security, social assistance, and the Canada Pension Plan are still pending.

Let me cover each of these in a little greater detail. As you know, the government of Canada provides a family income security payment to those in Canada with children. Currently, the universal mothers' benefit program provides payment of $6 to $16 per month for each child, varying according to age. These benefits are payable regardless of income of the family. It has been proposed that these benefits be eliminated for all those families having an income level of $10,000 a year or more. In addition, benefits would be scaled to the level of annual income in the family. The maximum benefits are $15 and $20 per month per child, depending upon age, for families with incomes of up to $4,500 per year. Benefits per child are scaled downward to reflect higher incomes and smaller size of family. These benefits are tax-exempt. Very little comment has entered the public press on the Family Income Security Plan in recent weeks, because it is rumored that the government will be calling an election in the very near future and elimination of benefits of this nature does not lead to good elections for the party in power. We do not doubt that these changes will be made effective before the end of 1972.

The changes proposed for the Canada Pension Plan are rather significant to insurance companies, both in the life and health areas. As you all know, when the Canada Pension Plan was introduced in 1966, both benefits and wages were indexed subject to a maximum annual increment of 2 per cent. Since 1966 inflation has been rapid, and therefore the income base applicable to the Canada Pension Plan has fallen far behind the average wage for 1970 of $6,700. It is proposed to increase the income base applicable to the Canada Pension Plan from $5,500 in 1972 to

$6,300 in 1973, to $7,100 in 1974, and to $7,800 in 1975. It is anticipated that this change will bring the maximum earnings subject to the Canada Pension Plan in line with the average industrial wage. In addition to the increase in benefits due to the increase in the earnings base for all present and future beneficiaries, it has been proposed to liberalize the benefit formulas in the following manner. Benefits to a disabled contributor will be raised from the 1970 level of $26.53 plus 75 per cent of his retirement pension, to $80 plus 100 per cent of his retirement pension. In addition, a wife's benefit for disabled beneficiaries will be established at $80 per month. It is also proposed to increase widows' pensions from $26.53 plus $37\frac{1}{2}$ per cent of the spouse's pension to $80 per month plus 75 per cent of the spouse's retirement pension. For a disabled contributor, his wife, and two children, the changes in the formula plus the income base will raise the maximum benefit of $159.49 available in 1970 to a potential benefit of $387.17. For a widow with two children, the maximum benefit would go from $120.21 in 1970 to a potential benefit of $262.87 by 1976. In addition, current beneficiaries will have their pensions adjusted to take into account the new benefit formulas. The government proposed funding the increased benefits under the Canada Pension Plan through the increase in earnings base and the existing fund. It was felt that the contribution rates could be left unchanged until after 1985.

When the government completes the programs first proposed by the white papers of 1970, the insurance companies, consulting actuaries, and employers of Canada will have gone through a period of most rapid change in social insurance, during which we have seen a major shift in security from the private sector to the public sector.

Chicago Regional Meeting

CHAIRMAN JOHN C. ANGLE: Our assignment is to discuss "Health Care in Transition," a subject very much in the public domain, with such leaders as George Meany, Senator Kennedy, President Nixon, and Secretary of Health, Education, and Welfare Eliot Richardson exhorting the nation to follow a particular program for financing and delivering health care. I think that the public debate is one most actuaries shun, because it is our nature to be suspicious of easy generalizations. Perhaps also we are uneasy about some of the shortcomings of all national health insurance proposals.

Not long ago Daniel P. Moynihan, a social scientist with experience in government service with the Kennedy, Johnson, and Nixon administrations, wrote how difficult it is for a nation to deal with complex social

issues. After observing that an "information-rich society" is not necessarily better able to handle itself, Moynihan said:

> Political society wants things simple. Political scientists know them to be complex. This is no small matter. There is hardly a limit to the price people will pay to keep things simple. As the complexities compound themselves the public is likely to ask for ever more simplicity . . . a short-run coping strategy might be for social scientists to try to win confidence by making things as simple as they can—and then try to draw upon that fund of confidence by asking for a little extra effort to accept complexity without being intimidated by it.[1]

I believe that the issue of national health insurance in the United States illustrates Moynihan's point. While this issue involves complex questions of the delivery and financing of medical care, the major participants in the national dialogue have found that they must boil things down to a few simply stated questions that are asserted to be solvable at one stroke through the enactment of some brand of national health insurance. A concomitant, and ultimately distressing, phenomenon has been an escalation of public expectations as each purveyor of a national health insurance plan has vied with his opponents to promise an even more miraculous cure.

It will not be our purpose today to enter this debate or to lead you feature by feature through all the national health insurance proposals currently before the American Congress. Abundant information about these proposals is available elsewhere. Those concerned with cost are referred to a document prepared by the Office of the Actuary of the Social Security Administration for the Committee on Ways and Means.[2] Instead, our panel members will discuss some of the aspects of health needs and medical care delivery which make it unlikely that any solution solely involving financing will deliver the promised relief to our problems.

Congress itself may understand this point. It seems likely that members of the House Ways and Means Committee are conscious of the complexity of health care problems and see signs of progress. Not long ago Chairman Wilbur Mills announced that there would be no executive hearings on national health insurance by his committee during 1972. He said that the House Ways and Means Committee would instead turn its attention to issues he termed more pressing; he named these issues as the

[1] Daniel P. Moynihan, "The Schism in Black America," *Public Interest*, Spring, 1972, No. 27.

[2] Committee on Ways and Means, *Analysis of Health Insurance Proposals Introduced in the 92nd Congress* (Washington, D.C.: U.S. Government Printing Office, August, 1971).

United States trade program, income tax reform, and standards for pension plans. Even as to 1973 Congressman Mills has ventured to say only that national health insurance might be a priority item next year when the Ninety-third Congress convenes. In so doing, Congressman Mills may be giving us all an opportunity to rethink the basic premises of national health insurance.

MR. S. MARTIN HICKMAN: This is intended to be a status report and a forecast concerning current and future happenings regarding national health insurance and other health care legislative items. Also, I would like to point out some of the challenges that these happenings will present to us.

Recently, in the last quarter of 1971, the National Opinion Research Center of the University of Chicago released a survey conducted among the general public to determine what the consumer's outlook was as to the nature and existence of a health care crisis in the United States. You have heard John Angle speak of the fact that Mr. Meany, Senator Kennedy, Mr. Richardson, and other prominent people all feel that there is a crisis; but this survey was directed toward the man on the street himself. Specifically asked were the following questions: (1) Is there a health care crisis? (2) If there is, in what areas do you feel that the crisis exists? Not surprisingly, the results indicated that about 75 per cent of the public did feel that a health care crisis does in fact exist.

The two primary areas of "crisis" were the escalation of health care costs and the inconvenience and inaccessibility of care in off hours, over weekends, and in the doctor's office. Interestingly enough, there did not seem to be too much concern over the quality of care, the personal relationships with physicians, the co-ordination of care, and some of the other things we often hear about as "crisis" areas in the current health care system. It was very disconcerting, but not too surprising, to find that over 50 per cent of the people surveyed felt that an extension of government programs was a primary approach to solution of these problems. Seventy-five per cent of the interviewees felt that such a government program would provide better care for the poor. This is not surprising, and it certainly is a legitimate conclusion. About 60 per cent of the people surveyed felt that through a government program, for some reason or another, and in spite of the Medicare-Medicaid experiences, there would be a deceleration of costs. Most discouraging is the fact that over 50 per cent of the interviewees felt that the health insurance industry has done an inadequate job and gave this as one of the primary reasons for the need for an expansion of government programs.

Interestingly enough, some of the other survey findings indicated that perhaps these people with concerns were reacting to the question of a health care crisis based more on what they have read and heard from other sources than on their own personal experiences.

Real or perceived, however, the issue of a health care crisis is clearly upon us and has to be dealt with. And it is being addressed by all levels of government. Locally we see neighborhood health centers promoted by the cities, by model cities programs, and by community organizations. On the statewide basis, we see almost every state either cutting back or implementing very tight controls on their Medicaid programs. Insurance directors are making life difficult not only for insurance companies but also indirectly for the providers of care themselves. At the federal level, much attention is being given, with the greatest focus falling in three primary areas: first, national health insurance (this issue has been given intense attention for a couple of years now); second, a new flurry of interest has sprouted recently in the health maintenance organization (HMO) legislation areas; and, third, a variety of modifications are being proposed under present programs, particularly under the House bill H.R. 1.

I would like to look primarily at the federal legislative scene, to address just what is likely to happen in this arena, and to discuss the question of just how the health insurance industry and the Blues should and can impact on these future happenings in a meaningful way. Looking first at national health insurance legislation, I would concur with John Angle's comment that there is almost no likelihood of any legislation on this subject coming out of Congress this year. The political realities and the time pressures of the election year make any such legislation unrealistic. However, we do see it as a very live political issue and a significant plank in the platforms of both parties in 1972, with the Democratic party probably adopting a plank supportive to a Kennedy-type program.

Following the election, it is expected that serious discussion and debate will again resume, with considerable legislative study but probably with slower action than we would have expected a year ago. It would appear that the projections which have been developed as to the cost of various national health programs, as well as the financial results experienced under Medicare and Medicaid, have had a sobering effect on Congress. There are also some indications of increasing taxpayer resistance to any new taxing programs and some indications that the consumer is not quite so interested in this issue as he was a while ago. In addition, there is an increasing realization by the Congress, and in both parties therein, that dollars will not solve the problem. There is no easy solution. We are

no longer looking strictly at the question whether these expenditures will be able to buy care; the other practical problems that will go with any new program are also being addressed.

As a result, it would seem likely that national health insurance will continue to be a major item of legislative discussion throughout 1973 and that legislation will probably not be passed until mid-1974, to be effective in mid-1975 at the earliest. Even then, the program will probably be implemented on a phased-in basis, since it seems unlikely that Congress would drop a whole health care package on the general economy all at one time.

The most likely form of the program, in my opinion and in the opinion of people I have worked with, will probably not be greatly affected by the presidential race outcome. Regardless of who is elected, it would seem that the Kennedy program is just going to be too costly to be accepted by the relatively conservative House Ways and Means Committee and the Senate Finance Committee. In addition, it seems too far out of the political, economic, and medical mainstream for acceptance by the United States citizenry. The Burleson program, while probably more acceptable, would, in my opinion, falter in that Congress is not likely to accept this tax-incentive approach as adequate to get the job done. The Ullman proposal, which has recently been developed by the American Hospital Association, has received quite a lot of interesting commentary, does in fact show real promise, and may be a long-range practical solution. From the short-range point of view, however, it would seem to require too many fundamental changes in the health care system to be workable in the immediate future.

As a result, it would be my thought that Congress will probably settle upon a liberalized administration-type bill along the lines that President Nixon has proposed, with enough modifications to permit the Democratic party to lay claim to some of the action. Such changes might include an expansion of the proposed family health insurance program (FHIP) to cover all the medically indigent and not just those with dependent children as is presently proposed by the administration. In effect this latter program would then replace most of the present Medicaid programs of the individual states. A basic minimum level of benefits, to be purchased from the private sector, would be mandated for all employees, and, in addition, it would not be unlikely that there would be a catastrophic medical expense supplemental program required, either on a privately underwritten and administered basis or on a governmentally administered basis, overlying both the mandated program and the FHIP programs.

The catastrophic coverage outlook is one of the biggest unknowns and

one of the biggest risks, so to speak, to the insurance industry and to the Blues that presently exists. This is one of the items that could conceivably be enacted this year. Senator Long has attached a government-administered catastrophic program to the H.R. 1 bill, and, while this provision is opposed by an impressive list of people who have completely dissimilar interests and viewpoints, such as Senator Kennedy, the American Hospital Association, the insurance industry, labor in general, and the Blues, it is felt that, if the provision should get out of the committee or be attached by amendment to H.R. 1 on the Senate floor, it would probably be passed in this election year. At first blush it seems to be a popular, inexpensive, reasonable program which would be very attractive from a political point of view. The catastrophic program appears, however, to be a real sleeper, in the sense that it probably is inadequate from both an administrative and a technical point of view, and, in addition, it could easily become the basis of a comprehensive first-dollar or very-low-deductible program as in the Kennedy approach, simply by lowering the deductibles or eliminating them altogether in a future year.

With the slowdown of interest in national health insurance, there has been an increased discussion of HMO's. I would suggest that this may be partially attributable to the fact that Senator Kennedy has been preempted from following his own national health insurance bill through his own subcommittee, since all national health insurance legislation is being handled by the Senate Finance Committee. By introducing his own HMO bill which will be handled by his own subcommittee, he once again has a significant health care issue to identify with personally and to keep before the public. Several major HMO proposals are before the Congress, three being of particular importance. Representative Stagger's bill represents the Republican administration thinking; more recently, both Senator Kennedy and Senator Roy have introduced HMO legislation.

A snapshot comparison of the scope and the nature of the Kennedy bill and the administration bill would suggest several major differences. The Kennedy bill is more specific in its criteria as to the organizational requirements for HMO's and requires a broader scope of benefits, including such items as dental, vision, drug, and rehabilitative services and mental health care, which are not included in the administration's proposals. The Kennedy bill also deals very specifically with the problem of the dual levels of care in inner-city areas and the almost complete inaccessibility of care in some rural areas. Because of these differences there would seem to be a couple of practical political strikes against Senator Kennedy's program. One is that it appears to have substantially greater costs than the administration bill. Department of Health, Education, and Welfare

estimates show that the cost of the Kennedy HMO proposals would be in the range of 2½–3 times as great as their proposal. Second, the Kennedy bill's more rigid requirements for qualifications apply at a time when HMO's are still in a formative stage. As a result of these two differences, it would seem that it would be difficult to pass and implement such a tightly defined and broad-scope program, and I would suggest that the HMO situation will be a vital area of legislative discussion throughout the remainder of 1972. We probably can expect compromise legislation late in 1973.

So much for the legislative prospects for 1973 and subsequent years. There are a few items which appear likely to come out of 1972 legislation, particularly under H.R. 1. One of the most significant of these is the establishment of professional service review organizations (PSRO's). These are formal physicians' organizations which would be responsible for the peer and utilization review activities under Medicare and Medicaid. While these have been generally opposed by the insurance industry, the Blues, the American Hospital Association, and the American Medical Association, this concept seems to be one of those ideas whose time has come for implementation on at least an experimental basis. There is some indication that perhaps the administration's interest in PSRO's is waning slightly but not enough to prevent enactment this year. The impact of PSRO's in the short run would be largely on carriers who are Medicare intermediaries. Under such situations these carriers would be required to interface claim adjudication and claim review processes with the standards and parameters set by the PSRO's. In effect carriers would be relinquishing one of their present responsibilities. On a longer-range basis, if the PSRO's are successful, there will arise circumstances in which the insurance industry will have to deal in the future with a successful, although perhaps redundant, control device which might present competition for nongovernmental business. If PSRO's are a failure, we run the risk of having the government take over the control operation itself and present quite another form of competition.

Another significant feature of H.R. 1 is the probable inclusion under Medicare of one and a half million disabled people who are at present receiving cash benefits under the Social Security Act. While this would seem a desirable amendment, it will introduce some new Medicare administration problems. This is because the maintenance and rehabilitative types of care which are more or less peculiar to the disabled are really not specifically addressed by the Medicare program. Thus this extension may highlight some new gaps in the Medicare program itself.

Finally, one of the most significant items that I would call attention to

is the probability of a relaxation of the present requirements and regulations regarding Medicare and Medicaid provider reimbursement. Proposals have been advanced that these requirements be liberalized to allow more experimentation in alternative means of paying for health care. This relaxation would indirectly make new reimbursement techniques in the private sector also more viable. One of the present problems in trying to develop innovative or experimental approaches in making payments to providers is that the providers must fractionalize their business between government programs and private programs because of the rigid reimbursement regulations under governmental programs. This causes a variety of problems and considerably slows down progress in the private sector. For example, in Illinois we have spent approximately a year and a half negotiating a prospective rating payment basis with the Illinois Hospital Association. We are currently in discussions with the state of Illinois and with the health insurance industry in Illinois to try to implement this payment basis plan on a statewide basis. Two questions that we are going to have to deal with are how the state can operate under a prospective rating basis under Medicaid and who will take up the slack for Medicare. If such experimentation were permitted for Medicare and Medicaid, it would make it much easier both for governmental business and for the private sector coverage to participate and would also simplify the hospital record and accounting systems considerably.

In summary, I would like to suggest that the health insurance industry and the Blues are entering an era of "future shock." Change is going to be the fashion. The question is, who is going to lead the process? We can either be part of the cutting edge of change or be the party that is cut. It will take a major, co-ordinated, responsible, and unprecedentedly successful program for the entire industry to cope with this situation. It is essential that we make up our minds whether or not we truly believe that the private sector, the insurance industry and the Blues alike, can and should play a unique and important role in satisfying the right of everyone to receive quality health care. If we do sincerely believe this, there are several problems that we are going to have to deal with fairly quickly.

First, we are going to have to figure out how to impact on the costs and accessibility of health care and then do something about it—spending the money and effort needed without expecting an immediate return on investment.

Second, we are going to have to move out of our twin actuarial and marketing ivory towers, stop concentrating on what we think would be the best solution for our policyholders and find out what is bugging them, and then solve the problems as they perceive them or educate them as to

why they cannot be handled right now. This second alternative is the poorer of the two!

Third, we must clean our own house. We could use more than a little peer review within our own health insurance industry.

Fourth, we must be administratively prepared to accommodate a major new workload under almost all the proposed national health insurance programs. The magnitude of the changes to be dealt with will not be unlike the situation that followed the advent of Medicare. However, I seriously doubt that the federal government or the general public will be tolerant of any administrative or cost-control slippage on our part.

I would suggest that we have about two years, or three years at the most, to make good on each and all of these points and to prove ourselves as making a new and unique contribution to the problems at hand. If not, by the 1976 election year there will be quite a different outlook for private health insurers in this country.

MR. RONALD L. W. TILL: Recent legislative activity in Canada in the health care field has centered around the payment of cash benefits on disability. The two major proposals made their appearance in documents known as white papers. These are publications, prepared by the staff of a cabinet minister, outlining the nature of a piece of legislation which he intends to bring forward in the future. The white paper is intended to elicit public discussion before a bill is actually presented to Parliament. However, the minister generally feels well committed to the policy which he enunciates in his white paper, with the result that he becomes highly defensive to criticism. Thus subsequent public discussion, briefs, and other representations by interested groups to the minister or to parliamentary committees studying the question may have very little influence on the legislation which is subsequently drafted. Consequently, a white paper can usually be taken as a pretty firm indication of forthcoming legislation.

The first of these white papers, "Unemployment Insurance in the 70's," subsequently became Bill C-229 and was passed into law June 27, 1971. Included in a massive revision of the structure of our unemployment insurance (UI) program is a provision for cash benefits payable during "interruption of earnings" caused by sickness or maternity.

Briefly, the benefits are as follows: For an employee having twenty or more weeks of employment in the last fifty-two, a sickness benefit is payable for a maximum period of fifteen weeks following a two-week waiting period. The benefit is paid at the rate of 66⅔ per cent of the average weekly earnings over the twenty weeks immediately prior to the claim, with a

maximum benefit of $100 per week. Maternity benefits have the same eligibility rules and benefit level and are paid for a period of nine weeks before and six weeks after confinement.

The government has made it clear that, with the inclusion of this sickness and maternity benefit in the UI program, it is not their intention to replace existing programs of sickness insurance. Accordingly, the government plan pays benefits only after any other *employment-related* sickness insurance benefit or merely supplements the total payment up to the normal level of the UI benefit. This applies to a formal program of salary continuation maintained by an employer or to a group weekly indemnity insurance plan but not to an individually owned and paid-for policy of income replacement insurance. The payment of UI benefits to supplement private benefits is left to the option of the disabled employee. He may make an immediate claim to "top up" the private benefit to the level of UI benefit for which he would otherwise qualify, or he may elect to wait until the private benefit is exhausted and claim for full benefit; the latter would obviously be to his advantage if he expected a lengthy period of disability. As far as the Unemployment Insurance Commission (UIC) is concerned, the claim will be considered to commence when filed (provided that the claimant then meets the eligibility requirements), and the claimant then has a period of twenty-nine weeks within which he may collect his fifteen weeks of payments. This allows for the possibility of a claimant's recovering and returning to work briefly, followed by a recurrence of disability, at which point payments may be continued without a further waiting period. When benefits have been exhausted or the twenty-nine-week period has expired, no further sickness benefit is available until requalification with twenty weeks of contributory employment.

To compensate for the lower benefit paid where private sickness insurance exists and to provide an incentive for employers to retain their private plans, the government program offers a reduction in premium to an employer who maintains for at least 95 per cent of his employees a private sickness insurance program which complies with prescribed standards ensuring that the private plan is at least as liberal in every respect (with the exception of maternity coverage) as the government program. Unfortunately, much of the psychological impact of this premium reduction was lost by the fact that it does not commence until January 1, 1973 (or a year following the establishment of the registerable private plan if later), as well as by the requirement that five-twelfths of the premium reduction must be given back to the employee, either in cash or in the form of other benefits, regardless of the manner in which the private plan is funded. Further, in an understandable desire to avoid

overstating the size of this premium reduction on the initial presentation of the program, the UIC officials were overcautious and significantly understated it.

When the bill and, more importantly, the regulations which define how the program will really operate were in their formative stage, there was considerable confusion on the nature of this premium reduction. However, it is now apparent that it will be based directly on the savings to the UI program resulting from the existence of registered private programs.

The government plan experience will be maintained separately for sickness and unemployment claims and will be broken down between those employers having registered private sickness income plans and those without them. The difference between the per capita cost of government sickness benefits for the group with private plans and the cost for those without private plans will be determined, and a three-year running average of this figure will eventually be the amount of the premium reduction.

There are certainly a number of aspects of the situation which could be considered to be suspect or downright undesirable both from the point of view of actuarial principles and in relation to the efficient use of the Canadian taxpayers' money. Most obvious, perhaps, is the fundamental question of why a sickness insurance program would be combined in the same scheme with an unemployment insurance program. The answer is totally political. Constitutionally, health and welfare programs fall within provincial jurisdiction. However, in 1940 the constitution was changed, with the agreement of all provincial and federal governments, to shift UI to federal jurisdiction. Thus the only way the federal government can directly institute a program of cash sickness benefits is by pretending that these are really UI benefits. It is surprising that, while the UIC is the government department which developed this very intricate program and is charged with the responsibility of paying claims, a completely separate government department under a different minister is responsible for determining eligibility for the plan and collecting the contributions. In its zeal to collect money, the Department of National Revenue is certain to create enormous headaches for the claim administrators in the UIC! The many areas open to antiselection, combined with the administration of sickness benefits by civil servants who have no experience in this area, certainly lead one to anticipate ballooning claim costs, particularly when you consider the historical background, in which unemployment insurance has been used as a political tool to alleviate regional economic difficulties. Certainly the maternity provisions will prove a substantial windfall to the many young women temporarily in the labor market until their planned retirement to raise a family.

However, the plan is in effect, and it is now of great interest to the many of us who are involved in the provision of private sickness insurance plans just what effect this legislation will have on the nature and marketability of our products.

As I have indicated, an individual income replacement policy owned and paid for by the individual is not taken into consideration in determining the level of UI sickness benefits to be paid. Thus the possibility of overinsurance must be recognized. This recognition may require changes of benefit structure or possibly premium rates on existing policies, where these are possible, as well as the recognition of future UI sickness payments in the underwriting of new contracts. The convenience of an offset integration with the government benefit through the operation of the "relation to earnings" clause has been ruled out by the provincial superintendents of insurance, who specifically refused to include benefits from government plans in this statutory provision.

As far as group weekly indemnity benefits are concerned, the main question is to what extent employers and unions will adjust their own benefit programs to take advantage of the new government benefits. Four possible courses of action are open.

First, an existing private plan can be upgraded to qualify for the premium reduction. This has the advantages of continuity and continuing control on the part of the employer and/or union over benefit levels and over absenteeism, as well as some offset to the added cost through the UI premium reduction. However, the employers tend to view the amount of the rebate as being relatively small, particularly since it must be shared with the employees.

A second alternative is "carve-out." This involves the discontinuance of private benefits during the period in which unemployment insurance would pay, in order to take maximum advantage of the UI program. This approach was very popular in the discussion stage immediately following the introduction of the legislation. However, when the time came to take action, carve-out had fallen out of favor with most employers and unions. It would obviously create some administrative problems as well as misunderstanding and irritation on the part of the employees if there were delays in receiving UI payments—and there certainly have been delays! Furthermore, poor government claims administration could provoke higher absenteeism, the effective cost of which could be more than the anticipated saving in cost resulting from using the government benefits.

A further difficulty results where the previous private plan had been paying benefits at a higher level than UI will now pay. Since it is not possible for the employer to supplement the UI benefits, a carve-out will result in a decrease in total benefit. This would be a particular problem

among higher-salaried personnel. If there were relatively few people involved, this difficulty could be overcome by increasing salaries to the extent necessary to purchase individual policies of income replacement. It should be noted that the UIC has been very careful to rule out the possibility of an employer's defining arbitrary classes of employees (for example, by wage level) and maintaining a registered private plan for one class while taking full advantage of the UI program for others.

The carve-out approach is also unpopular with unions, who see themselves losing a benefit they had previously negotiated. Unions generally tend to favor the retention of private plans to avoid the possibility that sickness payments will cut into the benefit which would be available on layoff, or vice versa.

A third approach is to make no changes. In this case employees receiving less than the level of government benefits from the private plan may elect to receive supplements through the UI benefits. This is the easiest way out and certainly causes the least confusion and disruption, although, of course, no premium reduction is available unless the existing plan qualifies. This is the most common reaction at the present time.

There is a fourth alternative which I understand that a number of large unions are considering; this involves incorporating sickness benefits into a supplemental unemployment benefit (SUB) plan. In this particular case, the government would not offset for these benefits but would be the first payer, so that the SUB plan could be used as a vehicle to supplement the government benefit.

Now we shall leave unemployment insurance and turn to a few other items. The most significant of these is the white paper "Income Security for Canadians." This is a position paper outlining the general direction in which the present government would intend to move over the next few years in several fields of social security. One statement which is given prominence is that the government intends to move in the direction of the more efficient use of tax dollars in combating poverty. This is exemplified in the Family Income Security Plan proposals, which would cease the present universal family allowance system and replace it with payments graded by income of the family, as well as by a substantial increase in the guaranteed income supplement to the old age security pension. The proposals remove the automatic cost-of-living escalator from the universal old age security benefits and shift it into the supplement, which is subject to an income test. However, to demonstrate that governments can change their minds, the replacement of the cost-of-living escalator in the old age security program was announced in a budget speech within the past month.

The white paper proposes significant increases in benefits under the

Canada Pension Plan/Quebec Pension Plan (CPP/QPP). The ceiling on pensionable earnings is to be raised in stages from $5,500 in 1972 to $7,800 in 1975. The maximum monthly retirement pension under existing legislation would reach about $121 a month in 1976 at the end of the ten-year maturity period. If the ceiling were raised to $7,800 in 1975 as proposed, the monthly benefit would be about $162 a month after the ceiling had been at the $7,800 level for three years. These amounts would, of course, be in addition to the old age security pension.

In addition, a significant increase in the formula for benefits to disabled workers was proposed, which would have the effect of raising the maximum benefit to a disabled contributor from the current $114 a month to $199 in 1973 and $249 in 1977. These amounts reflect an increase in the basic flat-rate portion from $27 to $80 and an increase in the percentage of imputed retirement pension prior to disablement to 100 per cent from 75 per cent. In addition, the wife of a disabled worker, provided that she has dependent children and her husband is under age 65, will receive a flat monthly benefit of $80. No such benefit is currently provided. Benefits to children of disabled workers, currently at a level of roughly $27 per child, will not cease when the worker attains age 65 as is the case at present.

This represents a very substantial increase in benefits to disabled contributors; in many instances the benefits are more than doubled. A disabled contributor with a wife and two children whose benefit level is based on a predisability salary of $3,000 would in fact receive $3,559 in disability benefits in a year at the benefit levels assumed for 1977. Despite the fact that these benefits are taxable, this is not quite consistent with normally accepted insurance principles. On the other hand, it must be remembered this is social legislation, and the politicians will maintain, quite justifiably, that such a family will really need this amount of income and would probably otherwise obtain it from some social assistance program. While this cannot be disputed, it is unfortunate that what is supposed to be an insurance fund would be used to make welfare payments.

The other significant recommendation regarding benefit levels under the CPP/QPP involved an increase in the benefit paid to a widow or a disabled widower to $80 per month plus 75 per cent of the late spouse's actual or imputed pension. This is more than double the current level.

The implementation of these recommendations would obviously raise benefit costs relatively far more than contribution income. By 1985 the projected annual outflow from the fund (i.e., the excess of benefits paid over contributions received in that year) would be increased on the order of from $600 million to $650 million. Nonetheless, no increase in contribution rate is contemplated until at least 1985, as a result of an

actuarial surplus existing in the present fund. This has the unfortunate effect of giving the Canadian public the impression that they will be getting something for nothing, whereas in fact it really comes much closer to a massive bribe of the public with its own money.

Although it is not noted on the program, there is one further piece of legislation which should be mentioned, since it certainly will have an effect on health insurance. This consists of the 1971 amendments to the Income Tax Act which will make payments under disability income insurance taxable to the recipient in all cases in which his employer has paid any portion of the cost of the insurance. In order to avoid disruption of existing plans which have been negotiated to provide a given level of take-home benefit, the act stipulates that under plans established before June 19, 1971, benefits resulting from disabilities prior to January 1, 1974, will not be taxable. However, benefits under new plans will, of course, be taxable before that time. This naturally led to the question of what degree of change to an existing plan resulted in its being considered a new plan and therefore taxable immediately. It has been ruled that improvements to an existing plan in order to bring it to a level necessary to qualify for the premium reduction under the UI program will *not* be considered to establish a new plan. However, any improvements beyond this could cause benefit payments to become taxable. One obvious result of this tax change will be to cause a shift in the share of cost of the different types of fringe benefits borne by employees and employers. Employee-pay-all disability plans will become very popular.

DR. IRWIN M. JARETT:* Today, as society undergoes rapid change, there are those who declare virtually every segment of modern life to be in a state of crisis: a crisis in the nation, in the cities, in the schools, in health care, and in the family.[1] The crises occur in a familiar pattern—rapid population growth and extreme specialization produce many commodities and a rapid economic growth, but something happens to the quality of life. The priorities seem to be misplaced; the control of organizations and institutions is out of the hands of the citizens whom they were established to serve. Since we have not agreed on the values toward which the nation should strive, complaints of misplaced priorities naturally follow. With no effective means for holding organizations or government accountable, the crises multiply, and the dissatisfaction of

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[1] Alvin Toffler, *Future Shock* (New York: Bantam Books, 1970), and Charles Reich, *The Greening of America* (New York: Random House, 1970).

the people grows geometrically as they realize that they are not well served, that the quality of life held possible is eluding them, and that they have lost control of events occurring around them!

Health care is one such area of great concern to all of us. After considering the shortage of physicians (especially primary care physicians), the maldistribution of health care manpower and facilities in general, the high costs of drugs, hospitals, and medical insurance, the stress on acute and chronic rather than preventive care or health maintenance, the president declared health care in the United States to be in a state of crisis.

There is no need to belabor the point of crisis, but I think it is important to mention it as a background against which current developments must be seen. I am aware that you all know what has happened, and I think you recognize that the crisis in health care has resulted in part from the policies of insurance companies as institutions. Anne Somers has cogently shown that the way insurance policies have been written has virtually forced people to go to hospitals when they really need some other kind of care.[2]

The following five points seem to summarize the basic trends that have emerged out of the crises:

1. The health care emphasis is now shifting to prepayment programs that will provide comprehensive health care. The stress is on preventive care and health maintenance.
2. Health care organizations are being forced to develop better measures to evaluate the quality, availability, and accessibility of care.
3. The government is supporting new directions by providing funds for new medical schools, providing grants for HMO's, and considering different approaches to health insurance.
4. The new phrase in health care is "comprehensive health care delivery system," that is, a system that will co-ordinate the efforts of existing personnel and programs and optimize the efficient use of resources.
5. The common thread in all these efforts is the push of the consumer, the demand of the people to have their needs met.

How does the Southern Illinois University School of Medicine fit into this picture? It is a new school established by the Illinois state legislature to try to improve the medical manpower situation in central and southern Illinois. The school is unique in a number of ways: it will use existing hospitals for the major clinical program instead of building an expensive medical center; it will draw on the expertise of the practicing physicians in our area to give students a better exposure to the actual problems of

[2] Anne R. Somers, *Health Care in Transition: Directions for the Future* (Chicago: Health Research and Educational Trust, 1971).

the area and to encourage them to become practicing physicians. We are stressing family practice and primary care and are encouraging the new M.D.'s to remain in central and southern Illinois. While it will not be possible to have a physician in every small town in the area, it is possible to provide care through comprehensive health care delivery systems. Through its Department of Health Care Planning, the school has been assisting in the development of HMO's, foundations for medical care, and comprehensive health care delivery systems.

All these efforts might result in a new arrangement of resources but with the same pattern of crisis described earlier, if it were not for a special approach we have taken to planning. What we see is the necessity to have the people participate directly by setting out the values toward which organizations should work and to have some means by which the people can evaluate how well the organizations are meeting needs.

Southern Illinois University School of Medicine uses a planning logic that allows consumers and providers to come together to valuize long-range statements of basic human needs for health care delivery organizations. The logic provides a common-language framework for consumers to evaluate organizations according to how well they are doing in meeting those needs. We are convinced that this kind of planning logic begins to give the citizen the tools to deal with organizations.

To date, over five hundred citizens in central and southern Illinois have spent over 15,000 hours in the process. They have identified the basic human needs that must be met for there to be a quality of human existence. They have set priorities for the meeting of these needs. The citizens have developed the following purpose for the School of Medicine, by which we are held accountable: "To assist the people of central and southern Illinois to meet their health needs." All of the school's programs must be consistent with this purpose. Having such a purpose permits the development of evaluation criteria to measure the school's effectiveness. Thus the school must be able to show that it has moved the population toward the fulfillment of needs.

The ability of the people to develop standards of evaluation based on needs is a central point of this process. The absence of standards of evaluation is one of the primary reasons for the perpetuation of organizations and programs that really do not serve the people. Without standards based on universal human needs, each program, agency, or organization develops its own criteria of success. As a result, it is impossible for citizens to have any control over the programs or organizations. As Reich points out in *The Greening of America*, organizations begin to have a bureaucratic life of their own and begin to dominate society instead of being dominated by it.

The planning logic also requires the citizens to group the needs together that they think can be met concurrently using the same resources. In this way, the destructive compartmentalization of organizing to meet only one need at a time is avoided, and we can follow Buckminster Fuller's advice of doing "more with less."

Once the needs have been identified, priorities for the meeting of the needs have been established, and evaluation criteria have been developed, the consumers and providers set goals for meeting unmet needs. Only after goals are set do the technicians (providers) design programs to reach the goals. The school must evaluate how effectively its programs are reaching the goals, and the citizens must evaluate how effective the school and their products are in assisting them to meet their needs.

Southern Illinois University is involved in all the current developments in health care (training students and assisting in developing HMO's, foundations, and comprehensive delivery systems), but the features that make our program unique are the stress given to the consumer's role in planning and evaluation, our use of a planning model that identifies needs and values, and the requirement of evaluation (whether through sophisticated instruments, social audit programs, or citizen-identified criteria based on meeting needs). This type of planning logic maximizes citizen participation and requires citizen involvement.

What have we learned from our involvement with the new developments in health care? With regard to prepaid programs that provide comprehensive services, it must be admitted that the risk involved is not what insurance companies have considered risk in the past. In the past the risk in health insurance occurred because of a completely noncontrolled system. While prevalence and incidence of disease can be predicted with reasonable accuracy, there was no way to control or predict the matching of the sick patient with an inefficient and expensive physician and/or institution. Thus the risk centered around what part of the nonsystem the patient chose for health care. For example, while the national average for hospital days per 1,000 population is approximately 1,000, good clinical care can reduce this figure to 490–510 at Kaiser Permanente[3] and 420 at Puget Sound.[4]

Under the new organizational formats, the risk changes to that of a normal business endeavor—the risk inherent in organizational management of resources. The risk will center on the following:

[3] Anne R. Somers, *The Kaiser Permanente Medical Care Program: A Symposium* (New York: Commonwealth Fund, 1971).

[4] Group Health Cooperative of Puget Sound, "Cost and Utilization Statistics," *View*, March–April, 1971, pp. 10–11.

1. Proper evaluation of subscribers' health needs.
2. The correct interpretation of those needs in terms of service delivery.
3. The effective use of resources to deliver the services.
4. The proper control of funds.
5. Effective management of the comprehensive system.

There is a change in ownership of health care programs and organizations away from investor ownership toward participant ownership. At the same time, the participants have increased their involvement in determining the nature of the health care package, the administration of the programs, and the planning and evaluation.

Most of the new programs, HMO's and foundations, are organized on a not-for-profit basis; yet we believe that it is important to find some means of including a for-profit mechanism in health care programs, since profit is important for incentive and need-oriented decision-making.

In making these three points about current trends, I have implied that the traditional insurance companies will either be replaced by or evolve into an organization such that the citizens of a community will own and operate their own insurance company. It would seem that the first question insurance companies must answer is whether they really want to stay in the health care field. If they do, they must recognize that they must do more and be more than what we have historically required of insurance companies. Insurance companies must become involved in meeting identified health needs.

Once insurance companies become committed to the idea that they can continue to exist only if they meet human needs, they must decide how to reorganize most effectively.

For example, considering the expertise of insurance companies in general, and actuaries in particular, the following roles seem most appropriate:

1. Insurance companies and actuaries have great expertise in developing information systems. They can develop sound data on the population, on the care it receives, and on identified unmet needs, which can be used to develop and improve programs.

2. Actuaries and insurance companies should be able to take their expertise in computing risks and premiums and apply it to computing costs for services, developing the pricing philosophy for HMO's, and investigating the contractual relationships between consumers and providers in terms of costs for services.

3. Insurance companies have fiscal power, because they have developed a tremendous ability to manage funds. Whether it is a single dollar or millions of dollars, insurance companies have long practiced the art of managing money on

an hour-by-hour basis, something other large corporations are just learning.[5] If the large corporations are just learning what insurance companies have long known about managing funds, consider the lack of expertise prevalent among organizers of HMO's—especially consumer-organized HMO's. Here is an area in which insurance companies have a most marketable skill—their fiscal expertise in the management of funds. In addition to providing HMO's with information on sound fiscal policy, insurance companies may have another possible role that would involve investing their funds as fiscal resources for starting delivery systems.

4. Insurance companies should use their expertise for fiscal matters to make estimates to ensure future reserves. As people grow older, their requirement for medical care and for insurance increases. There is a need to develop some way to insure the individual by guaranteeing the funding for his future health service needs. What seems to be needed is a life insurance approach to health insurance. Currently, health insurance is based on an average group risk to which additions are made, but actuaries should be able to develop a plan for risk-sharing by major breaks in age. It should be possible to set fees for youthful subscribers that will build funded reserves to provide funds for treatment in their old age. I understand that some actuaries and insurance companies have discussed this approach, but considerably more work remains to be done. I foresee the development of community prepaid health groups with their own funded reserves and the reserves possibly invested to develop their own community. The main theme is that the insured community will be geographically bound rather than bound by age, sex, or employment. Some mechanism must be developed to permit transfer from one community to another or to account for employees of large companies who transfer. The same problem exists with pension funds, and the government is now investigating ways to transfer funds.

In conclusion, I have said that the current trends in the United States have resulted in crises which can better be solved if citizens are given a role in setting out the needs toward which organizations must work and are given a means for holding organizations accountable for helping people meet their needs. Current changes in health care toward prepayment programs of comprehensive health care, greater consumer involvement, and the basic shifting of risk from the nonsystem to a system all lead to a new role for insurance companies. Perhaps the risk was always in the system, and what has happened is that now the risk becomes manageable because controls will be built into the system.

[5] Charles N. Stabler, "Controlling Cash," *Wall Street Journal*, LII (May 19, 1972), 1, 14.

FULFILLING STOCKHOLDERS' OBJECTIVES

1. In general, what are reasonable expectations for stockholders? Are the expectations of life insurance company stockholders any different?
2. Is the profitabiiity of life insurance companies attractive to investors?
3. Can an unattractive profitability picture for a stock life company be improved in order to fulfill stockholder expectations through
   a) Increasing profit margins in life company operations by expense reduction programs, redirection of investments, change in agency system, entering new markets?
   b) Mergers with other life companies?
   c) Holding company opportunities?
   d) Diversification into nonlife activities?

Atlantic City Regional Meeting

CHAIRMAN ROBERT C. DOWSETT: The shareholder of a life insurance company is a much maligned individual, viewed by some as an unnecessary and unwanted participant in the life insurance business. As a matter of fact, most life insurance companies would never get started without stockholders, and to the entrepreneurs who weather the early risk years of a life insurance company's history and who continue to keep it "on its toes" must go a reasonable reward.

By the middle of 1970 there were 1,664 stock companies doing business in the United States, as compared with 155 mutual companies. These stock companies carried 48 per cent of the life insurance in force and administered 32 per cent of the life insurance assets. In 1942 stock companies administered only 20 per cent of life insurance assets; thus in the intervening twenty-eight years their influence over life insurance assets has grown relatively as well as absolutely. At the end of 1971, of the top ten insurance companies (ranked by assets), three were stock companies; of the top thirty, fourteen were stock companies. Stockholders therefore have an important place not only in the new, smaller insurance companies but also in the established giants.

The shareholder of a life insurance company is not only maligned—he is also bewildered. The complexity of our business and the effect that its long-term nature has on our financial reporting make proper analysis of the year-by-year results difficult. This subject of reporting has occupied an unbelievable amount of the time of both actuaries and accountants for the last two years, but it is an important one. Shareholders, both

existing and prospective, must be appropriately advised as to the progress of their investment.

Recognizing that our shareholders are important, we should ask ourselves whether we are satisfying them. What are the objectives of our stockholders, and how are we fulfilling them? First, let us ask Bill Mullens to discuss the first part of the first question—dealing with stockholders in general, not just life company stockholders.

MR. WILL R. MULLENS: What are reasonable expectations for stockholders? I am not going to spend time trying to define "reasonable." Subjectively, to management, a stockholder's expectations are going to be either reasonable or unreasonable. It does not make much difference which they are; if they are expectations, management has to deal with them. I am sure that some of the expectations I will be enumerating may not seem reasonable to many of you in this group.

The word "stockholder" also covers a multitude of sins. Stockholders today come in all shapes and sizes. They have different reasons for buying, different reasons for holding, and different reasons for selling. In almost every case, however, they have one thing in common: they expect financial appreciation. To be sure, they may be looking for other things as well, but financial appreciation is probably the fundamental reason that anyone buys common stock. Financial appreciation may, of course, come in a variety of ways. A stock with expectation of capital gain will not attract the type of stockholder who buys an income-oriented stock. If the expectation of a high capital gain was the hallmark of an industry several years ago, and that expectation fades, the characteristics of the stockholder in that industry will change, and some company managements may be surprised.

High-growth speculative stock does not attract the type of stockholder who buys the blue chip stock with a steady growth. The in-and-out trader of the go-go fund type looks for different characteristics, even to the extent of a thin market, which possibly can be whipsawed.

I am going to concentrate, from this point, on the expectations of stockholders who are presumably trying to build a portfolio they can sleep with. I am talking about stockholders who approach their portfolio the way a responsible financial analyst would, recognizing that a 12-15 per cent return on a portfolio is a difficult, perhaps almost impossible, but worthwhile objective.

I have chosen to divide these stockholders' expectations into three broad types: (1) financial, (2) public relations, and (3) social. Since financial expectations are transcendent, I will discuss them first. Some reasonable expectations are the following:

1. Stable, above-average growth in earnings and sales. Specifically, I would suggest that above-average growth at the present time should be regarded as between 8 and 10 per cent per year.
2. A return commensurate with the risk, which in the present climate represents an 8–10 per cent increase in earnings and a 2 per cent dividend. Implicit in this expectation is the assumption that the market value of the stock grows as the earnings grow—probably not too bad an assumption over the long haul. Since a stockholder can get close to 8 per cent on high-grade bonds, he would hope for somewhat better growth over the long term in common stock.
3. Predictability and stability of growth. These characteristics are the key to a high multiple. One-shot growth due to increase in profit margins or due to acquisitions is not repetitive in nature and does not meet the criteria of predictability and stability. This comment is not intended to downgrade either increase in profit margins or acquisitions but merely to point out that in and of themselves these changes will not necessarily be rewarded with a high multiple.
4. Credibility of earnings—an expectation which opens up the whole question of accounting methods. Obviously, we in the life insurance business could talk a long time on that; suffice it to say, however, that the wide variation in accounting methods in many businesses raises the caveat that earnings figures are not to be accepted without question. Surprising things show up in the footnotes of financial statements if you look closely enough.
5. Marketability. Generally, institutional investors are not interested in a thinly traded stock; however, a thinly traded regional company can frequently get a good play in markets of its regions.
6. Safety. Depending on a specific stockholder, this expectation can range all the way from crap shooting to a savings account.

Now to public relations expectations:

1. Both analysts and stockholders want full information about what goes on in companies. That means bad news as well as good news. This need was brought home the other day by a letter received from a top salesman of our company who is also a stockholder. He enclosed a newspaper account of a speech given by Vice-President Spiro Agnew, in which the vice-president called for business to relate more truth—the whole candid, sometimes embarrassing truth. The vice-president had called for an end to "blue sky" news releases, replacing them with information which tells the public about defeats as well as victories, about mistakes as well as accomplishments. Our salesman added this note: "A corporation is like one of us—human, and surely has a few mistakes worth mentioning. It would add a lot of credibility if just now and then we heard of one or two of ours."
2. It would be desirable to publish quarterly financial results. Such a schedule keeps stockholders aware of current developments and helps eliminate surprises. As an aside, it should be noted that, typically, market forces tend to anticipate the increase in earnings of a company and bid up the price of its

stock before the earnings are actually achieved. The investor in common stocks is concerned primarily with what the future holds for him through a particular security. He always tries to anticipate earnings, and if he finds an industry in which he can anticipate the earning power of the companies, he feels more comfortable with that industry—hence the importance of frequent and well-explained financial reports.

Turning to social expectations, although there is some demand for more rapid and radical change in this area, there does not appear to be massive demand on the part of stockholders as a whole. I think that the following statements concerning social expectations can be made concerning the majority of stockholders:

1. Investors as a whole do not appear willing to forgo return for social reasons. They recognize some obligations on the part of their companies, but this recognition is still a low-key factor.
2. Stockholders in general expect company management to make the private enterprise system work rather than throw away money on schemes with little chance of lasting benefits.
3. Under present circumstances it appears that company management and government will have to lead the way in meeting the social responsibilities of companies. Not much leadership is emerging at present from company stockholders.

MR. DANIEL J. GROSS: Investors have been concerned about many developments that are affecting the level and stability of corporate profits. These developments include recurrent strikes, sharply increasing labor costs, fluctuations in raw material prices and inventory values, costs of pollution control equipment, shifting patterns of federal expenditures, and increased costs of funds from the capital markets. None of these factors has affected life insurers, and investors concerned about these developments can find a haven in life stocks.

Life insurers now offer a wide variety of investment opportunities. Let us first look at the simplest area—companies with little or no involvement outside life insurance. For these companies over-all income is dependent primarily on highly predictable investment yield and renewal premiums, growth in first-year premiums is fairly stable, and cost factors (interest, mortality and expenses) are quite stable. Because of these elements, pure life insurers offer a unique anticipation of stable and predictable growth. This stability is the primary investment characteristic of life companies. The amount of growth will vary among companies, but it can be projected within a narrow range for most sizable individual companies.

Overall, earnings of pure life companies are growing at 8–10 per cent annually, and stock prices should increase proportionately over time. The anticipated long-term annual appreciation of 8–10 per cent in pure life stock can be combined with a 2–3 per cent dividend rate, to produce an anticipated 10–13 per cent annual yield to shareholders. Thus life companies offer a long-term yield superior to yield achieved by common stock in general.

Life insurers with significant involvement in group health or casualty areas have not enjoyed the stability and predictability of earnings of pure life companies. Erratic results in the group health and casualty lines have caused sharp fluctuations in over-all earnings. Stock prices of these companies will reflect recent underwriting results. Investors can seek quick capital gains by anticipating improvements in underwriting margins. This has been a very successful strategy recently and is still being widely recommended by insurance analysts.

We can estimate the long-term earnings trends for these companies by assuming that group health and casualty underwriting margins remain constant. Earnings will then grow through increased premium writings, increased loss reserves, and increasing interest rates. Property-casualty premiums increased 8 per cent annually during the last twenty years and should grow faster in the future. Underwriting profits should increase proportionately, and investment earnings at least as fast. Thus the long-term trend of property-casualty earnings should at least match the trend of life earnings.

Shares of traditional pure life and multiple-line companies comprise the bulk of available life insurance common stock. In recent years, however, the most successful investment opportunities have been in the specialty companies. These companies generally offer limited product portfolios to special markets such as college students, small groups, mutual fund buyers, associations, or newspaper readers. Many specialty companies have recorded spectacular revenues and earnings growth.

Because specialty companies generally use innovative marketing techniques and products, many of them will face risks that cannot be evaluated from other companies' experience. A company facing such an unevaluated risk must be considered a speculation that can prove either extremely rewarding or disastrous. A specialty company which has proved its ability to meet unique risks will usually be afforded a high price-earnings multiple if it maintains its sales and earnings growth rate. Its shares will offer investors sizable year-to-year profits if growth continues and the price-earnings multiple holds, but they will involve risks of potential loss if growth slows and the multiple declines. In

recent years specialty companies experiencing high growth rates have provided the most profitable insurance investments.

Overall, life insurance shares offer an appealing combination of superior long-term growth and stable year-to-year results. Their attractiveness to investors at any particular time will vary with the market climate and the opportunities available elsewhere. During the go-go period, regardless of predictability and stability, portfolio managers were not interested in 10–12 per cent returns. Currently, many portfolio managers believe that we are at the start of an economic upturn, and they expect greater growth from the cyclical sector. If so, participation in the insurance sector will be confined to companies with property-casualty or group health involvement offering potential gains through improved underwriting margins and to specialty companies offering larger potential gains than traditional companies but involving greater risk.

MR. SAMUEL H. TURNER: There are several possible directions one might take in responding to question 2: "Is the profitability of life insurance companies attractive to investors?" I suggest that the following three factors are significant:

1. Profit-generating potential of a life insurance operation—that is, "How profitable are life insurance companies?" and "How profitable should life insurance companies be?"
2. Current share price—since it seems to me that the marketplace will ensure that prices are adjusted to such an extent that the investment expectation of those holding life insurance company shares is the same as that of holders of other securities.
3. Information available to investors sufficient to permit a reasonable and realistic evaluation of return and share value.

Obviously, answers to the questions posed with regard to profitability of life companies vary considerably, but one aspect is clear: to the extent that profits of a life company are derived from investment income and capital appreciation on the investment of its own capital funds, the value of this element of earnings is worth substantially less to the investor than the amount of capital funds. I would suggest that the appropriate discount rate is of the order of 25 per cent because I judge this to be the most likely effective tax rate to which such earnings are subject. The same kind of answer is arrived at if one assumes an over-all aftertax yield of 5 per cent on capital funds and capitalizes such earnings at fifteen times.

Accordingly, the profitability of a life insurance company likely to be

attractive to investors must derive substantially from the company's ability to generate profits out of the investment of the policyholders' money. Since the business is regulated in such a way that abnormally large amounts of capital funds are required to be deployed in a relatively sterile way, the profitability arising out of premiums and investment of policyholders' money must be quite high in order to offset the unattractive part of the investment.

If we go back to the first question and judge that investor expectations are in the vicinity of a 10 per cent over-all rate, it can be seen that the profitability of the business must be engineered to produce a considerably higher rate in order to offset the lower rate which will be necessarily realized on the investment of shareholders' capital funds.

If the company's products are engineered to produce a present value of profits at issue of zero when discounted at a yield of 15 per cent per annum, if the total value of the company is made up of 50 per cent present value of the profits on business in force and 50 per cent capital funds, and if the aftertax return on capital funds is 5 per cent, the company will generate an over-all gain in value of 10 per cent on the amount of its capital funds plus the value of future profits discounted at 15 per cent.

I think that these principles are reasonably clear, but I do not know how to relate them to the issue of attractiveness to investors without introducing the question of price. For a relatively new company it seems to me that a discount rate on future profits of 15 per cent is necessary to produce a reasonable over-all rate. For a seasoned company with a relatively high ratio of value of business to capital funds, the rate could be reduced (but never to 10 per cent). An alternative would be for a company to notionally write off a portion, say 25 per cent, of its capital funds to a net-of-tax basis and use 10 per cent as its discount rate for profits.

For companies operating in the ordinary insurance market at competitive premium rates, profit margins must be quite thin except for those companies with relatively low unit expenses. I am convinced that a high level of profitability will be found in the industry only among those companies with the lowest unit expenses, or below-average distribution costs, or significantly above-average premium rates. In the first category one would find the industry giants, and I suspect that several Canadian companies would figure prominently in the list. In the second category one would find companies with well-established branch office organizations coupled with average or below-average commission rates—combination companies would figure notably in such a list. In the third

category one would find specialty companies and, once again, combination companies, but this time there are some important reservations attached to combination companies which have to do with the nature of the market in which they operate.

Finally, attractiveness to investors must necessarily be dependent upon the availability of realistic financial information. I think that the inadequacy of financial information now available to investors is reasonably clear without elaboration. Bill Mullens has previously mentioned that shareholder expectations include the credibility of reported earnings. I suggest, then, that the lack of realistic financial information the credibility of which is apparent—for example, by the application of uniform principles and guidelines—has been the primary factor responsible for the relatively poor investor interest in life insurance company shares. The adoption of guidelines and principles for life insurance company financial reporting in accordance with generally accepted accounting principles is almost a reality. I submit that the publication of such financial information will result in a significant increase in investor interest in life company shares, although the conversion to GAAP will surely disclose a few surprises.

Thus, to the question, "Is the profitability of life insurance companies attractive to investors?" my response is that it can be, and I submit that it will be.

CHAIRMAN DOWSETT: The third question on our agenda today is, "Can an unattractive profitability picture for a stock life company be improved in order to fulfill stockholder expectations?" and various broad hints have been given as to how. This question is a little like "Are you still beating your wife?" since it seems to presume that an unattractive profitability picture does exist in many stock life companies.

I would like to take a minute or two first on part *d* of the question to discuss some of the means of improving profitability within an existing corporate structure, that is, without forming a holding company, without mergers, and without diversification into nonlife activities.

Perhaps the most obvious way to improve profitability is by increasing the base through growth, so that the fixed costs that are borne, such as home office rent and the like, can be spread over wider premium income.

Perhaps another obvious way to improve profitability is through expense reduction programs. With price competition imposing some limitation on the size of the premium that can be charged, the company that can provide coverage with the lowest overhead (all other things being equal) makes the largest profit. Life insurance companies began early to

use the computer as an aid in reducing administrative costs. Some of the expected savings, however, were elusive and never materialized. Nevertheless, those companies that appreciated the magnitude of this revolution in administration and planned accordingly were able to reap both cost and service benefits. In this area of expense control, there can be a direct tradeoff between service to the customer and the cost of providing coverage. The more an insurance policy is tailored to the specific needs of the client, the more difficult it may be to administer. This was not so much of a problem in the precomputer era, when manual systems were used. Then administrative costs were largely variable. With the advent of the computer and the need to handle all administrative functions on the computer, a very significant fixed overhead became associated with each new type of policy and each new administrative procedure. This fixed overhead was the painstaking and costly systems and programming work required to handle the first policy of a new type. Only with significant volume can computer systems show the way to reduced costs.

In the investment area some improvements can be made, but we must be always mindful of the legal requirements under which we operate and the nature of the basic guarantee in the insurance business. Improved returns can sometimes be obtained through a greater use of direct placed investments, through a carefully increased investment in the area of real estate, and through a greater awareness of the effect of taxation on the yields of various classes of investments. Often stockholders will push for more risk-taking in the investment area of our business. This is an area where stockholders should know something.

The possibility of entering new markets can be looked at from two points of view. The first involves considering a new geographical market. If the political climate is appropriate, and we can envisage the possibility of a large operation, new markets in countries where competition is not so fierce can be potentially more profitable than the further cultivation of existing markets.

The other sense in which we can enter new markets is that of providing new products. Many of us have been developing equity-linked products of one sort or another. The complexity of the regulations to which such new products must be subjected acts as a deterrent to entering the market and jeopardizes the potential profitability. Nevertheless, such products meet a rising need among the buying public and, if carefully designed, distributed, and administered, can benefit both policyholder and shareholder.

I do not think that there are any real surprises or any new truths in

the thoughts I have just presented. Much of what I have said has formed part of the thinking of many of our companies for some time. Let us now examine some of the newer approaches to improving profitability, which involve fundamental changes in corporate structure, such as mergers, formation of holding companies, and diversification into nonlife activities.

MR. TURNER: It was noted earlier that capital funds over and above the minimum required to operate the business are a liability rather than an asset, since they are worth only 75 cents on the dollar. To the extent that such capital can be more productively employed through diversification, this makes sense. It seems to me that any company with spare money that cannot be employed at a rate of 10 per cent ought to get rid of the money by distributing it through increased dividends, because, in the long run, shareholders are bound to be better off if they do. When I say "spare money," I mean in this context excess capital funds belonging to shareholders and not money belonging to someone else.

Now let us consider how excess capital funds might be effectively employed. First and foremost, it should be clear that a stock life company should never own another business which is subject to corporate tax. The reason is that the profits generated by the other corporation will be subject to corporate tax at source, and the dividend income, when distributed, will be substantially diluted because intercorporate dividend credits do not achieve the intended result when dividend income is passed through the tax net of a life company. There may be one important exception to this—the ownership of an overseas company—because dividend income received from such sources does not involve intercorporate dividend credit considerations and, instead, compensation arises through foreign tax credits which are not diluted by passing through a life insurance company's tax net.

In view of this initial consideration, the merger of one life insurance company with another life company is an obvious vehicle for achieving one or more of several desirable objectives. In this context, "merger" includes not only the case in which one life company is acquired by, and absorbed by, another but also the case in which the acquired life company continues to exist as an operating subsidiary, even though one or more of the operating functions may be performed by the acquiring company.

The importance of unit expenses has already been referred to, and mergers with other life companies can provide important advantages in this respect. However, in order to achieve improved unit expenses, it is necessary that the operations of the two companies be as compatible as

possible—similar lines of business, similar marketing thrusts, similar price-expense-profit strategies, and even similar physical locations are important.

Mergers can also be beneficial if the result is an expanded product line which can be made available to the combined distribution system of the two companies. Entry into new markets is frequently one of the objectives of life company mergers. Particularly, as Rob Dowsett noted earlier, entry gained into overseas markets can offer some distinct profit opportunities.

Thus I suggest that the advantages justifying life company mergers include the following: effective employment of excess capital funds from one viewpoint and availability of increased capital funds from the other; improved economy of operations; expansion of product lines; improved or expanded distribution system; entry into new markets; acquisition of managerial talent; and improved tax posture. All these may be categorized in three broad areas—financial, administrative, and marketing.

A word of caution: many of the apparent advantages are frequently illusory when put to the test. I suggest that one should expect there to be at least one significant unknown problem in any company acquired and that one should proceed with some intention in postmerger activities of disclosing the problem as soon as possible.

An unattractive profitability picture for a stock life company can be improved through mergers with other life companies, but this is not the only way.

MR. MULLENS: During the 1960's life insurance companies cast aside their cloak of conservatism and, through the holding company route, entered new fields of business activities. It was quite a departure, and the event naturally attracted a great deal of attention.

Results have clearly proved that diversifying operations and making acquisitions do not automatically magnify results. Quality is still the key word. If a company acquired or a new activity entered is worthwhile, the results will be satisfactory. Bad deals are bad deals, regardless of the corporate ledger upon which the results are entered.

Some companies chose to use an upstream holding company to enter entirely new fields, while others strove to stay with financial-related businesses. We took the latter course. The rest of my remarks will be related to what we at Business Men's Assurance Company did and why we did it.

First of all, we made a management judgment as to what we wanted to accomplish. That decision was that we wanted to accelerate our

earnings growth rate at a faster pace than an insurance operation alone would allow us. To this end we felt that we could more profitably utilize some of our surplus in activities which were not then open to us as a life insurance company. I might add here that, if you think the growth potential of your insurance company is limited to 5–6 per cent a year and you want to achieve a total growth of 8–10 per cent a year, you may achieve your growth objective for a few years by heroic measures and still stay primarily an insurance company, but you will not do it for long. If nothing else is gained by the diversified activities of holding companies, they may justify themselves by focusing the attention of insurance company managements on the fact that the insurance company itself must achieve satisfactory growth objectives. If it does not, it may well cease to be the dominant entity in a diversified corporation.

Next, we analyzed our major resources. Two advantages were clear to us. One was our marketing capacity, developed through the insurance operation. Another was our financial expertise, gained through our ancillary, but very important, investment operations in the insurance business.

Obviously, then, the most appropriate fields for us to enter were those involving marketing financial services and those offering opportunities to invest our financial resources for better returns than were available to us as only a lender of mortgage money and a buyer of bonds.

Another important consideration in our final determination was the goal of making the highest and best use of our human resources. We thought that it would be very unwise for us to use our financial resources to acquire businesses that were not within our field of competence or experience. We do not believe that because people are qualified to run a life insurance company they are automatically experts in an entirely different field. When we did not have the expertise within, we went outside and hired it.

Our first subsidiary was a real estate corporation formed to take greater advantage of our investment money and manpower. We made haste slowly. Our investment people were equipped by education and experience to handle this activity, but we did add several experienced people to augment our staff. We found that running a successful real estate operation is quite different from the "passive investor" stance of a mortgage investor. We now maintain active involvement in the planning, constructing, and marketing of all of our joint ventures. To give you some idea of what this approach gets us into, we are now in joint ventures involving hotels, apartments, condominiums, shopping centers, office buildings, office warehouses, and land development. Obviously,

this is still primarily an investment operation, but it is an investment operation with a new dimension.

Our next subsidiary was a broker-dealer organized to enable our field force to market mutual funds. For most of our salesmen this was indeed a quantum leap. After all, life insurance companies had been opposing mutual funds for a long time. For many of our top salesmen this affiliation was akin to making peace with the devil.

We carefully explored the ways open to us for marketing mutual funds. We decided to have a broker-dealer to market established funds rather than forming our own. If we were making this same decision today, we would do the same thing. We did not know how to market and administer mutual funds, so we brought in experienced people.

In our real estate activities we became associated in joint ventures with a construction firm which impressed us very much. After a while we decided to enter into a working arrangement with them. We formed a subsidiary to assist them in obtaining financing on some projects that looked promising and also to supply seed money for the projects. In return we have the right to acquire one-half of that firm's interest in a project. This activity put us in an area that we knew something about, and we are learning more all the time. After only a year and a half, this association is producing good results.

Early this year we acquired a savings and loan holding corporation with assets approaching the $50 million mark. We did this through an exchange of stock—the only time we have taken this route. This savings and loan corporation is located in a suburb of Kansas City and operates other branch offices in the Kansas City area and four in outstate Kansas.

Admittedly these are not dramatic departures, nor have they created an explosion in our asset picture or our earnings. But they have given us the flexibility we needed without watering our stock to the "Chinese paper" point or putting us in areas completely new to us.

All this has not been done without encountering some problems or making mistakes. Nevertheless we are convinced that Business Men's Assurance is today more vigorous and more effective than it was as a pure insurance company.

MR. GROSS: Bill has talked about diversification into real estate and mutual funds. I will talk about other forms of diversification but will limit myself to moves into areas related to major businesses. With ample opportunity to diversify into related areas, companies need not take the risks inherent in diversifying into unfamiliar business about which they know little or nothing.

Companies have four ways to diversify into related areas:

1. By offering new products to markets they currently serve.
2. By offering current products to new markets.
3. By offering nonlife products requiring the administrative, risk-taking, and investment skills developed for life insurance.
4. By producing and marketing products and services which they have previously purchased and used.

In the first area the major diversification among traditional companies involving new products for existing markets has been in mutual funds, but the current activity and interest in the property-casualty area and the great size of that area—$24 billion of annual premium—heralds a much larger and more important diversification route.

Specialty companies, serving limited and well-defined markets, have a greater opportunity to offer new products to existing markets. Our company has concentrated on sales of life and health insurance to members of associations, particularly members of retired persons' associations. Through our work with these associations, we discovered that the special needs of the elderly were poorly met in many areas. We first diversified by forming a travel company providing group tours specifically designed to meet the needs of elderly travelers. We later formed an automobile insurance company offering coverage with a special rating plan for the elderly and a guaranteed renewable feature. The president of the company says that it is the fastest-growing automobile insurer in the country. Our most recent effort has been a temporary-help firm providing part-time employment for retired persons.

In the area of diversifying into new markets, a major marketing diversification may come from sales through New York Stock Exchange member firms.

Life companies have developed expertise in collecting and investing funds, paying benefits, and taking risks. They are now using their skills in collecting and investing funds to provide other products, such as real estate investment trust bond mutual funds and investment advisory services. They are paying benefits for government insurance plans and using their financial resources and risk-taking abilities in new areas such as providing airline hull and liability coverages.

Life insurers buy two types of products—the people and services to operate their businesses and the investment opportunities to provide a place for their money. They are now diversifying by producing and selling these products. Many companies are selling the software packages used in their life business. Other companies are selling actuarial con-

sulting services, although generally as an adjunct to their marketing efforts. In the investment area, several companies have moved directly into industries in which they formerly were lenders. In addition to real estate, which Bill discussed, some firms have formed leasing companies, which will require and use large amounts of capital, and one company, which was very active in newspaper financing, is now publishing newspapers.

The most important diversification for life insurers may come through stock exchange memberships. Insurance companies initially sought these memberships to realize commission savings. But life companies may ultimately enter the brokerage business. If the Securities and Exchange Commission succeeds in requiring institutional members to produce nonaffiliated business, companies desiring institutional membership will be forced to comply.

In summary, life companies have ample opportunities for broad diversification into related areas. This diversification has the potential to improve profitability by utilizing excess capital more efficiently, by providing entry to faster-growing markets, and by spreading overhead costs.

Chicago Regional Meeting

CHAIRMAN HERBERT L. DEPRENGER: The subject for this session is simply "Fulfilling Stockholders' Objectives," but we will be talking primarily about stockholders of life insurance companies.

There are those in our society who believe that stockholders are unnecessary and undesirable participants in the life insurance industry. Some policyholders, consumerists, legislators, regulators, and managements of mutual companies may take this view. However, certain facts should not be ignored.

1. To the best of my knowledge, the majority of the mutual companies started as stock companies.
2. There are over ten times as many stock companies as mutual companies doing business in the United States.
3. About half the life insurance in force in the United States today is carried by stock companies.
4. In 1942 stock companies held 20 per cent of the United States life insurance industry assets. By 1971 this had increased to 32 per cent.
5. Of the ten largest life insurance companies (ranked by assets) doing business in the United States, three are stock companies: of the thirty largest, almost half are stock companies.

From these facts, I conclude the following:

1. Stockholders provided the risk capital to start the industry.
2. Stockholders have played a major role in the growth and development of the industry.
3. Stockholders are still a very significant factor in the industry, in both the small, new companies and the large, established companies.

Stockholders come in all shapes and sizes, but they have one basic objective in common: to make money. Beyond that, their investment objectives and their expectations in terms of return on investment vary widely. What is a reasonable return to one stockholder is inadequate to another. In these respects, a cross-section of stockholders of life insurance companies probably does not differ from cross-sections of stockholders of other established industries.

On the other hand, the stockholders of life insurance companies are probably more bewildered than the stockholders of any other industry. Because of the long-term nature of our business, an analysis of our financial results is extremely difficult, if not impossible, for most stockholders and potential stockholders. Hopefully some clarification will result from the efforts put forth by the accountants and actuaries over the last three years, but I do not believe that GAAP will completely solve the problem.

I know of no other industry in which a large part of this year's efforts are reflected in the profit and loss statements of the next twenty or more years. Until we are prepared to tell the investing public what they can expect in terms of future earnings from this year's expenditure of time and money, they will continue to be bewildered.

We have assembled here a panel of experts who may disagree with that statement, but, before giving them an opportunity to do so, I will make a couple of comments relative to my own company, Continental Assurance. We are the seventeenth largest life insurance company in North America in terms of life insurance in force. We have about $1.75 billion in assets and a very complex book of business. In 1971 our statutory net gain from operations after federal income taxes was $12.5 million.

We are wholly owned by CNA Financial Corporation, a diversified financial holding company which operates as a management company. There are three major subsidiaries, two of which had pretax earnings greater than ours in 1971. Our pretax earnings were only about 20 per cent of the total. This situation is in contrast to that of a number of holding companies formed by life insurance companies where the life insurance company is the only major subsidiary. I should think that in that situa-

tion the stockholders of the parent company would be viewed by the management of the life company as their own stockholders. In my own situation, as chief operating officer of Continental Assurance, I look upon CNA Financial Corporation as our only stockholder. What is that stockholder's objective? Frankly, I have not been told, but we have a new chief executive officer, and he and his staff are currently working on performance criteria for the subsidiaries.

I recently proposed a 10 per cent annual increase in "adjusted" earnings as a reasonable expectation. Why 10 per cent? In the first place, I do not think they will settle for less, and, second, I believe that that is what a life insurance stockholder, in general, should expect. Can it be achieved? In today's environment, I seriously doubt it.

In general, it is my opinion that the stock life insurance industry will not enjoy a growth in earnings rate anywhere near 10 per cent unless there are major changes in the environment, particularly the environment within the industry itself.

MR. C. DAVID SILLETTO: Questions 1 and 2 on our agenda are quite similar and pose the basic question whether our present and future profitability will satisfy the expectations of our stockholders. In this discussion, I will address those two questions together. In thinking about our stockholders or investors, I first asked myself, "Who are they?" I had to conclude that at the present time they are almost entirely institutional investors. In saying that, I do not mean to imply that only institutional investors hold our stock, but I do feel that they are a strong factor in setting price levels for our stock in the absence of much influence at all by the general investing public. At the moment, I feel that the level of interest in life stocks on the part of the general public is rather low. In my opinion, there are several reasons for this:

1. The life insurance company is a complex financial mechanism not generally understood by the investing public.
2. Although advertising is changing the situation somewhat, in many instances our company names are not well known to the public.
3. We market a product that, in general, is not well understood by the public.
4. The growth of our industry in recent years has been steady but not dramatic.
5. In general, life insurance stocks pay a rather low dividend yield.

Accordingly, while I can conceive of factors that would raise the interest level of the general public in life stocks, at the present time our important stockholders or investors are institutional investors. If that is true, what do these investors expect of us, and is our profitability attractive to them?

Before answering these questions more specifically, I would like to point out that security analysts tend to view a stock or a company as a stream of earnings and then ask: (1) At what rate do those earnings grow? (2) What external forces affect those earnings, and how? The answers to those questions then determine what price multiple the analysts think should be attached to those earnings.

How do the analysts view us at the moment? In my opinion, they view us with optimism, and a substantial body of bullish opinion is expressed today about life insurance stocks. The title of a recent research piece on life stocks said it well: "Life Insurance: A Contracyclical Industry with Highly Visible Earnings Growth." More specifically, more favorable writeups on our industry today state the same three reasons for optimism:

1. In the short term, they see us solving our problems on group health insurance and eliminating our losses.
2. Over the longer term, they predict continued high interest rates and view this as an important source of earnings in the future. Our "cost" of these investable assets is the interest that we must credit to policyholder reserves, and that cost is quite insensitive to fluctuation in the interest rate, particularly short-term fluctuation. Accordingly, that leverage works to the advantage of stockholders in times of high interest rates.
3. Generally, all analysts take note of the favorable population trends that lie ahead for us. Those people born during the boom in birth rate following World War II are now approaching the insurance-buying ages—the late twenties and thirties. As a result, our predicted sales growth over the next five to ten years is optimistic.

In spite of this optimism, life insurance stock earnings are now capitalized, on the average, about fifteen times by current prices. Many analysts feel that this is too low in view of our growth rate over the past several years and our projected growth in the future. Only time will tell whether this point of view prevails and results in higher earnings multiples being attached to our stock. Before going on to question 3, I would like to comment on some factors now at work or foreseeable in the future that will broaden the appeal of our stocks to a greater segment of the investing public. These factors are as follows:

1. There will be better definition of our earnings, probably through GAAP adjusted earnings. Most analysts now understand statutory earnings well and have their own methods for adjusting them, but the general public is still quite confused.
2. Diversification should be a helpful factor, in giving our corporate names more exposure and involving us in some businesses that the investors at least think they understand better.

3. Better marketability will broaden the appeal of our stocks, and the increasing tendency of life insurance companies to become listed on the New York Stock Exchange will help in this regard.
4. Finally, in a conjectural sense, we are a very socially desirable industry, and this could put us in a favorable light. We do not make the instruments of war, and we do not pollute the environment. This probably will not be important unless government actions tend to decrease the earnings of those who do those things, but it might provide us with some advantage.

I also have a few comments in relation to question 3. Can diversification improve the attractiveness of life insurance stocks? In my opinion, that can be answered yes or no, depending on what kind of earnings are added to the corporation and how much was paid to obtain them. If we diversify into other lines of insurance or related financial activities, we must realistically understand that most of such diversification results in short-term losses (or reduced profits) in the interest of long-term gains. Unless this is understood by all, this sort of diversification does not quickly enhance the attractiveness of our stock. On the other hand, diversification into unrelated lines can often present serious management difficulties. We can encounter problems that we are ill equipped to handle, either because of a lack of knowledge or because of our inherent management philosophy. For example, the long-term nature of the life insurance business very often leads us to take a long-range view and ride out a difficult period. In other businesses, decisions on pricing and marketing, for example, must often be made within a much shorter time frame.

In closing, I would like to comment briefly on question 3(*d*) by paraphrasing it slightly and asking, "Are investors impressed by improved profit margins resulting from these factors?" With regard to expense reduction programs, I feel that they are not. Not even sophisticated analysts, much less the general public, seem to pay too much attention to how efficient our companies are from an expense standpoint. As to the redirection of investments and changes in marketing programs, investors are extremely interested and attribute much importance to these factors. As was said earlier, they view investment activities as an important source of profits for us in the future. With regard to marketing, they see our present systems as being somewhat cumbersome and expensive, and improvements are considered very important. Finally, entering new markets can be viewed with interest but often will be viewed with skepticism. Such factors as prospective future earnings in relation to initial investment are important in appraising the entry into new markets.

MR. HENRY C. UNRUH: The question of what reasonable expectations for stockholders are is an interesting one from many angles. The American free-enterprise system has gone through a long period of transition in the matter of public disclosure to shareholders of detailed financial statements covering income accounts and balance-sheet position, certified audits to verify the financial statements, management comments on past results and future prospects, and proxy statements setting forth officer compensation and ownership interests. Some of these steps toward improved communication with shareholders came about voluntarily, but many were dictated by law or directed by the stock brokerage fraternity, having fairly equal application to general industry and the life insurance companies. In the matter of frequency of reporting, the life industry has perhaps lagged a little behind the times, with the single annual report still representing the primary form of communication with shareholders for many companies.

The fundamental question as to reasonable expectations for stockholders, however, probably must be reduced to a simple matter of return on dollars invested in the marketplace. When I look at some of the prices being paid today for many of the growth stocks, I am convinced that the stockholders' expectations are very great indeed, and I have considerable difficulty in seeing how they are going to be satisfied. Clearly the markets of today count on capital appreciation as a recognizable portion of total investment return to the stockholder, since dividend yields have for at least a decade and a half held generally below bond yields.

When I talk to my friends in the bond business, they tell me that the normal going yield rate for quality bonds with ten years of call protection is a constant approximating $3\frac{1}{2}$ per cent plus the current inflation rate; that is, with a 5 per cent inflation rate, one should get an $8\frac{1}{2}$ per cent yield, and with a $2\frac{1}{2}$ per cent inflation rate, the going yield for quality bonds would be approximately 6 per cent. Since bondholders come first in the pecking order and holders of common stock come last, I would think that a reasonable expectation for stockholders would be a return of a multiple of the $3\frac{1}{2}$ per cent constant plus the current inflation rate. If the multiple factor is 2, the yield (i.e., cash dividend plus increase in market value) should be approximately twice $3\frac{1}{2}$ per cent plus the current inflation rate, so that, when the inflation rate is 5 per cent, the total yield is 12 per cent. Among other things, this multiple factor will reflect a company's long-term trend of earnings and stability of earnings. Also, this factor might well depend on whether the particular company has bond indebtedness and other senior securities outstanding. If the capitalization is made up entirely of common stock, perhaps a factor of $1\frac{1}{2}$ may

be more reasonable. For a stock which is highly leveraged, perhaps a factor of $2\frac{1}{2}$ might be reasonable.

In considering the expectations of a stockholder of a life insurance company, the above factors might possibly be modified somewhat. In general, life insurance companies are not plagued to the same extent by some of the problems continually faced by a typical manufacturing company, such as inventory problems, fluctuations in cost of raw materials, labor contracts and disputes, obsolescence of plant and equipment, fluctuations in consumer demand, and the like. On the other hand, a life insurance company heavily engaged in the group disability and health business is subject to much greater fluctuations in experience, and this should be recognized.

A reasonable return on an investment in a life insurance company implies that a reasonable value can be placed on the earnings of a share of stock. As I see it, this has been the main problem. In recent years the statutory earnings have been rejected as a measure of a life insurance company's true earnings, and various attempts have been made to estimate them. Hopefully, the long-awaited American Institute of Certified Public Accountants audit guide for life insurance companies will give us a reasonable basis for the evaluation of a share of stock.

Recently I read a stockholder statement by the president of a large insurance holding company regarding the profit objectives of his company. His company's objective within the next five years is to establish an aftertax return of 15 per cent on the company's capital and surplus funds. The president of another insurance holding company stated to a group of investment analysts recently that his company is committed to a 10 per cent return on capital resources. In my view, a return of between 10 and 15 per cent on capital and surplus would be a reasonable objective for profitability. I am speaking here of a percentage return on the book value of an insurance company stock, not return on market value. Generally speaking, life insurance stocks sell at a premium to book value. The return on capital resources is a useful tool in appraising the growth prospects for a company, and this growth in turn provides the potential for capital improvement in the market. After allowing for dividend payout, the 10 per cent return on capital and surplus might prove modestly low to meet the reasonable expectations of stockholders, but a consistent 15 per cent return should produce fully satisfactory results.

One question that might be raised at this point is this: should we express statutory earnings as a percentage of statutory capital and surplus, or should we talk about GAAP earnings as a percentage of GAAP

adjusted capital and surplus? For a mature company it may not make too much difference. On the other hand, a newer company or one which has recently substantially expanded its new-business writing probably will want to use the GAAP adjustments to earnings and surplus.

The facts of the marketplace suggest that reasonable expectations for stockholders and actual achievement often are widely separated, reflecting the many vagaries of daily market fluctuations. At least to me, the superior predictability of operating returns for the best of the life insurance companies offers greater likelihood of achieving reasonable expectations in the market than would be true of other forms of equity investment.

With respect to question 2, "Is the profitability of life insurance companies attractive to investors?" I am optimistic as far as my company is concerned, although I have heard comments by other life insurance executives indicating that current profit margins are too low or that profits are too long deferred. There are several factors affecting profitability which work in opposite directions. The following are some of the factors which affect future growth and profits of life insurance companies:

1. *Size and growth of the market.*—A favorable factor is that the market is increasing by formation of new family units, and the consequent need for life insurance coverage is increasing. Although there are some reports to the contrary, I understand that, generally, marriage is not going out of style and there will still be many who are interested in the financial protection of their families. Simultaneously, it would be reasonable to expect that the market for employee benefit plans, business insurance, and so on, would also expand.

2. *Investment return.*—Another favorable factor is the increased investment returns in the foreseeable future which ought to contribute to substantially increased profit margins on matured business issued several years ago. The increased yield will be an offset to increased renewal costs of handling this renewal business.

3. *Improved management systems.*—The computer now permits companies to monitor their business in a timely manner, so that necessary action can be taken to correct segments of business which provide less than acceptable profit margins. For example, in my company we have annual mortality and persistency tabulations for each agency on an actual-to-expected basis, recognizing the different persistency rates assumed on the various plans of insurance. These studies have assisted us greatly in policing our ordinary business. Also, on the sixth working day of each month we have premium and claim tabulations for the month and policy year to date, broken down by coverage on each of our group accounts. These reports have been of immeasurable help to us in the early detection of adverse trends.

4. *Competition.*—Intense competition among companies on similar products has been a negative factor in the profitability of a company. Mutual life insurance companies are effectively in the "nonparticipating" business with the introduction of the special dividend option which provides for the purchase of additional one-year term insurance and paid-up additions. It is difficult for a nonparticipating product to match the figures of such a policy without cutting margins to the bone and incurring very substantial deficiency reserves (not required by the participating product). Among nonparticipating companies there is intense rate competition for term plans. Unfortunately, all this competition tends to hold down the general level of premiums when, in many instances, an increase is justified. The life insurance companies are also faced with the trend of agents toward "independence"—that is, selling products for several companies, the company with the best bargain for the policyholder being likely to get the business provided that the commission scale is acceptable. In our company we are trying to offset this trend by offering more and better services to our field force, so that it is more convenient for the agent to do business with us.

5. *Expenses.*—Another negative factor affecting profitability is the increasing trend in unit overhead expense. Although the improvement in investment yields has done much to offset this, increasing attention is being given to this matter.

6. *Other lines of business.*—Other lines of business, such as individual and group accident and sickness, will affect the level and incidence of profitability. Recent increases in the cost of health care have made underwriting profits in that business nonexistent. Certain companies do perform better than others, and the investor would do well to take note of this. Life insurance companies now appear to be increasingly interested in going into the property and casualty business, through affiliates or subsidiaries. An entry into this business will probably have a substantial effect on the pattern of earnings.

7. *New products.*—Recent interest in equity products has taken a number of companies into variable annuities and mutual funds, with widely varying results. A new area of intense interest is the variable life insurance policy. It is hard to say at this time what effect the introduction of a variable whole life policy will have on our business. Competition would shift to the investment side of our business from the insurance side. A nonparticipating product of one company could outperform the participating product of another. A matter of grave concern is what the introduction of such a product would do to our existing fixed-dollar business. It would be difficult to criticize an agent for switching business when the new product is likely to be hailed as the long-term answer to inflation.

Returning to question 3 of the program outline, perhaps a company with an unattractive profitability picture should first try to find out the reasons for its unprofitability and try to do something about them. It would seem logical, therefore, to discuss question 3(*d*) first, since questions 3(*a*)–3(*c*) involve to some extent wandering into unfamiliar territory.

A few years ago I attended a meeting at which a member of a well-known consulting firm discussed the subject of compensation of life insurance executives. In the course of their study they had analyzed the operations of a number of life insurance companies. Their findings indicated that, although expense reduction programs and increased yields on investments were important sources of additional profit, by far the most important source was an increase in sales. If this is true, then perhaps an unprofitable company should first direct its attention to its agency system and its markets. These should really be considered together, since a new market with new products may actually call for a different marketing system. For example, I consider my company basically market-oriented, and at the present time we actually have five separate agency forces with five different marketing systems, that is, different organizations, different compensation plans, and so on. We are convinced that this setup has made the greatest contribution to our rapid and steady growth over the years. We feel, however, that we must constantly review our markets and our marketing systems to see whether a few years later they will be adequate to sustain the company's past growth pattern.

Changing the agency system is a risky business. It is almost like tampering with the soul of the company. It should be considered only after a thorough analysis of the reasons for the leveling off or reduction in new business. If new business currently is still satisfactorily on the rise, it would appear that the only reasons for considering a change would be management's doubts about the system's ability to sustain the rate of increase or the contemplation of new markets calling for different marketing techniques. Specialized new markets frequently provide opportunities to design products which have a higher profit potential and frequently call for a separate agency setup. The company with an unattractive profit picture would normally want to consider those markets in which competition would not be a significant factor. In the past, companies have specialized in the student market, the medical market, the military market, special salary savings markets, mail-order business, and many other specialized types of markets.

With regard to expenses, my company has had some success in expense reduction programs. We are continually working on greater computerization of our business and at the same time are improving our clerical systems through reorganization and work measurement. The introduction of a comprehensive budget system a few years ago has also done a great deal to help us control our unit expenses by placing the responsibility on each cost center.

With regard to investments, we hope that we will improve our profit-

ability by the continuation of our dollar-averaging program for common stocks, even if there appears to be some disenchantment regarding the price of growth stocks at the present time. Also, we are participating in joint ventures wherein the company shares, by joint ownership, in the profits of real estate projects.

Referring to question 3(*a*), a company with an unattractive profit picture is not in the best position to seek a stronger merger partner. My view is that this should not be attempted until the company has gone through the complete process described in question 3(*d*). Even if a merger with a stronger partner came about, the partner would probably insist on a substantial cut in personnel, including officers, and in a true merging of the business into a single administrative system. I think one can assume that these cuts would affect mostly those individuals working for the weaker company. It would appear to me that the stockholders of the weaker company would not fare too well, since in all likelihood they would be exchanging stock with a poor price-earnings ratio for stock selling at a substantially higher price-earnings ratio.

I will make just a short comment on questions 3(*b*) and 3(*c*) combined. It is difficult to see how a company would get into nonlife activities without going the holding company route, and it is unlikely that the life company has the expertise to go into nonlife activities. It seems to me that most companies that go into nonlife activities are not growing very fast in the life insurance and related businesses and that they are really looking for a place to make their surplus yield a larger return than they would otherwise be capable of earning as capital and surplus invested in the normal insurance company investments.

As implied above, companies appear to go the holding company route in order to get into nonlife activities or activities not directly related to life insurance company business or to have greater flexibility in investments. These businesses imply entrepreneurial risks and involve the manufacture of a product or the provision of a service with probably a higher amount of risk and possibly a higher profit margin. It is hard for me to see how the management of a company whose profit is unsatisfactory in a business that it knows, can expect to improve its profitability by going into an unfamiliar business, unless it is willing to pay a high price for the management expertise in the new type of business. Then there will remain the question as to whether it paid too much.

Successful use of the techniques of improving profitability is really what the management of a life insurance company is all about. The disciplines laboriously learned by our Society should qualify actuaries to make the necessary analysis and to influence management to make the right decisions.

MR. WILLIAM A. HALVORSON: What are reasonable expectations for stockholders? As investors we all want at least a 15–20 per cent per year increase in the market price of our stock holdings, with dips in the price allowed only when we want to buy more stock. Do we get this performance? Obviously not always, but we can rationalize accepting a compound rate of return of 8–10 per cent over a number of years, provided that we have little risk of loss in either the market price or the demise of the company.

I do not believe that the individual stockholder's attitude toward life companies is much different from his feelings about investments in other industrial, financial, or service companies. The individual investor wants growth, in terms of earnings per share, since he knows that stock market prices reflect primarily current earnings and expected future earnings.

Is the profitability of life companies attractive to investors? I do not know, but there are reasons for long-term confidence in the underlying factors affecting life insurance company future earnings. Mortality should become more favorable as medical science makes continued headway against the principal causes of death. This will benefit life companies with respect to life insurance, although it will injure profits on annuities.

Profitability can also be improved by achieving greater efficiency in selling and servicing insurance, possibly through greater specialization of companies and better use of computer systems. On the other hand, it is difficult to predict future increases in interest earnings, which are so important to stock life companies.

Looking at the growth of life companies, it is probably obvious that it has become very expensive to expand sales by recruiting, training, and financing new agents under the general agency or branch office operations. Although the agency plant becomes the company's most valuable asset, the sale of savings dollars cuts two ways: sale of permanent insurance may be necessary for the survival of the agency force, but consumer interests are pressuring for lower commission rates on such dollars, and, in addition, funds may not be able to earn the recent high rates of interest. Therefore, an investor may want to try to find companies that are succeeding in the efficient sale of term insurance, where interest earnings are not of paramount importance, and who are operating in specialized markets with mass handling of large volumes of sales at minimum cost. Mass marketing is expensive and hazardous—hence finding successful companies is important.

During the 1960's we saw all the methods mentioned in question 3 used in the attempt to improve profitability. Before discussing this question, however, let me pose a fourth, more basic question: What does a stockholder want to know about his investment in an insurance company? I

believe that the answer to this fundamental question is that he wants to know (1) how much his investment is worth and (2) whether the company's value is growing at a satisfactory rate. Of course, he knows the market value of publicly traded stocks. But that is not sufficient, because he knows that the stock market at any particular moment is usually too high or too low. He wants to know whether the stock at its present price is a good value or is overvalued by the market.

TABLE 1

	Graded Whole Life	Endowment at 65	Decreasing Term
First-year premium per $1,000	$11.13	$48.67	$ 6.66
First-year expenses per $1,000	26.98	41.89	8.00
First-year drain on surplus	19.49	12.76	5.03
Present value of future profits at end of first calendar year:			
Per $1,000 still in force at end of year:			
At 10% discount rate	28.89	24.51	10.57
At 15% discount rate	22.78	18.37	8.95
Per $1,000 issued (based on assumed lapse rate):			
At 10% discount rate	26.26	22.28	9.17
At 15% discount rate	20.71	16.70	7.76

What value do we give the stockholder to answer this question? I suggest that he be given (1) the "status value" of the company and (2) the "rate of growth" in the "status value" during the year, according to the following definitions:

1. "Status value" can be defined as the adjusted book value of the company plus the market value of the business in force, measured in terms of the present value of expected profits on the business in force, discounted to the present at an investors' rate of 10–15 per cent or more.
2. "Rate of growth" can be defined as the increase in status value plus any cash dividends paid to stockholders during the year, divided by the beginning status value.

An illustration may be helpful in understanding how useful these definitions are to both management and stockholders. To develop this example, start with a new company with $1,000,000 of capital and surplus that writes business on three policies with the characteristics shown in Table 1.

Table 2 shows what happens if $1,000,000 of face amount is written on each of the three policies and 6 per cent is earned on capital and surplus. A quick comparison of growth rates shows a marked difference, and, as

we will see in a moment, the growth in statutory earnings is meaningless. If $3,000,000 of face amount is written on each policy, a different picture develops, as shown in Table 3. A quick comparison of the results in Tables 2 and 3 is shown in Table 4.

TABLE 2

	1968	1969	1970
Statutory gain:			
Graded premium whole life	$ −19,490	$ −16,820	$ −13,820
Endowment at 65	−12,760	−12,460	− 9,780
Decreasing term to 65	− 5,030	− 2,430	− 720
Interest on capital and surplus	+58,882	+60,345	+62,285
Total statutory gain	$ +21,602	$ +28,635	$ +37,965
Surplus at end of year	$1,021,602	$1,050,237	$1,088,208
Statutory gain+increase in value of business (10% discount)+interest on capital and surplus:			
Total increase in value	$ 79,311	$ 86,263	$ 95,058
Status value of company at end of year:			
Total value	$1,079,311	$1,165,574	$1,259,012
Rate of growth in status value	7.9%	8.0%	8.2%
Rate of growth in statutory earnings	N.A.	32.6	32.6

TABLE 3

	1968	1969	1970
Statutory gain:			
Graded premium whole life	$ −58,470	$ −50,460	$ −41,460
Endowment at 65	−38,280	−37,380	−29,340
Decreasing term to 65	−15,090	− 7,290	− 2,160
Interest on capital and surplus	+56,645	+53,834	+52,022
Total statutory gain	$ −55,195	$ −41,296	$ −20,938
Surplus at end of year	$ 944,805	$ 903,509	$ 882,571
Statutory gain+increase in value of business (10% discount)+interest on capital and surplus:			
Total increase in value	$ 117,932	$ 131,588	$ 150,341
Status value of company at end of year:			
Total value	$1,117,932	$1,249,520	$1,395,541
Rate of growth in status value	11.8%	11.8%	12.0%
Rate of growth in statutory earnings	Neg.	Neg.	Neg.

As every informed life investor knows, statutory gains do not provide a good guide to either management or stockholders, and this brief illustration shows that "the more business you write, the more you lose." Yet the rate of growth in the status value gives us the best picture available on how management is doing and how the stockholder is making out with his investment. If the investor is given this information, he will be able to make intelligent decisions on retention of his stock, depending upon his desired growth rate.

TABLE 4

	1968	1969	1970
Statutory gain:			
Table 2	$ 21,600	$ 28,635	$ 37,965
Table 3	$ −55,195	$ −41,296	$ −20,938
Status value of company:			
Table 2	$1,079,311	$1,165,574	$1,259,012
Table 3	$1,117,932	$1,249,520	$1,395,541
Rate of growth in status value:			
Table 2	7.9%	8.0%	8.2%
Table 3	11.8%	11.8%	12.0%
Rate of growth in statutory earnings:			
Table 2	N.A.	32.6%	32.6%
Table 3	Neg.	Neg.	Neg.

Why is the status value more relevant than GAAP earnings for telling how the company is doing?

1. Life insurance companies are unique in that their value can be determined only by investigating their built-in claim to future earnings. GAAP methods do not measure the value of the future profits added during the year through the sale of new business. Perhaps GAAP should not do this, since this is an actuarial function, but in any case investors need to know their company's status value.

2. Use of status value reporting automatically adjusts for different reserving methods while maintaining the present NAIC statement reporting. GAAP may cause fundamental changes in traditional balance-sheet reporting without providing all the information needed by investors.

3. Measuring growth in terms of status value automatically encourages stockholders to keep surplus at a minimum value consistent with safety, since a lower surplus will provide a higher growth rate. Such excess surplus should be put to work where it can earn more than just a fixed-income investment rate. Use of GAAP earnings by investors fails to provide meaningful surplus information.

4. Status value is not "earnings" and may change from year to year without changing SEC earnings statements. As I see it, the status value would be part of the actuary's report given to management and the board of directors each

year and would be based on the actuary's best current estimate of future experience. It would reflect, of course, expected future federal and state taxes (which were ignored in these simplified examples). The board of directors would then wish to provide the status value to investors as a footnote to their balance-sheet reporting.

Status value is not a going-concern value, since it does not include any value for the ability of the company to write additional business in the future. The going-concern value would be the proper market value to pay for a company, but it is not as good a tool for measuring actual performance as the status value, since the going-concern value anticipates future writings of new business. The trend in the growth of status value for a company can provide the investor with useful facts in determining what he considers to be a reasonable going-concern value.

Why are companies not preparing status value reports for the stockholders? Why are actuaries not developing the actuary's report for their companies? Perhaps such reports would demonstrate that most of our life companies are not growing at sufficient rates. My suspicion is that most conventional life insurance is now priced inadequately to provide sufficient rates of growth, that surplus is being drained excessively by the writing of new business and repaid too slowly to permit most life companies to measure up to the objectives of growth-oriented investors. If this statement is generally true, we would expect to see surplus taken out of life companies and put into other businesses through direct purchase or through holding companies—which is exactly what many companies have been doing for at least ten years.

Thus companies *are* diversifying to achieve better rates of growth. Before they do expand into other lines, however, should they not first find out whether their rate of growth in status value is sufficient to satisfy their investors? If it is, then they should continue to do what they are doing rather than enter businesses in which they are not skilled. Perhaps their losses are all in one line of business or in one particular market. But, if their growth rate is not satisfactory, perhaps they should first attempt to find out why, and correct their inefficiencies before going into other business. If they do have excess capital and surplus, management should either return it to the investors for their own use or put it to better use in related lines.

As actuaries, we have the ability to provide our company's management and investors with the information they need to measure performance. Now, I ask each of us, why are we not doing it? I think that we are going to see companies spend a lot of money calculating GAAP earnings. From my point of view, there is one advantage which comes

with GAAP, which is that, because of the modeling and other basic actuarial studies that are necessary to develop GAAP earnings, for a small additional cost both projections of operations and status value reports can be prepared by the actuary for management and investors.

MR. W. JAMES MacGINNITIE: I have had an opportunity to participate in some early work of a committee of the AICPA on re-evaluating the purposes and uses of financial statements generally. (This group is sometimes referred to as the "Trueblood committee.") One of the ideas that is being investigated there is the publication and certification of projections for the coming year. Chairman Casey of the SEC has also endorsed such projections. While this idea may not be universally embraced with enthusiasm by corporate managers, it will probably be easier for life insurers to make the projections and explain deviations than it will be for industrialists. An interesting variant is to have the projections filed on a confidential basis with the auditor until the period is completed and then publish them with the actual results.

Also, there is discussion of extending the auditor's certification to include nonfinancial data such as market share, pricing policy, or number of agencies, and even to qualitative information.

MR. RALPH H. GOEBEL: The panel seems pretty much of the opinion that stock company earnings are unsatisfactory. On the other hand, Mr. Moorhead, in his report on the sequel to the Future Outlook Study, has furnished ratios of net gain from operations to premium income that are rising, being 9.8 per cent in 1960 and 12.1 per cent in 1971. On the surface there seems to be a contradiction. My own feeling, however, is that rising interest returns on assets arising from existing business and surplus are giving us the earnings gains, profits from new business being at an unsatisfactory level.

MR. GARY E. CORBETT: The investor's expected rate of return should relate back to the investment return assumed to be earned on invested assets in a given year. If one has assumed a decreasing interest rate on the invested earnings, one should similarly assume a decreasing investor's rate. Conversely, if one wants to assume a constant investor's rate in the area of 12–15 per cent, one should base the underlying profit studies or asset shares on today's relatively high yields of 6 or 7 per cent.

The rate of return used to discount future profits should depend on whether these book profits are based on net level or modified reserves. The lower rate should be used to discount net level profits, since the com-

pany is more likely to earn these profits than it is to realize the faster emergence resulting from a modified reserving system. One could even consider using an investor's rate of return applied to the actual cash flow, independent of the reserving system. The rate of discount here should, of course, be higher than that used for discounting profits emerging from a reserving system.

MR. RICHARD W. ZIOCK: The previous speakers have attempted to define a proper rate of return on stockholder equity. This is laudable and practical. But the rate of return cannot be expected to be constant year by year, as is seemingly implied by the panel. Most industries and most companies have their periods of trouble and difficulty as well as periods of boom and prosperity. The life insurance business is no exception. Currently the rate of return is low for many life insurance companies because of the simultaneous effect of five unfavorable factors:

1. Selling of individual insurance is becoming an increasingly marginal occupation, resulting in a stable or falling agency force for the industry as a whole. The companies are forced to bid higher and higher for the same manpower.
2. Lower individual premium rates are caused by competition and allowed by increased interest earnings.
3. Large claim losses are being incurred in group accident and health.
4. Large expenses are being incurred to enter the equity field.
5. Pension business has been and is being drawn away from insurance companies to the banks.

The root cause of these five factors is inflation. Inflation has affected each of the five factors through higher living costs for agents (first factor), inflationary interest rates (second factor), inflated medical expenses (third factor), the necessity of entering equities on account of inflationary psychology (fourth factor), and inflationary interest rates (fifth factor).

It is a fundamental truth of economics that the parties who prosper in inflationary conditions are the holders of inventories and debtors. Banks and life insurance companies are debtors to their depositors and policyholders in terms of fixed-dollar obligations.

Banks are very profitable these days. In times of inflation they lend their funds at much higher rates than those they pay their depositors. In many ways a life insurance company is very similar to a bank, yet insurance companies are not enjoying the prosperity that the banks currently are. Why is this so? The two main reasons are (1) the relatively high distribution cost of life insurance companies, which is proportional to inflation, and (2) the assumption of risks by life insurance companies, the claim amounts of which are strongly affected by inflation (e.g., group

accident and health). The proportion of expenses incurred in distribution or in attracting new customers is almost nil for a bank and is very large for a life insurance company engaged in selling individual insurance. The casualty insurance companies have had bad results because of their inflation-tied risks. There are doubtless many other relevant factors in a comparison of the profitability of banks and life insurance companies, but I believe that the two mentioned above are the most influential.

If life insurance companies can learn to deal better with inflation and find ways to circumvent its effects, they will be in a more enviable position.

Historically the United States has been a country of low inflation except for postwar periods. The influence of Keynesian economics is thought by many, however, to change the ball game. Our government is committed to deficit spending to create full employment regardless of the inflationary effects. Thus many people expect more inflation in the future than there has been in the past.

In conclusion, some inflation is probably with us to stay, and life insurance companies must try to find ways to deal with and circumvent the problem.

1. What constitutes a new product? What factors lead to the decision to design a new product?
2. What marketing research do you perform, and at what stages of development?
3. How do you determine and control development expense and time schedules?
4. What financial projections are needed?
5. How do you involve the marketing people in the decision-making process?

Atlantic City Regional Meeting

CHAIRMAN WALTER L. GRACE: In recent years actuaries have spent more and more time on product development. For years such has been the case in the field of group insurance, but more recently the pace has been greatly stepped up in ordinary insurance.

Look at what we have to contend with now on the ordinary side of the business—not only a regular series of individual policies but also a pension series and, in some cases, special products for the tax-sheltered annuity market. A whole range of disability income products has appeared as more and more companies have entered this field. In equity products there is the variable annuity, and now the variable life product is in its embryonic stages. And we hear talk about a life-cycle policy.

Not only are there more distinct products, but each one in itself has become more complicated. Sophisticated computer equipment has enabled us to permit more and more variables in our products. On the other hand, we have in a sense become a prisoner of our eleotronic data processing equipment, as more and more lead time is necessary to make a product change.

No longer do we simply produce a rate manual—we now supplement this with a vast array of sales promotion and agency training materials. Regulatory authorities continue to have their effect on our products. Various state insurance departments have long influenced the shape of our products. Consumerism pressures may further the pace of change, if recent pronouncements from Pennsylvania and Wisconsin are any indication. Those of us in product development tend to look at the present or the immediate past and say to ourselves, "How can we get any busier?" or "Next year things ought to calm down a bit!" That just is not going to happen. If anything, I believe, product actuaries are going to be busier than ever during the decade of the seventies.

All this is to say that the product development area is booming! It has become a bigger part of the business of the actuary—and the actuary, more and more, is using businesslike methods to contend with it. That is what this panel is about—the management of the product development function.

We are going to be talking about methods and procedures, about timing and scheduling and controls, and, most important, about relationships among people.

MR. ALVIN B. NELSEN: A first reaction might be that there is no question about what constitutes a new product. New products are innovations in the industry, such as family policies, guaranteed insurability, fifth dividend option, policies with reducing face amounts which rely on applying dividends to purchase a combination of one-year term insurance and with paid-up additions to maintain coverage at the original level, variable annuities, and variable life insurance. But there are many other dimensions to be considered. A product may not be new to the industry but may be new for a particular company that is adopting it for the first time. When there is a new product in the industry that has market acceptability, companies are generally quick to latch onto it. Moreover, companies generally do not just copy the products of others. They try to adapt the products to their portfolios and to make improvements, with the result that there are mutations. Similarly, a company may modify and improve products that it already has. If the changes are significant enough, the end result may very well be classified as a new product for the industry. Sometimes a new product is not particularly attractive or marketable but may contain concepts that with modification will make it so.

Consider, for example, the emergence of family policies. Originally, some companies would issue a family package of policies with separate cash values on each of the family members—a package which afforded no particular economies, since it represented merely an assemblage of individual policies. The innovation was to introduce a family policy that would have the economies of an individual policy, with cash values depending only on the husband's age, and the amount of coverage on the wife varying with the wife's age in relation to the husband's in such a way as to support such cash values. Term insurance was provided on children at a premium that was independent of the number, even extending to children born after the issue of the policy. This type of family policy originally had level term insurance on the wife. Further development by other companies resulted in such modifications as permanent

insurance on the wife, decreasing term insurance on the wife, and then riders providing coverage on the wife and children that could be added to any policy on the husband's life.

Generally, I would not consider pricing changes to fall within the context of new products. Even such innovations as graded premiums and policy fees or the extension of substandard rating classifications to previously uninsurable risks would not appear to fall within this category. However, it is difficult to make a firm distinction, since pricing is so intermeshed with the considerations that enter into the design and development of products. For example, should new developments that involve fragmentation of the standard class be considered new products, for example, a nonsmoker's policy?

The motivation for new products on the part of a company is to enable it to remain competitive and responsive to consumer needs and thereby to obtain a greater share of the insurance market. There is a wide range of factors that could trigger the idea for a new product. There could be changes in consumer needs to meet changing economic conditions, social structures, or tax laws, or changes in public attitudes could take place. Such changes could be brought to the company's attention by market surveys and analyses, by actions of other companies, by agents, by employees, or by other media, such as books and periodicals. There may be a perceived need for a product that is not now in the marketplace—a dormant consumer need. There may be changes in marketing procedures and strategy of a company that bring about the need for a new product. Then there are the technological developments that make possible new products, and here I have in mind primarily the design of products that heretofore have not been practicable or feasible but may become so by taking advantage of electronic data processing. It seems to me that only a small part of the potential in this area has been realized and that there exists the possibility of some major new products—products that may well transform the industry.

The decision to design a new product requires some evaluation of the market to be reached. If the market potential is so small as to make a new product uneconomical, then the product will probably be abandoned, although there may be overriding considerations in some instances that dictate otherwise.

Once a product is well enough along in the development state to assure its feasibility, and with the benefit structure and pricing determined, further evaluation needs to be made as to its acceptability and potential market. Will agents market the new product? It does little good to have a product in a company's portfolio which for some reason agents do not

market. Will the public purchase the product? Questions arise as to the relative attractiveness of the benefits vis-à-vis their cost, understandability, competitiveness, and so on. We have had products that seemed attractive to us but did not sell because of complexities and lack of understandability or because of the high level of premiums for the package as contrasted with perceived benefits.

We often find it advisable to test our proposed new products on a selected group of agents. In so doing, it is not enough to ask agents whether they would like an additional product added to a portfolio. The answer is inevitably yes. There needs to be some tradeoff—a choice of alternatives. Will the new product be more attractive in the portfolio than another product currently being offered? If there are alternatives in the new product, which is preferable? In order to test the acceptability of a product on the public, it is often considered desirable to have a pilot program for a segment of the market. We find that this is generally not practicable. Where new products are involved, all the developmental work and modifications of our systems must be done in the same way for a pilot program as for a full-scale launching. Accordingly, there is little economy to be achieved by a pilot test program. The time lead on competitors with respect to the innovations in a new product may be dissipated in a pilot program. Also, agents are usually impatient for new products and are not receptive to the delays that result from test programs.

MR. IAN M. ROLLAND: The computer provides us with the opportunity to develop products with considerable flexibility of both benefits and premiums. Several examples of this are now being considered by the industry. The first is the life-cycle policy. This is a single insurance contract providing flexibility in coverage and premium payments. Included are death and disability benefits and annuities. The policy is fitted to the policyholder's particular life cycle of needs and ability to pay. The policyholder may periodically elect increases or decreases of coverage within certain limits prescribed in the policy. The life-cycle policy could not be considered without computer capabilities. The computer will be used to keep track of the amount of coverage in force and the corresponding premium payment. A computer calculation will be involved in determining appropriate cash values which are consistent with the premiums and benefits elected. It is probable that under the life-cycle policy annual reports will be prepared for policyholders showing benefits, premiums, and cash values. These reports will undoubtedly be computer-prepared.

A second product which depends upon the computer is variable life insurance. Under this product, the computer is essential for the periodic calculation of unit values, the calculation of amounts of insurance and cash values, and the preparation of shareholders' reports. I believe that we could not even consider the offer of variable life insurance without computer capabilities.

CHAIRMAN GRACE: We have been talking about factors leading to the decision to develop a new product. What about discontinuing an old product? Why is this so hard to do?

MR. NELSEN: If, contrary to expectations, a new product does not sell, then it has failed its market test. At some point an attempt should be made to analyze the factors that have led to this failure and to see whether there is something that can be done to produce favorable results. Has there been adequate sales promotion? Are there some aspects of the product that can be amended that would affect its market acceptability or the agent's willingness to promote it?

Failing any suitable remedies, the product should be pruned from the portfolio. My company does such pruning periodically in connection with a change in rate structure, dividend scales, or updating of the ratebooks. Of course, even though a product may not have been successful generally, it may have become a favorite of some agents who are reluctant to give it up. It is always easier to add products to a portfolio than it is to subtract them.

MR. ROLLAND: Market research is carried out to a much lesser extent in the life insurance industry than in industries offering more tangible-type products. It is possible that the lesser financial impact of a new product in the life insurance business makes market research less important. In the case of a new policy added to an already existing product line, many probably feel that the cost of market research is prohibitive in relation to the expected results. Market research, however, may be more feasible and possibly essential for completing a new product line. This would be particularly true if the new product line departed significantly from that already offered by the company or by other companies in the life insurance business. In the case of these new product lines, the financial commitment involved may require some market testing.

Many companies secure market information by sampling opinions of the agency force. It is essential to have agent acceptance of a new product, and it is probable that agents have a good knowledge of consumer attitudes toward life insurance products.

MR. WALTER S. RUGLAND: We should do more "need research." The public does not understand the complete utility of insurance—we must do more to satisfy their inner concerns about protection and security. This requires nontraditional thinking, based on the insured's motives, rather than the scientific extension of existing product forms.

I am not a believer in market research, since insurance is sold—not bought. The key to a product's success is the attitude of the salesman, and market research does not speak directly to this. I feel that we currently fail at field training in new-product developments, and I advocate more extensive testing of methods in this area.

MR. ROLLAND: The following remarks relate to question 3, "How do you determine and control development expense and time schedules?"

Control of expense and time schedules in the development of a new product is extremely difficult and in some cases may be almost impossible. There are many factors which will have a direct bearing on the amount of time and expense needed to develop a new product. Several of them are as follows:

1. *Degree of pioneering or groundbreaking involved.*—The more innovative or experimental the new product is, the larger the amounts of time and expense that are likely to be necessary. The innovator is almost certain to encounter unforeseen problems and complications which will give rise to more expenditures and time delays. On the other hand, those not in the forefront of the development of a particular product can learn from the experience of those who preceded and thus avoid complications.

2. *Degree of governmental regulation.*—The development of products involving regulation by other than state insurance authorities makes planning of time and expense particularly difficult and almost impossible. The developers of variable annuities and variable life insurance have discovered this fact the hard way. Delays in time and costs of legal services and printing reach almost unbelievable proportions in dealing with the Securities and Exchange Commission.

3. *Degree of urgency in bringing the new product to market.*—If the new product is urgently needed, for whatever reason, it will be given high priority in a company's operations, but almost certainly greater expense will be incurred in the development than if a "lower-key" process were adopted. In these cases, however, a company has decided that having the product sooner is worth the extra cost.

4. *Expected profitability of new product.*—Expected profitability involves both the unit profits in the product and the volume of business to be produced. A company can afford to invest considerable sums of money in a product which it expects will ultimately return high levels of profits. Conversely, developmental expenses must be carefully controlled for a product with limited marketing appeal or low unit profits.

5. *Type of new product.*—If the new product is simply an addition to an already established product line, the time and expense involved can be held to minimal levels. In such cases internal administrative procedures will probably need minimal change and an extensive agency training effort will not be required. If, on the other hand, an entirely new product line is being adopted, new administrative systems will be needed and much attention should be devoted to marketing.

There are undoubtedly other items which influence the expense and time needed to develop a new product, but the above are the ones which strike me as most important. It is essential to keep them in mind in attempting to design controls and in analyzing the amounts of expense and time which are required for a new product.

Now let us turn to the control of time and expense. I believe that the most important step in providing proper control is to place responsibility for the new product in a single person. My experience makes me believe that committees and task forces may be valuable in an advisory function, but a new-product project will invariably flounder until one person is placed in charge with clear-cut responsibility to get the job done. If the new product is a new product line, the person should be assigned on a full-time basis. If the new product is a new policy form or something similar, the person could probably carry other duties as well. In any case, the person in charge should determine staffing needs, approve expenditures, co-ordinate the various aspects of the project, and be involved in setting time schedules. He should then be held responsible for the results.

Another important aspect of expense and time control is the determination in the early stages of development of time schedules and a budget. This process involves considerable "crystal ball gazing," but it provides a guideline for measuring performance. Both the time schedules and the budget should provide flexibility for adjustments to meet unforeseen circumstances. Any adjustments, however, should be fully justified.

The determination and control of expense and time can also be improved by consulting with companies which have previously developed similar products. Most companies are willing to share information and can alert the new-product developer to problem areas. This information can save much time and money.

Finally, developmental expense control can be improved by identifying and making visible the expenses. This can be accomplished by asking employees to keep track of time spent on the project and directly allocating other expenses where possible. If persons involved in a project know that expenses can be determined and compared with previously prepared budgets, they will be more likely to judge the merits of each expenditure carefully.

Turning to question 4 ("What financial projections are needed?"), the minimum financial projection for most new products would be the asset share calculation. For new policies in existing product lines where there is little concern about the effect of the new product on surplus, no further projections would seem necessary. The asset share should show whether the product is priced to yield adequate profits. It should also show the incidence of profits. In the case of new product lines, a model-office projection is in order. This is particularly true if the new line is to be sold out of a subsidiary company. In the latter case, the model office illustrates the statutory earnings patterns and is useful in determining the amount of capital and surplus needed to support the new product. If capital and surplus are limited, the model office is helpful in determining the volume of sales which can be supported. The model office is always a worthwhile project where there is concern regarding the drain on surplus arising from a new product, whether the product is sold in an established or in a newly organized company.

The model office is also helpful in measuring the effect of the higher unit expenses which are likely during the early stages of a new product line. Often asset share calculations are based upon an ultimate level of expense which may not be achieved until several years after the new product is introduced. The model office illustrates the effect of the heavy early expense on earnings and allows the review of earnings patterns under different assumptions as to new-business production.

In the case of new products which deviate significantly from those currently offered, little information may be available as to the experience which will develop. In these cases it is probably wise to calculate asset shares and model offices based on a range of assumptions. It would be well to know what would develop under very unfavorable experience as well as under expected experience.

CHAIRMAN GRACE: I would like to take a few minutes to describe how we have used PERT in scheduling product projects at Massachusetts Mutual.

First, what is PERT? PERT is an acronym for "program evaluation and review technique." Basically, it is a technique for project management and is useful not only in the planning and scheduling stages but also as a control device once the project has been started.

PERT is particularly useful when the project involves a very large number of tasks, where many of the tasks are interdependent and where some reasonable control over time schedules is necessary. This description aptly fits the development of a new product, in which the actuary

has to be concerned with the initial design of a product, writing the policy form, and developing rates, values, and dividends. Then sales and agency training materials have to be prepared, the whole thing has to be programmed so that the company's electronic data processing systems will handle the new product, and everything has to be done by the time the product is scheduled to be announced to the field.

I will not go into any details here about PERT. For that, I would commend to you any one of several texts that have been written on the subject. The end result, however, is that the whole project is scheduled on a PERT chart, which shows each task, its starting and completion dates, and the start of the task next following.

We first used PERT about four years ago in connection with the development of our variable annuity product. More recently, we used this technique in connection with a complete revision of our regular series of individual policies.

PERT is a great device for planning—for preparing an orderly listing of all the tasks that have to be performed and for being sure that each task is started when it should be and is finished when it should be. It is an effective way for getting all the people involved who should be involved, especially if you ask them to participate in the initial preparation of the PERT chart.

To turn to a different aspect of planning and control, given the fact that you have a certain amount of resources at any one time to devote to product development, how do you allocate these resources among the various projects at hand?

MR. RUGLAND: This is an expense control issue, and it boils down to priority-setting. It requires understanding of total operational objectives and designation of an individual with priority-setting responsibility. A possible trap here is the "feasibility" study—it is easy to use up all allocable time determining feasibility of possible developments. Yet you need enough feasibility data available in order to allocate properly. That is why I think that single responsibility can work; one person has the job in order to maintain enough expertise to determine priority allocation.

MR. ROLLAND: Most companies work with a limited amount of resources which can be devoted to product development. These resources involve both capital and personnel, personnel being the limiting factor in many cases. The determination of how resources are to be allocated must involve a priority-setting process. A company has to determine which new products are most important in relation to over-all company goals. If the

company goal is maximizing profits, then new products must be analyzed in terms of profit potential. If the company objective is currently building an agency force and maximizing sales, then the new products must be analyzed in terms of sales potential. In any case, resources should be devoted to those products which would most enhance primary company objectives.

An additional factor, which often must be considered in allocating the personnel resources, is the abilities of the people available. A particular new product may have to be delayed in spite of all other considerations because people with the necessary talents are not available. A final factor that should be considered in choosing between different new products is the ability of a sales force to assimilate a new product. I believe that many agents today feel that they have been exposed to more products than they are able to use. There is a limit to how rapidly life insurance salesmen can adapt to new products, and this should be considered in the product development process.

MR. NELSEN: We have used time-sharing computer facilities to do some elaborate tests in connection with development of variable annuities and variable life insurance. By the construction of models, the financial projections for such new products can be studied. Changes in the input may be made and the effect of the changes analyzed. This provides a means of testing alternatives and selecting the strategy that optimizes the results. One such elaborate study on variable life insurance was reported in the paper by Dr. P. M. Kahn in 1971 (*TSA*, XXIII, 335).

Of course, any new product must not only satisfy the criterion of actuarial soundness as developed from the financial projections but must also satisfy various laws and regulations, have marketability, be understandable, and be administratively practicable.

MR. ROLLAND: As I indicated earlier, projecting development expense involves considerable speculation. Experience with the development of similar products can be used if available, but in most cases there are no established guidelines.

Different philosophies can be adopted regarding the allocation of expenses to new lines of business. Where possible, expenses should be allocated on a direct basis. Most expenses, however, cannot be allocated directly, and some approximation should be used. In my company, time studies provide the basis for the allocation of most expense items. Employees are asked to allocate time periodically among various lines of business. These ratios of time spent then become the basis for allocating

salaries and other expense items to different lines of business. In the case of a new product line, a company might decide not to allocate the full amount of development expense as that expense is incurred. Instead, the development expense might be allocated to a stockholder account or to a capital and surplus account and then amortized over a period of years to the new line of business.

A company might also make a decision to charge a new line of business with only marginal expenses for at least a limited period of time. I believe, however, that it is important to work toward a full allocation of expense to every line of business. Thus, even though marginal expenses are used in the early years of a new product line, expense charges should be increased over a period of years so that a full share of the company's overhead expense is borne by the new product line.

MR. RUGLAND: The following remarks are in response to question 5, "How do you involve the marketing people in the decision-making process?"

First of all, let us define marketing people as all those home office managers who are interested in products and who are not on the actuarial, underwriting, or product development staff. Marketing covers people responsible for sales results as well as those in charge of market strategy and promotion.

I feel that there are two extremely subjective areas in product development and pricing that should be isolated as much as possible from the influence of all emotional decisions and discussions. The first of these is the function of creating the assumptions for use in calculating specific premium rates or doing other financial analysis. The second is the profitability standards.

These two measures (actuarial adequacy and profitability performance) must be established and agreed on *in toto* in open discussion by all members of the management team. Full credibility must be granted to the established assumptions and standards, so that these do not become an issue in the development and in debate surrounding that development. What I am really saying here is that the assumptions and standards become an integral part of the over-all objectives for operations of management.

I think that the critical area is the open discussion and understanding of the objectives of the organization. There is always a chance for necessary compromise and progressive action if the people involved have a complete grasp of the common objectives and work within them. These are objectives established by themselves, in which they believe.

What should these objectives or goals include? The assumptions for actuarial adequacy and the profit standards should be reflected in one way or another. In addition, there need to be guidelines that talk about the acceptable variation from the profit standard. There needs to be quantification or delineation of the sales standards. In my mind, the objectives include a complete understanding of the value of the field force and many of the parts of it: the value of the mature agency force, the goals established for retention and the various ways of achieving those goals, the price of agent turnover, and the price of bad selling and of agent disloyalty.

Another area that needs clear definition is the over-all expense of running the entire operation, including the field. There needs to be full credibility among all managers that the administrative expense is realistic and that procedures are being carried through efficiently and to the benefit of all concerned. There needs to be clear understanding by all the managers of the profit goal of the organization, in the case of both profits in dividends returned to policyholders and earnings credited to stockholders.

I am convinced that, if this type of agreement on objectives is not present, there is no hope of developing a realistic dialogue between product development personnel—say, actuaries—and marketing management. Fundamentally, without agreement on objectives, there is no basis on which to communicate and there can be no relevant discussions; each person ends up defending his own position rather than pursuing the objective of the organization.

Given reasonable working objectives, I feel that the rest of the decision-making is duck soup. First of all, the actuary—or the product development manager—is in a position where he is working for the marketing people. At the same time, he has legitimate responsibility for the financial results of the product he creates, and his responsibility is respected.

What is our day-to-day product developer–marketer relationship? My approach is basically to say to the field and home office marketing management that I need to get input from them as to the marketing opportunities available either in existing markets or in future markets; they are to let me come up with the solution, which I will then validate in some manner with them. In essence, I tell them that they are not capable of arriving at the solution because they do not have the insights I have. However, although that is the case, I am not able to understand the problem until they teach it to me. Given an understanding of the problem, let me create the solution and then we will validate it together.

I think that this calls for communication with the marketing people continually, but specifically at the problem identification and at the final specification stages.

My experience indicates the following:

1. Marketing people are suspicious of actuaries as product development people. (I think that that is more our problem than theirs—we need to re-establish our credibility.)
2. Marketing people need continual evidence of "progress toward goals"—a "security blanket," if you will. Keep in continual touch with them, giving evidence of progress.
3. Marketing people need to feel that they "invented the wheel." This is important to the development people, since, if they do feel this way, they will promote the product well and feel that they have a stake in its success. If they do not, look out!
4. Marketers are bullish about commitments. If you say, "We'll look at it," the interpretation is, "We'll have it out next week." They are also intolerant of system problems and over-all complications of the bureaucracy surrounding product development.
5. Marketing people prefer honest, uncomplicated reasons "why not"—blaming it on the New York Insurance Law, section 213, is too easy and leads to further trouble when the law is changed. The best approach is straightforward honesty—"because that's the way we want it" and an ongoing education in the intricacies of insurance pricing and structure.
6. Marketing people are by nature optimistic—all advantages become big and overpowering and all disadvantages grow small. I have to help them to keep proper perspective and balance on both pros and cons.
7. Marketing managers would gladly pre-empt all our decision-making responsibility and authority. The product development management objective is to maintain marketing rapport yet clearly retain the necessary decision-making, priority-setting, and over-all product performance responsibility. I feel that that is what I am paid for.

At Connecticut General we have attempted to integrate all aspects of individual life and health insurance product maintenance and development. Our objective is to "maximize performance of products in identified markets." Our operational mode is "conceptual" rather than "specific," always emphasizing the desired outcome rather than the nitty-gritty of getting there.

By combining sales support, special product services, and strategizing with traditional insurance product development (including pricing and policy forms), we have broken down communication barriers and individually established "specialty preserves" and are working well toward attaining common goals with forthright objectivity.

MR. NELSEN: The product developer must bring together and blend the many and sometimes conflicting factors that enter into the design and pricing of a product, such as the amount of benefits to be paid, the cost of the product, the agents' compensation and other marketing costs, underwriting criteria, administrative procedures and policyholder service, projected expense rates, projected investment results, financial objectives, and so on.

It follows that we must have compromises and tradeoffs in order to end up with a satisfactory final product, and this, in turn, means working very closely with the marketing people in understanding and defining the problems in considering various alternatives that can be followed and in arriving at decisions as to the direction to be pursued.

MR. ROLLAND: Walter Rugland in his comments outlined a process whereby marketing people were involved in the determination of actuarial assumptions which were the basis for the new-product pricing. This seems to me to be an ideal situation but one which is not achieved in very many companies. I have observed that marketing people are most interested in the commission patterns and levels and in the product pricing in relation to competition. It is extremely important that the new product carry commissions which are satisfactory to the marketing people and a pricing which the marketing people feel is competitive. I believe that their enthusiasm for the new product will be directly related to these two items.

There is a tension between the actuarial departments and the sales departments of many companies, but this tension, I believe, can be creative. Each department can keep the other "honest" in the design of the new product. The actuaries will make sure that the new product is based upon reasonable assumptions, while the marketing department will make sure that the product is reasonably competitive.

Measuring the acceptance of a new product is a very subjective process, but it can be made somewhat objective if the marketing department has adopted some pre-established production goals. In this case the actuarial production can be tested against the pre-established goals. One item that is particularly hard to evaluate is the extent to which the sale of a new product is replacing sales of existing products. This will be a significant concern at such time as variable life insurance becomes a reality, since it is quite probable that the sales of the variable product will replace a certain number of sales of fixed-dollar life insurance. Another factor which must be considered in evaluating sales success is that there is usually an initial increase in sales for a new product. The sales curve will

reach a peak and then level off. For this reason it is difficult to determine whether a new product has been successful until some time after its initial introduction.

MR. RUGLAND: To begin with, change today is normally considered good for its own sake. We fool ourselves if we think we can progress as an industry without it. The management job is to manage change to maximum advantage.

To date our products have been too sacred; we need to prune our rate-books and tune up our lead product forms. We also need to be willing to design products for special uses—and track their application with willingness to make quick adjustments if the assumptions do not appear to reflect actual application.

A big problem surrounding the accelerated change we see today is the effect that it may have on our existing blocks of business—especially guaranteed cost lines.

MR. ROLLAND: In most life insurance companies the product development function is not structured in a very formal manner. In only a few companies are people assigned to product development on a full-time basis. As a result, product development is often a reaction to events in the marketplace rather than an innovative process.

Many companies have product development committees consisting of people from many areas of the company. These committees screen items which come primarily from the company's agency force. This committee responsibility is a part-time duty for committee members, and, when a project is considered worthy of implementation, the work is usually assigned to other persons.

Most of the truly innovative product development has been done by the smaller life insurance companies. This is probably the case because these companies are searching for unique ways to compete with the larger, more established companies. It is also probable that the smaller companies are much less committed to a particular way of doing business and thus can afford to be more innovative. Examples of products which began with small companies are variable annuities and split life. The exception would seem to be variable life insurance.

CHAIRMAN GRACE: What types of people work on a new product during its cycle of development? When do you bring in administration or systems people?

MR. RUGLAND: Product ideas can come from anywhere. Our job is to understand the motivating factor behind the idea. If we understand the problem (or opportunity), we can put on our thinking hats and refine the idea or come up with a better one. Then we need to validate the idea as being an applicable solution to the problem.

It always seems that administrative and systems support people are brought in at the wrong time. With this in mind, I try to bring them on board at the earliest possible time.

MR. ROLLAND: The person working on product development must, I believe, have well-rounded experience, with both technical expertise and an awareness of the problems of marketing a new product. The individual must also have an awareness of the general economic situation and must be someone who is more able than most to adapt to change. He must be able to organize and manage the new-product development efficiently and have a commitment to working well beyond the normal company hours.

MR. RUGLAND: Product development work is excellent for management training. The basic exercise is conceptual problem-solving, and this activity is the key to success in most management functions. Understanding of the nuts and bolts of the product is also beneficial. I do not feel that product development positions should be the isolated province of actuarial trainees.

CHAIRMAN GRACE: Is it valid to use only marginal expenses in pricing a new product? Marginal expense factors may be used in pricing some minor products—for example, some riders to insurance policies. However, if the product is to become a major part of the product line, then I would say that the use of marginal expense factors only cannot be justified. For example, if you used marginal expense factors to price a product especially designed for minimum deposit business, and your agency force then significantly increased sales of this type of business, you would soon be in trouble.

MR. WALTER N. MILLER: As has been brought out in this discussion, one key question that must be considered is which products should be developed. In this connection, it is important to have a clear idea of the price your company is willing to pay for maintaining an image as a forward-looking organization. For example, a few years ago my company decided to revise its joint whole life policy, adding survivor conversion options and so on. The result was a quintupling of our joint whole life

sales—from about 0.1 per cent to about 0.5 per cent of our total new business. However, we received many favorable comments from our field force about the new development.

Another thing which should be kept in mind is that, more often than you might think, research will disclose that the right answer to meeting specific competitive situations or perceived changes in needs among your customers is not the development of a new product but rather increased emphasis on what can be done with your existing products or combinations thereof.

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MR. HAROLD G. INGRAHAM, JR.: I tend to take a very broad view of what constitutes a new product in the life insurance industry. Over the years, in the conventional sense, it has meant product innovations for existing markets, such as retirement income policies, family policies, guaranteed insurability riders, or "fifth" dividend options.

However, more and more, new products become inextricably linked with consideration of new markets. Our business has become by necessity market-oriented rather than product-oriented. This change in philosophy was perhaps accentuated by the rather sudden bloom of the "total financial planning concept" among many United States life insurance companies in the late 1960's—which, in turn, led to their entry in one way or another into the marketing of mutual funds and variable annuities.

Some of these ventures have proved to be costly disappointments, not because of the products introduced but because the companies involved failed to properly clarify—particularly to their agents—their revised market postures.

Variable life insurance presents a significant challenge in this regard. Before a company can consider the substantial tool-up commitment in terms of time, people, and money to develop appropriate variable life products (assuming a clarified regulatory environment), it must first seriously consider such issues as marketing posture (aggressive or defensive), replacement rules relative to fixed-dollar in-force compatibility of agents' compensation, systems support, in-house equities investment expertise, and regulatory administrative matters. The actual product design, pricing, and profitability analysis work thus will play a necessary but by no means sufficient role in the success of a venture of this magnitude.

A broad definition of new products may be construed, in a sense, as

embracing also such things as enhanced marketing services or liberalized underwriting in specific marketing situations. An example of such marketing services might be the providing of on-line sales illustrations for a company's agencies, with terminals in each agency, by subscribing to an outside computer time-sharing service, subject to some form of home office–agency cost-sharing arrangement. An example of specialized underwriting might be to market packages of life insurance and mutual funds in salary savings cases or in professional corporation cases where sponsorship by, say, a medical association has been obtained.

Several motives for product innovation would seem to be (1) to gain a competitive advantage, (2) to expand a market share in an existing market, (3) to enter and penetrate a new market, (4) to stimulate agents (or to respond to pressure from agents), and (5) defensive reasons—to protect existing markets. A competitive advantage may occasionally be reaped by a sales idea—however technically imperfect—that captures the fancy of agents and the buying public. An example is State Mutual's introduction of a nonsmokers' policy as a first in the industry, which clearly resulted in a surge of sales that could not be construed as tradeoffs from other products.

A company may decide to aggressively penetrate a market, hitherto untapped by them, such as the public school tax-sheltered annuity market, using variable annuities as the product spearhead. Or a company may tire of seeing apparently profitable individual disability income business directed to a competitor by their agents because of previous nonentry into that field. Many companies feel that periodic introduction of even minor product innovations is necessary to renew their agents' faith in the companies' marketing vitality.

All this points up a problem not faced to the same degree in the life insurance industry forty years ago—namely, that the better ideas are adopted almost immediately by knowledgeable competitors. We have product imitation rather than product innovation. It may well be true than an analysis of competitors' products is the most common source of ideas for new-product development. This analysis is often sparked by pressure from agents who discover the product the hard way—by losing a sale in competition.

A recent study published by the *Journal of Risk and Insurance* discloses, with reference to product innovations in industries generally, that nonadopting firms tend to become adopters rather quickly as (1) the number of adopting firms in an industry increases (the "bandwagon" effect), (2) the expected profitability of an innovation increases, or (3) the

amount of initial investment decreases. Size of the company would seem to be a material factor in new-product feasibility considerations. Research and development activities can be quite costly—and the resulting sales and long-term profit outlook are far from certain in what economists call an "uninformed" market. Staffing costs in terms of actuarial, legal, marketing, systems, and investment department commitments may be too formidable for a smaller company. Furthermore, life insurance policies are not subject to copyright protection—in contrast to the situation in industries—and this is an advantage to the smaller company, with limited amounts of staff and surplus to throw around, since it can copy at limited expense any other competitor's successful innovation. However, this is not at all true in markets subject to extensive regulation under the securities laws, such as mutual funds and variable annuities (and here a smaller company may have to bow to reality and provide a brokerage affiliation for its agents).

The introduction of any new product may necessitate extensive computer systems development and sales education requirements, both of which could be costly for a small company.

An essential, but very challenging, responsibility that must be occasionally shouldered by those in charge of product development is the evaluation of whether the product idea really represents a sound venture for the company. This may be most difficult if the product or marketing idea was spawned and nurtured by your company's president. I have had at least two such experiences, in which months of actuarial studies and marketing dialogues were needed to dissuade management from product commitments which, in retrospect, would have proved to be costly mistakes. Again, this gets back to the issue of a particular company's marketing orientation and a consideration of product suitability to support or develop markets of greatest company priority.

MR. IRVING R. BURLING: I agree that it is harder for a small company to move from a product-oriented industry to one that is market-oriented, but there are ways in which it can be done.

When we entered the health insurance business, we found reinsurance companies and consultants to be extremely helpful. Furthermore, we kept our product simple, and the net result has been very favorable.

Our entry into mutual funds could have been even more involved. We did not have the legal or investment expertise to establish our own mutual fund, nor could we justify such a move to our policyholders with the size of our agency. Simply establishing a brokerage affiliation for our agents

to use did not provide a very satisfactory solution. We found that, by joining six other companies in what could be referred to as the Compass Group, we were able to retain the parent company's identity in its marketing operation, and we were successful in establishing a structure which has a definite possibility of generating positive long-range financial results.

MR. STEPHEN F. KRAYSLER: It bothers me to hear so much discussion about new products and new-product development, when, in fact, we have not seen any substantially new products for many years. For example, variable life insurance in Europe was thoroughly discussed in the 1966 annual meeting of the Society. Now that it is about to become a reality in the United States, people are calling it a new product. Even though variable life was at one time, if it is not now, truly new, I personally feel that products of this sort come along, at best, about once every generation and that what we see most often are gimmick policies. Is it impossible for our industry to be really innovative, and are we therefore condemned to remain evolutionary in the extreme?

MR. PAUL A. CAMPBELL: A good part of this morning's discussion has related to the development and distribution of variable annuities, variable life insurance, and mutual funds. The implication is that the creation and marketing of equity products constitute proliferation of "new products" and, in a sense, satisfy our obligation to be imaginative and forward-looking.

I think that we should hesitate before taking undue pride in this record. Many of our efforts have been concentrated in areas ultimately involving the "passing" of risks—such as investment return—on to our customers or in the development of "cut rate" products rather than in assuming new risks or providing protection in imaginative ways. In some ways we have copied rather than created "new" products.

Two primary reasons for the lack of new ideas on the drawing board are state insurance laws and the state of the art. Both need our serious attention if the insurance industry is to respond intelligently to the needs of the 1970's. State laws, particularly those having a bearing on nonforfeiture values and valuation, can be made flexible to allow responsible yet innovative ideas to bear fruit. Second, actuaries need to develop expertise on two fronts—risk measurement and forecasting. We need to concentrate on solving the needs of our customers today and tomorrow; just now we seem more enamored of formulas than involved with problems of people.

MR. JAMES C. H. ANDERSON: The need for new products (I tend to take a very broad view of what constitutes a new product) may be prompted by competitive forces, including competition for commissions; marketing opportunities, perhaps triggered by tax changes; inadequate expense margins in current products, including commissions; and a host of other proximate causes. I am particularly intrigued with the subject of introducing new products to accomplish such aims as increasing agents' earnings or increasing unit expense margins because I believe that both of these aims are related to serious problems of industry-wide significance today.

My experience in product development in recent years has almost entirely concerned the development of equity-linked and property-linked life insurance products to be marketed in certain overseas countries. Property-linked contracts are now the dominant version in the United Kingdom market, although they have not yet penetrated to markets in other countries. It is interesting that in the United Kingdom there is also a strong market for single premium policies.

MR. BURLING: In comparison with that of other industries, I am sure that the life insurance industry's market research is very elementary. This would be especially true of a smaller company. Right or wrong, we operate on the theory that insurance is sold, not bought. Therefore, to a great extent the agent defines the needs of the prospects.

Annually, at Lutheran Mutual, we have our agents complete what we call a "sound-off" form. In addition to the obvious advantage of giving an agent an opportunity to express himself to the home office, this form elicits trends and needs in the product area.

We then carefully select six agents to review the suggestions provided in the "sound-off" form. These agents represent both managers and writing agents and are selected from the more successful men, because they are probably closer to the real needs of our prospects and are in a position to articulate such needs. It is important that this group of six men not become a pressure group for product development; instead, its posture should be such that it can provide a constructive, planned approach to the developing of new products which meet the needs not only of the agent but of the policyholder and the company.

In addition, it is significant in our operation to note that we serve a particular market, although we write everyone regardless of creed. Our main sales emphasis is directed toward individuals of the Lutheran faith. We feel that working in a defined market accounts in part for the fact that, as reflected by average first-year commissions, our agents appear to

receive a quicker start and stay with us longer than is the case for the average company as reported by LIAMA statistics. Thus we try to find out as much as we can about our prospects through church statistics, and, since 45 per cent of our business comes from present policyholders, we conduct frequent policyholder analysis studies.

If a change in products is going to entail significant changes in our administrative procedures, we also check with other companies of the same size as to their experience or attempt to learn what we can from reinsurance companies. Thus our research is done before a product is developed. We do not have the marketing staff to do it, so it becomes a joint effort of the agency and actuarial departments.

As far as testing a market is concerned, we have never introduced a new product with a pilot operation. If we have gone to the expense of tuning up for the product, there would seem to be little point in limiting our introduction to a pilot operation. We have, however, tested procedures and marketing techniques.

Recently we added a new college graduate to our home office staff with the assignment of spending part of his time selling insurance on the local college campus. Not only did this man write good business and an adequate volume, but very little of the business was on the typical loan basis. As an added bonus we have been able to recruit college seniors for our agency force through this young man. We have since used him in other colleges where we have an agency in the community.

I have been talking mostly about the researching of individual products. Obviously, the research becomes more complicated for a small company as it considers a new line of operation. For instance, it would seem that there is a greater need for more adequate research in the event that variable life insurance becomes a reality. When we entered the mutual fund business, we had in mind that we wanted to create a structure such that we could accommodate any other type of development in this area that might currently be on the horizon. Variable life insurance was one such possibility. It seems to me that one possibility for research in this complicated area might be for a group of companies such as is represented by our joint mutual fund group to share the research expenses through the use of a consulting actuarial firm. I am convinced that we could still retain our own company identity.

MR. INGRAHAM: Unlike other industries, we have not relied on such things as consumer panels and questionnaires to gauge the probable public reaction to new plans. Rather, we feel that the nature of insurance marketing is such that the agent assumes a dominant role in selling what

he, the agent, rather than the client perceives as the major need. Accordingly, we try to be guided by what a cross-section of our field force sees as salable.

When we have occasionally ignored this guideline, the sales results have been extremely disappointing. A prime example in our case was a cost-of-living rider that we introduced early in 1969, under which the needed augmented coverage was provided by applying dividends to buy an appropriate blend of one-year term insurance and paid-up additions. When this product was introduced, we felt that it had a great deal going for it: it was consumer-responsive in a high-inflation period; it was the first product of its kind issued by a mutual life insurance company; and, because it could be attached to many older policies subject to modest evidence of insurability rules, it seemed to serve as an excellent "door-opener" for agents to see old (or orphaned) policyholders. Unfortunately, while all the foregoing arguments were euphoriant to the home office, the lack of additional commission attributable to this rider resulted in its becoming, as one general agent put it, the "Edsel" of our product line.

Our most reliable barometer as to the probable marketability of proposed new products or marketing services is a relatively small number of agency leaders and general agents whose opinions over the years have proved to be reliable. Different products and marketing services, of course, require the opinions of different field men, and a rather intimate familiarity with the particular marketing orientation of many agents comprising your field force is needed. This can be achieved only by constant exposure to these men—at agency schools, by agency visits, and by wide-ranging contact at company conventions. Thus the need for product development actuaries to develop close relationships at every opportunity with their company's agents is underscored.

Many ideas for new products or marketing services brought to our attention by the field force are evaluated as to feasibility by two home office marketing innovation committees, one for individual products and one for group products. We also rely on studies produced by our marketing research department as a means of identifying an emerging market need. These have been most helpful in the marketing services area. For example, as a result of studies which more clearly defined my company's sales orientation in the affluent male buyer markets, we discerned a need several years ago for a number of in-house computer services for agents in such areas as co-ordinated estate planning, term conversions, and split-dollar and flexible deposit marketing.

A curious characteristic of the life insurance industry is that relatively few companies take the trouble to test market new products and new

prospecting and selling procedures before introducing a product to the entire field force. We have begun to do this in two particular areas. In the first case we have authorized a limited number of carefully selected agencies to participate in a premium-financing arrangement launched in conjunction with a local bank to more intensively pervade the college senior and medical student markets on a controlled basis. The second relates to the granting of special guaranteed issue underwriting privileges to a few agents in certain tax-qualified case situations involving associations that have granted sponsorship to such agents.

MR. KRAYSLER: Market research and especially test marketing are areas that have intrigued me for quite some time. My company has shown a substantial interest in the "marketers" of our products. I am in the market research department, and we have performed—and are continuing to develop—a number of studies of our salesmen, their characteristics, their markets, and so on. We have entered the mutual fund business, the casualty insurance business, and other related businesses, so that, among other reasons, we can provide more income for our agents, that is, our marketers. Although we are, then, definitely committed to thinking about the marketer, to my knowledge we have done very little testing of the markets themselves. A consumer products company, for example, would pick some small town to test a new toothpaste before they embarked on a large promotional campaign. Except for the mail-order business, I wonder whether test marketing really exists in the agency-dominated part of our business. Perhaps Jim Anderson could comment here.

MR. ANDERSON: Our chief creed is that life insurance is sold and not bought. Therefore, we put the money into commissions rather than into marketing research.

An earlier speaker has drawn a distinction between product innovations and product imitation, a point which is particularly pertinent to the questions of expense and time schedules. Parenthetically, I would like to observe that the imitators seem in general to come off better than the innovators—it was the settlers who benefited most from the opening of new territories in this country, while the pioneers got scalped by the Indians.

With respect to this and all other subtopics, I believe that we should constantly ask ourselves, "Why is this product being developed, and what is it expected to accomplish?" Presumably the answer to this question will offer some method of measuring the real economics of the in-

tended product. This measurement is a necessary precondition to the question of how costs and time schedules should be controlled, because costs and time schedules are competing objectives whose relative weight can be evaluated only on the basis of the real economics of the new product. Clearly a relationship to the over-all size of the company is involved—a small company with a limited distribution system could hardly afford to undertake on an economic basis the development of a wholly new product which might involve incurring tremendous costs. In evaluating the real economics of a new product, I believe that marginal cost concepts should be used to determine what further benefits the company will enjoy and what further costs it will incur to develop the product.

One might also draw a different distinction between two kinds of product development—one which is intended to represent a wholly new source of business and one which is intended to replace a current source of business. Unless the replacement product is intended substantially to alter expense and profit margins, the economics are likely to be very different as between these two types of product development. Obviously, a product development intended to create a wholly new source of business has the potential to have a more beneficial impact on the company's financial affairs.

A new product might be introduced for a reason which has not previously been mentioned—to increase the earnings of agents. The product might either represent a wholly new source of business or replace an existing product. While the company might not gain anything directly by way of increased expense or profit margins through the introduction of such a product, its gains would be very considerable if they contributed to the stabilization of the agency organization.

Practical suggestions for controlling time schedules would include the preparation of a network analysis covering the entire development period, identification of the critical path, and close monitoring of steps which lie along the critical path to ensure that there is no slippage which will delay the over-all project. I have found that product development can be done more efficiently if the work party is very small and skilled—a two-person work party would be my preference. I have also found that progress is clearly impeded if those involved are distracted by other activities, since product development, particularly if innovations are desired or intended, is enhanced by concentration of attention. Many companies, particularly large ones, delegate product development responsibility to a fairly large committee, frequently representing many if not all of the company's management viewpoints, and more than once I have seen an unsatisfactory product emerge from such an approach.

MR. INGRAHAM: At my company the responsibility for developing a new product or marketing service is assigned as the specific ultimate responsibility of either the chief actuary or the chief marketing officer, depending on the project. There are several actuaries and programmers assigned exclusively to product development. There are also a number of advanced sales, estate planning, and sales promotion people, as well as one actuary assigned full time to marketing services. These two groups serve as the organization nuclei controlling the tempo of the work.

For a major project such as a new policy series for the ordinary line or the start-up of a variable annuity operation, task forces are created consisting of appropriate individuals from actuarial, agency, legal, systems, and policyholder service areas. Functions are identified, timetables are established, and efforts are concentrated on the various critical paths.

Our experience has been that the usual critical area of implementation, prior to completion of a product development or marketing service project, is the development of a workable computer system to support the product. This was particularly true in the case of the variable annuity, where a unique system had to be designed and tested to handle such matters as unit accounting, billing, confirmations, commissions, purchase payment flexibility, and status reports.

There are two basic rules to follow in controlling development expense and the time schedule. The first is to totally commit those assigned to the project, without day-to-day distractions. Be unflinching about this. For example, one actuary and one lawyer succeeded in developing good first drafts of variable annuity prospectuses and contracts in two weeks by a complete immersion in the project on a twelve-hour-day, six-day-week basis. Involve your best people, use the minimum number possible, and get them to work in concentrated bursts.

The second rule is to avoid at all costs suffocating the thrust of your project in committees. Whereas task forces are ideally stocked by individuals at the working level committed to meeting a timetable largely developed by themselves, committees too often succeed only in interfering with the project momentum.

Certain new product or service ventures—such as the establishment of a variable annuity operation, entry into the individual disability income field, or development of a premium-financing facility for college and medical market business—necessitate the creation of pilot operations. These pilot operations, in our case, are nursed to maturity under the aegis of their product development or marketing services mentors. At some appropriate time—say, eighteen or twenty-four months after inception, when the pilot operations are shaken down—it invariably makes good

sense to merge them into the sector of the company where similar functions are performed. Typically, this will be your company's policyholder service department. In this way, duplicate staffing and "empire syndromes" can be avoided.

MR. BURLING: As far as a time schedule is concerned, we try to do advance planning because we cannot afford the luxury of a task force. If we do run into a situation which has such priority that we cannot complete it in our normal operations, then we use outside consultants with in-house supervision.

Once there has been a management decision to "go" on a new development, we do not want it to become bogged down in committee. We have essentially assigned one man in the actuarial department to be responsible for implementing the product.

MR. D'ALTON S. RUDD: I question the advisability of delaying introduction of a new product until the company computer system can be modified to handle it. The delay would be intolerable, and instead, in my company, staged introduction to the system was used—for example, modifying the input series to place records on the master file and perhaps using simply the absence of rates on a rate tape to call for external aid in appropriate situations. On the question of marketing research, an attempted survey of our own field organization of two thousand men, following the introduction of their variable life insurance policies, elicited response from only 50 per cent of the field.

MR. ALLAN L. THOMSON: A comment was made to the effect that small companies cannot afford development costs required for new-product development and, consequently, are generally limited to products already on the market. However, the smaller companies can innovate and can, to a certain extent, control development expense. How is this done?

1. The company should have a clear set of objectives outlining the company philosophy and the particular markets in which the company is to operate. Any new ideas brought to the attention of management or suggested new products would not be developed unless they conformed to the predetermined company objective. For example, a suggested new pension plan would not be studied if the company had determined beforehand that it would not be aggressive in that particular field. No new development would be entertained unless the company changed its written objectives, which, incidentally, would be communicated to all members of the staff and field force.

2. Product development should be restricted to the particular market which the company agents are capable of penetrating. Since the small company normally has limited training facilities available, it would be senseless to develop a sophisticated product which the small-company field men could not understand or sell properly without extensive training. Admittedly some men in the field could probably sell such a product, but the time spent in developing it would not be worthwhile compared with the results the small company might expect.

In brief, the small company should stick to its specific market and limit its products to those which its existing field force is capable of marketing well. There is reasonable scope for developing new products within these limitations and keeping expenses under reasonable control.

MR. ANDERSON: Before determining what financial projections might be required in connection with a new product, it is necessary to know whether the product is intended to replace an existing product. If it is not, financial projections will probably be required; if it is, financial projections will be required unless the replacement product has essentially the same financial characteristics as the product it is replacing.

Two basic types of projections will probably be required: a projection representing a unit of production and a projection representing a model of the company. The unit projections will need to cover both the new product and, if relevant, the product it is intended to replace. The financial projections should allow for the determination of the impact of the new product on statutory earnings and on adjusted earnings; it is also of value to be able to project the gross contribution to company expense margins, and for certain classes of products, notably variable life insurance and variable annuities where a substantial part of the premium income may be committed to unit investment funds, a projection of cash flow may also be required.

How realistic are the types of projections that actuaries customarily make? I have found that it is much easier to forecast reasonably such items as future interest, mortality, and persistency rates than it is to make realistic estimates of future sales and actual expenses. As a generalization it seems to me that the former items are more often conservatively estimated and the latter items more frequently err in the other direction. Financial projections are tools which can be used either to guide or to mislead; too frequently I have seen financial projections based on unreasonable assumptions used to justify a management action which was not fundamentally sound.

MR. INGRAHAM: The phrasing of question 5 presented me with some difficulties because I have always believed with considerable fervor that actuaries immersed in the development of life insurance products were (or ought to be) "marketing people" in the broad sense. The typical stereotypes so familiar in the past—the arch-conservative actuary with no feel for the market or for the agent's 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.

Thus, if we can assume that the product development actuary is reasonably market-oriented and the agency officer reasonably profit-oriented, the involvement of each in the decision-making process becomes a joint venture. Whether the product in question is merely a new policy or a rider to enhance an existing line or is a major undertaking such as a new policy series or a dramatically different product such as variable life insurance with profound marketing implications, the first step would appear to be for the agency and actuarial people involved to hammer out as best they can at the outset (1) the desired design characteristics of the product; (2) the desired pricing strategies; (3) a range of suitable assumptions, affecting pricing and profitability; (4) the commission pattern deemed necessary for field acceptance; (5) broad profitability goals; and (6) anticipated sales.

The actuary is concerned with actuarial adequacy; the agency officers are concerned with field acceptance and salability of the product under consideration. However, there is considerable room for subjective debate regarding tradeoffs in pricing, commissions, and even management's profitability objectives. These matters are not the exclusive province of either the actuary or the agency officers.

If a major product change or a significant product innovation is being worked on, it is probably best to have a set of alternative proposals readied by the product development actuaries for discussion with the agency officers. Out of such discussions a narrower range of alternatives is likely to emerge, and a home office position may be established that hopefully both the actuaries and agency officers can support.

The next step, in our case, is to call in a carefully selected small number of representative agents and general agents to discuss the home office proposals with the product development actuaries and agency officers involved. At these sessions, frank give-and-take from the field is openly encouraged. On more than one occasion, modifications of product design

and pricing or compensation patterns have resulted from these sessions, and subsequent meetings with the selected field representatives have been held.

Additional points to keep in mind in this regard are the following:

1. A properly selected group of agents and general agents invited to discuss a new-product proposal prepared by the home office will embrace a rather wide spectrum of opinions, and consensus among the agents' own ranks is seldom achievable, even when the timing and incidence of their compensation are at stake. Inevitably, the time comes when the home office actuaries and agency officers realize that they have obtained a valid cross-section of field attitudes. At this point, it is time for the home office team to proceed with the implementation of the product, on the basis of decisions that will be certain to provoke antagonism in some field quarters. There is no pleasing all the agents.

2. Even in the most congenial and empathic actuary-agency relationships there will be times when honest differences of opinion relative to pricing, compensation, appropriate competitive position, or profitability cannot be resolved internally and must instead be presented to the company's president for deliberation and a "management decision." Regardless of which side the axe falls on, it is of fundamental importance that the home office thereafter unite behind and totally endorse this decision as far as the field is concerned.

MR. BURLING: I do not agree with the approach in which the actuary and chief agency officer sit down and discuss alternatives to a particular new product. It seems to me that a better climate is established where the actuary—given the sales estimate from the agency department—presents the alternatives on premium, dividend, and profit levels to the management of the company. Then we are not so liable to get into a trading situation and are more likely to have the new-product development consistent with other company objectives. This approach has a further advantage that the new product is identified as the company approach, as opposed to being identified with any one particular department.

MR. THOMSON: I wonder whether any company, in particular a mutual company, that develops a new product line or that enters an unknown field on the strength of assets built up in some other line of business ever passes back to the block of business which made the new line possible some of the profits earned in the new line. For example, suppose that a large insurance company was able to enter the market and borrow a large sum of money at relatively favorable rates because this money was backed by the strength of the assets held by that particular company. Then suppose that this same company develops a new product which becomes quite profitable as a result of the borrowing on the market.

Are all the profits generated passed back to this new product line (assuming a mutual company in this case), or are some of them shared with the other block of business which made the new product line possible in the first place?

MR. PETER N. DOWNING: On several occasions this morning reference has been made to variable life insurance products. In England we are very conscious that variable life insurance is effectively a product competing in the investment field rather than in the life insurance market. It is probably true to say that investments are bought rather than sold; the competition is therefore not in selling the concept of the product but rather in selling the idea that your product is better as a vehicle for saving than other methods.

United States life insurance companies may therefore find that, for the first time, they are producing a product which is bought rather than one which is sold. In this situation it is absolutely essential to clarify the two pillars of product design—the benefit construction and the technical construction and feasibility. It is probably axiomatic that the marketing personnel of the company must be involved in the benefit construction right at the start of the product development.

Much has been said this morning regarding the sounding of agents on new products—little on testing the acceptability of a new product with prospective policyholders. If it is accepted that the variable life insurance contract is bought rather than sold, it is highly desirable to conduct a field survey.

It may be of interest that there is at least one unit trust group (mutual fund group) in England which has established a life insurance company in order to market variable life products and which does, in fact, send a questionnaire on new products to a sample of existing unit holders/policyholders. With regard to the number of unit holders/policyholders, even a 15 per cent response to a 10 per cent sample can give a meaningfully large number of replies.

There are three parties interested in the flotation of any new product, namely, the actuary, in terms of profitability for his company; the agent, in terms of commission earnings; and the policyholder, in terms of expected benefits. Do we always pay enough attention to policyholders?

A CRITICAL LOOK AT THE STANDARD NONFORFEITURE AND VALUATION LAWS

A. The Standard Nonforfeiture Law
   1. What was the purpose of the Standard Nonforfeiture Law, and has this purpose been altered in the last ten to twenty years? If so, how?
   2. How well do the present law and the prevailing industry practices operate to achieve the purpose? Are new products which are now emerging defeating the purpose of the law?
   3. What inconsistencies arise, if any, if minimum legal cash surrender values are required with the following products?
      a) Annuities
      b) Deposit term and split life
      c) Variable life insurance and indexed products
      d) Modified plans (both premiums and face)
      e) Large amount term policies and reducing term policies
      f) Minimum issue size

      Can the actuarial profession eliminate such inconsistencies during the design phase of new products, or is a change in the laws the only way?
   4. Are the expense allowances implicit in the Standard Nonforfeiture Law reasonable under current conditions?

B. The Standard Valuation Law
   1. What practical alternatives to deficiency reserves exist?
   2. Should reserves ever be less than or equal to cash surrender values?

Atlantic City Regional Meeting

CHAIRMAN ROBERT L. PAWELKO: It is our feeling that the time has come for a complete review of the Standard Nonforfeiture Law. We are hopeful that today's presentation will sow the seed which will result in the formation of a Society of Actuaries task force, a National Association of Insurance Commissioners task force, or both, to study and update the Standard Nonforfeiture Law. I am hopeful that this session will serve as a direction setter for such a task force, so that time will not be needlessly wasted in setting the goals of the task force once it is developed. We do not want to focus our attention entirely on one product or on one problem, but we certainly want to hear your opinion on this law.

MR. DANIEL F. CASE: I should like to discuss the following questions. First, why was the Committee to Study Nonforfeiture Benefits and Related Matters appointed? Second, what did the committee take as its objectives, and why? Third, how did the committee seek to achieve its objectives, and why?

Before the advent of the Standard Nonforfeiture Law, statutory minimum nonforfeiture requirements in the United States were generally specified as an amount equal to the reserve on the policy minus a surrender charge of, typically, not more than 2½ per cent of the face amount. Most companies were valuing reserves on the American Experience Table. In 1937 the NAIC appointed the Committee to Study the Need for a New Mortality Table and Related Topics to make recommendations in the area of valuation. In its report this earlier committee pointed out the close statutory relationship between reserves and minimum nonforfeiture benefits and made the following points:

1. Nonforfeiture benefits, in practice, were fixed by the amount of funds accumulated in fact under each policy, and by competitive considerations, rather than by minimum limits prescribed by statute.

2. Although most companies were currently paying nonforfeiture benefits substantially above the current statutory minimum requirements, minimum nonforfeiture benefits based on a modern mortality table and the current maximum surrender charges would, for many plan-age combinations, exceed the cash values which companies were currently paying.

3. Hence, if a modern mortality table were adopted as a permitted basis for valuation and no changes were made in the maximum surrender charges, many companies choosing to value on the new table would have to increase some of their cash values above what they would have paid from considerations of equity and competitiveness and would have to increase their premiums in order to do it.

4. As long as minimum nonforfeiture requirements remained linked to the reserve actually held on a policy, rather than to the minimum reserve permitted for the policy, companies would have an incentive to adopt the weakest permissible reserve basis (including modified reserve bases) if they were interested in providing the lowest possible nonforfeiture benefits.

5. Unless the laws were changed to permit companies to calculate the amount of extended term insurance on a more conservative mortality basis than the regular valuation basis, minimum required values of extended term insurance based on a modern mortality table would be too high.

In view of the above considerations, the Committee to Study the Need for a New Mortality Table and Related Topics recommended that the NAIC appoint a special committee to study nonforfeiture values, surrender charges, and related subjects and to make recommendations.

The nonforfeiture committee consisted of nearly the same individuals who had constituted the earlier committee. The nonforfeiture committee's report stated:

It should be the objective of the state to establish minimum non-forfeiture benefits on such a basis that continuing policyholders will not be unduly penal-

ized on account of the granting of excessive non-forfeiture benefits to policyholders who terminate their contracts, but the withdrawing policyholders should be granted the largest values which can be granted without violating this condition. This point will differ among companies, but the objective of the Committee has been to establish a minimum at such a level as will be roughly representative of the amounts of such benefits if granted on a basis complying with those conditions by companies which are marginal as to operating expense standards.

The report also stated:

Equity demands that the withdrawing policyholder be allowed an amount on withdrawal, whether cash or its equivalent, which represents, with reasonable allowance for variation in views as to the assessment of expenses and other factors of operation, his contribution to the company's funds, less the cost of claims equitably assessable against his policy and less his equitable share in the expenses of conducting the business, with benefit of whatever interest the company has succeeded in obtaining by the investment of these funds and less his proper contribution to stockholders' profits in a stock company or, in any case, to contingency reserves. If this amount is properly determined, continuing policyholders will be neither benefited nor harmed by his withdrawal. It is the approach to this ideal which has been sought by the Committee.

The report states that for many years it had been generally agreed that a withdrawing policyholder should be given something close to the amount of funds which could be thought of as having been accumulated under his policy. The report does not elaborate on this idea. It places more emphasis on the point that the required minimum values should not be set so high as to force the company to increase the premium in order to cover an excess of nonforfeiture benefits over fund accumulations. This would result in a penalty to persisting policyholders, and it would violate the fundamental principle of contracts according to which any loss involved when a contract is terminated prior to its normal termination date shall be borne by the party who terminates and not by the party who is willing to continue. The committee offered an interesting practical reason for requiring nonforfeiture values, namely, that early insurers who issued policies with inadequate nonforfeiture benefits or without any nonforfeiture benefits whatever often used inadequate rate structures and failed to establish proper actuarial reserves. Then there is the colorful fact that insurance policies used to be auctioned off in order to obtain some benefit upon lapse. This auctioning incited Elizur Wright to press for the first minimum nonforfeiture legislation in the United States.

The committee concluded that it should devise a formula which would yield minimum values lying, generally, slightly below the asset share

accumulations actually calculated for nonparticipating insurance by representative stock companies. The committee constructed a set of theoretical asset shares for nonparticipating insurance, based on modern select and ultimate mortality, representative commissions, taxes, other expenses, and interest at 3½ per cent, but with no nonforfeiture benefits and no lapses. Clearly, nonforfeiture benefits exactly equal in value to the asset shares thus calculated could be paid to lapsing policyholders without loss to the company, if all experience, including the mortality among policies that did not lapse, exactly followed the assumptions.

The committee pointed out that any level expense assumed for purposes of such an asset share calculation does not influence the asset shares. A change in the level expense assumption will change the assumed profit or contingency margin by a level amount but will not change the asset shares. It is only when you change the relationship between early expenses (chiefly acquisition expenses) and later expenses that the asset shares will change. With a relatively large excess of early expenses over later expenses you get relatively low asset shares, especially in the early years. What the committee did in its eventual recommendations, accordingly, was to assume a relatively large excess of early expenses over later expenses.

A fundamental question was posed by the different views which can be taken toward the allocation of expenses between first and renewal years. It might seem obvious that first-year commissions, say, should be assessed against the first policy year. If one asserts, however, that existing policyholders benefit from the issuance of new insurance, one can make a case for assessing acquisition costs against renewal years of in-force policies. The committee considered that such an approach, if followed in the determination of nonforfeiture benefits, would lead to losses upon lapse. The committee preferred not to require that approach and, therefore, assessed expenses, to the extent possible, to the years in which they were incurred.

As a way of setting minimum nonforfeiture benefits somewhat below its theoretical asset shares, the committee adopted the "adjusted premium" method. The minimum value equals the present value of future death benefits minus the present value of future adjusted premiums, where the adjusted premiums are large enough to cover the death benefits plus a certain amount of excess of acquisition cost over regular renewal expense. The Standard Nonforfeiture Law thus, in effect, places restraints on the excess of acquisition (or early) expense over later expense. It does not, as we noted previously, place any restraint on level expenses, nor does it place any restraint on level annual profit or on level annual con-

tributions to contingency reserves (such as may be accumulated as a protection against war, epidemic, or other catastrophe not provided for by the regular reserve). The Standard Nonforfeiture Law, that is, does not constitute a control on level expenses, level profits, or premiums. Its restraining force lies in the fact that, if a company's excess of early expenses over later expenses is higher than is contemplated by the law, or if its assumed interest earnings are higher or its assumed mortality curve is flatter, then it may have to allow nonforfeiture benefits higher than those that would follow directly from its asset share calculations, and, if so, it will have to increase its premium or suffer a decrease in profit.

I think that one of the most significant features of the Standard Nonforfeiture Law is that, as we have noted, it does not constitute price control. It mandates a benefit but does not relate that benefit to the amount of the premium. The committee stated that it did not regard expense control as a proper function of a minimum nonforfeiture law and hinted briefly that it was leaving "the controversial question of what annual profit or contingency charge should be imposed" for competition to determine. Underlying the committee's thinking may have been the premise that you can count on competition to keep premiums reasonably low in relation to face amounts, but you cannot count on competition to keep nonforfeiture benefits up in relation to face amounts. The consumer (as the committee might have called him if it had been writing its report today) simply does not know enough about nonforfeiture benefits.

The possibility of price control in a minimum nonforfeiture statute is not so farfetched as it may seem. Laws currently found in some states express the minimum nonforfeiture requirements for deferred annuities in terms of specified percentages of the premiums. These laws constitute price control.

I have dwelt on a few basic concepts in the Standard Nonforfeiture Law. I shall take just a minute or two more to touch on a few details of the committee's report. The committee considered the possible effect of lapses on the mortality of persisting policyholders and concluded that there was not enough evidence of antiselection by lapsing policyholders to warrant making an explicit reduction in the minimum values to cover it. The relatively high mortality experienced under extended insurance, meanwhile, was allowed for by permitting the use of mortality rates up to 130 per cent of the regular rates in calculating the extended insurance equivalent of the cash value. The committee considered asset losses in times of depression and concluded that there was enough leeway in its proposed minimum values to allow for some fluctuation. The committee ignored policy size, feeling that to allocate expenses differently according

to policy size would be regarded as discriminatory under existing law. The committee proposed the same minimum scale for participating policies as for nonparticipating policies, but it made a recommendation that eventually was modified to become the provision of the Standard Valuation Law that called for a plan regarding possible surrender dividends to be approved by the commissioner if the company wished to value its reserves at an interest rate more than $\frac{1}{2}$ per cent lower than the nonforfeiture interest rate.

MR. ARDIAN C. GILL: On balance, the Standard Nonforfeiture Law has substantially achieved most of the original objectives that Mr. Case outlined. It has prevented unintentional forfeiture and, until recent years, has tended to maintain a degree of consistency among products. Also, accepting the views of the authors of that splendid original report, the result has been equitable. (There is a real question whether those views are all valid today. The matter of distinction by size is an example.)

On the other hand, the law has its many quirks. Consider term insurance. Level term was treated differently from decreasing term and policies differently from riders, and there are arbitrary rules on when term policies must have values. When the law was amended to correct the problems of term and other riders, the method enacted was to spread the insurance over the life of the policy for purposes of calculating expense allowances but to limit the period of the allowances to the term of the rider. It would have been preferable to adopt the *principle* that, if each benefit in a package meets the requirements of the law, then, a fortiori, the package as a whole meets the requirements.

The question of when term insurance should have values is determined by a formula involving duration and age at expiry. This was intended to eliminate trivial benefits. It would have been preferable to adopt the *principle* of nontriviality directly. That same principle would operate to determine whether a company must carry a small paid-up insurance benefit or may pay a cash value instead.

The principle of nontriviality would also have avoided the problems we had in New Jersey with the guaranteed insurability rider, a product not contemplated by the framers of the original law.

The law requires, too, an equivalence of paid-up insurance values using the mortality and interest assumptions underlying cash values, with an allowed mortality difference for extended term. This does not seem to have been intended in the original report. In fact, the committee recommended "eliminating any requirement . . . and substituting therefor reasonable limits appropriate to the circumstances." This course would open the way

to mutual companies to provide nonparticipating reduced paid-up insurance on a basis equitable at the time of lapse, instead of carrying smaller amounts and then achieving equity by paying tiny dividends from year to year. There is precedent for this in settlement option practices, where companies substitute nonparticipating immediate annuities for the participating guarantees in the contract. At least the policyholder could be given the choice. The principle of choice is largely absent from the law.

There are other difficulties caused by the "uniform percentage of the gross premium" requirement. It makes little difference whether a policy is under minimum values at some points and is over at others, as long as the result is reasonably equitable; yet slavish adherence to the formula requirements has caused problems on unlevel premium policies. New Jersey's position on the guaranteed insurability rider, for example, was that the premium should be considered but that benefits should be assigned a zero value, making an unlevel premium policy out of a level one and sometimes denying the public a useful benefit.

There are other examples, but these may suffice to support my view that laws should enact general principles, not formulas. Therefore, I advocate a complete departure from the current law, replacing it with the following ideal version: "In the absence of agreement to the contrary, every life policy issued in this state shall provide reasonable protection against forfeiture on lapse."

Definitions and elaborations are required, such as "issued for delivery," that I will leave to the old equity draftsmen, but enacting the equivalent of this language would cure what I view as the two main flaws in the current law.

First, and less important, there is no alternative to the values in the law; it does not permit intentional forfeiture. This is deliberate. In view of the drafters of the original report, "full forfeiture upon lapse is repugnant to the public interest."

I question that. Is there really anything wrong about a grown man's agreeing to forfeiture in exchange for some other valuable consideration, such as a lower premium? Deposit term is an example of agreement to forfeiture on lapse in exchange for a lower premium. There is no reason in principle why the idea could not be extended to some permanent forms of insurance, provided that there is clear agreement between the parties (which does not merely mean a contract of adherence). There is, of course, a reason in the law; it has an immobile formula.

There is a second, more important flaw: the law embodies a formula. One can, of course, cite the faults of the formula, such as fixed expense allowances (and I have appended a table comparing these with modern

averages), that it is not flexible, that it does not contemplate innovation, and so forth. But these faults are in the formula, and if we had no formula we would not have these faults.

The trouble with formulas is that they tend to become substitutes for the principle they are supposed to carry out. Both regulators and industry become fascinated with them, the regulators on one side, sometimes helplessly, turning down perfectly reasonable products (the guaranteed insurability rider is an example) as illegal, while the industry actuaries exercise their ingenuity in finding ways to produce an entirely unreasonable result which is nevertheless perfectly legal. This permits products like split life and decreasing whole life.

A Yale law professor named Bork wrote in *Fortune* magazine, "Law is a blunt instrument." In the Standard Nonforfeiture Law we have tried to use it as a surgeon's scalpel to excise desirable products. Before the advent of things like the life-cycle concept, it did not matter too much. The law provided congenial employment for actuarial students and a rich source of examination questions for the committees. But things go too fast now. We should replace our current law with the two principles of choice and reasonableness.

It is reasonable to ask, "Reasonable to whom? Who is to judge?" Obviously, the regulators. Equally obviously, the regulators need guidelines and formulas. There simply is not time or staff to consider each case *ab initio* on its merits. However, the place for these guidelines is in a model regulation developed under the auspices of the NAIC. If a plan meets the regulation by demonstration or competent certification, the regulators need look no further and can turn their attention to the many new and difficult problems now confronting them.

The advantages to this are obvious. A regulation can be changed much more quickly than a law. Further, a regulation can have catch-all language that permits the regulator to decline an unreasonable plan that slips through the formula and permits him to approve a reasonable plan that, for some technical reason, does not.

The alternative to what I have suggested is to correct the flaws in the present formula every decade or so. The feasibility of this approach is doubtful. Consider only one of the problems I mentioned—expense allowances. One has to wonder about the prospects of successfully convincing fifty state legislatures that the life insurance companies should be allowed to make larger expense charges or to adjust them with inflation. It is not hard to imagine a legislator characterizing this as giving more to the big insurance companies at the expense of the consumer. The idea of greater equity can easily get lost.

Following this line further, it is possible to argue that expense allow-

ances are no longer meaningful and that minimum cash values are part of the benefits a policy must provide, rather than merely an equitable return of the policyholder's funds built up through the accident of the level premium system. The industry itself abandoned the idea of following the asset share curve when it began to market high early cash value policies. Thus the principle that Mr. Case recited—that the departing policyholder leaves the continuing policyholder in the status quo—is not followed in practice. We are embracing a similar concept through adjusted earnings methods, where initial expenses are spread over a term of years. Perhaps from the consumer's point of view more of this should be done in cash-value determination.

There is, of course, the counterargument that the fixing of only one element of pricing gets in the way of equity or at least inhibits the freedom of the pricing actuary. I lean toward laissez faire. Let the public choose, let the insurance department review for reasonableness and equity under the then prevailing ethic, and let us drop the formula in the law.

If it proves to be impossible to make such a radical revision, then modernization can perhaps be accomplished by adding language permitting either compliance with the law as it is now written or any plan approved by the superintendent as reasonable and equitable or otherwise mutually agreed upon by the contracting parties.

The following are specific problem areas in which change should be considered if the Standard Nonforfeiture Law is reviewed.

1. Nonseverability of benefits to determine minima.
2. Required severability of values to determine paid-up insurance amounts or durations for other covered persons.
3. Requirement of trivial values in certain term coverages.
4. Uniform percentage of gross premium requirement.
5. Equivalence of present values of nonforfeiture benefits using policy mortality and interest assumptions.
6. Omission of option to choose no surrender benefits.
7. Absence of new-start option if face amount is increased after issue.
8. Lack of annuity requirements.
9. Equivalent level amount peculiarities.
10. Expense allowances, including a question of a per policy expense.
11. Absence of catch-all permitting consistent treatment of products that were not originally contemplated.

APPENDIX

Table 1 compares the excess of initial expense over renewal expense under the Standard Nonforfeiture Law allowances with the same quantity as defined in two well-known Canadian formulas. By coincidence, Formula 70 approximately reproduces the average expenses of the fifteen largest noncombination mutual

companies. Thus, at first glance, it would appear that the allowances in the law are not too obsolete. The original intent of the framers of the law was, however, to provide for "the largest reasonable excess of initial over renewal expenses that can be justified."

Much more analysis would be required to find new figures to satisfy this criterion. However, if the test were satisfied by the expense levels of the fifteenth-ranked mutual company, then allowances 15 per cent above the Formula 70 levels would be needed, producing substantial allowance deficiencies at the higher ages.

TABLE 1

EXCESS OF INITIAL EXPENSE OVER RENEWAL EXPENSE
MALE—WHOLE LIFE, 1958 CSO 3 PER CENT
($10,000 Size)

Issue Age	Standard Nonforfeiture Law	Pedoe Formula II*	Formula 70*
25	$28.07	$18.28	$25.73
35	31.52	21.60	30.75
45	37.36	27.23	39.24
55	46.00	36.96	53.90

* Assumes that gross premiums are the same as adjusted premiums.

MISS MARTINA E. DOYLE: As my copanelists have pointed out, the Standard Nonforfeiture Law has generally fulfilled the basic purpose set down some thirty years ago—to assure equitable treatment to the withdrawing policyholder. In the ensuing period, however, because of the rigidity of the law and some of its rather arbitrary and artificial provisions, the result has been that in the present day, even with minimum nonforfeiture benefits, the withdrawing policyholder is very frequently overprotected at the expense of the continuing policyholder—a situation apparently not originally intended. More importantly, under the provisions of the law the insurance underwriter is barred from providing an insurance vehicle responding fully to the needs of the buyer, particularly in the more sophisticated markets, at the most attractive possible price. For example, a buyer desiring only death protection must, in many instances, also pay for cash values.

Design people seeking new products in new shapes, or combinations of traditional benefit forms providing a better fit with the changing protection needs of customers, are blocked repeatedly by the constraints and complications created by nonforfeiture requirements. In the view of some, the nonforfeiture requirements act as a good control; frequently, however, the requirements serve as a challenge to the product design man

to find a way to demonstrate technical compliance even though there is violation of the spirit of the law. Not only is the determination of the required minimum values burdensome when such garden-variety patterns as premiums varying by size, limited coverage with options to renew, or amount of coverage varying by duration are involved, but also attempts to design around multiple-life needs, whether for family or business clusters, often come out as combinations of policies and riders which are very difficult for the buyer to understand—and many times cost the customer more because of the mandatory cash provisions unjustified by true policyholder equities.

Looking to the future, it appears that nonforfeiture requirements should be altered so that design people will be free to respond directly and simply to the expressed needs of the marketplace. Research people have identified buyers' needs for product vehicles which embrace such benefits as the following:

1. Insurance protection with amount varying by
   a) Investment performance of the policy value determined by, for example, the gross premium valuation method or the natural reserve method, where the value is invested in equities.
   b) The performance of some outside index.
2. Low-cost protection with a price tag unaffected by the early withdrawers.
3. Life-cycle protection—preferably inflation-proof—with premiums, amounts of insurance protection, periodic endowment payouts, and insurability and annualibility guarantees varying with career needs. A more complex version of life-cycle protection would also include disability income and retirement income benefits varying with changing needs.
4. Flexible combinations of low-cost insurance and retirement income benefits for one or more covered persons with some community of interests.

Benefit structures with certain of these characteristics may be offered now in limited areas. Their availability depends generally on the ability of the designer to force his product into *pro forma* compliance with the standard nonforfeiture requirements, accompanied usually by some upward thrust in price to cover the cost of mandatory cash values derived from a specific formula satisfying criteria which may be totally unrelated to the policy equities involved. One part of the problem would be solved if a consistent relationship between the mortality and interest assumptions used in pricing products and the assumptions permitted in the determination of mandatory minimum cash values were allowed. The solution may be accomplished easily within the framework of the Standard Nonforfeiture Law—if we may ever optimistically regard changing the rules of some fifty jurisdictions in a uniform way as easy—by allowing the

permitted mortality and interest assumptions for minimum standard nonforfeiture value calculations to move with changes in mortality and interest levels.

The more severe part of the problem centers around the difficulties encountered in attempting to conform to Standard Nonforfeiture Law requirements when creating a flexible coverage tailor-made to fit the specific needs of certain segments of the insurance-buying public.

We have available to us now powerful tools of analysis and processing equipment which can at low cost and on a short time cycle create products providing varying levels of protection with varying premium payment patterns—for example, a life-cycle plan—but we are not able to offer this sort of protection because of the chapter-and-verse requirements of the Standard Nonforfeiture Law. Even though benefit packages which meet current-day needs can be priced and policyholder equities at any point in time can be determined properly and economically, products embodying such benefits can, of course, be implemented only with approval of the regulating authorities. It should be possible for the regulators to grant approval of a contract form on the basis of an appropriate certification as to the adequacy of the contract's nonforfeiture benefits, among other things. As the tailor-made policy would very probably involve fairly complicated equity situations, it would be reasonable to require that the certifications be accompanied by a theoretically rigorous, but abbreviated, demonstration of the adequacy of values provided on some appropriate basis such as an asset share display with all assumptions identified. In order to minimize the burden of reviewing the more complex type of product jurisdiction by jurisdiction, it would be highly desirable either to work out a certification procedure which would be furnished by a qualified actuary or, alternatively, to create a separate clearinghouse, staffed with proper actuarial personnel to review product submissions requiring unusual technical expertise. Such a clearinghouse might operate country-wide under the NAIC or might be created in each examination zone.

In summary, it seems that we can only conclude, as we review the problems facing the insurance industry today in the product area, that the rigid formulas and artificial cash-value requirements of the Standard Nonforfeiture Law should be abolished and a more general standard nonforfeiture regulation limited to a statement of principles substituted. If nonforfeiture laws are so revised, and a rapid expansion of regulatory problems is to be avoided, it is also suggested that a two-pronged set of guidelines be adopted countrywide which would provide (1) that the traditional-type products conforming to certain specifications be auto-

matically approved on a file-and-use basis and (2) that the new, the unusual, and the complicated products be approved under a certification process which may or may not call for certain technical demonstrations justifying the reasonableness of benefits provided; it is suggested that machinery be created to monitor on an economical and efficient basis products falling within type 2.

CHAIRMAN PAWELKO: Mr. Case, in your presentation you made a comment that the current law was designed with a specific exclusion relative to policy size. That is, when the current law was developed, it was specifically decided not to consider premium variation due to policy size. In today's marketplace it seems that almost every company varies the premium rates on the basis of the size of the policy purchased. Does this not in your opinion indicate a definite need for a change or at least a reconsideration of the current law?

MR. CASE: I have not formulated any position on that particular point, but I think that this would certainly be one thing that could be considered in a study of the nonforfeiture laws. It might even be considered as one factor militating in favor of undertaking such a review, but I have not personally concluded whether we do need a basic overhaul of the law.

CHAIRMAN PAWELKO: Mr. Gill, I work in an insurance department, and I believe that I understand how an insurance department operates. Although I like your idea of a law based on principles of equity rather than on a formula, do you really believe that such a law would work, or would it cause more problems than it apparently solves?

MR. GILL: I cannot speak for the insurance departments. I realize that you have many more important problems. Departments are generally understaffed and cannot consider every submission *ab initio* strictly on its merit. I suggest that some formulas and guidelines should exist but that they should be reasonably flexible. Miss Doyle suggested a "file and use" procedure which would free time for matters requiring special individual consideration.

Also, I have a pet idea that the industry in dealing with fifty states has been enormously disadvantaged. What we really should have had for many years is an industry ombudsman to assist when a problem arises with a particular state. This way you could appeal to a qualified group that was under the control of, let us say, the NAIC to decide the issue.

CHAIRMAN PAWELKO: Mr. Gill, you are referring to something like the NAIC Central Office, which is completely funded by the various states and is not directly funded by the insurance industry. I personally like the idea of the NAIC Central Office or perhaps a Society of Actuaries or American Academy of Actuaries committee which could act either as a consultant with the states or as an ombudsman between the states and the insurance industry. It would seem to me that this type of individual or committee could add the expertise which many of the states sorely lack in the actuarial and more technical areas of the insurance market.

I have several reservations relative to the potential of federal regulation. First, I cannot believe that in all likelihood we would eliminate state regulation even if we did put another layer of regulation on top. I think that we would just end up with another layer of regulation, with no real beneficial effects from that layer. I do like the idea of the central clearinghouse for as much of the technical information as possible, but I do not believe that any superregulatory agency or federal body would ever be able to accomplish exactly what it is designed to do. Instead, I anticipate that such a layer would mean simply another bureaucracy with which companies would have to deal.

One development that may be of some benefit to companies is that many states are now considering or implementing file-and-use policy form procedures. If the states find that they can live with file-and-use procedures, then they may recognize that they can trust certain other aspects of policy form filing to the companies. Thus perhaps the states will be able to accept a certificate signed by a qualified actuary that the values in a given policy form are in his opinion equitable. I think that this type of arrangement would also work.

MR. LINDEN N. COLE: Some of the panelists have suggested that a standard nonforfeiture law which requires complete disclosure of nonforfeiture provisions and cash values would be adequate to protect the consumer, even if cash values were equal to zero. This conflicts with the underlying objective of the Standard Nonforfeiture Law, namely, that persisting policyholders should be left in neither a better nor a worse position because of cash or nonforfeiture values granted to terminating policyholders.

The idea of a minimum standard for nonforfeiture values seems to me to offer significantly better protection to the policyholder than a disclosure requirement. If a whole life policy were to be offered with no cash values, as has been suggested, the gross premium could be reduced somewhat to anticipate reserves released by future surrenders; this calculation would have to be very conservative, however.

Some companies still calculate the "gain from surrender" for terminating life insurance policies, but this amount is really only a partial offset to unamortized acquisition expenses and not a true gain. I feel that the old idea that companies should not be allowed to make substantial real gains from surrenders is still sound.

Finally, if a life insurance company were to incur an immediate loss when a policyholder terminates, even if the loss were a modest one, the company would have an extra financial incentive to give its policyholders good service to keep its policies in force. In the age of consumerism, this might be appropriate. The present law, which only requires minimum cash values that roughly approximate asset shares, is hardly radical in this respect, although it does prevent substantial real gains on surrenders. Changes in the law to make it more flexible and less arbitrary are appropriate, but the philosophy of requiring minimum nonforfeiture values has merit and should be maintained.

MR. ROBERT H. DREYER: Over the past few decades, cash values in life insurance policies have become so routine that many people have lost sight of their original purpose. Instead of being viewed in the context of a policyholder's equity in case of lapse, they are being treated as policy benefits which may be an integral part of the sales presentation. Even in accident and health policies, the motivating factor behind the recent trend toward cash values is more often the sales appeal than a desire to provide greater equity.

High early cash value policies, "premium endowments," and other policies which overemphasize the cash-value buildup have been around for years. Recently, however, some state insurance departments have been taking a closer look at these policies. At least one state has gone so far as to require separation of the insurance and savings elements in some newly filed forms. This involves requiring that a "premium endowment" be identified as "term insurance with a pure endowment" in the policy form and that the gross premium be so subdivided on the face of the policy. Another state is considering making this a requirement for all cash-value products, including whole life.

To ward off this type of misinterpretation and protect the integrity of the level premium, nonforfeiture value concept, some positive action is necessary. I would suggest that a maximum nonforfeiture value should be defined, with cash values in excess of such defined values treated as pure endowments—and shown separately in the policy when required by the state insurance departments. Such an approach may best be accomplished by a return to the old definition: net level premium reserve less a surrender charge. This certainly would be easy to describe to policy-

holders. In this age of consumerism, where sometimes it appears that the consumer's knowledge of what he is paying for is more important than the product itself, the old simplistic approach has a lot of merit. A clear definition of what constitutes a nonforfeiture value and what is a pure endowment or savings element also could save a lot of time and expense in dealing with state insurance departments.

MR. RALPH E. EDWARDS: It has been mentioned that consumerism might suggest higher early cash values, with a longer amortization of first-year expenses. I wonder how practical this is and whether the normal mathematical analysis is correct.

A high early cash value is costly to the long-term purchaser. If we attempt to reduce his cost, as we surely will if this comes to pass, by persistency underwriting, specialized policy forms, or some other means, this will fragment the market artificially. Left behind for persons likely to lapse in early years will be the normal contracts, but with a high cost commensurate with the heavy lapses. The end result of this may turn out not to be in the best interest of the consumer. Much too often, the result of unwise manipulation is of this adverse character.

I do not think that the consumer "advocate" will look at the cash value except cursorily. He will try to analyze the premium. For example, he may see a $20.00 premium in the tenth policy year as splitting into $1.74 for claims, $14.75 to increase the cash value, $2.61 for the dividend, and the remainder of 90 cents for expenses. This arithmetic may appear to be correct, but, if it is mathematically correct, this product should be freely available to all comers in the marketplace. To the contrary, it is not; this $20.00 price is indivisibly linked to the requirement that the nine previous premiums must have been paid. Thus, buried somewhere in the prior premiums was a charge for guaranteeing the right to keep the policy in force at the same premium rate. Since the eleventh-year premium has a similar status, the tenth-year premium must have in itself a similar charge. This cost will surely be overlooked by the consumer "advocate," even as I believe we have disregarded it in determining prices by the interest-adjusted method.

MRS. ANNA MARIA RAPPAPORT: In my opinion the current nonforfeiture value laws fail to serve the best interests of the consumer. They are complex and inflexible. They stifle valid product approaches. Two examples of product approaches recently described in the actuarial literature demonstrate that the structure of these laws is a major con-

sideration in the design of innovative products. The first is the cost-of-living contract as described by Bragg and Stonecipher in *TSA*, XXII, 333. The second is the New York Life design variable life contract as described by Sternhell, Fraser, and Miller in *TSA*, XXI, 343.

The variable life contract seems to be designed around the Standard Nonforfeiture Law (or rather a simple modification of the law to accommodate variable contracts). The result of this is that death benefits are the balancing item in an actuarial formula. In my opinion the death benefits are the most important item in a life insurance contract. The law, however, prevents the design of many logical benefit patterns.

I believe that the best approach to variable life for the consumer would be one in which the death benefits increased with the cost of living and the reserves were invested in a separate account. Level premiums would not be guaranteed. I think that the law should be flexible enough to permit such an approach. The proposed regulation for variable life would seem to exclude this approach.

Looking forward to the future, the life-cycle policy represents one way in which many people feel that the industry can respond to consumer needs. I understand that a portion of the Project II Study of the Institute of Life Insurance focused its attention heavily on this type of product approach. The life-cycle concept is one which lends itself to a broad range of product approaches. The creative actuary could use many different methods of handling such a product. This would be possible only if the nonforfeiture value law were flexible enough to accommodate a variety of approaches.

There is a product on the market today which capitalizes on the inconsistency in the nonforfeiture values required for annuities and life insurance. This product is split life, a widely talked about and very controversial product. In part, in my opinion, it is an evasion of the nonforfeiture value laws applying to life insurance. Its existence is evidence that we need to look closely at the law.

Many products which have been marketed in the past have been complex to handle because of the Standard Nonforfeiture Law. The equivalent level amount made for some interesting complications. I believe that the law limited the design of these products. I would include on a list of such products the family plan, retirement income, and juvenile policies. Term riders can be complex to handle, depending on the state.

Consumer advocates surely would want simplicity in policy language. Many states require that a nonforfeiture factor be included in the insurance policy form. This complicates the policy and confuses the buyer.

Chicago Regional Meeting

MR. THOMAS F. EASON: I shall address these remarks to the compound question, "What was the purpose of the Standard Nonforfeiture Law, and has this purpose been altered in the last ten to twenty years? If so, how?"

Let us consider key extracts from the NAIC Report of the Committee to Study Nonforfeiture Benefits and Related Matters dated September 10, 1941, reprinted by the Society of Actuaries as Study Note 91 3-2-67. These extracts were selected to highlight the fundamental purpose of the Standard Nonforfeiture Law and to summarize several basic approaches followed in this landmark study, now thirty years old, which may help in a current review of the several matters involved.

FUNDAMENTAL PURPOSE

Extracts from the report summarize:

[O]ne purpose of the state is to require, for the withdrawing policyholder, nonforfeiture benefits of at least some minimum level which is reasonably related to his contributions less the fair cost of his insurance and the related expenses, but which will not require that his contributions be increased beyond that they would have been if the required nonforfeiture benefits had not exceeded those naturally provided by the premium without adjustment [p. 43].

Equity demands that the withdrawing policyholder be allowed an amount on withdrawal, whether cash or its equivalent, which represents, with reasonable allowance for variation in views as to the assessment of expenses and other factors of operation, his contribution to the company's funds, less the cost of claims equitably assessable against his policy and less his equitable share in the expenses of conducting the business, with benefit of whatever interest the company has succeeded in obtaining by the investment of these funds and less his proper contribution to the stockholders' profits in a stock company, or, in any case, to contingency reserves. If this amount is properly determined, continuing policyholders will be neither benefited nor harmed by his withdrawal. It is the approach to this ideal which has been sought by the Committee [p. 149].

BASIC METHODOLOGY FOR DETERMINING MINIMUM VALUES

The report states the following:

Asset share calculations . . . appear to be the best test of equity available to the Committee for the purpose of developing minimum values [p. 111]. . . . While this method is not entirely independent of the human factor of actuarial judgment, the Committee feels that it can be suitably employed, for the purposes of this chapter, to afford a satisfactory estimate of the equitable interest of the holder of any particular policy in the assets of the company [p. 131].

[It was the] aim of the Committee to determine a new formula which will produce nonforfeiture values which will roughly reproduce those developed by the asset share calculations with reasonable margins for variations due to operating conditions among the various companies [p. 112].

EXPENSES PROVIDED FOR BY FORMULA

The report recommendations included a "[p]rovision, in the calculation of minimum nonforfeiture benefits, for the amortization of the largest reasonable excess of initial over renewal expense that can be justified and provision that such excess be permitted to be amortized over the entire premium-paying period of the policy" (p. 153). It was the intent of the NAIC committee to recognize reasonable marginal expenses. The committee avoided consideration of special factors, such as special charges to offset investment losses on surrender, by making expense levels liberally high (and resulting minimum values conservatively low).

OTHER EXPENSE CONSIDERATIONS

It may well be true today, as the report stated in 1941, that "[t]he point which gives rise to the greatest amount of controversy in connection with nonforfeiture benefits is the question of assessment of expenses" (p. 45). The next sentence made an observation that some might now question: "It is, of course, impossible to assess expenses differently on policies of different amounts; otherwise discrimination as now understood with respect to statutes and in practical operation would result" (p. 45).

The committee also observed that "[s]everal states attack the problem of expenses beyond fixed levels, . . . and . . . in any state in which expense limitation is desired such fixing of levels is the only sound approach. . . . To confuse the two questions of expense limitation and minimum nonforfeiture requirements is unnecessary and arbitrary" (p. 46).

MATTERS OF FLEXIBILITY

A close reading of the report reveals several areas in which current practice may conflict with the principle expressed. These items of technical interest are the following:

1. *Mathematical equivalents of insurance and cash nonforfeiture benefits.*—The NAIC committee's opinion was that "true 'mathematical equivalence' to the point of exactness, is impossible of attainment by legislative fiat and . . . true equivalence or equity will be promoted best by eliminating any requirements for 'mathematical equivalence' on some fixed basis specified by statute and by substituting therefor reasonable limits appropriate to the circumstances within which each option must be granted" (p. 105). To cite one current inconsistency, the cost of extended insurance benefits does not vary with the interest assump-

tion used for the basic policy cash values; but the law virtually forces a different purchase price for extended term insurance if the interest assumptions for the basic policies are different.

2. *Small nonforfeiture benefits.*—The report stated as a principle that "very small nonforfeiture benefits should not be required to be granted in the form of cash" (p. 100). A related concern, that of term insurance values, including definition of decreasing term and handling of term riders, caused some complications historically. Surely a study of current conditions would suggest flexible, improved legislation. The law could make more meaningful what has been referred to as the principle of nontriviality.

3. *Product innovations not contemplated in 1941.*—If the law is applied literally, high minimum face amounts, modified first-year premiums, variable life insurance, cost-of-living benefits, and other innovations create problems which the report could not have anticipated.

The question "Has the purpose of the Standard Nonforfeiture Law been altered in the last ten to twenty years?" calls for an answer. My answer is no! The fundamental purpose is the same as it was in 1941.

MRS. LINDA B. EMORY: In response to question 2, I feel that the Standard Nonforfeiture Law has by and large achieved its original purpose. It protects the withdrawing policyholder by providing that he will receive cash or its equivalent in the form of paid-up insurance or extended term insurance. The amount of this withdrawal benefit is required to be equitably related to the funds which a company would be expected to accumulate under the policy after expenses and death claims but without requiring a maximum benefit or without regulating prices and profit margins. The law largely prevents involuntary surrender. Uniformity of accepted nonforfeiture values throughout the fifty-one jurisdictions of the United States is also of benefit to the companies, because it makes it easier to design a life insurance benefit. One can be assured that values meeting the requirements of the current law will be approved in any jurisdiction, and that is a comfort considering the many other inconsistencies from state to state that must be reckoned with to obtain policy form approval these days.

Almost all the principles and objectives underlying the Standard Nonforfeiture Law are as valid today as they were in 1941. Anything or anyone passing age 30 should not be surprised to begin noticing at least a little "generation gap" these days, and I think it is time for this critical look at the Standard Nonforfeiture Law, largely because so much has changed in the last thirty years.

It will be argued by some that the Standard Nonforfeiture Law does

not allow the consumer the choice of deliberately forfeiting cash values in favor of pure protection at the lowest possible prices. Back when such practices were allowed, they were considered often to encourage inadequate premium structure and inadequate reserves. Requiring cash values takes the emphasis away from a company's withdrawal assumptions in its premium calculations. I do not know that we are really that much more sophisticated today, when you consider the average consumer or the many small companies still operating with limited actuarial counsel. We have had the experience of offering noncancelable and guaranteed renewable accident and health plans without values, and certification of actuarial reserves by members of the American Academy of Actuaries would certainly help to ensure company solvency. I do not believe, however, that the average consumer is prepared to accept the responsibility of deciding whether or not to forfeit his cash values, since so many new products may already be serving merely to confuse him rather than to educate him regarding life insurance products. I personally feel that required cash values are still appropriate in today's marketplace, especially for that average consumer, but I would like to see the elimination of trivial cash values and the minimum required values set at a low level so as not to penalize the continuing policyholder in the realistic stock company situation. These are basically the principles underlying the current law.

Then what is wrong with the Standard Nonforfeiture Law in today's marketplace? Basically the problem is that the law provides a rigid, nonflexible formula which is not adaptable to some of the products being developed today, because they were not even dreamed of back when the law was developed. Examples of these include family plans, joint life plans, variable life products, life-cycle policies, and indexed plans. Some of these products have been forced or interpreted to comply with the law as it exists today, but many are not by any means a comfortable fit under it. Shouldn't the law be made more flexible, so that these and other worthwhile products can be developed with reasonable nonforfeiture benefits in consideration of the nature of the products? For instance, should you not be able to consider directly the contingency of increase in the consumer price index for the indexed plan just as you consider the contingencies of mortality and interest earnings in calculating all other cash values?

By specific exclusion, the law does not cover some products at all—for example, annuities and accident and health insurance. Only twelve states, I believe, have nonforfeiture requirements for annual premium deferred

annuities, and these are not uniform. How will the absence of a standard law for the deferred annuity affect split life, for example? Shouldn't consideration be given to including such other products?

The law incorporates some rather arbitrary rules which may be causing some concern. First of all, it does not intend to require trivial cash values but expresses this principle in an arbitrary test depending on term period and termination age for level term products and premium level for decreasing term products. Other benefits can be developed with trivial values that should be included in principle—one of these is the guaranteed insurability benefit. The arbitrary rules concerning unlevel benefits and unlevel premiums in the determination of the expense allowance for cash values are causing some concern too, for they allow the clever actuary to circumvent the intent of the law or at least to come up with some values which are not consistent with values for comparable level benefit products. Perhaps a more general statement of principle would be preferable here, with a fairly specific model regulation, which could more quickly respond to changing times, carrying the burden of formulas. Something is wrong with a law when products can be designed deliberately to circumvent certain requirements.

The very specific requirements for expense allowance, mortality, and interest are no longer providing minimum defined values below the asset shares currently being calculated by the average stock company. Interest rates are up considerably and are expected to remain at a higher plateau than would have been considered appropriate back in the 1940's. Expenses are up, but so is the average size of policy. The current expense allowance does not reflect the relatively large excess of first-year over renewal expenses under present conditions which was deemed appropriate in the original law. Also, variation of expense allowance by policy size was not considered in the original law, since it was thought to be illegally discriminatory—more modern thought would dictate reconsideration of this principle in any new study of expense allowances. Although the mortality bases have been updated to include the Commissioners 1958 Standard Ordinary and Commissioners 1961 Standard Industrial tables, it is not beyond imagination to assume that other tables would be more appropriate within the next decade. The combination of the modern assumptions used for calculating gross premiums today causes the law to favor the withdrawing policyholder at the expense of the continuing policyholder, especially in the first few years, in many stock company calculations. This violates the basic principle of contract law that the discontinuing party should suffer any disadvantage. It also violates one of the basic purposes of the current law. Since it takes so long to get

changes in the law passed, would it not be more reasonable to specify the mortality tables, expense allowances, and interest rates in a model regulation?

I should mention here that action is being taken to increase the interest rates allowed in the Standard Nonforfeiture and Standard Valuation laws. The American Life Convention and the Life Insurance Association of America recommended to the NAIC that the interest rate for life insurance be increased to $4\frac{1}{4}$ per cent and the rate for single premium immediate annuities and all group annuities be increased to 6 per cent with the 1971 Individual Annuity Mortality Table and 1971 Group Annuity Mortality Table adopted as the mortality bases for annuities. The fifty-one jurisdictions are studying this proposal now and are to report to the June, 1972, NAIC meeting. At best, these changes could be effective in most states within the next two years. This may be considered to be a stopgap measure until a more extensive revision can be proposed for the law. It can be anticipated that the development of an extensive revision which will be acceptable to all the major interested parties, and its actual adoption by all fifty-one jurisdictions, would take a long time—perhaps eight to ten years. Meanwhile, the increased interest rate for life insurance will provide lower required minimum values, which, of course, could allow a reduction in premiums for the continuing policyholder.

Another aspect of the law which appears unnecessarily restrictive is the definition of paid-up and extended insurance options which virtually require the mortality tables specified in the law and the interest rate specified to be used, when presumably cash values can be calculated on a different basis just as long as the values are at least as great as specified by the law.

Since I find that I am advocating a revision of the law to state general principles, with the more specific requirements included in a model regulation, I must hastily add that I am against vague, general regulations which would vary from state to state or which could be interpreted differently from state to state. I feel that these would be impractical to deal with and could very easily be worse than a continuation of the current law. An alternative to very specific regulations would be for a central body to be set up to pass on the nonforfeiture values for all fifty-one jurisdictions. Basically, the current marketplace needs a way to make the law more responsive to the normal changes in the industry as well as to bring it up to date for today's products, expenses, investment earnings, and mortality. I certainly hope to see a capable, representative committee considering every aspect of this most important subject in the very near future.

MR. J. ROSS HANSON: The nonforfeiture and valuation laws are a part of the regulation of life insurance in the United States. The purpose of this session is to discuss the laws critically and to encourage the Society of Actuaries and the NAIC to take appropriate action to amend these laws so that they are as effective as possible.

In the United States we bear a very heavy burden of regulation. Whenever one attempts to develop a new insurance product or some new administrative solution to an existing problem, one encounters a frustrating maze of law, regulations, rules, and sometimes simply bureaucratic attitudes. Life insurance products are regulated by state insurance departments, state securities departments, the Securities and Exchange Commission, the Internal Revenue Service, and perhaps others. What is the effect of this situation on the insuring public in the United States?

Perhaps a comparison with the Canadian situation would help. In Canada there is no regulation comparable to that in the United States for nonforfeiture values, reserves, or the language of policy forms. Yet the amount of insurance sold in the two countries per household is about the same; cash values in similar policies seem to be about the same; there are no more life insurers becoming insolvent in Canada than there are here; the language of Canadian policy forms does not seem particularly deceptive or misleading; and Canadian insurance companies do not seem to provide products which are unfairly discriminatory or not in the public interest. This may mean that the excessive regulation in the United States does not really compel anything to happen that would not happen without it. Or it may mean that the two countries are very different in their need for regulation or in the historical development of regulation or in other ways—that is to say, in the United States, because of who we are and what we have been, we may need more regulation than the people of Canada, who in turn, seem to need more than the people in the United Kingdom.

In any event, our desire for layer after layer of law to protect us from the thieves that abound all around us presents us with a considerable inflexibility at times. We are not content to write laws which set forth general principles of equity and which give supervisory authority some measure of flexibility in their enforcement. Our laws, the Standard Nonforfeiture Law, for example, must spell out the exact way to calculate amounts of insurance, the exact way to determine expense allowances, and the exact kinds of coverage which are exempt.

This means that every new coverage has to be fitted into the mold prescribed by the law. Very often the language of the law does not contemplate the exact nature of the new coverage being considered. But there it is. We must either do by indirection what we cannot do directly,

thus violating the spirit of the law, or else possibly be forced to give up the development of some new idea which may very well be in the interest of the insuring public.

Suppose that we had complete freedom to develop a nonforfeiture law. We could, I suppose, choose one of the following three methods, among others:

Method A.—The law would specify the minimum cash values by plan of insurance, possibly taking into account such factors as policy size, term riders attached, and so on. The law might become out of date, but we could overhaul it every fifteen years or so. This is the current method.

Method B.—The law would require that the scale of minimum cash values be equitable among the various classes of policyholders and reasonable in view of the actuarial characteristics of the benefits and premiums. The law would give the commissioner authority to set such rules and standards for cash values as he deems to be in the public interest.

Method C.—The law would not require minimum cash values to be provided. However, a short prospectus, filed with the insurance departments, would be delivered to each prospect, setting forth all the benefits of the policy, including the scale of cash values if any. If the cash values were guaranteed, they would be shown; if not, the issuer could show the scale of cash values currently allowed or those values which have been allowed historically.

None of these methods is entirely satisfactory from the company's viewpoint. Method A restricts innovative product development, Method B could be chaotic unless some degree of uniformity were achieved, and Method C involves extra effort to prepare, and gain approval of, the needed prospectus.

From the point of view of the consumer, however, who should play some role in our deliberations (although many insurance executives who should know better have little regard for him), Method C is by far the best. Method A restricts product development, so that the consumer may be denied coverages which are in his interest, merely because of the inelastic specifications in the law, and Method B leaves it up to the bureaucracy to determine the benefits to be provided. Method C, however, allows the companies to use considerable ingenuity in product design, requires no middleman's uneducated approval, and permits a policyholder to determine for himself what he wants to pay for. I am in favor of Method C. I have not yet had a chance to study Dr. Belth's suggestion for disclosure which was published in the press recently, and I was unaware of it when these remarks were written.

It is a fact that life insurance is a very complicated product and that very few consumers can be expected to understand it thoroughly. Never-

theless, I think that a typical purchaser can make up his mind as to what is in his interest if he knows what he must pay, what the minimum benefit is that he gets if he quits, and what the minimum benefit is that his beneficiary gets if he dies. I would like to see the Standard Nonforfeiture Law repealed as soon as possible with respect to new issues and replaced with a standard benefit disclosure law which would require disclosure of these items whenever a purchase of life insurance was solicited. In my judgment, the difficulties or drawbacks to this method of assuring adequate cash values to life insurance policyholders are far less than the difficulties we now have in devising desirable new life insurance coverages because of the inflexibility of the current law.

I would like to make specific reference to variable life insurance at this point. It is very difficult to reach a conclusion as to how the current law should be interpreted with respect to this revolutionary life insurance product. The model regulations state that the computation of cash values shall be in accordance with actuarial procedures that recognize the variable nature of the policy, but the cash value cannot be less than the minimum value computed on the assumption that the actual net investment experience is exactly equal to the assumed interest rate. The current law specifies the expense allowances in terms of the amount of insurance. Since the benefit amount in variable insurance cannot be foreseen, it therefore becomes impossible to calculate minimum cash values a priori.

Under the so-called ratio design, where the reserve bears the same ratio to the amount of insurance as in a fixed-dollar whole life policy, the minimum cash value for the policy might be computed as being exactly equal to that of a fixed-dollar policy having a face amount equal to the current amount of insurance. This concept certainly has the advantage of simplicity, especially with respect to showing values in the policy form, but I do not see how it can be considered to be in compliance with the rationale behind the current law, since it specifies expense allowances which are not related to the equivalent uniform amount of insurance provided. Another suggestion would be to have the minimum cash value be the reserve for the current amount of insurance less the unamortized initial expenses applicable to the original face amount. This is much harder to illustrate, and it seems to me that it understates the expense allowances specified in the law. There are other variations on this which could be discussed, but it is difficult to see how the Standard Nonforfeiture Law as it exists can be interpreted satisfactorily for this product. Or consider the so-called paid-up design, under which the additional insurance is paid-up rather than premium-paying. The minimum could be the minimum for a whole life policy of $1,000 plus the reserve for any addi-

tional amounts of paid-up insurance in force; once again, however, this seems to understate the expense allowances intended by the law. There seems to be no simple way to comply with the intention of the law as it is currently constructed.

If the minimum values are related to the face amount in force, then the minimum cash value depends on benefit design, the assumed interest rate, the valuation method, and even the investment policy of the separate account. Is that situation consistent with the basic intention of the Standard Nonforfeiture Law? I expect that there is going to be considerable dispute between reasonable men as to whether the minimum for a policy should be dependent upon the valuation method as well as upon other factors.

All this can be alleviated through the use of a disclosure requirement rather than by the imposition of complex specifications or approval requirements for a given cash-value scale; I do not think that requirements in addition to disclosure would really result in better cash values for the policyholder.

Here obviously is a case in which Method A above does not work and in effect might prevent insurers from issuing a form of life insurance which they regard as favorable to their policyholders. Under Method B above, each state would consider these problems and would promulgate a rule for determining the minimum values. There would be some uniformity after a while, but never a unanimous rule: consequently, minimum cash values would vary from state to state. That seems to me a disagreeable result. If we were not required to provide minimum values but were required to disclose to the prospective policyholder that his cash value is not guaranteed, he could decide for himself whether or not he is interested in such a contract. I know that this is a very difficult matter and that reasonable men of equal ability can have different opinions, but I think that, if we tell our prospect what he must pay and what he is guaranteed to get, no further requirement of law is really helpful or necessary to the protection of his interests.

MR. EASON: The notion has been expressed in this meeting and others that a sophisticated life insurance purchaser should be able to purchase a "pure protection" ordinary life insurance policy with no nonforfeiture values and have the advantage of lifetime insurance protection at a lower premium rate. This, in my view, is a completely unreasonable idea. Let us consider the problems which exist with a "pure protection" ordinary life, without nonforfeiture values.

First, the law should prohibit this, because such a policy must acquire a substantial gambling element which runs counter to public policy. The

level premium principle has not changed since 1941. A level premium to cover an increasing risk must result in an accumulation of funds, the asset share. Since even actuaries must die, the asset share must build toward the face amount. Twenty years from now, you may decide that you do not need the insurance. Being a sophisticated buyer, you realize that a fund has developed in the company and that you can never again buy life insurance for what it cost on June 1, 1972. If you do not want the policy, a relative or friend might well take over the premiums in return for being named beneficiary—and throw in a set of golf clubs for the favor. It does not take much imagination to imagine a growing market in life insurance "futures," perhaps illegal but very lucrative.

Second, consider the company actuary who has to price the policy in the first place. Because of the probability of trading in life insurance policies, the pricing actuary has a significant problem. To offer a lower rate, the company must anticipate gains on termination. But the incentive not to terminate becomes stronger and stronger with time, and the "futures" market makes estimating lapse rates at least as difficult as it is under current conditions. You may wind up not getting the rate break you want—unless, of course, the company is currently competing by using high cash values and increasing the premium to meet the expected losses on surrender. Would it not be preferable to be able to buy a policy with theoretically ideal cash values? Incidentally, wouldn't such values make the pricing actuary's life a little easier, since the unpredictable lapse rates would have a very limited impact?

Third, as you reach the twilight years, you have to wonder about the company's attitude toward your presumably well-established premium-paying habit. There will come a point at which the company's gain when you terminate will far exceed the profits the company may make on future premiums. Will they forget to send your late premium notice? Or ignore your request for information about the policy? Or even try to buy back your policy when you are old and senile? If this should sound far-fetched, these things have happened in the individual health line when the stakes were less than I am hypothesizing for pure protection ordinary life. Without surrender values, the company's priorities sooner or later threaten to become confused.

I have not mentioned other items such as the tontine effect on participating insurance or the possibility of exorbitant company profits or discrimination against less affluent policyholders or policyholder misunderstandings and the ensuing consumer complaints. The fundamental purpose of the Standard Nonforfeiture Law has not been altered, and doing away with minimum cash values is unthinkable.

Now, whether you agree with my objections or not, there is a very practical matter which would no doubt prevent the repeal of current minimum nonforfeiture legislation. Those charged with the responsibility of passing any such repeal would be aware of the potential problems, some of which I have described. This awareness alone could easily create considerable fear for the public interest and prevent such a dramatic change in the existing legislation.

MR. JOHN A. HARTNEDY: There is basically no problem with the Standard Nonforfeiture Law when you are trying to calculate cash values for ten-year deposit term. The problem is that people feel that this policy is being used to skirt the intent of the nonforfeiture law. For example, let me quote from one insurance department: "This policy seems to take advantage of a technical interpretation of the Standard Nonforfeiture Law." What is meant is that ten-year deposit term takes advantage of considering all the benefits of this policy as a unit.

The particular policy sold by Valley Forge is basically a ten-year level term policy with an additional $10 first-year premium which endows for $20.00. The product is approved in all the jurisdictions in which Valley Forge is licensed (this excludes New York), except Pennsylvania. Basically, Mr. Denenberg feels that the policy violates the Standard Nonforfeiture Law.

Ample calculation has been done by company actuaries, by state actuaries in approving this policy, and by reserve systems developed and used by actuaries (e.g., CFO) to ascertain that the cash values of our policy are legal. Therefore, I believe that the question is really not legality but rather equity (i.e., the spirit of the law).

Minimum cash values on this product begin at zero and can be zero for the first four years. They reach $20.00 at the end of the tenth year. Our asset shares, less cost of surrender, are slightly negative in the first couple of years. We have very substantial surrender costs with this policy, but we think it is worthwhile. Our experience lapse rates are 8 per cent in the first year and 5 per cent in the early renewal years. This is term insurance. You could normally expect lapses more in line with Linton C. Therefore, we charge a lower rate.

The benefits of this policy can be viewed in a number of ways, producing quite a variety in cash values. For example, you could consider the $20.00 maturity value as a pure endowment which would generate no cash values for nine years. You can get a combination that would generate a first-year cash value of $8.00, grading to $10.00 in the ninth year

and jumping to $20.00 in the twentieth year. You can assume that the endowment of $20.00 is paid for by a single premium on the front end, which would generate a first-year cash value of $15.00, grading up to $20.00 at the end of the tenth year. But high early cash values seriously impair the effectiveness of this product.

Valley Forge Life was one of the first to sell this product. We go back to 1966. At that time the agents had to use our sales pitch, because they did not understand the product. In the sales pitch we ask for a $10.00 additional first-year premium as a deposit. The insured is told that if he lapses, he forfeits his deposit; if he dies, the deposit is returned; if he keeps his policy in force, he receives $20.00 at the end of the ten-year period. Further, it is emphasized that he gets a lower rate, since the high cost of lapse is paid for out of the forfeited deposits. For example, using a profitable ten-year deposit term rate of $7.23, I omitted the $10.00 additional first-year premium, the $20.00 endowment, and changed the lapse rates to Linton C. This produced a break-even premium of $11.04.

The Standard Nonforfeiture Law does not produce equity. You basically "stick it" to the people who persist. If you lapse in the first year, you do not pay your way. Deposit term produces greater equity. Recently we ran experience asset shares which, after cost of surrender, turned out to be slightly in excess of the actual cash values which Valley Forge pays. At the end of the tenth year the actual value was $20.05, as opposed to a cash surrender value of $20.00. But this, I feel, is not the important point. What is important is that we have gotten the cost per thousand reduced, which benefits everyone, especially those who persist.

Even if we paid equivalent level commissions, therefore generating a substantial first-year cash value, I would still be in favor of a zero first-year cash value, since it is the basic way—namely, by loss of the "deposit"—that we have been able to so substantially benefit the people who buy and keep our ten-year deposit term policy.

The Standard Nonforfeiture Law takes care of those who lapse. It is not equitable. It looks out for the minority, that is, those who apply for a particular kind of contract and then do not honor it. We are probably the only industry that penalizes those who fulfill their agreement. That is not equity!

The equity of deposit term has been questioned, yet no one here has questioned the equity of whole life. In the accompanying tabulation, I have simply summed the gross premiums and subtracted the cash value to determine the position of a lapser on a whole life policy as against our ten-year deposit term.

Year	Whole Life	10-Year Deposit Term
1.....	$23.00	$17.00
2.....	44.00	24.00
5.....	58.00	44.00
10.....	75.00	62.00

The Valley Forge ten-year deposit term policy not only does not violate the Standard Nonforfeiture Law but is one of the most equitable products sold in today's life insurance market.

MR. DALE R. GUSTAFSON: I intend to comment on two topics: first, the attributes of ordinary life insurance without cash values, and, second, the underlying principles of reserve valuation.

I am quite frankly astonished that an actuary, today, would seriously propose whole life insurance without cash values. Any reading of the history of the origins of life insurance in this country will provide eloquent testimony to the unavoidable abuses and inherent defects in whole life insurance without cash values. The record is so clear and unequivocal that I will not waste your time by summarizing or repeating it. I do feel constrained to repeat one of my favorite quotations. Will and Ariel Durant, in the summary of their massive ten-volume *History of Civilization*, stated, "The one thing we learn from history is that we do not learn from history."

Now, with regard to the principles underlying reserve valuation, I would assert that a discussion of this nature which is contemplating major revision or change must be founded on a thorough understanding of underlying principles. I believe that there are three different approaches that may be taken to the regulatory concepts inherent in solvency regulation. I will briefly summarize each of these three concepts.

In general concept the regulatory system as it has developed in the United States is based on some very simple concepts that were originally conceived by Elizur Wright. The idea is that, if minimum valuation standards that contain substantial margins of safety are established by law, then the calculations of reserves and the regulatory supervision thereof can be relatively simple. This system is ideally suited to a diverse society with a great many insurance companies and relatively few technically trained personnel, either in the companies or in the insurance departments.

Conceptually, the regulatory system in the United Kingdom (and to a

much more limited extent in Canada) is based on reliance on professional certifications of actuaries that on a gross premium valuation basis the company has ample margins for all reasonable future contingencies. Such valuations are not required annually in the United Kingdom, at least partly because of the great technical difficulties involved in both producing and reviewing the necessary financial documents. This system is theoretically much more sophisticated than the system in use in the United States but would be greatly susceptible to abuse in view of the very large number of insurance companies and regulatory agencies in the United States.

The proposed revision in the Wisconsin Insurance Code contains a fairly rough attempt to define a third system of valuation. On this basis both assets and liabilities would be valued on a "historical cost basis" but more on a gross premium assumption approach (a la GAAP) rather than on the substantially conservative basis inherent in our statutory approach. Then certain levels of required surplus should be held, arising from the theoretical risk factors involved in the particular company's portfolio of business. This is perhaps the most sophisticated basis that has yet been conceived. It is already partly embodied, in a very rudimentary fashion, in property and casualty practices. Its fatal flaw is that we do not even begin to understand the appropriate risk theory concepts. The drafters of the Wisconsin Code Revision handle this very neatly by delegating full discretion in this area to the insurance commissioner, without even providing any helpful guidance as to how he is supposed to develop the risk-theory concepts.

In conclusion, I would assert that it is extremely dangerous to tamper with the valuation laws without a thorough understanding of these principles, and any blending or mixing of these quite different approaches should be most carefully studied.

MR. RICHARD L. BOSWELL: With respect to the Standard Valuation Law, apparently the sole justification for the deficiency reserve requirement is solvency control. The argument generally advanced as justification for deficiency reserves states that it is improper to reduce the present value of future insurance liabilities by the present value of future net premiums if the gross premiums are less than the net premiums. If the net premiums were used, the company would be taking credit for more than it expects to receive, thus reducing liabilities and impairing solvency. This is a fallacious argument that confuses gross premium valuation with net premium valuation. If a valuation method is to be based on the realism of the gross premium, then it should also be based on the realistic

interest, mortality, and expense factors used in the computation of the gross premium.

The deficiency reserve requirement is not really an effective device for solvency control. It penalizes companies with low premiums reflecting low expense margins, including commissions, while it has no effect on companies offering products contemplating excessive expenses as long as the premium charged is at least equal to the net premium used for the reserve valuation. It fails to take into account in any way the selection of risks, thus penalizing the company which through careful underwriting is able to reduce its mortality costs well below the unrealistic standard used for valuation purposes.

As a substitute for the deficiency reserve requirement, I support a standard provision in the law similar to the New York requirement that each policy be self-supporting on reasonable assumptions as to interest, mortality, and expense (sec. 213, paragraph 10). This provision, together with a careful examination of the company's business by qualified insurance department actuaries, would provide adequate solvency control.

MR. BRUCE E. NICKERSON: Ross Hanson came out very strongly in favor of a disclosure prospectus. This is where I would like to start with my remarks. Many of us have had experience with a disclosure prospectus with respect to equity products, mutual funds, and so on. It is precisely because of this experience that I react so negatively to Ross's suggestion. When you do have a prospectus, you have an inherent dilemma. Full disclosure produces a prospectus that in fact is not useful for information. On the other hand, it is very difficult to see how a regulatory body or anybody else could effectively work with a disclosure prospectus where the standard is not full disclosure.

Ross made another comment which is particularly valid with respect to variable products—that the Standard Nonforfeiture Law ties the nonforfeiture benefits to the amount of insurance. In some of the products that we are considering, the amount of insurance is not a predictable item. Yet the law requires that we actually list in the policy the dollars of cash value guaranteed and the amount of future nonforfeiture benefits. This creates a different dilemma.

In considering the revision of the Standard Nonforfeiture Law, I suggest that we go back to some of the history that Tom gave us at the beginning, where he read to us certain objectives of the law. As I heard them, these objectives were stated in a retrospective manner, in terms of the accumulation of premiums paid minus benefit costs minus expense allowances. In my experience, one major problem with the Standard Non-

forfeiture Law is that, despite these retrospective objectives, the law itself is stated in a prospective manner—present value of future benefits minus present value of future adjusted premiums. It is this prospective statement of the law which has led to so many of the problems with variable life, deposit term, and other products.

There is one other consideration which is vitally important in a discussion of revising, changing, or overhauling the nonforfeiture law. Let us not repeat the mistake of writing one law for reserves and a separate and inconsistent law for nonforfeiture values. At times the interaction of the two laws produces some very weird effects. I was very, very much dismayed to discover, not too long ago, that, for a policy which Bankers Life and Casualty was selling at older ages, the minimum required reserves were lower than the minimum required cash values, because of the different types of limits on expense allowances in the two laws. Let us see that these laws are co-ordinated.

Reference was made to updating the interest requirements. I could not agree more, but again I have a proviso. The purpose of the valuation reserve law, as seen by the majority of the American public, is solvency. The reserve is to guarantee that the company can meet its future benefits. The purpose of the nonforfeiture cash-value calculation is equity. I submit that the same interest assumption is not appropriate for these two purposes. In fact, the solvency interest assumption used in reserves must be at a more conservative rate than is proper for the equity interest assumption used for cash values.

CHAIRMAN ROBERT L. PAWELKO: I have a very hard time with the Standard Valuation Law as it stands. I like the approach utilized in other countries in which the actuary signs his name to certify that the reserves which have been established are adequate, in his estimation, to provide for future liabilities. The actuary has some minimum constraints within which he must operate, but essentially he values the benefits to determine whether or not the reserve liabilities are adequate to meet the future benefits guaranteed. In the United States apparently no attention is paid to the future benefit needs of the company. All the actuary does here is to calculate the reserves on the basis of a formula, no real cognizance being taken of the actual underlying experience relative to that block of business.

MR. EASON: I should like to address a few remarks to the question, "Can the actuarial profession eliminate inconsistencies between various products during the design phase?" This question is more far-reaching than considerations which may affect the Standard Nonforfeiture Law.

The question should be considered by every actuary when he is faced with the need to establish cash values for every individual life insurance product.

The question of what constitutes proper, consistent nonforfeiture values is a very practical question. In the United States, we now have a broad spectrum of legislation, regulation, and regulatory viewpoints which accept and enforce the adjusted premium formula as the basis for minimum nonforfeiture values. In practice most actuaries employ a variation of the nonforfeiture premium (or factor) approach in which values are set at minimum levels or are graded to the statutory reserves. I submit that the common practical approach has strayed too far from the basic theory of determining values.

When a new product is being developed these days, whether it is an unusual product or a revision of the existing ratebook, most actuaries (and their employers) first ask the question, "Are the values that the company wants to use above the legal minimum?" That is a legitimate question, but it is not the question of most importance. The first question should be, "What values are proper and consistent with the asset shares?" Proving that a given set of nonforfeiture values are legally above minimum according to a literal interpretation of the Standard Nonforfeiture Law is rather dull work. The actuary's proper role is the difficult job of harmonizing theoretically proper values with legal values *determined in accordance with the spirit of the law.* Many actuaries have failed to meet the challenge. It has been said that we, the actuaries, and the regulators have become overly fascinated with our formulas. A legal value is not, by professional standards, necessarily a proper value. (Unfortunately, sometimes a proper value is not legal.) One might categorize the prevailing practices in the design of nonforfeiture values as careless—and they are certainly uninspiring. Instead of reducing inconsistencies, blind application of formulas breeds inconsistencies. It should be a routine procedure for the actuary to test proposed surrender value scales for theoretical equity. If expenses and marketing factors can be expected to result in different relative asset shares for a product, our computers can easily refine the expense allowances provided for in the nonforfeiture factors. The reserve standard used on a product may well be influenced by federal tax considerations or other matters which are extraneous to the calculation of premiums and nonforfeiture values. The expedient of grading nonforfeiture values into the reserves may be entirely inappropriate. Actuaries need to work a little harder on the design of nonforfeiture values and recommend to their employers those values which come closest to being equitable.

MR. HARTNEDY: I think that what Elizur Wright did in developing a Standard Nonforfeiture Law was correct at the time when he did it. But times have changed, and now I am basically in favor of discontinuing minimum requirements. Canada has made it work. The United Kingdom has made it work. Why does the United States (or, more particularly, its actuaries) need more regulation?

Points have been brought up about some of the problems that could occur—gambling, problems in pricing a product, unscrupulous companies, or zero values on whole life contracts. If you look to Canada, you will see that there are, at the most, minor problems.

I think that we are missing the point. What we are trying to accomplish in changing this law is needed flexibility. We have to be able to respond in a consumer-oriented market. Computers have allowed us to make changes very rapidly, but the Standard Nonforfeiture Law has slowed us down, sometimes to a stop.

The best solution to accomplish the proper end is not guaranteed minimums but disclosure—not SEC style but a more refined approach to what some states are already doing when they require submission of advertising material before policy approval.

With the Standard Nonforfeiture Law we have tried to legislate equity. We have failed. The consumer will soon become aware that the law actually legislates inequity to those who maintain their policies in force. If we truly wish to legislate equity, we must require the sale of collateral-type policies. The collateral-type policy requires the payment of a termination premium (in a sense, a negative cash value) in the event of lapse. The termination premium is secured by mutual funds or some other type of deposit. Even though this provides for the ultimate in fairness, many states do not allow the collateral-type policy, frequently using the Standard Nonforfeiture Law as an excuse to disallow it. I feel that it would be in the best interests of the industry and the consumer to require disclosure rather than to have a Standard Nonforfeiture Law that I feel will continue to exist only under the guise of "equity."

MR. LOUIS WEINSTEIN: Since Canadian consumers have a choice of purchasing insurance from either United States or Canadian insurers, is it not possible that the absence of nonforfeiture abuses in Canada is partly the result of state regulation in the United States? If such regulation were discontinued, might not such abuses emerge both in the United States and in Canada?

Also, if the suggestion were adopted that the life insurance industry be allowed to give the consumer the right, subject to proper disclosures, to purchase a "pure protection" (no cash value) whole life contract for a

few dollars less than the regular premium, would someone then advocate a contract with no incontestable clause at an additional discount? A "good mental health" discount for a fifteen-year suicide clause could be suggested, as well as a "cash only" discount for a contract with no settlement options. I oppose the scrapping of the quality which our products contain in order to appease the advocates of consumerism.

CHAIRMAN PAWELKO: Regarding your second question, at this point in time it is difficult to say, but I believe that there should be flexibility to provide the consumer with whatever he wants. Consequently, I guess I am for complete flexibility as long as it is properly disclosed. I feel that an insurance product can be presented in a manner which is understandable. I do not believe that you have to fall back into the trap of being overly simplistic in definitions or overly technical. Too many people seem to think that you need an actuary to understand an insurance policy, and that simply is not true. It is possible to design advertising and policy forms which are understandable, and I certainly wish that more companies would attempt to do so.

MR. HANSON: In my opinion, Mr. Weinstein, the answer to your first question is no. I know that certain laws have extraterritorial effects, but I doubt that Canadian insurers would fail to shape up if no American insurers were delivering insurance in Canada.

MR. EASON: The following remarks constitute a brief summary of the shortcomings of the present Standard Nonforfeiture Law and a general description of one approach toward resolving these problems. There are two primary problems with which most actuaries in this audience would agree. The first of these is the need to modernize the formula in the law. Let me adopt some terminology in order to make my discussion somewhat easier to follow. The concept of equity as embodied in the 1941 NAIC report implies a reasonable relationship between assets which can be expected to develop within the insurance company and the cash value which would be available to the policyholder on default in premium payment. In short and in theory, the insurance company should be permitted an equitable loss allowance on surrender. Equitable loss allowance on surrender (ELAS) is a concept parallel to the "surrender charge" concept which existed in the nonforfeiture laws prior to the adoption of the Standard Nonforfeiture Law. The distinction is that the ELAS is a deduction from the theoretical asset share, whereas the "surrender charge" was a deduction from the statutory reserve.

In order to modernize the current formula, the ELAS must reflect

basic expense allowances and field compensation allowances which are current today. If the basic methodology employed in the 1941 report is sound, then the Standard Nonforfeiture Law should provide for an ELAS appropriate to a moderately high-cost company paying field compensation at or near the top of the usual and customary range for life insurance field representatives. What is required is an industry study of the basic expense allowances and field compensation allowances, resulting in the appropriate adjustments to the adjusted premium formula. Such a study might well develop norms for per policy, per thousand, and percentage expenses, including premium tax and field compensation allowances. As an aside, it might be noted that such a study will be most useful to those stock companies who will shortly be faced with adjusting their earnings.

Along with updating the basic expense allowances, consideration should be given to those products which were not contemplated in 1941. Perhaps the formula can be made more flexible, or perhaps the approach which I am now about to discuss is the better way.

The second major problem with the Standard Nonforfeiture Law is that it is not sufficiently flexible. Events are moving too rapidly today. The availability of high-powered computers permits many products which would have been totally unworkable thirty years ago. I suggest the need for an alternate way of sanctioning cash values. The alternate way would be available to any company wishing to produce a product that could not conveniently be fitted into the formula approach. It could also be required by a regulatory body where a controversy existed as to the interpretation of the formula.

The advantages of an alternate way appear to be substantial. Continuing the existing formula approach would permit the regulatory people to continue business as usual for the great majority of life insurance policy forms. The forms which now cause the preponderance of difficulty for both regulators and companies would then be submitted to a competent reviewing body, staffed by appropriate professionals, and the findings of that body would be made available to those states handling forms through the alternate way.

The Standard Nonforfeiture Law would be amended to permit the commissioner to approve forms via an alternate way. The principles by which such forms are to be judged should, no doubt, be set forth in a model regulation which would be enacted by the several jurisdictions. It should then be possible to establish broadly worded standards as to what constitute reasonable and equitable surrender values and to rely on the professional staff of the reviewing body to apply such principles

with care. The review and recommendations would not be binding on each state but would constitute a time-saving measure and avoid the necessity for high-priced attorneys and actuaries in each of the jurisdictions.

Along with the suggestion of an alternate way, I would propose that the model regulation incorporate the file-and-use approach toward the bulk of forms which would in the future be approved on the formula basis. A standardized actuarial certification and nonforfeiture demonstration might be an appropriate adjunct to a file-and-use system. The suggestions which I have just made in this discussion are a composite of many ideas obtained over the past several years, including remarks made by Martina Doyle and others in Atlantic City. The suggestions are of necessity rather broad; hopefully the Society will see fit to consider their merits, along with other proposals which will inevitably be put forth should a comprehensive study be undertaken.

To summarize the three principal thrusts of this discussion, I believe that the following steps would go a long way toward improving the existing practices with respect to individual life insurance nonforfeiture values.

1. Refine and modernize the existing expense allowances in the Standard Nonforfeiture Law, on the basis of the mundane but necessary review of current expense levels.
2. Establish model regulations which permit a file-and-use approach for standard life insurance products which comply with the formula in the Standard Nonforfeiture Law.
3. Institute an alternate way for review of life insurance benefits which cannot be made to fit a rigid formula.

I have just expressed my view that the prospective asset share, with appropriate adjustments, is a proper theoretical basis for cash values. One practical caveat should be mentioned. The actuary cannot apply this approach to the early years of most life insurance products because of the negative asset shares which would be anticipated. A company obviously cannot pay negative cash values.

The risk of loss on early lapse is generally unavoidable. It is a risk of doing business, and it is proper that the actuary take this risk into account in the pricing of the product. The existing field compensation structure, the predominance of level premium life insurance, and the weight of initial expenses incurred at the time of issue make it impossible to avoid this risk. Measures to improve persistency in the early years are the most obvious practical means of protecting the margins included in a particular life premium based on best estimates as to the expected persistency.

The introduction in a few life companies of policies which provide for higher early premiums does permit a reduction of this risk of financial loss on early lapse. A higher first-year premium, coupled with reasonable commissions, may provide sufficient margin to eliminate negative asset shares. The same may be said of level premium, high minimum amount contracts and of the so-called "collateral term," in which the policyholder pays a "termination premium" if he should lapse within a specified period of time from the date of issue.

CHAIRMAN PAWELKO: When we talk about a reviewing body, I do not think that any of us are talking about federal regulation. The NAIC Central Office would be a perfect vehicle for a central review body, since it is separate from the industry and from the regulating bodies and is funded by the states in relation to premium volume.

MR. DANIEL F. CASE: I am inclined to think that some of the things that Tom Eason described would, indeed, happen if we had no minimum nonforfeiture requirements. Life insurance policies with no nonforfeiture values or very low values would be bartered, or the owners would seek loans from banks. There might, however, be some individuals who either did not know that they could get value in these ways or for some reason were unable to do so. The absence of reasonably equitable nonforfeiture values might be considered unfair to such persons.

Regarding the suggestion that there be only a requirement that an actuary certify that the nonforfeiture values are equitable, and that actuaries be disciplined if they certify falsely, I think that there would have to be guidelines on the basis of which actuaries could be called to account. Accordingly, we would have to have a set of rules that were specific to some degree.

Regarding deposit term, it does seem reasonable to me that the extra premium payable in the first year should not be required to give rise to a nonforfeiture benefit in the first few years if asset shares determined on a reasonable basis are negative. I have not studied the product and do not wish to comment on any other aspect of it. However, I hope that in his use of the term "equity" John Hartnedy is referring to some reasonable relation between asset shares and nonforfeiture benefits and not to a looser concept under which a policyholder is considered to be treated equitably if his policy contains nonforfeiture benefits or if it does not, depending on whether he has requested them when he applied for the policy.

MR. L. C. JOCHELSON:* As a visitor to your country, I am very conscious of the hospitality and assistance I have received from the many friends I have made here, so I earnestly request you to interpret my remarks not as in any sense a criticism but rather as a genuine attempt to try to contribute some of our ideas and experiences in South Africa, which I hope will be helpful.

I would like to relate my remarks to some comments made by earlier speakers. Mr. Gustafson referred to the different philosophies of reserve valuation, and, in dealing with the situation in Canada, he suggested that the philosophy there was akin to that in the United Kingdom and basically different from that applicable in the United States. Then Mr. Hanson put forward three alternate ways in which regulatory legislation could be brought into being. I would like to suggest that these are two related concepts—the philosophy and the statutes. Legislation flows from the philosophy; the philosophy determines the approach, and the implementation is done by way of legislation and sometimes by bureaucratic ukase. This question of philosophy, I believe, is very important.

Let me give you an outstanding example. In the United Kingdom the whole insurance industry is paying a tremendous amount of attention to the consequences of Britain's entry into the European Common Market. The insurance philosophies prevailing in France, Germany, and other countries in the Common Market are entirely different from those of the United Kingdom and are reflected in different systems of regulation and control.

It is unnecessary for me to go into details. However, this is relevant to what I would like to say about South Africa. In South Africa our philosophy regarding regulation of insurance is midway between the United Kingdom system of "complete freedom with publicity" (which, I may add, is related to and entirely dependent upon the responsibility and integrity of the actuary) and what I might call the more arduous regulatory system of the United States, which, in turn, is less rigid than that in France and Germany. We have an Insurance Act, and we have a registrar of insurance. We have such things as minimum reserve regulations, enshrined in the act itself; these actually form a part of one schedule of the act and provide for net premium valuations, on specified bases as regards interest and mortality; there is an allowance for amortization of initial expense, mainly the Zillmer method. Gross premium valuations are acceptable by the registrar, usually in addition to the statutory valuation bases.

A very important point is that this minimum valuation of liability is

*Mr. Jochelson, not a member of the Society, is a consulting actuary and is a senior lecturer at the University of Cape Town.

linked to a topic which is not relevant in this country—it is linked to investment provisions in the act. A substantial portion of our Insurance Act and the regulations thereunder not only relates to provisions regarding the amounts of investments but also consists of actual directives in regard to the proportions of investments to be held in various classes of securities. If one has this type of investment control, statutory valuations become inevitable.

Another point I want to emphasize is that a change of philosophy has developed and indeed has been brought about by changes in circumstances. At present there is in South Africa a government commission of inquiry. We do not have your system of Senate standing committees or House of Representatives standing committees. When a matter of major importance crops up, the government appoints a commission of inquiry, and I am happy to say that there are two actuaries sitting on this particular commission. In other words, the situation at which we have arrived in South Africa is that the government, the people, and Parliament (which is the sovereign authority) have decided that the 1943 act, which became effective almost two years after the introduction of your regulatory laws, is no longer relevant to today's conditions. Therefore, something needs to be done about considering what changes are necessary.

Now, turning more directly to the subject of this session, our system of regulations in regard to nonforfeiture values is very similar indeed to the "alternate way" which was suggested by Mr. Eason a few moments ago. So perhaps one could say that in 1943 we anticipated and were in accord with Mr. Eason's thinking.

I would like to make a few remarks concerning our general system of regulation. Premium rates must be lodged with the registrar of insurance, after certification by the company's actuary as to soundness and so on. His consulting actuary (who is not a government servant but a firm of consulting actuaries to the government) scrutinizes these schedules of premiums and may report on them to the registrar. Similarly, scales of nonforfeiture values for each class of insurance, each policy, each type of policy, and each variation must be lodged with the registrar, and they are submitted to the scrutiny of this consulting actuary.

Mr. Eason has suggested the use of a committee; we do not have this system, but there is an opportunity for review and discussion, so we do have a similar system. The nonforfeiture values that the companies lodge are minimum values, and, in fact, in practically every case they are exceeded in actual practice. Furthermore, they are not guaranteed. In many cases, however, minimum values are in fact printed in the policy.

With regard to the question raised about pure protection insurance, I

was rather surprised to find that in this country insurance companies do offer cash values under term policies. In South Africa the standard practice is to issue term insurance on a pure "life cover" approach, and this is known by the public and accepted by the public—no cash values, no buildup of collateral values. Companies do pay their agents much lower rates of commission on term insurance than on other plans, so the agent is at pains to emphasize this lack of nonforfeiture values to his prospective client. However, the fact is that the public has accepted this; in their opinion it is a situation analogous to that in fire insurance, motor insurance, and all forms of property and liability insurance.

I feel that Mr. Eason has not quite answered the plea for "pure term." Some of the objections he has raised can be—and are—easily taken into account in constructing the premium formula. Take, for example, Mr. Eason's "gambling" argument. It is well known to everyone in this room that the mortality experience of people who take out term insurance is very much heavier than that of those who take out straight life or endowment insurance. The reason is obvious, namely, self-selection. This is taken into account in the premium formula by using mortality tables. Similarly, the loadings that are used in the formula for commission rates, expenses, and the like are much higher, relatively speaking. Furthermore, there are also substantial contingency loadings, and, whether or not you think that this is equitable to a policyholder who holds a term policy, at least it is equitable to the general body of policyholders.

MR. HANSON: How well does the "alternate way" work in South Africa? Have the products which have been referred for approval been reasonably dealt with, or is the process an excruciatingly slow one?

MR. JOCHELSON: I cannot speak for the whole industry in relation to their individual problems, except to say that by and large I understand from my colleagues in the insurance world that their problems relate more to the extent of the registrar's jurisdiction and authority. The argument generally is, "Does the registrar have the power to demand such and such?" Once that is resolved, then there usually is an amicable resolution of the problem. From my own experience as the general manager at one time of a composite multiple-line office, I would say that the system works well because we do not have a committee system. The fact is that you can talk across the table to the registrar. There is also the important fact that all the company actuaries know the government actuaries and are colleagues of theirs. We have a small actuarial community of about one hundred and fifty, so this works out very well.

There is one important respect in which our system does work very well. This is in relation to the "flexibility" aspect we have discussed here this afternoon. I could cite the examples that have been mentioned earlier, such as the introduction of variable life insurance; we have equity-linked policies. Indeed, we also have a variation of equity-linked policies which I believe is not applicable here. That is, some companies issue variable life policies linked to their own internal equity portfolio. Each of these methods poses problems in relation to reserve valuations, nonforfeiture values, and so on. These difficulties have been ironed out, except for the one problem of valuation reserves. This is still under consideration. In other respects, the flexibility is manifest, and I hope that this aspect alone answers your question. To take a rather trivial example: for many years South African companies followed the British example for large policies by allowing a premium reduction on a kind of rule-of-thumb scale. This means that a policy for a sum insured of, say, $2,500–$5,000 would have a small reduction in premium per cent, and a policy of $5,000–$20,000 would have a larger reduction in premium per cent. Recently, many companies have adopted the method of the "policy fee," which is a fixed addition to the premium; the effect is that the policy fee is relatively smaller per $1,000 of face amount for larger policies. This immediately posed problems with regard to nonforfeiture values, but these were quite easily taken care of by the system we have.

MR. GARY E. OLSON: The closest that one might be able to come to eliminating the cash surrender option would be to offer only extended term and/or reduced paid-up insurance in lieu of cash, irrespective of duration. This is an extension of the short-term "moratorium" on the requirement of cash values present in the Standard Nonforfeiture Law.

CURRENT DEVELOPMENTS IN GROUP LIFE AND HEALTH INSURANCE

1. Group life
   a) Optional benefits
   b) Survivor benefits
   c) Group ordinary
   d) Financial experience
2. Developments in long-term disability plans
   a) Limitation of benefits
   b) Self-administered plans
   c) Underwriting current trends—effect of economy
   d) Reinsurance
   e) Competition
3. Dental insurance
   a) Design of plans
   b) Employer and union interest
   c) Financial experience
   d) Acceptance by dentists
4. Prepaid group practice (PGP)
   a) PGP's now operating
   b) PGP's in developmental stage
   c) Organizational aspects
   d) Rating problems

Atlantic City Regional Meeting

CHAIRMAN RICHARD A. BURROWS: The prepaid group practice (PGP) concept is certainly established among those who have to do with the delivery of health care. It is probably as safe to say that the concept is not established in the general population. Not one of the six persons that I asked among my fellow commuters gave any recognition of PGP or HMO. However, I will enlarge my sample before I publish.

What is a PGP? It is an organized system with people and facilities capable of *providing* a relatively broad range of health care services and *arranging* for those services that it does not directly provide; it has an enrolled population; it has a financial plan, which is prepaid, for underwriting costs; and it has a management that gives accountability.

Why is the government promoting health maintenance organizations (HMO's)? To allow a choice of systems; to reform health care delivery for efficiency and quality; to provide cost control from incentives and pre-

dictability; to produce health maintenance instead of being crisis-oriented; and to influence the distribution of health services.

I am using the designation PGP for the most part. An HMO is essentially the same, except that it has qualifications and a definition arising from legislation and may encompass foundations sponsored by medical societies.

At the present time perhaps as many as 8 million Americans are enrolled in such organizations, or less than 4 per cent of the population. President Nixon proposes a goal of 22 per cent (50 million) by 1980. Without arguing the merits of this goal, can we (*a*) take an inventory of where we are, (*b*) tell how energetically we are gearing up, and (*c*) identify the helps and hindrances?

The 8 million persons served by PGP's are covered under some seventy-five plans, the most widely known being the following: Kaiser Foundation Health Plan; Health Insurance Plan (HIP) of Greater New York; Group Health Association (GHA), Washington, D.C.; Group Health Cooperative of Puget Sound; Metropolitan (Community) Health Association, Detroit; Group Health Plan, St. Paul; Ross-Loos Medical Group; Columbia Clinic and Hospital Foundation, Columbia, Maryland; Harvard Community Health Plan, Inc.; Community Health Care Center Plan, Inc., New Haven; Compcare, Milwaukee; and Greater Marshfield Community Health Plan, Marshfield, Wisconsin.

There are, perhaps, some sixty PGP's that are experimental or are being implemented, developed, or planned through commercial carriers or Blue Cross–Blue Shield. Assuming that twenty of these become operational in each of the next three years, and each plan needs three years to mature at a 30,000 enrollment level, I estimate that this present effort will deliver something short of 2 million additional persons to PGP's by 1976. If we continue to introduce twenty additional PGP's to operation in each year through 1980, this will bring fewer than 5 million persons to PGP's, unless some plans grow significantly beyond the 30,000 level. This not only falls far short of the President's goal but is also just over half of a more realistic goal of 10 per cent of the population, which some have thought to be a reasonable level of significance.

On this more reasonable level, which actually says that 90 per cent of the population have a PGP option available and 10 per cent take it, if we in Blue Cross–Blue Shield maintain our one-third share of the health market, it would require some three hundred plans with 25,000 each.

If, per PGP, we count planning costs of $200,000, subsidized initial operating costs of $2,500,000, and facility costs, not including hospitals, of $1,500,000, the Blues face total financing of upwards of $1.26 billion

through 1980. Commercial carriers would need to invest twice that, or $2.52 billion, in order to maintain their share of the market. That is a lot of financing!

Is it worth it? Is it necessary?

It is necessary. Considering that the Rogers-Roy bill (H.R. 11728) has been introduced (it would be known as the Roy-Rogers bill west of the Mississippi) and that Senator Kennedy has promised a similar HMO bill, there is the possibility of some legislative action.

It should be worth it. Enough has been said and written about the health care crisis and the failures of the present system. We have taken pride in the fact that 80 per cent of the population is covered for hospitalization and about 60 per cent for physicians' and other medical services. However, on the average, we indemnify only some 70–75 per cent of hospital costs, 50 per cent of physicians' costs, and 6 per cent of other costs, so we find that insurance pays for only one-quarter to one-third of the nation's health costs.

I suppose that one reason for the cost gap is that health care costs have outstripped our indemnity schedules and reimbursement arrangements. Fee-for-service medicine and insurance coverage have gone hand in hand to promote rising costs. Our cost containment approaches have been energetic but not inherent.

How does a PGP work to mitigate high costs?

1. Comprehensive coverage instead of the usual hospital-surgical coverage draws the performance of health care away from hospitals and surgical procedures.
2. Under fee-for-service medicine, hospitals require a specific level of occupancy to maintain fiscal solvency. In the hospital-based PGP's of Kaiser and Puget Sound, however, the hospital gets the same capitation irrespective of occupancy.
3. Similarly, the physician has a set income in this type of practice, whether or not he performs services.
4. Furthermore, under a PGP system, if the physician neglects early treatment and prevention, the resultant patient deterioration becomes costly and drains the resources of the plan.
5. PGP physicians' incomes bear an inverse relationship to the proportion of capitation allocated to hospital expenses, so that unnecessary hospitalization is reduced.
6. Hospitalization for the physician's and the patient's convenience is eliminated, since the plan's medical center has all the ancillary personnel and necessary equipment.
7. The PGP exercises greater control over use of resources by having available facilities such as home care and extended care and by dealing with an estimable population.

Some of these cost savings seem natural, but some may leave the fear that in a PGP underutilization may result from a desire for economy. What aspects serve to keep a good level of quality?

1. The threat of a malpractice suit always remains.
2. Keeping a subscriber healthy is ultimately more economical.
3. There is competition.
4. There is professional review—both formal and, probably more importantly, informal, and constant. A point of frequent criticism of PGP's is that the patient sees a different doctor each time. This criticism is highly exaggerated; in most cases the patient selects a personal physician from a roster and sees that physician routinely. However, to the extent that this is true, each doctor knows that his work will be reviewed by his associates at a later time.
5. Standards for physician selection can be maintained at a level higher than the average of all M.D.'s in the community.
6. There is no financial barrier to consultation.
7. There is only one medical record, which provides continuity and reduction of errors of omission. (Also, the doctors tend to be more careful in spelling out each episode because of this continuity.)
8. The doctors' efficiency is increased by a more regular schedule and paid vacations and education time.
9. Doctors are free to criticize colleagues because they need not fear loss of referrals.
10. The physicians' time and effort are expanded by the extensive use of paramedical personnel.
11. The group member has an entity, the PGP itself, to confront in case of poor treatment.

There are three major barriers to the growth of this kind of health care delivery to a viable alternative system by 1980: popularity, financing, and legal restrictions.

Popularity.—This has two aspects, if not three: the populace and the medical fraternity, and, possibly, ourselves. As for myself, I am convinced. If you are not, I would at least recommend careful study, because the movement can become a powerful adversary.

As for the medical fraternity, when I opened by saying that the concept is established among those having to do with health care delivery, I did not mean to imply endorsement in all instances. Obviously, many physicians will not want to sacrifice the independence and possible rewards of a fee-for-service practice. Recruitment of doctors will have to be energetic, dedicated, and educational. The aspects of quality, security, and reward will have to be promoted.

Popularity among the populace must be promoted to achieve the goal

of even 10 per cent by 1980. Frustration with the present system provides fertile ground. Care must be taken that depersonalization of medical care does not result. It certainly need not. Remember that the member will have the ability to see his selected physician most of the time.

Financing.—Certainly the federal government can be expected to help greatly in this area. The Health Services and Mental Health Administration of the Department of Health, Education, and Welfare has granted nearly $10 million so far. However, we must all face the greater need for the remaining financing of start-up costs, and we must provide enrollment efforts, since these grants only cover planning and development.

Legal restrictions.—Oddly enough, this is less of a barrier to most of us than it was in the past, even though several states have restrictive laws on the books. Under Title IV of Public Law 91-515 (80 Stat. 379; 5 U.S.C. 301), the secretary of Health, Education, and Welfare has approved regulations enabling any carrier that provides coverage through the Federal Employees Health Benefits Program (even if only reinsurance, I understand) to issue contracts for prepaid group medical services to any individual in any state. I have been told that the department, and the attorney general's office, are ready to go to bat in case the regulations are contested.

I will be brief with the remaining two items—organizational aspects and rating problems.

Hospital-based, centralized control model.—This is the first that usually comes to mind. This is the Kaiser approach. The Kaiser Foundation Health Plan, Inc., is at the heart of the program. It contracts with groups or individuals to provide medical care. Then it contracts with Kaiser Foundation hospitals. Actually, the boards of these two overlap considerably, but their functions are dissimilar. The health plan gets medical services from a Permanente Medical Group in each region, on a negotiated, contractual capitation basis. These medical groups are quite independent.

Non-hospital-based model.—GHA and HIP are examples of this form. Control cannot be inherently exercised, as in a hospital-based model. Hospital services are provided separately through traditional channels.

University plans.—The Harvard Community Health Plan is an example of this, where organization took place within the university. The Community Health Care Center Plan, Inc., of New Haven, is another example, but in this case the sponsorship arose from the community. The aspect of the relationship with a teaching center is of interest here, in that those plans will test the efficacy of group practice's adding an educational component.

Physician-run plans.—The Ross-Loos Medical Group of Los Angeles is the oldest and largest of this type. It is a partnership employing lay administrators responsible to the partnership. Hospitalization is covered separately and marketed by the Ross-Loos Clinic. In addition, Blue Cross markets a Blue Cross–Ross-Loos option.

There may be a tendency to follow a hospital-based structure, without the centralized control present in Kaiser. This may inhibit growth of the PGP because the plan's interest may remain secondary to the traditional hospital outlook.

Carriers remain involved by covering outside risks, such as transplants and hemodialysis, through investment, by providing administrative and enrolling facilities that the group cannot easily perform, and by covering out-of-area situations.

Rating problems are relatively simple from the actuary's desk, because the real problem comes in the plan's budgeting process. Budgeting has to provide facilities for expected enrollment gains (or cutback in the face of losses). The budget is translated to a capitation rate by division by the total number of members (including dependents). The capitation rate, which determines what is provided to the PGP on the basis of current enrollment, is translated into a single-person rate by a loading formula for the carrier's expense and risk and a ratio of (*a*) the total membership to (*b*) the total expected units of single-person rates (i.e., weighted twice for a two-person rate and three times, if the family rate is three times the single-person rate, for the family rate).

The budget would be offset by expected collections of copayments and fee-for-service income from nongroup members. Ridered coverages would be rated in the regular way and the net rate paid to the PGP.

MR. HAROLD GILBERT: My questions revolve around the role the insurance company is to play in a PGP or an HMO situation. You referred to heavy financing requirements and implied that the companies might be asked to foot that bill. Just what financing role might the company be asked to play? In general, what role can or should a conventional life insurance company play in its relationship to the HMO? I know that your professional affiliation is with Blue Cross, and that might not have the same relationship that a regular life insurance company would have with one of these organizations. If the insurance company ends up underwriting just a portion of the HMO spectrum of charges, won't this influence the utilization pattern as directed by the HMO itself in self-interest? How can the company and the HMO be partners rather than adversaries in the coverage situation?

CHAIRMAN BURROWS: I really do not know the answer. Certainly some of these things, I would presume, can be considered normal investments by the commercial carriers. You may not want to make too many of these investments—they may not be of the quality or have the return that you like to expect. But, as for being in competition with yourself, I do not know. This has to be a viable alternative. It probably is not going to represent the general method of health care delivery, so it may not make too many inroads on your regular business; but this is the sort of situation in which, if you do not adopt or espouse or promote the present alternative, something more dramatic will happen, such as the passing of the Kennedy bill, which could put us all out of business.

MR. DANIEL W. PETTENGILL: I think that it is terribly important for all of us to realize that what we are faced with in this country is trying to develop a better system of organizing the delivery of health care, and this is what the PGP or the HMO or the HCC (health care corporation)—however you wish to designate it—is all about. The basic argument is that the present system, which consists primarily of solo practitioners and independent hospitals, has not provided organized care for the consumer. The question is whether the consumer really wants to have his care organized. At the present moment he is sufficiently upset with the costs thereof that he is willing to take a fair degree of organization in the hope that this will ease his cost problem. The time is clearly ripe for experiment, and the PGP seems to be a worthwhile experiment.

Now, as far as the insurance companies are concerned, if the PGP is going to insure 10 or 20 per cent of the population in the future, its enrollees are going to come right out of the insurance companies' hides unless the insurance companies participate and find a role. There is a real and valuable role for the insurance company with these new PGP plans. The insurance company has actuarial, underwriting, management expertise that can be very useful to these PGP plans and can avoid the necessity of their developing their own expertise in these areas. There is also a role, as far as insurance company investment departments are concerned, in providing the mortgage money for the clinical facilities that may well have to be built. There is a desire, and frankly a need, for initial operating capital if you start a PGP plan and expect it to operate solely as a prepaid practice plan with no fee-for-service business. As was pointed out, such an approach generally produces a very heavy operating loss in the early years, because the PGP cannot enroll people fast enough to keep the doctors busy and hence its fixed overhead exceeds its capitation income. Now this type of loan is hardly something that an insurance company invest-

ment department is going to be enthusiastic about. It is really risk capital that is needed for this purpose. This suggests that the PGP proceed, even though it is distasteful, on the basis that the doctors will be doing a fair amount of fee-for-service work while the enrollment in the PGP plan is built up. I know that this creates horrors for some of the proponents of PGP's, but I still think that this approach is a reasonable way to proceed, and this is what my company is trying to do with some of the PGP's that Aetna is involved in.

Mention has been made of transplants, kidney dialysis, and other rare procedures which the PGP frequently will not have the capability to handle but which insurance companies could. A PGP could protect itself in this area by buying excess loss coverage from an insurance company. However, I prefer to make coverage for these rare but expensive procedures one of the items, along with the out-of-area emergency coverage, which the insurance company would pick up. The insurer would add the cost of these coverages plus its expense to the PGP in order to determine its own premium charge. By so doing, the insurance company is actually insuring the out-of-area emergency, the esoteric procedure. It is also, presumably, insuring variations in the size of the family composition, because the PGP is going to want to receive a capitation for each person, whereas in the group business, which is basically where PGP coverage will be sold as a dual-choice option, the employer is used to paying one rate for single employees and another rate for employees with dependents. So this is still another area where the insurance company can take a risk.

In order to have a long-term commitment with the HMO or the PGP, there should be some element of experience rating. I would suggest that the doctors assume the entire risk as to the adequacy of the per capita charge, as long as actual hospital utilization and office call utilization remain within plus or minus a specified margin of the expected. If the experience is significantly worse—say, more than 120 per cent of expected—then the insurance company would step in and share an ever increasing percentage of that excess. By the same token, if the experience were below, say, 80 per cent of expected, then the insurance company should get back some of the surplus to refund to its policyholders. In this way, it seems to me, the insurance company can build a long-term interest in the HMO or PGP.

I cannot resist making one more comment, even though it is not related to HMO's. The moderator mentioned that at the present time voluntary health insurance covers only 25 per cent of the nation's total health expenditures, including construction and research, or 37 per cent of the consumer's total personal health expenditures. These percentages are published by the Department of Health, Education, and Welfare but are

very misleading. Therefore, I plead that, when we actuaries use these percentages, we qualify them. We should point out that the numerator used is the amount of benefits paid by insurers but that the denominator includes many nonhomogeneous items, such as the expenses of people who carry no insurance and the uninsured expenses of those who do carry insurance. Furthermore, the denominator includes uninsurable expenses like aspirins, Alka-Seltzer, Band-Aids, and anything else of a quasi-health nature that the drugstore sells. It also includes long-term custodial care, which is questionable as an item of medical expense. I happen to think that long-term custodial care—not paying the doctor's bill or the drug bill but simply paying the room and board for maintaining someone who, unfortunately, has become a cabbage—is an income maintenance problem and not a medical expense problem. If these items are removed from the denominator, then you will find that insurers are covering a far greater percentage of personal health expenditures in terms of what the public actually chooses to insure; insurers are providing benefits averaging better than 80 per cent of covered expenses.

MR. GEORGE L. BERRY: My subject this morning is dental insurance. It is a coverage which presents a challenge to the actuary, partly because it highlights many of the problems facing us in other forms of health insurance today and partly because it creates a few special problems of its own.

The actuary has primary involvement in the design and pricing of insurance plans for the protection of insurable risks. He uses his knowledge of insurance and relevant available statistical data to try to meet the demands of the marketplace.

Most of us have run into trouble trying to use this approach for dental insurance. We are all familiar with the basic principles of insurance and the reasons for them. There are four, and briefly they are that (1) the loss insured against should be of infrequent occurrence, (2) it should be of financial consequence, (3) it must, for practical purposes, be beyond the control of the insured, and (4) it must be of an amount which is definite when the contingency insured against happens.

Most dental insurance plans violate all four of these basic principles. Consider a typical plan which covers diagnostic, preventive, restorative, surgical, and ancillary services. Often it is expanded to include crowns and bridges, prosthetics, periodontics, orthodontics, and oral surgery. Generally, there is a coinsurance feature of 80-20 per cent on all usual and customary charges, except perhaps 50-50 per cent or 60-40 per cent coinsurance on some of the more expensive procedures. Typically,

deductibles are small, ranging from $0 for children under 12 to $25-$50 for adults per year.

For such a plan the frequency of service utilization tends to be high, often approaching 50 per cent or more of the participants during the early stages of the plan. This violates the first insurance principle. The loss insured against, and the average payment per claim, are very low for the average claimant, often less than $20. This is contrary to principle 2. One of the most obvious facts about dental utilization is that it is not beyond the control of the insured. This violates the third principle. Finally, we have seen in dental insurance that people have a wide range of choice with respect to the repair of their teeth, so that the loss is not of a definite amount. This is inconsistent with principle 4. Thus perhaps the first thing to recognize is that dental insurance as it is sold today is not "insurance" as we have defined it in the past.

The actuary also relies on relevant statistical data, and once again he has run into trouble. Such data are not readily available. Utilization statistics are published for the American Dental Association Dental Health Care Plan. The book *Insured Dental Care*, by Avnet and Nikias, was published in 1967 and analyzes the experience of Group Health Dental Insurance, Inc. (GHDI). Individual company statistics are available to those of us who work for companies which are quite heavily involved in dental insurance. Other sources include the National Center for Health Statistics survey series on dental care and the Continental Casualty Company Dental Health Plan of the Dentists' Supply Company of New York Report.

Dental fee levels pose another problem. There is considerable variation across the country, and fee levels are not well publicized. There are, however, relative value schedules available, the California Dental Service (CDS) schedule being one example. Fee-level variations for certain dental procedures are also published from time to time.

Government statistics are published which provide rough guidelines for trends in dental care. They indicate that the average annual trend, in aggregate, over the last ten years has been about 5 per cent for cost of services and 2 per cent for utilization. This, of course, may vary by geographic area, by type of procedure, and also by plan.

When the actuary turns to other health insurance products for ideas on pricing and benefit design, he is faced with significant differences in the fundamental nature of the coverages involved. For example, medical, surgical, and hospital insurance is based on the occasional risk of illness or accident. The dental insurance risk, on the other hand, is the seeking of dental treatment, since dental disease is almost universal.

Deferred dental care needs tend to increase with the passage of time since the last dental visit. For a dental insurance plan the high utilization during the first year of coverage in a relatively stable group can be expected to subside to less costly maintenance needs in successive years. Low initial utilization may be favorable for controlling present costs but may indicate dental neglect that will eventually result in high costs when nonusers finally avail themselves of the coverage.

The impact of insurance on the insured tends to be less important for dental care than for medical care. There is general agreement that the dentist can have a greater influence on dental utilization than a doctor can on medical utilization. Dental care is relatively less significant to the public than medical care.

There are significant problems of antiselection in connection with voluntary groups as well as with advance announcement of a new plan or advance notice of cancellation of an existing plan. Finally, there is a basic contrast in prime justification: the primary purpose of dental insurance is to improve dental health, whereas, up to this point, the primary purpose of most other health insurance forms has been to minimize the impact of severe, unexpected expenditures. These and other differences need to be suitably recognized in adapting traditional health insurance pricing and design techniques to dental insurance.

There has been continuing pressure for creativity in the benefit design and cost control areas in recent years, partly because of the increased public interest in dental insurance and partly because of the unfavorable financial results experienced by many companies. While dental insurance covers less than 10 per cent of the population, it is growing rapidly, having virtually doubled in the last two years in terms of number of people covered. Moreover, it is a coverage viewed with increasing interest by many of the larger unions.

The number of organizations offering dental insurance is also increasing. They now include about two-thirds of the commercial carriers and about twenty-five or thirty dental corporations. In 1971 about 50 per cent of the people insured were covered by private insurance carriers, about 30 per cent by dental service plans, and about 20 per cent by other insuring mechanisms.

Within this environment, what are the insurers and the providers doing in connection with the financing and delivery of dental care? Generally, dentists welcome dental insurance and feel that coverage will continue to expand rapidly. The American Dental Association endorses full payment of reasonable and customary charges, particularly in the area of preventive and diagnostic services. The ADA also seems to favor the

Blue Cross–Blue Shield and dental service corporation not-for-profit approach.

Many dentists fear the loss of autonomy as dental insurance coverage expands and consequently encourage as much flexibility as possible in related rules and regulations. Pretreatment forms, for example, have generally been rejected by dentists as an infringement on the dentist-patient relationship.

In the opinion of some insurers, dental societies have been slow to recognize their responsibilities in setting standards of utilization and quality and in peer review of these standards and of fees. This is of critical importance in such a highly elective field.

A recent study of the impact of insurance on the economics of dental care concluded that, as the number of people covered by insurance expands, the demand for services will exceed the supply. The results are expected to be twofold—there would be an acceleration in the rate of increase of dental fees, and there would be a decline in utilization of services, at least in the short run, by the noncovered middle- and lower-income groups.

Perhaps the most significant development in dental care in recent years is the plaque control program, which many dentists feel will revolutionize dental care. The cost of the program generally ranges from $50 to $100. It includes three or more visits during which the patient learns to control dental plaque, which dentists believe is the primary cause of dental disease, including tooth decay. Few if any insurers as yet cover this program as an insured benefit, although some currently have it under consideration.

In recent years insurers have become much more knowledgeable in the dental insurance area, and some new trends seem to be developing. Greater recognition is now given to the cost control problems associated with reasonable and customary benefits, primarily as a result of the losses incurred by many insurers on such plans in the past. The use of pretreatment plans and dental consultants is gaining in popularity, at least with insurers, and peer review programs are being encouraged by organizations such as the Health Insurance Council.

Many carriers are returning to scheduled benefits, often with deductibles and coinsurance, in spite of the fact that the larger unions, which provide most of the thrust in dental insurance, appear to favor the first-dollar, reasonable and customary approach.

There is greater hesitancy to cover voluntary groups, unless the dental coverage is packaged with a complete line of medical coverages. Many insurers no longer underwrite dental-only groups of less than 100, 200, or even 300 lives.

Combining dental and major medical insurance with a common deductible provision is one way some companies are dealing with reasonable and customary benefits. Greater use is being made of inside limits on the frequency of certain procedures, such as X-rays and oral examinations.

Calendar-year maximums seem to be increasing in importance and lifetime maximums declining. One approach, for example, is to use a calendar-year maximum which increases in each of the first three years of coverage, primarily in an effort to level costs.

Another approach is the use of incentive coinsurance, whereby the portion payable by the insured decreases annually from 30 to 10 per cent or even 0 per cent if dental services are utilized. Some of the administrative complexities and renewal rating problems are lessened if the reduction is contingent on years of participation in the plan rather than on use of services.

Pre-existing conditions are generally excluded from coverage, although often this exclusion is limited to replacement of teeth extracted prior to entry in the plan.

Variations with socioeconomic characteristics, age, sex, and geographic area are most commonly reflected in rating as insurers measure the impact of these factors on their experience.

Underwriting of late entrants is being handled by limiting first-year benefits and charging the regular premium or by having a waiting period for the more expensive procedures.

Increased deductibles are being used in an effort to deal with the high administrative costs associated with dental coverage. There still remains, however, considerable variation in the use and considered effectiveness of both deductible and coinsurance provisions.

Pricing, benefit design, and claim cost control in dental insurance are much more refined today than they were a few years ago. Many carriers now have a substantial amount of available experience. In spite of this, few insurers feel confident of their ability to predict accurately the level of claim costs for any given group of employees insured under a dental plan. In my opinion the principal reason for this dilemma is the fact that dental insurance is not "insurance" as we generally define it. First, it requires that we learn to identify and measure more of the characteristics which affect the level of claim costs for any given group of employees. Second, I believe that it demands that we develop a close and productive relationship with the dentists who provide the care. The test of the actuary's ingenuity is to provide a marketable product at a price which is acceptable both to the insurer and to the purchaser of the coverage.

DR. GEORGE Y. CHERLIN: We are considering long-term disability as a group coverage. In this frame of reference, most companies would mean disability income benefits. Therefore, I will not cover in my remarks today disability waiver benefits in group term life policies or disability annuity credits in group pension contracts; these may be touched on, however, in remarks from the audience or in questions, as desired.

I. LIMITATION OF BENEFITS

The benefit is usually a percentage of salary subject either to a maximum salary or to a maximum amount of benefit per month with various offsets. In general, social security and workmen's compensation and other group plans are offsets, but individual coverage is not an offset. Other limitations include the waiting period for benefits to begin, the maximum age at which a disability may begin in order for benefits to be payable, and the exclusion of pre-existing conditions. The most common benefit percentage is 50 per cent of salary, but plans are written at 60 and 66⅔ per cent of salary.

Maximum benefits may be expressed in terms of salary up to $50,000 per year, but it is more common to say that the maximum benefit payable is a figure such as $1,500 per month. Monthly maximums of $2,500 and $3,000 are also written. One plan provides for grading by size of the group, as follows: up to 100 lives, maximum $1,000 per month; 100–500 lives, maximum $1,500 per month; over 500 lives, maximum $2,000 per month.

Minimum benefits may also be provided. Thus, if the formula with offsets produces zero, a contract may actually pay zero; but in another case, if disability has been established and the formula would provide zero, the insurer may pay a minimum of $20 per month as long as disability continues. Minimums as high as $50 per month are also written.

The social security offset may be the primary insurance amount only or the family benefit. Offsets of 100 per cent of social security are most common, although a benefit of 60 per cent of social security is also used. This may be inspired by the 64 per cent offset limit for disability benefits incorporated in a pension plan which is integrated with social security. One company uses different percentages of total benefit in the same contract for employees with and without dependents. It was reported by one company that, in order to get a new form approved by the New York State Insurance Department, they had to provide for freezing the social security amount as of the start of benefit payment. Another company mentioned this social security freeze as an improvement of benefits which could be introduced voluntarily even if not required by New York State.

As to the waiting period, six months is almost universal but limits of three months to five years have been written. One company which wrote a three-month plan put in an extra loading over and above the increased cost for the short waiting period because of a judgment that excess benefits would be claimed under this plan.

A maximum age of 60 is still most common, although benefits are also written up to 65 for the onset of disability. Benefits payable until age 65 are most common, but shorter benefits such as two-year and five-year benefits are also provided.

There seems to be some "tightening up," which, of course, is a subject that overlaps with the underwriting topic we will be coming to shortly. In this connection there is a trend toward excluding "pre-existing" conditions. Alternatively, if pre-existing conditions are covered, this would imply an extra charge in the first two years or so of the plan. A pattern used by one company is (*a*) exclusion for new groups under 100 lives and (*b*) no exclusion for groups of over 100 lives or for takeover business.

II. SELF-ADMINISTERED PLANS

In some cases there may be a credibility gap between the employer and the insurance company as to the amount of reserves held on disabled lives. The employer may feel that the reserves are redundant and not needed, but, if we are holding the reserves, we generally feel that they are completely necessary. Thus there is some interest on the part of an employer in cutting back on reserves or in getting control of them himself.

One method under discussion is to use a section 501(c)9 trust, but the companies most in touch with this say that they are expecting new Internal Revenue Service regulations and that there is little point, for someone not familiar with the method, in studying the current regulations. The recommendation is rather to wait for the new regulations to come out. One plan that has been mentioned would have the employer pay a premium to the insurance company but have the employer hold all disabled life reserves in a section 501(c)9 trust. The person talking about this felt that it would not be approvable in New York State but might be used by employers in some other states. Another arrangement designed to cut back on the insurance company's reserves but to provide full benefits is to have the insurance contract provide benefits for two years only and have the employer's plan provide benefits to 65.

III. UNDERWRITING CURRENT TRENDS—EFFECT OF ECONOMY

In general, companies have been tightening up since 1970, with the feeling that 1970 was in general a very bad year because of losses developed in the long-term disability line. There are some companies, how-

ever, which are not tightening up but are continuing on the same track that they have followed recently. Some of the means of tightening up are to adopt strict rules, to change the definition of disability to stricter language, to use more limited coverage amounts, and to examine carefully the groups accepted and reject more groups than in the past.

Use of "his own" occupation for two years and "any" occupation thereafter is common. Use of "his own" occupation for all years is most liberal and is in use. If "his own" occupation is used for two years, the two-year period can be measured from the start of the six-month waiting period or from the end of the waiting period, producing a significant difference in benefit.

IV. REINSURANCE

Although a reinsurer is willing to accept excess amounts, reinsurance appears to be rare among a few major companies that I checked. Reinsurance is common for cession by small companies. Since the group coverage is typically one-year term, the reinsurance will be yearly renewable term.

Some companies have reciprocal arrangements which they do not consider reinsurance but which involve a transfer of risk. Some sharing is done with the employer by using partial pooling of claims if the employer is too large for pooling and too small for full experience rating. One arrangement experience-rates the first $500 of monthly benefit for the first five years with the excess pooled.

V. COMPETITION

Competition is generally considered "tough" or "too tough." Several actuaries feel that great losses were experienced in 1970 partly because of unsound premium quotations, and only partly because of general economic conditions. Because of present tightening, some employers have had difficulty in getting even one quotation on their group. Some guarantees of rates for three years have disappeared, to be replaced by guarantees for one year only.

The 1964 tables with individual company modification based on experience are in general use. The mutual life companies feel that casualty companies generally quote lower premiums. It was felt by some that competition is so tough that "trade secrets" are guarded and very little meaningful information could be reported or discussed in a session such as this. A typical rate for a disability income benefit seems to be 0.65 per cent of payroll.

One company quotes on "takeover" business only, subject to seeing previous experience and judging it to be satisfactory. Some companies

feel that claim investigation is a key element in controlling experience; others do not. Some companies are wary of hospital employees; however, at least one takes them freely with a pension plan. One limitation schedule would exclude all employees under a specified salary and would limit sickness benefits to five years for a specified salary bracket. Some companies are anxious to get long-term disability business as a "foot in the door" to other coverage with the employer. Some actuaries feel that no business develops on this basis.

CHAIRMAN BURROWS: You mentioned a plan that had insurance for a two-year benefit period and was self-insured to age 65. Doesn't that go exactly in the opposite direction from the insurance principle?

DR. CHERLIN: My attitude is that the employer should insure the entire benefit. But the employer has to judge which way he will come out ahead. For example, I know of one group which chose to be completely self-insured on the disability income in their plan, until the first claim arose. Then they saw how much it amounted to, and they bought insurance.

CHAIRMAN BURROWS: What is the usual relationship between long-term disability and the pension plan? Does the pension plan keep building up benefits while the person is disabled?

DR. CHERLIN: There is a trend toward giving an annuity credit during disability in the pension plan, but it is a rather small trend at the present time, and the credit is available as a separate benefit. Perhaps 10 or 15 per cent of the people covered by pension plans get this disability buildup, but I think that this percentage is growing.

MR. CARMAN A. NAYLOR: In the early days of this coverage some companies included limitations on the benefits that would be continued to approved claimants if the policy were terminated. This practice largely disappeared later. In the recent tightening up, has there been any move back toward limitations of that kind?

DR. CHERLIN: There are some limitations. In one of the major automobile plans one of the conditions for payment of the benefits is the continuation of the group contract. If the policy terminates, the benefit is payable for the number of months that the person was covered under the plan. There are a number of limitations either in force or currently being considered.

MR. GILBERT: After such controversial topics as HMO, dental, and long-term disability insurance, group life seems like a safe haven for the conservative group actuary. However, in these changing times, even group life has undergone changes.

I. OPTIONAL BENEFITS

Optional additional amounts of insurance may be offered in conjunction with a schedule of employee group life insurance. For employees the usual benefit is an additional amount equal to the scheduled basic amount. Additional accidental death and dismemberment coverage may be offered on a similar basis. The obvious concern of the group underwriter or actuary is the opportunity for antiselection. In my company we keep records on each group offering such options. Where a large group has distinct geographical subdivisions, we inspect the percentage electing the optional benefits in each defined subdivision. We have found some local conditions that discourage the election of optional benefits. Very low regional percentages do not result in substantial antiselection, but they can distort aggregate statistics.

Another option is dependents' life for spouse and children. Such coverage is generally for amounts substantially lower than for employees. Our analysis of regional election percentages and actual mortality experience indicates a small degree of antiselection, revealed by ages, in the election of these optional benefits.

Group permanent life may be offered as an option. The forms available vary with respect to employer and employee contributions, amounts, nonforfeiture values, and options and other features. A common approach is "group ordinary," which is discussed in more detail below.

II. SURVIVOR BENEFITS

One form of survivor benefit is a scheduled amount of insurance on the lives of dependents which may either become paid up or be eligible for conversion upon the death of the insured employee. One form of survivor benefit which has a good amount of sales appeal is an income provision payable to the surviving dependent after the death of the insured employee. The income may be on a certain basis, contingent upon survival, or may be a combination. Technically the coverage is simply an additional amount of life insurance, but the product can be merchandised as a salary continuation program during the period following the death of the employee.

III. GROUP ORDINARY

Group ordinary has been written as a strictly permanent insurance program and as a term-optional permanent program. In order to be at-

tractive to the employer, it must conform to section 79 of the Internal Revenue Code. As of December, 1971, there has been a proposed revision to this section which is expected to become law. Section 79 provides that the policy must designate the portion of premium attributable to the term insurance element. Previously, if the employer made contributions in excess of this amount, the entire contribution became taxable income to the employee. Under the revised Code, the employer may make such contributions, but after 1972 the contribution in excess of the term insurance portion of the premium will be included in the employee's taxable income.

Much has been discussed both on and off the record regarding the methods used to determine the term insurance element of the group ordinary premium. Assumptions have been made which develop a wide range of results. The policyholder may wish to either maximize or minimize his contribution and the consequent deduction, while not penalizing his employees with additional taxable income.

Many companies have written policies on small aggregates, which would not otherwise qualify for group insurance, by making them parties to a trust. A master group ordinary policy is issued to the trust. Individual insureds are issued certificates under the single master policy. A bank usually serves as trustee, collecting agent, and common remitter for all parties to the trust. Most companies using this approach have used separate trusts for separate industry groups.

IV. FINANCIAL EXPERIENCE

Group life experience is compiled and published regularly by the Committee on Group Insurance Mortality. The last report was in the *1965 Reports* number of the *Transactions*, published in 1966. The *1971 Reports*, to be distributed this year, are scheduled to include a comprehensive summary of recent group life mortality. It will be of interest to review these reports in the light of new minimum life rates in New York and other rate-controlled states.

V. FUTURE DEVELOPMENTS

The program outline concentrates on product development in group life. The advantages of the group mechanism are primarily tax considerations, product flexibility, and funding flexibility. Most innovations in the past have relied heavily on tax advantages. I suggest that future developments may rely heavily on the inherent flexibility of the group contract.

Coverage innovations in group insurance can be implemented by the single case filing. Product development can occur over the sales table, subject to later confirmation by regulatory authorities. What a rare

opportunity this gives us for creative actuarial work! Whether the purchaser is an employer or a board of trustees, product development occurs at the point of sale. It is not necessary to develop the product in an "ivory tower" and then hope it can be merchandised. Of course, this approach to product development can be applied only to large groups. After basic principles have been established and some experience accumulated, innovations may be filed generally and applied to the general market.

Let us let our imaginations wander. What cost-of-living products could be designed into group packages? Amounts of life insurance and survivor payments could be linked to any appropriate index, precluding the need for frequent plan revision. Values may be developed on a sound actuarial basis for experimental coverages which fall outside the scope of such ponderous documents as the standard nonforfeiture and valuation laws. Using a single case filing with a full discussion of the motives and implications, most regulatory authorities will permit great latitude in group products. This is especially true where laws of the jurisdiction are silent on the subject. Considerations which we as actuaries will not be permitted to avoid are the price and funding of experimental products.

A package policy may combine for experience any variety of "cat and dog" coverages. Who could object to a cost-of-living index-linked life coverage when the package already includes short- and long-term disability, X-ray and laboratory, dread disease, and hospital and surgical benefits on a service basis and major medical after a corridor deductible? The group package can absorb a great deal of uncertainty in the pricing of experimental life coverages. Contingencies, such as the cost of ground beef in Poughkeepsie, which have not been considered insurable in the past, may be implicitly covered by an experience-rated group policy. The failure of national statistics to reflect local conditions can be bypassed by using local data as the basis for local coverages.

If we make these things happen, we can help to meet one of the most urgent current needs of our insureds. If we do not, then government will surely find ways to fill the void.

MR. ANTHONY B. RICHTER: Have there been any filing problems with the state insurance departments on the optional benefits where the employee can elect additional group life insurance, specifically in connection with the general requirement that group life insurance is supposed to be designed to preclude individual selection?

MR. GILBERT: We have not had the question raised. We have offered such options fairly freely and have not had them denied.

MR. NAYLOR: You outlined the types of survivor benefits that are being offered. In Canada we have been offering plans of the types you mentioned, the income certain type, and also the contingent types which involve survival or remarriage of the wife. We have had fair success in selling the annuity certain type, but we have not as yet sold any of the other type, except in one special group where they have a plan which conforms with the general pattern of the automobile industry. How is the market for these plans developing in the United States?

MR. GILBERT: In my company we have not had any experience with the remarriage contingency. Our optional coverages have been limited to optional life on dependents and optional additional amounts on employees.

MR. SIMONE MATTEODO, JR.: We have sold a few very substantial survivorship cases, including our own plan for employees, managers, and agents of the Equitable. Our program for our own employees was a well-thought-out plan which we use as a prototype in discussions with other groups to advocate the future developments of the group life program area. Our program has a monthly benefit of 35 per cent of the first $650 of monthly salary plus 25 per cent of the excess offset by 75 per cent of what the widow will get from social security. The children's benefit from social security lies flat on top of this benefit. The benefit is payable for twice the length of service. For employees with more than twenty years of service it is payable for life. Our plan provides for a cessation of benefits upon remarriage, and we have seen other large and sophisticated policyholders who are considerably interested in this program. In the case of two large policies that we sold, the employers were not enamored of the social security offset feature of our plan, so their plan is a flat 20 or 25 per cent lifetime plan. One of them included the feature of benefits payable for twice the length of the employee's service. In that plan the lifetime benefit is available when the employee has fifteen years of service. We have seen several other plans that do have the social security offset.

The plans I have referred to are large, substantial plans and are all characterized by the inclusion of a remarriage provision. A considerable amount of work must be done by actuaries in order to get a good reading on the remarriage situation. The 1956 social security report is a well-put-together account of what was then in the public domain in the way of experience statistics on remarriage. My interpretation of the 1960–62 social security remarriage experience is that this experience is running at about 80 per cent of the 1956 OASDI level. From an actuarial point of

view I have a more conservative feeling than that, because there is more at stake in group life, where the benefits become large relative to social security and the benefits do not stop when the youngest child attains some limiting age. For these two economic reasons, the social security experience may overstate expected remarriage experience under group life survivor benefits. Additionally, social security continues to pay benefits to children after remarriage, so that children are not a deterrent to the formation of a new family unit, and this factor, too, will tend to produce a higher remarriage experience for social security than for group life. My personal feeling is something like 50 per cent of 1956 OASDI remarriage rates would be appropriate.

The time is coming for the survivorship product. We have seen considerable interest on the part of large professional, sophisticated employee benefit people and groups who are interested in this plan.

MR. LOUIS GARFIN: Can you tell us what is happening in the area of limits on the amounts of group life insurance?

MR. GILBERT: I did not conduct an extensive survey in this area. My own personal experience is that higher limits are being offered more regularly in the group area. In our company we are getting less agency resistance to this, and the big variable seems to be the underwriting technique. We are using a very liberal approach on limits; then, when we feel that the underwriting indicates the necessity, we apply individual underwriting and use our reinsurance facilities either individually or on the entire group.

MR. GARFIN: In many states the statutory limits have been removed, and I hear of the issue of large amounts, like $200,000 or more, of group life. I wonder whether this is, in fact, happening, and to what extent.

MR. GILBERT: I think there is no question that this is happening. We see it more and more on prepared specifications and even on the informal requests. It used to be that we would get it only in situations where there was a special business interest, a small business with a key man. More and more it is becoming a general practice. People are looking to group insurance to solve their business life insurance needs, possibly as they looked to individual insurance just a few years ago.

MR. JOHN N. LAING: In connection with survivor benefits, we have found a substantial demand from some areas for a widow's survivor benefit in connection with group life. We have undertaken to experiment with a certain number of quotations, and we have in force four policies

providing widows' benefits ceasing in the event of death or remarriage. The rates for these are calculated on a commuted-value basis for the benefit to the widow, bringing in a remarriage table. We used, but did not follow precisely, the Railroad Retirement Board select remarriage table. Our commuted values are subject to change from year to year in the determination of the coverage, and we have changed them pretty much each year, more from the interest point of view than because of the remarriage statistics. We have found that our legal department foresees all kinds of problems in this. In Ontario the opportunity to name the beneficiary is extended to the employee, and he does not have to name his wife or he can change the beneficiary from his wife to someone else. It is rather inconceivable, if he named someone other than his wife as beneficiary, that we would get very much information in regard to the death or remarriage of the widow on whom the cost of the insurance coverage was calculated. But there seems to us to be sufficient interest in such benefits that we have undertaken to experiment on some rather select cases.

MR. JOHN C. ANTLIFF: In reference to hospital employees, Mutual Benefit Life has about $2.3 million of long-term disability annual premium which we have written through the state hospital associations in a dozen states. Our experience over several years indicates that we need a loading for groups of hospital employees which varies by state in the range of 30–100 per cent over our regular manual rates for white-collar workers. Do you know whether the Committee on Group Insurance Mortality has any plans to collect data by sex?

MR. MATTEODO: Frank Morewood and I are both on the Committee on Group Insurance Mortality. The report coming out this year is for experience from 1965 to 1969. The committee has brought forward some very serious plans as to analysis of experience by sex. The final implementation program of specifications and coding instructions for contributing companies is now in process. I am quite certain that in the future such information will be brought forward by sex. If our program of publishing every five years continues, however, it might be some time in the future before experience by sex is available in published form.

MR. JOHN M. BRAGG: This question is directed to anybody who talked about survivor benefits in the United States, whether on a certain basis or otherwise. If, as is presumably the case, these benefits are considered to be group life insurance, how is the conversion privilege handled, since the conversion privilege is required under standard group laws?

MR. ALBERT PIKE, JR.: The Life Insurance Association of America has interceded for two or three companies with the state insurance departments to argue that the group life conversion privilege does not apply to these survivor benefits. The argument was on the grounds that the survivor benefits are supplementary coverage not dealt with by the group life insurance statutes. It is a fairly weak argument, but it has been accepted.

MISS JOSEPHINE W. BEERS: At Occidental we provide a period certain plus the balance of the spouse's single life. We have California's permission to use the value of the annuity certain as the amount which may be converted.

MR. MATTEODO: The Equitable has a conversion provision in its group life contracts written on the survivorship form. I personally do not think it is a privilege—it is a provision. There are social and philosophical arguments concerning employees' deterioration of health during employment that give rise to their rights to a conversion feature. The conversion provision is part of the standard provisions under the National Association of Insurance Commissioners codes. We are trying to give the program of survivorship written on a group life form as much of a flavor of group life insurance as we can, and we think that this is an important provision to include in the contract to support the idea that survivorship on a group life form is really group life insurance.

CHAIRMAN BURROWS: Hal, do you see the design of products at the sales table as presenting a problem at a later date, as far as state approval is concerned? Do you feel that the regulations are liberal enough or the authorities are liberal enough to generally condone what you are going to sell?

MR. GILBERT: Obviously, the regulatory authorities will not automatically condone whatever you sell. Before you can take this approach, you must have a pretty good idea of what the regulatory tone is in the jurisdiction. If you are doing something that is in the public interest, even though the law does not specifically allow it, if you negotiate the benefit with the understanding that it is subject to later approval by the state, and if you then go to the state authorities and make a total disclosure of what your objectives are, you will find that regulatory authorities are there not necessarily just to stop you from doing things but to try to direct you to do things that are in the public interest. What is involved is really a selling job in convincing these authorities that you are doing something that is in the public interest.

MR. DON F. FACKLER: I think that most insurance companies are limiting themselves to the financial aspects of trying to get people back into productivity. Have companies felt an obligation to go further than that, and, if so, what have they done with regard to their own facilities? I have some concern that we as insurance companies are not doing our full part in bringing the disabled person back to productivity.

DR. CHERLIN: The long-term disability contracts, in many cases, do recognize a rehabilitation provision. Some contracts will provide a decreasing back-to-work benefit which, instead of cutting off at zero, scales down over a period of months. Some companies provide that, if income is received under a program judged to be "rehabilitation," it will not count as income at all, and their full benefit continues during that period.

MR. FACKLER: What you say indicates that companies do provide financial incentives; but what encouragement is given the person to rehabilitate himself? I have always felt that in this area, unless you are able to get in on the ground floor at the start of the disability, perhaps you have lost the initiative in rehabilitating the person. Our doctors imply that, once a person is receiving monthly checks, each check progressively reinforces his desire not to return to work. Wouldn't it be to the insurer's financial advantage to spend this amount of money in the rehabilitation cause, later recouping it when benefits are no longer paid?

MR. MATTEODO: The question that Don is asking is basically a claim administration question. Rehabilitation is an extremely complicated subject. There are all kinds of opinions and varying degrees of subjectivity about its effects. There is no question, in a rational way of thinking, that rehabilitation can ease the claim experience on a particular group. It would be a sensible procedure to embark upon. When we look at the situation actuarially, pricewise as between rehabilitation and no rehabilitation, we price it exactly the same. You might be able to see some salvage or easing of claim experience by including a reasonable rehabilitation provision and giving credit for it. But, by the same token, if you take it at face value, and lay into the liability the additional burdens of claims that are bound to occur under a rehabilitation provision, you may well end up paying claims which you would not otherwise be paying. The important thing is that you administer the contract provisions. Our claim administrators have been monitoring rehabilitation developments. As I understand it, there are some workmen's compensation companies that have effective rehabilitation programs.

CHAIRMAN BURROWS: There seem to be two reasons for a return to fee schedules in group dental benefit design. At this stage there may be a lack of employee benefit funds, so the employer is looking for a relatively inexpensive benefit which can evolve from a lower schedule. The second reason is that there may be some difficulty in getting the dentists together to participate in a "usual, customary, and reasonable" (UCR) program.

MR. BERRY: I think that both those points are relevant. Some of the larger unions may be going to push for reasonable and customary benefits, in spite of the fact that some insurers are trying to move away from them. One other problem which is related to working with the dentists is claim administration of the UCR program. Generally, it requires fairly sophisticated claim approvers plus a full-time or part-time dental consultant. You run into the problem of a tremendous variety of procedures in which you have to try to determine what the UCR level should be. In addition, you have variations with geographic area. What insurers have found is that this is a very difficult benefit to administer claimwise, and the cost goes up. There appears to be quite a bit of selection against the insurer in terms of the UCR fees that are coming in.

CHAIRMAN BURROWS: The observation about the expense of administration is very valid. One of the problems is that there will be a lack of cost control. The dentists will end up charging enough more so that there is no real benefit to the insured, whereas, if you can get them together and exercise some control, you can keep away from what has happened in the medical area.

MR. NAYLOR: We have quite a number of dental plans in Canada. The most common type of plan we have covers basic and preventive care without deductible or coinsurance, in accordance with the provincial fee schedule, which is quite definite in each province. Additional options covering restorations and/or orthodontics are also available, with 50 per cent coinsurance in each case. We are finding that our claim handling expense is significantly higher than the 4–6 per cent quoted earlier.

MR. DAVID E. MORRISON: I recently read an article in a trade publication which indicated that in New York City there was a very large dental plan, underwritten, I believe, by Metropolitan Life. They negotiated a level of fees with a certain number of dentists in the city. The employees of the company were free to use any dentist, but the reimbursement would be on the basis of the schedule which these dentists had agreed to.

MR. BERRY: I have heard indications that the dentists would be receptive to some sort of schedule approach, provided that it was very close to what they were charging on a reasonable and customary basis. The dental profession is upset because somebody can come along and tell a dentist that he can only charge $10 for a certain benefit; the dentist wants to charge $12, so he has to turn around and bill the insured, and the insured complains to the dentist and to the insurance company, and everybody tends to be upset. The dentists appear to be reacting against this situation. I have heard that dentists are not unreceptive to the idea of scheduled benefits that are a good approximation to UCR benefits. This highlights the importance of insurers developing a good working relationship with the dentists to encourage their co-operation. In an elective coverage such as this, it is very important to have the insurers and dentists appreciate each other's problems.

CHAIRMAN BURROWS: I have something more on PGP's for any of you who want an education. First, I would like to comment on a symposium volume compiled by the Kaiser Permanente people. Its title is *The Kaiser Permanente Medical Care Program*. It is published by the Commonwealth Fund in New York. It consists of a very valuable exposition followed by discussions on each topic of the practices of the Kaiser organization and some of the problems that you will run into. I think there is a danger in trying to model a system too much after the Kaiser plan, since Kaiser is an old organization that has met its problems over many years and has evolved statistics that could be quite inappropriate to the situation that you might be looking at now.

My second comment concerns how you would go about starting a PGP plan. What sort of incorporation problems do you have? What are the regulatory problems? They are apparently so multitudinous and diverse that there is no ready answer. It depends upon the situation. One avenue that you want to go down rather early is to get in touch with the Group Health Association of America in Washington. That organization stands in relation to PGP's as the American Hospital Association stands to hospitals. They publish a periodical called *Group Health and Welfare News*.

MR. GILBERT: A good observation was made earlier on the installation period of the HMO. This related to the awkward period during which the enrollment is inadequate to support the expenses of the association. One way of avoiding this, if you have a very large employer in the area, and if you are an insurance company trying to work with him—preferably one

in which you hold the group coverages and stand to lose them as a result of attrition as soon as the HMO comes in—would be to work out a way in which the insurer can have a meaningful, long-range role in support of the HMO, and to co-operate in mass transfer of the enrollees under the group plan into the HMO. You might be able to get enough initial enrollment from that one source to get the HMO off the ground heading toward the break-even point much earlier. We are trying to work out one of these at the present time, and the prospects look good.

MISS BEERS: If it is domiciled in California, the insurance company has to keep some sales resistance against the number of people who turn up with well-developed plans for an HMO and would like the insurer to give them $250,000 for their start-up expenses. When you read further you find that the plans are set up as nonprofit plans, so they cannot tell you how you could ever get your $250,000 back. This is just one of the areas you should look into before committing the company.

MR. BERRY: Isn't one of the big features of insurer participation the guarantee of early losses under an HMO? In addition to start-up costs, an HMO needs somebody to protect it against those losses that it will have in the first few years. Some of the better-known HMO plans have had some sort of financial backing to protect them against bankruptcy in the early years. I have heard that that is perhaps the most significant feature of the initial capital needed.

MR. JOHN TURNER: I am a member of the Health Insurance Association of America subcommittee on HMO's. We are planning to sponsor a conference in Chicago in September on the development and operation of HMO's. Many of these questions will be dealt with at this conference. In connection with the question of the insurer's role in sharing the risk, my company has been active in trying to develop HMO's for several years. In the case of an existing group practice, we have found that physicians simply do not want to take the financial risk of guaranteeing all health care services for a prepaid sum. The first question to the insurer is how much of a risk he is willing to bear. This takes the form of a macro stop-loss type of coverage. There is a very real need and role for insurers in that area. Another aspect of risk-sharing that we encountered is the sensitiveness of physicians about the result of care rendered in an HMO environment. They are generally anxious to enter into some arrangement which levels out the financial results of the plan. Here again is a role that only an insurer can perform.

CHAIRMAN BURROWS: What is the return to the insurance company in the stop-loss arrangement? Does it work into the premium?

MR. TURNER: It depends on your contractual arrangements. We have discussed a number of approaches. In one situation that we are now working with, the HMO is issuing the contract which provides the health services. For a premium, expressed as a percentage of capitation revenues, we are providing macro stop-loss coverage and individual subscriber stop-loss coverage. It is a regular insurance arrangement amounting to a high deductible on an individual subscriber. We have a rate for the measurable risk as well as a contingency charge.

MR. BERRY: One thing that I have run into in connection with recouping the initial losses on HMO's is that, where more than one insurer is involved, you may find, if you are the second or third insurer, that you will incur losses in the first year or two. While there is a provision in the premium charge to pick up losses, the order of picking up the loss may be such that the first insurer gets his money back first, then the second, and then the third. You may find that it is several more years before you have a chance to get back the loss that you initially incurred. I am sure that there are many variations in contract provisions, but I feel that the presence of more than one insurer is a consideration.

I have frequently heard that the hospital utilization is very low in HMO's—perhaps a two-to-one relationship. Is this true, or is it more apparent than real?

CHAIRMAN BURROWS: The statistics seem to arise fairly consistently in comparing the Kaiser utilization with hospital utilization in the same area. You probably have a fair degree of homogeneity. I think that the federal employees' statistics show that under PGP's the hospital utilization is about half of either the Blue Cross or the commercial experience.

MR. TURNER: There are two HMO's, the Harvard plan and the Columbia plan, in which insurers are involved. The last statistics I heard indicated hospital days at about 400 per thousand per year. The Harvard plan has an enrollment skewed toward the younger ages. The Columbia plan's enrollment is more representative of the population of a city. If it were possible to measure hospital utilization of patients of existing group practices, I believe you would find that hospital utilization is less than it is without a prepaid mechanism.

CHAIRMAN BURROWS: Another indication is that the incidence of common surgical procedures is quite a bit less under a PGP plan. Obviously, this is the sort of thing that can be high without apparent undue risk under a fee-for-service basis.

MR. GILBERT: We are in the throes of trying to help an HMO get under way. This very point came up. What I said to these people is that we would not be willing to take the long-term risk that is really part of the HMO's reason for existing. With our capital structure, however, we could possibly spread that risk during the period in which they were trying to get under way. The changing utilization pattern arises because of the self-interest of the HMO as a financial entity and all of the individual facets of the HMO working together in their own self-interest. If the insurance company steps in and interposes itself, that self-interest is tampered with, and there is some question in my mind whether the same results would be accomplished. In a long-range contract, however, where the insurer becomes the fiscal intermediary, you would have something like spread-loss reinsurance provided by the insurance company to the HMO. You can preserve the self-interest of the HMO and the same utilization pattern and still have a very meaningful role for the insurer.

MR. FRED H. HOLSTEN: We had comments earlier on the amount that can be converted under survivors' insurance. A related question is the amount that has to be reported by the policyholder for federal income tax purposes to determine the employee's taxable income with respect to group life insurance. Does this cause any difficulty for the employer?

MR. BERNARD J. VILLA: You have two separate problems here, one in the United States and one in Canada. In the United States, where you have an age-related cost determination of imputed income, you probably want to make your calculations so that you will be using an annuity factor related to the age of the employee. In Canada, where the cost determination works off the average cost of the particular group, either you could use the same approach or, if you go back to the original ruling, possibly you could justify using an average annuity factor applicable to the whole group.

MR. MATTEODO: The problems have been considerable at the Equitable. The problems are getting data and taking a position on evaluating it monthly or annually; recognizing the age of the wife, the ages of the children; taking into account remarriage, optional or contingent benefits,

dowry benefits; and so on. The actuary has to cross bridges all along the way. We make assumptions about children's mortality. We use zero mortality at the Equitable. The problems are very real, very serious. The complications arise as a result of misunderstandings and the inherent complications of the survivorship program.

MR. NAYLOR: I am familiar with the scene only in Canada. The problem is a bit more difficult there because our limit is only $25,000, and anything over a total amount of group life of $25,000 is taxable income to the employee. In one case in which we have a complicated survivor benefit in force, we are fortunate that the employer has engaged a consultant to work out this problem for him. That consultant has developed a computer program to produce the amounts of taxable income. This is unusual. In most cases the insurer is required to assist in working out this problem.

Chicago Regional Meeting

CHAIRMAN JAMES P. SMITH: We who work in group departments, specializing in group life and group health insurance products (correction: *mass-marketed* life and health insurance products), tend to be relieved because we are not involved in the complexities of the pension business, and we sometimes think that the world would certainly be a lot simpler for us if we were not involved with group health insurance. Yet, if we stop to think, the startling array of products available in the life insurance line in many of our group departments contains plenty of problems for the actuary. Perhaps I am using the word "product" in a rather loose fashion, because many times it does not take much of a variation to make a "new product." Nevertheless, we can start with our old friend employer group life insurance, add what used to be our friend (and is fast becoming an enemy), group creditor insurance, and go from there through the gamut of paid-up and decreasing term insurance, association insurance, mass-marketed insurance plans (credit cards, newspapers, and so on), mortgage insurance, excess amounts, individual term policy supplements, group ordinary, and mass-marketed permanent types of coverage. Add to this the variety of waiver clauses, stop-loss provisions, special class rating structures, advance funding techniques, mortality fluctuation reserves, multiple-employer trusts, and special pools of all types. There is certainly enough to keep an actuary busy if he ignores all other lines and merely looks after the problems of the life insurance lines in his department.

Then we can add to that the changing level of premiums and degrees of risk assumed in the life insurance market. I may sound like a broken record, but at some point in time it will be necessary for someone to develop a plausible and reliable measure of what constitutes suitable surplus for a company to hold against its various group life insurance risks and how contributions to that risk pool should vary by maximum amounts written and safety of premium margins. I am sure that the answer is not in how well our competitors are doing on line 33 of the Annual Statement, because each of us has our own mix of business and philosophy of risk-taking. I am also sure of two other things. First, there there are those among us who have the ability to work out the operations research problems involved in determining proper contributions to surplus for specific group life insurance product lines. Second, I am almost willing to bet that there are some group managers who would just as soon not know the answer. We actuaries must, however, recognize the need to insert larger risk charges or pooling elements into our dividend or rate credit formulas as we accept larger limits of risk per life and reduce the level of group life rates. We cannot await the time when somebody smarter than we are develops proper surplus contribution formulas. We have to take care of it in some fashion currently as we see the risks developing.

One of our actuarial students put together some figures from annual statements of the last ten years for sixteen or seventeen of the companies we consider our biggest competitors, or at least the ones we seem to run into often enough on bidding situations. It was similar to the work done by Ed Green, reported in the 1969 *Transactions*. We noted that the average percentage net gain (line 33) for group life insurance (whatever types of insurance that line of business might contain in each individual company's annual statement) ranged, as a percentage of premium, from a low of 0.13 per cent per year for one company (which, by the way, offers exceedingly liberal amounts of life insurance on a single life) to 13.2 per cent for a company known for its care in underwriting. Northwestern National ranked somewhere in the middle, with its 5.50 per cent average net gain. The average net gain over the last two years was not much different from that taken for an average of ten years. Northwestern National again ranked somewhere in the middle between a low of 1.58 per cent and a high of 18.5 per cent. It was surely an interesting exercise but is of little help in answering questions from our superiors as to the proper objectives for our group life operation. Of course, we made similar studies of the group health line, and it was almost as small a help as was the group life study.

One thing we know is that the business changes. Every company is seeking a way to find business that will result in more favorable experience. Some take a gamble here and there in the hope that Lady Luck will shine upon them. One of my favorite examples is the discounting of a group life rate on the theory that all disability claims will be canceled if and when the group terminates. For your information, termination of waiver claims on cancellation of a group may soon be at an end. The NAIC is considering a standard draft regulation under which commissioners might rule that such practices are no longer acceptable within their states. This same regulation would take care of transferred health business and its problems as well.

Other companies seek to improve their underwriting gain and/or sales by following the more legitimate line of watching mortality on specific types of risks to determine where a more competitive stature can be attained. However, as actuaries we should all marvel at the ability of some companies to pull out of their average experience those types of groups that have lower mortality without reassessing the mortality of the types of groups left behind in the so-called average.

From the data available to us at Northwestern National, the mortality on our group portfolio is not improving. Our studies show that on employer groups of ten to twenty-five lives, we continue to run at approximately 100 per cent of the 1960 Commissioners Standard Group Basic. The same is true for larger groups at the younger ages. However, we do seem to be running at less than 100 per cent of CSG Basic on the older ages of larger groups. At this point, I cannot give you any reason for this. We see little evidence of the margins in the 1960 CSG Basic that seemed to be shown by the 1960–64 Committee on Group Insurance Mortality.

This program was put together with the thought that you might be interested in developments on two of the particularly "new" group life insurance products of today. I speak of survivor income and group ordinary. I hope that I am able to say something new about these new products, since they have both been discussed and rehashed from every conceivable angle at every industry meeting in the past couple of years.

For those who are interested in some good reading on survivor income, I recommend Charles Dilts's article in the March 20 *Best's Review*. Mr. Dilts is a member of the Society, and he deserves credit for having written an article considered readable by members of our agency department and field force. There are other good articles about survivor income. In September, 1970, Everett Allen, then a consultant with Towers, Perrin, Forster and Crosby and coauthor of *Pension Planning*, wrote a good article in the *Journal of Risk and Insurance*. At the same time, in Sep-

tember, 1970, Bowles and Tillinghast wrote a short, good article in their periodical, *Emphasis*. One of the earlier articles was by Melville P. Dickenson, Jr., of the Philadelphia firm of Miller, Mason and Dickenson, Inc. His article appeared in the January, 1968, *Pension and Welfare News*. These are all good articles, emphasizing the usual things about deciding whether you have a reversionary annuity or a group life insurance plan, whether employer-paid costs of the larger amounts of coverage represent taxable income to employees, and whether an employee's estate receives favorable tax treatment. I will let you read them to learn the basics about survivor income for yourself.

In our company we filed survivor income as a life insurance product and were successful in all states except Florida, Kansas, Kentucky, and Texas. These are states that have chosen to restrict the plan because it does not conform to their interpretation of their 20/40 or similar law. I do not know whether our history at Northwestern National is typical, but we developed our product in the mid-1970's with great struggle and birth pangs. In May, 1972, our first case involving survivorship of a spouse was sold. Our only previous case could not be considered typical survivor income, since the benefit in that plan is payable for a guaranteed ten years certain. I must admit, however, that for one reason or another we made no great sales pitch or pressure for the survivor income benefit.

We included an assignment provision in the policy, as we do in most group life insurance policies sold today. Now we wonder whether we knew what we were doing. We should have considered the problems that might be caused when an insured transfers ownership by assignment to his spouse, after which the spouse dies and he remarries. If, after assignment to a spouse, a divorce occurs, what is the status of a new spouse under the contract? Is the tax purpose of an assignment voided if an assignment form is used that provides for automatic termination of the ownership whenever the marital status of the insured changes? Our assignment provides for assignment only to "surviving spouse," and that brings up the question of "surviving at what time." As you can see, we inadvertently gave ourselves some problems, and these will have to be rectified by some refiling.

There is a new type—new in name only—of survivor income benefit presently being discussed. One name for it is the "designated payee" type of benefit. There are employers who are loath to give a benefit to individuals with dependents without giving something to individuals without dependents. These employers ask for some sort of survival income to such beneficiary as the employee may designate. The insured who leaves a spouse and/or dependents as qualified survivors is provided the

normal survivor income benefit, and the insured who dies leaving no spouse or children is provided a certain-period benefit paid to his designated beneficiary. The form of survivor income benefit has its own problems, including the changing marital and family status of insureds, the difficulty of a requirement that marriage last a period of time before eligibility for regular survivor benefits commences, and the proper place for dowry benefits.

For those who attend actuarial meetings hoping to hear some actuarial talk, it might be of interest to know that the annuity commuted value used as the death benefit in our rate calculation for survivor income is at $3\frac{1}{2}$ per cent, and the spouse is assumed to have Railroad Retirement Board mortality and 60 per cent of the Railroad Retirement Board remarriage rate. Children are assumed to have mortality according to the male 1951 Group Annuity Table projected to 1960. We allow conversions for amounts of commuted values based upon 4 per cent interest and, for the spouse, mortality according to the United States White Female 1959–61 Department of Health, Education, and Welfare Table and an adjustment to the OASDI remarriage rates presented in *Actuarial Study No. 55*. For children we use the United States White Male Table of 1959–61. We do not give a table of conversion amounts in the policy but state that conversion amounts will be based on these assumptions.

As for group ordinary, the shades of Revenue Ruling 71-360 are still with us. Most of you know that the December 21, 1971, *Federal Register* contained proposed revised regulations under section 79 of the Internal Revenue Code of 1954. These proposed regulations contained the statement that a policy of permanent insurance (such as a whole life policy) does not constitute term life insurance protection. That little word "not" really stirred up a storm. If that word had not been in the regulation, Revenue Ruling 71-360 would not be a real problem today.

On May 23, 1972, a hearing was held at the IRS in Washington, attended by approximately seventy interested people. As far as I can learn from those who attended, the IRS was interested in whether the 1964 legislative hearings reports on section 79 were being correctly interpreted and whether there was such a thing as group ordinary in force prior to 1964. As I understand it, the intent is to determine whether or not it is feasible and proper to split a permanent policy into two parts on the basis of the hearings testimony and practices in existence prior to 1964 in the industry.

From what I can learn, most companies are proceeding to merchandise their old, pre–71-360 product. Ours is still on the market, although the manual pages have been replaced by those for a new product which we

think complies with Revenue Ruling 71-360. Our old product was of the level employer contribution type, with the amount of life insurance changed to group ordinary pulled completely out of the employer's group term experience. It is easier to explain and sell than our new product, which leaves the group term coverage exactly as it was before group ordinary and merely allows the employee to pay a level premium for a cash-value accumulation, a death benefit equal to the greater of accumulated premiums and the cash value, and a loan privilege. We have sold some of our new product and stand ready to change older policies to the new product, but at this point there is little activity. It seems that an employer who feels that he might be taking a chance with adverse tax consequences for his employees would just as soon take the chance with the more understandable and direct approach embodied in our old product. Of course, we ask him to signify in writing that he knows what he is doing.

We have had very few actuarial problems with our group ordinary. The major ones seem to involve situations where an employer is involved in a merger or becomes disenchanted with the product a short time after it is placed in force. There is usually a demand for exchange for individual policies without evidence or return of employee contributions. To allow either would violate the lapse assumptions made in determining the group ordinary premium structure.

MR. STEPHEN T. CARTER: Long-term disability (LTD) is the glamor coverage that has lost its glamor—or has it? Some carriers still consider LTD insurance a glamor coverage with excellent long-term potential. Regardless of our views on this, the past few years have seen an intensive review by many carriers as to their position on LTD. This review has generally resulted in a stricter limitation of benefits.

The first feature normally considered in the limitation of benefits is the benefit level. In general, it appears that most plans provide benefits in the range of 50–60 per cent of earnings, with 50 per cent perhaps the most common benefit percentage. Maximum benefits are quite often related to the size of the group. The monthly maximum benefit appears to be moving upward from the $1,500–$2,000 range toward the $2,500 range.

The waiting or elimination period is often the same as the duration of the employer's salary continuance or sick-leave plan, or it may be the same as the period for which benefits are payable under a conventional group short-term accident and sickness plan. Most of our quotations and plans written at Provident Life and Accident have waiting periods of

three or six months, although some are longer. Studies of our LTD experience have indicated to us that groups with a waiting period of three months or less appear to have a higher claim level.

Considerable flexibility is possible in setting the benefit period. Plans have been written in which benefits are payable for five years, ten years, or to age 65. Sometimes, as with my company's plan, the benefit period depends upon the length of service with the employer. Our plan provides benefits to age 65 after fifteen years of service. Some companies will write lifetime benefits for disability caused by accident. My company will not provide LTD benefits past age 65.

Having set the level of benefits, we are then faced with a complicating feature of LTD plans—that is, integration of the LTD benefits with other disability income benefits. In general, it is felt desirable to co-ordinate the insured benefit with social security and workmen's compensation and other group plans paid for by the employer, but individual coverage is not normally considered. There are basically two ways in which the benefit is usually reduced.

First, and perhaps simplest, the long-term benefits are reduced by the amount of other disability income benefits to which the employee is entitled. The second method sets an overriding limit of 60–70 per cent of the employee's salary, in which case the LTD benefits are reduced to the extent that such benefits plus all other specified disability income benefits exceed the overriding limit. Variations on these two general approaches are infinite, and they all seem to be complicated.

Some companies have co-ordination of LTD benefits with primary social security benefits only. At our company we will not offset primary social security by itself, because we believe that doing so does not maintain the proper relationship between an employee's benefit during disability and his prior earnings. It appears that there is now more of a trend in the industry toward integrating both primary and dependent social security benefits.

Most insurance companies recommend disability definitions under which the employee is required only to be prevented from performing duties of his occupation during the first two years but thereafter must be prevented from performing in any occupation for which his past education, training, and experience have suited him. The two-year period may be measured from the date of disability or from the date on which the waiting period was completed.

Where the plan covers lower-paid employees who are entitled to a social security disability benefit representing a substantial percentage of earnings, a minimum monthly benefit is often provided. This would seem

particularly appropriate if the lower-paid employees are to contribute substantially. A logical current minimum benefit would be 5 per cent of covered earnings or $20 per month, whichever is less.

It appears that self-administered plans may become more prominent in the future. One factor which will play a part in a company's deciding whether or not to become self-insured is the large amount of reserves which are held for LTD plans. In many cases there is a credibility gap between the employer and the insurance company as to the amount of reserves required for disabled lives. Often the employer feels that the reserves are redundant, whereas the insurance company may not believe they are large enough. In any event, there is some interest on the part of some employers either in cutting back on the reserves or in getting control of them themselves. At present, investment income on LTD disabled lives reserve is considered taxable earnings for federal income tax purposes. Proposals have been presented to the federal government to change this situation, and, if it is changed, this will have a beneficial effect.

Self-insurance can be accomplished through a pay-as-you-go approach, using a section 501(c)(9) trust or an administrative services only (ASO) approach. A self-insured plan using a section 501(c)(9) trust would pay no premium tax in most states, and the earnings of the trust would probably be tax-free. Some brokers have mentioned that they feel that if an employer could earn 8 per cent interest on his LTD reserve, then perhaps 25 per cent less money would have to be placed in these reserves.

In the near future the IRS is expected to issue new regulations dealing with the section 501(c)(9) trust, and many employers are waiting to see what the new regulations will say before taking any action.

Under the ASO approach, the insured retains the insurance company to act as a third party to handle claims and other administrative details, but the employer retains the reserves. Under this method, the state premium tax is avoided.

Another approach in use is one in which the insurance company may provide yearly renewable term disability coverage. Here the case is not one of self-insurance, but the reserves are established only for a year at a time. In effect, the insurance carrier is providing coverage for disabilities lasting for one year, and the employer is self-insuring the excess.

The experience of LTD coverage during 1970 made us wonder whether we were writing LTD coverage or unemployment coverage. With poor economic conditions, some companies decided to use the LTD plan as a means of retiring some of their employees. In other companies, which had large layoffs, the laid-off employees became prime candidates for LTD benefits. Rehabilitation programs were generally ineffective, partially

because many disabled employees had no job to return to. In short, it appears that the physical ability to work and the economic opportunity to work are closely related.

There seems to be a trend toward elimination of the three-year rate guarantee and the return to the simple one-year term rate. There also seems to be a trend toward the use of pre-existing conditions clauses.

Reinsurance is most common for the small companies who do not have the resources or the staff to handle LTD coverage. Apparently the most common type of reinsurance agreement seems to be a yearly renewable term agreement. As far as I am aware, there is no reinsuring of any large individual risk by any of the major insurance companies.

An insurance company may share the LTD risk with the policyholder. Where the employer is too small for complete experience rating, yet too large for pooling, partial pooling may be used. A partial pooling arrangement that we have involves experience-rating the first $\$X$ of monthly benefit for the first Y years and pooling all in excess of this, where X and Y vary according to the size of the group.

The experience of 1970 was enough to convince many companies that rates have been too low. A number of companies, ours included, have increased their rates in light of the 1970 experience.

Competition is extremely tough in the LTD business and has resulted in many companies bending their underwriting rules because of the competition on a case. Normally, we have regretted any such exceptions.

Ideally, under LTD coverage, the premium level would be set so that, in the years of good economic conditions, a surplus would be accumulated; then, during times of severe economic conditions, this surplus could be used to provide for the claims which are inevitably going to occur.

Often insurance companies write LTD coverage on a case solely to keep other carriers from getting a foot in the door, so to speak. Other companies will write a LTD-only plan simply to get a foot in the door. There is some question as to how useful a tool this is in obtaining future business from the policyholder. At our company, losing only the LTD business to another carrier has never led to a loss of other coverages.

Because of the large number of rate increases due to poor experience, a number of policyholders are actively shopping the market for lower rates. When we quote on a case which has been in effect with another carrier, we insist on getting previous experience and use this in evaluating a proper rate to charge.

There is a trend in underwriting that appears to be increasing, toward the covering of hourly employees for LTD benefits. It appears that this coverage will continue to become more and more popular in the future.

However, as far as I know, no insurance company is actively seeking this type of LTD business.

Because of demands from policyholders and for competitive reasons, many insurance companies have started providing a social security freeze. This assumes, for purposes of the offset, that the social security benefit will remain at the same level as it was at the time of disability. My company provides this benefit as a standard feature with all our new LTD plans.

There may be a new trend toward plans that provide automatic cost-of-living increases in the monthly benefits paid, either increases related to some index or automatic predetermined increases such as 2 or 3 per cent per year.

There is a trend toward elimination or reduction of employee contributions. At present, relatively few LTD plans are noncontributory. As employers take over more and more of the LTD premium, it may come about that they will want to integrate the LTD benefits with individual disability income policies. If this comes about, it may be necessary for companies to include a conversion privilege in their group LTD coverage.

MR. E. PAUL BARNHART: I would like to begin my discussion of group dental insurance with some remarks on plan design.

I. DESIGN OF PLANS

The design of a group dental insurance plan should be guided by its objectives, and the basic objectives are the following:

1. To design a plan viewed as *prepayment* of dental care, in contrast to a plan viewed as dental *insurance.*
2. To obtain a plan designed for adequacy (broad and comprehensive care), as opposed to a plan designed for low or limited cost.
3. To obtain the degree of control over utilization and charges which is desired in the design of the plan.

With the emphasis leaning toward one side or the other of each of the above basic objectives, the following elements are considered in plan design.

A. *Scope of Coverage*

Most dental plans are constructed using "layers" of coverage, moving from limited or basic care toward more comprehensive coverage, in this sequence: (1) preventive services (examinations, X-rays, prophylaxis); (2) basic care and maintenance (fillings, oral surgery, endodontics, periodontics); (3) broader restorative services (crowns, inlays, and the like); (4) prosthodontics (bridges, dentures); and (5) orthodontics

(straightening of teeth, correction of malocclusions). A plan designed for adequacy and comprehensiveness may include all five, or at least the first four. Where cost is the pre-eminent consideration, only the first two or three, or perhaps only the second and third, will be considered. Coverage 1 is almost always included when prepayment is the guiding objective, as is true of most dental service corporation (or "Delta") plans. This coverage may be excluded, however, when the emphasis leans toward insurance of dental services.

B. *"Coinsurance" or "Copayment"*

The great majority of dental plans incorporate copayment provisions ranging between 50 and 80 per cent. Often, coverages 1, 2, and 3 will be at a higher percentage (e.g., 80 per cent), while coverages 4 and 5, if included, will involve a lower level, such as 50 or 60 per cent. The purpose is either control of utilization, through maintenance of patient financial interest in the cost of treatment, or simply a matter of restricting the expected cost of the plan. As companies and service corporations gain experience with dental coverages, 100 per cent coverage plans are becoming increasingly common, at least in the case of coverages 1, 2, and 3, in those instances where cost of the plan is not a severely restricting consideration.

Some plans, particularly those marketed by certain of the Delta plans, employ what is usually referred to as "incentive copayment." This type of copayment is almost invariably restricted to coverages 1, 2, and 3 and involves an upward step in copayment, usually of 10 per cent, after each year in which the coverage is utilized by a member. There is a corresponding downward step after each year in which the member fails to utilize the plan (i.e., does not visit his dentist even for an annual preventative checkup). Under such a plan, there will be minimum and maximum levels of copayment.

For example, the plan may provide copayment levels of 70, 80, and finally 90 per cent. All covered members start out at 70 per cent and, if they see their dentists during the first year, will be covered at 80 per cent the second year and then at 90 per cent thereafter, as long as at least an annual visit to the dentist is made. If a member covered at 90 per cent fails to visit his dentist, the next year he will slip back to 80 per cent, and so on.

There is a twofold purpose in such plans:

1. They encourage basic utilization of the program, so that dental needs are met before conditions reach serious proportions, involving greater cost of treatment, loss of teeth, and so on.

2. When a plan is originally installed, there will often be a high incidence of untreated dental troubles, and the lower initial copayment is intended to operate as a control against expected heavy initial utilization of the plan. There is an opposite danger implicit here, which is that patients will utilize the plan only minimally, to qualify for the next level of copayment, but will defer major needed work to the following year, when a higher percentage of the bill will be covered. For the most part, however, such plans seem to work in favor of early treatment, because at least a visit to the dentist must be made, and required treatment usually will follow.

"Incentive" copayment is normally *not* applied to coverages 4 and 5. It has been most widely employed by dental service corporations, where the emphasis is on prepayment and maintenance of dental health rather than on insurance of dental sickness.

C. *Use of Schedules as Opposed to Payment on a "Usual, Customary, and Reasonable Basis"*

A dental schedule may be used as an alternative to a copayment percentage and may have the same over-all effect on the cost of the plan. It will have an unequal effect, however, in specific situations, where the scheduled limits applicable may represent widely varying percentages of the bill. This will be because of the range in dental fees being charged for the same procedure or else because the schedule used is not consistent as to relative value.

The Delta plans, being "sponsored," in effect, by the dental profession, have tended to resist scheduled plans, preferring the UCR approach instead. Most of the Delta plans, using this latter approach, have developed fairly well-defined guidelines in the form of "Prevailing Fee Maximum Guidelines," which operate as an objective gauge of what is "usual and customary" in a given locality and depend on dental fee surveys or maintenance of statistical fee profiles.

Scheduled plans, which do not have the merit of a clear-cut, objective limitation on the payment and thus avoid negotiation and controversy as to what is "usual, customary, and reasonable," have been more widely used by the commercial carriers, who by and large do not have the same degree of internal liaison and communication with the dental profession as the Delta plans have.

D. *Deductibles and Maximums*

Deductibles are widely used in dental plans, first to hold down the premium cost and second as another form of utilization control. The Delta plans, emphasizing as they do the objectives of prepayment, tend to resist the use of deductibles. Many Delta plan programs, even if a

modest deductible is incorporated, do not apply it to coverage 1 (preventive care), since they wish to avoid any discouragement of regular preventive visits.

Commercial carrier dental plans, by contrast, tend to prefer deductibles, and often higher deductibles, such as calendar-year deductibles of $25, $50 or even $100, the emphasis obviously being on the side of insurance rather than prepayment. In commercial plans, a frequent feature of the design is to include dental along with medical care in one comprehensive medical-dental plan subject to one yearly deductible. When dental care is combined this way, deductibles of $50, $100, or more become practical. A separate dental plan with a deductible this high will have little real value to the average covered person.

A frequently used variation on the deductible is the sliding deductible. For example, the plan may employ a $25 deductible the first calendar year a person is covered, and then $10 each subsequent year, the purpose again being to control costs in relation to initial unmet needs. Since this device encourages delay in treatment until the second year, some recently designed plans have incorporated the concept of an "initial" deductible, with or without an annual deductible. In this version the $25/$10 type of plan becomes a plan with a $15 initial deductible that must be satisfied first, no matter how long this takes. Then, on top of this initial deductible, a $10 deductible is applied each calendar year. An interesting variation of this plan is the "initial-only" deductible. Thus a $25 deductible may have to be satisfied, no matter how long this takes, after which the person is subjected to no further deductible as long as he remains in the plan. I believe that these "initial deductible" plans, with or without a further annual deductible, have great merit.

Most plans, but by no means all, employ annual maximums per person or per family. Sometimes this is in the form of an increasing maximum by calendar year, such as $300 the first year, $400 the second, and $500 thereafter. Frequently the maximum will be a lifetime maximum per person, and this will particularly be the case with respect to coverage 5 (orthodontics), where a lifetime maximum per person, such as $500 or $1,000, may be applied.

E. *Contract Period*

Because of the danger of adverse first-year results, it is desirable to write contracts for two- or three-year terms. As to the second and third year, I have been recommending a limited right of rate revision, such as 15–20 per cent of the first-year premium.

F. *Other Elements of Plan Design*

1. *Use of "pretreatment" approval.*—An element of control, particularly common among Delta plans, is "preauthorization" of treatment. This concept is used to verify eligibility for coverage and also to screen proposed treatment as to necessity and cost.

2. *Contributory versus noncontributory enrollment.*—Dental coverage being highly prone to antiselection, most writers of dental coverage with any experience strongly discourage voluntary enrollment contributory plans. Such antiselection will be minimized when the dental coverage is combined with the medical coverage in one package with no separate option as to the dental plan. There are, however, some optional separate dental plans in operation that have functioned successfully. Some require the typical 75 per cent minimum enrollment; others apply a more stringent participation requirement, such as 80 per cent.

3. *Miscellaneous variations.*—As with all types of health insurance, there is a wide variety of dental plans. School dental accident plans are widely in existence, as well as some family dental accident plans. Some programs cover only children, say, under 15. As with group medical insurance, the variety is infinite.

G. *Premium Levels*

Group dental insurance of any adequacy is not cheap. A typical comprehensive plan including all five coverages outlined earlier, with a low deductible and copayment of 80 per cent or better, may well cost as much as or more than $25 monthly for an employee with dependents and $10–$12 for a single enrollee.

Even relatively limited plans with higher deductibles and, say, only coverages 1, 2, and 3 will typically cost $3–$5 monthly per individual and $10–$15 monthly per family unit. The substantial cost of group dental coverage, on top of the medical insurance package, has obviously operated as a strong deterrent to the spread of dental coverage.

II. EXTENT OF COVERAGE, AND EMPLOYER AND UNION INTEREST

Current estimates are that somewhat over 12,000,000 persons are covered by dental plans in the United States, almost entirely group plans. Some plans have been in existence well over a decade. The earliest plans were developed in California, where the oldest and largest of the Delta plans, or dental society–sponsored dental service corporations, exists, covering upwards of 1,700,000 persons and now generating an annual premium income in excess of $50 million.

Interest in dental plans is currently very lively among the larger unions,

and the unions have always been by far the primary force pushing for the development of dental programs. As the stronger unions come closer to achieving completely comprehensive medical benefit packages, dental coverage becomes a natural "next target" in collective bargaining, and we will see the extension of union-negotiated benefits to include dental benefits moving very rapidly in the next several years.

The wage-price freeze of last year, and the subsequent guideline controls, somewhat dampened what was beginning in 1971 to look like a rapid surge of interest in dental insurance, but I think the momentum is again accelerating.

Another impetus to dental insurance was provided by the rapid expansion of the Delta plans within the last five years. About forty states now have such plans, although many plans are not really active and some exist only on paper. Only about twelve of the states have really vigorous, functioning Delta plans. This picture will change rapidly, however, as the large national unions begin to negotiate for dental benefits. The leadership of the Delta plan system is keenly aware of the need for a national delivery capability, and the imminence of several large nationally negotiated union dental benefit programs will spur the activation of more and more state Delta plans.

In addition to the large unions, many smaller employers have begun to show an interest in dental programs. This has been particularly true, in my own experience, among banking institutions. In some areas public school districts have become a very active market. In general, small employers in the 25–300-employee size range have become a very active force in the group dental insurance market.

III. FINANCIAL EXPERIENCE

Some of the early financial experience of dental programs was very shaky and adverse and severely discouraged interest in this field on the part of commercial group carriers, serving to "confirm" opinions that dental care simply was not insurable. Those who stuck with it, however, including the stronger Delta plans, have learned much about how to underwrite and administer such plans and have shown that financial soundness and stability can reasonably be achieved. Even so, the financial experience of one plan as compared to others can vary to an astonishing degree, and the following factors are among those that seem to have a powerful impact:

1. *Degree of publicity or "promotion" of the plan.*—Loss experience of a plan that has been intensively publicized to the eligible enrollees is likely to be dramatically higher than when such publicity is indifferent or lacking. I suspect

that among some plans where loss experience has been quite low, many of those eligible are obtaining dental care without ever submitting claims and are often unaware of their coverage.

2. *Socioeconomic level of the participants.*—Persons of higher income and education tend to be much more accustomed than others to regular dental maintenance. Depending on the type of plan, this may or may not "favor" the experience; even though such persons presumably enjoy a better state of dental health, the very fact that they seek regular care and get their dental needs more fully cared for may result in higher loss experience under the plan. This factor can be very difficult to evaluate. For similar reasons, installation of a new program as compared to "takeover" of an existing plan can present rating difficulties. Sometimes a plan that has had favorable experience will begin to exhibit a rapid rise in its loss ratio—a phenomenon that may, again, be due to increasing awareness among the eligibles of the coverage.

3. *First-year versus renewal experience.*—The standard theory is that under a dental plan first-year experience will be high and renewal experience more favorable, because of the effect of a backlog of "unmet needs" in the initial year. This will tend to occur, again, where the plan is vigorously publicized. Otherwise, gradually increasing awareness of the program may create the opposite effect, as mentioned before, of a low first-year loss level followed by a sharply rising renewal experience.

IV. ACCEPTANCE BY DENTISTS

At the present stage of development of dental insurance, general acceptance among dentists is far better than was the case with medical doctors at a similar stage of development of medical insurance. Many dentists have long deplored the general absence of dental prepayment coverage, and the rapid formation of dental service corporations under the auspices of state dental societies testifies to the favorable interest of large numbers of dentists in the development of dental prepayment plans.

Professional support for dental prepayment plans is highly selective, however. In general, dentists tend to support programs with the following features:

1. Emphasis on preventive care.
2. Emphasis on prepayment of basic care (i.e., plans with low or zero deductibles, hence plans that are essentially prepayment rather than insurance plans).
3. Payment on the UCR basis rather than on fixed schedules.

The Delta plans, by and large, are developing good support and participation among the membership of their state societies. Several of the older Delta plans have signed "participation agreements" with more than 90 per cent of the practicing dentists in the state. Even newly formed plans usually succeed, in their first solicitation of the society membership

and before they have any active business at all, in enrolling at least 50 per cent of the state professional membership. Resistance or hostility to dental prepayment or insurance is strongest, of course, in those states where no success has been realized in forming any service corporation, most notably Texas and Indiana. Other states, such as Nebraska, Kansas, Oklahoma, Mississippi, Alabama, and Florida have also moved very reluctantly toward the concept of dental prepayment.

The development of the dental service corporations in relation to the dental profession on matters of cost and quality control, peer review, and the like has proceeded more effectively than was the case over the years with Blue Shield and the medical profession. Some of the worst mistakes of the latter development are being avoided—in particular in the area of prevailing fee guidelines and acceptance of a measure of fee control or supervision on the part of the service corporation.

A significant proportion of dentists, to be sure, want no part of any prepayment or insurance plan and cannot understand why they cannot be left alone to practice their profession "without third-party interference." The majority, however, are sufficiently aware of the political and economic climate prevalent in the 1970's that they are prepared to co-operate with dental prepayment or insurance plans that fulfill the criteria they deem essential, thereby enabling them to exert some influence on the design and direction of the plans.

MR. HARRY L. SUTTON, JR: The PGP form of health care delivery, or, as it is more familiarly called today, the HMO, is rapidly becoming the most talked-of and controversial element in the consideration of substantial changes in the nation's health care delivery system. Today there are some 8 or 9 million people who are covered by one form or another of PGP plan. Only about one-half of these are covered under community enrollment plans, which basically means not captive plans such as the old United Mine Workers Health Program.

Our interest is very simple. First is a commitment of social responsibility to assist in improving health care generally. Second is a desire to preserve some element of the business in which we have a major investment. For example, the Prudential in 1971 had a premium income in the health insurance market of roughly $750 million. More than 3,000 personnel all over the country were involved in supporting this aspect of our business. With all this premium income, we showed a net over-all loss of slightly less than $1 million.

The business described does not include our role in the administration of Medicare and Medicaid. It is a rapidly growing business which we operate in only three states.

We are convinced that legislation and change are going to be forced on the medical care system. In our opinion, in order to maintain a position in this field, we must be part of the formative movement and must find cooperative roles to work with all providers—physicians, hospitals, laboratories, pharmacies, and others. The reason for federal intervention is also relatively simple.

In general, the federal budget seems to be operating out of control. Some two-thirds of the total government expenditures are beyond budgetary control. By this I mean items which are provided by law, such as agricultural subsidies, payment for medical services under Medicare, and payments to individuals or organizations under specific laws. Because of legislation the government is obligated to make payment based on the demand for these payments, and it cannot control the demand. The most rapidly growing segment of this noncontrollable cost in the federal budget is that for medical care. It has been increasing between 10 and 15 per cent per year since Medicare went into effect. This is obviously the reason why the Social Security Administration has put limits on physician's fees and cracked down on utilization of institutional services, particularly extended care facilities. If we add the general budgetary-inflation problem to the political appeal of universal health care, together with the uneven quality and availability of these services, we have a very potent pressure on our legislators.

The health insurance industry has been involved in a number of programs which have attempted to control costs. They have contributed to and participated in comprehensive health planning. They have encouraged and participated in the formation of peer review mechanisms. Particularly under governmental programs, they have been required to set up fee profiles to determine reasonable and customary charges. They have attempted various claim control mechanisms, such as setting up medical referees to control instances of abuse by a small number of practitioners. Many of these abuses have been encouraged by elements in our society—individuals, employers, or unions. But, all in all, it is my feeling, perhaps with deference to some of my fellow insurance company colleagues, that most of these measures have been relatively ineffective. The life insurance industry has had too big a dependence on the medical profession, as well as others, to really be able to take a forthright position in negotiating with the medical profession. This is another reason why we are looking for a different method of organizing health care delivery, with incentives built in to try to control costs rather than leaving it to fractionated negotiation. We all face more formal negotiation in the future.

Now let us get to the subject of prepayment methods of physicians, and I am speaking within the context of a reorganization of the medical care delivery system or the plan through which the moneys pass.

There are many possible varieties of organization, with only two or three actually functioning at the moment to my knowledge. The mechanisms which could represent a reorganization of health care are the following:

1. The completely integrated health care system (Kaiser).
2. The medical group-based prepayment program (HIP, GHA).
3. The hospital-based PGP program.
4. The contractual program.
5. The foundation HMO.
6. Miscellaneous variations.

The following are the different types of marketing approach taken by different programs:

1. Closed competitive marketing arrangement (Kaiser).
2. Co-operative marketing with one carrier (HIP, GHA).
3. Co-operative marketing (Harvard Community Health Plan, Columbia plan).
4. Disorganized marketing—foundation HMO (San Joaquin Foundation for Medical Care).

The organizational entities vary from the completely integrated health care system represented by the Kaiser programs on the West Coast and Group Health Cooperative of Puget Sound to the riskless medical foundation. You may find it of interest that I have placed Kaiser at one end of the spectrum and the foundation at the other, since these are the two primary mechanisms which the Department of Health, Education, and Welfare sees as an organized approach to the delivery of medical services. As I will explain briefly in review, it is possible to restructure the foundation plan into a risk-bearing organization.

In looking at marketing, we should recognize that most of the existing plans market only to large employer groups. Only Group Health Cooperative of Puget Sound actively markets to individuals, and it uses underwriting standards. There are a few experiments limited to small groups of Medicare or Medicaid population. Some experimental programs will attempt to work with individuals, including those in the latter groups, and also reach the medically indigent.

Most of the variations in organizational and marketing structure mentioned above will undoubtedly develop in practice during the next several years. Which form may be dominant or will prove successful cannot be known at this time.

Perhaps a word about risk, with relation to the method of payment of physicians, is appropriate. As we run the gamut from the Kaiser program to the foundation, I think you can see how the risk element changes. Under the integrated system a payment is made to the physician or to a medical group, and this constitutes the income of the group. The group is under contractual obligation to provide whatever services are necessary within its capability and sometimes purchase those other services which it cannot deliver. Under a typical third-party payment mechanism, the carrier funds the operation and carries all the risk, paying the providers a fee for each service performed. As we move into an organized system, the risk is substantially passed from the intermediary or carrier, at least in the element of physician services, to the physician or medical group. The incentive to economic management of having a limited income from which to provide necessary services has in some areas proved to be an effective method of controlling cost increases. At the other end of the spectrum, the foundation plan attempts to control costs through rather intensive review of physician activity and with educational and peer persuasion of the physician as to what his system of practice should be.

But let us have a look at organization structure. The Kaiser type of program is a participative management arrangement where the program is jointly managed by a medical director or medical representatives, hospital management, and the health plan or insurance mechanism management. Theoretically, there is free negotiation between the health plan which determines how much income can come in for medical services, the hospital which is to get a share of this income, and the medical group, including the laboratory, which is also to get a share of the total income. Once the annual budget is agreed on, a share of the income dollar is allocated to each of these groups. Incentives can be built into this program so that, if the plan as a whole functions adequately or with a profit, additional compensation can be made to the management and professionals in the system. I say profit, even though all these corporations today, perhaps with one exception, are either co-operatives or nonprofit corporations. While there is a strong bias in many quarters against profit-making operations, if medical care delivery is to be properly managed there must be surplus from operations, and whether this goes to subscribers, increases services, or creates incentives does not change the concept.

While the Kaiser-type programs have had their cost increases along with everyone else, the general level of these increases has been lower than for medical care as a whole in the United States.

The major plans on the East Coast differ in general from those on the

West Coast. The West Coast programs are hospital-based, whereas the East Coast programs are medical group-based and merely purchase services from hospitals. The two largest plans on the East Coast are HIP in New York City and GHA in Washington, D.C. Both of these programs have a number of large medical groups and currently purchase hospital services through Blue Cross. In general, Blue Cross gives them advantages through their special contractual arrangements with hospitals. However, both of these groups are now considering building and owning their own hospitals, consistent with area-wide development programs.

These groups also have tended toward full-time work for a prepaid population. HIP physicians have, in addition, been at liberty to practice on a fee-for-service basis. After a year of intensive bargaining, however, the plan has reached an agreement whereby all physicians will become full time after a two-year period. There is a considerable philosophical disagreement between the existing prepayment plans and larger medical groups as to whether a group can, in the long run, practice on both a prepaid and a fee-for-service basis. The older existing groups who have fought with organized medicine for many years are convinced that the physicians must work nearly full time on a prepaid population rather than share with a fee-for-service practice.

A word about the payment to the physicians. The income to these medical groups is generally on a capitation basis. In other words, a fixed payment per month is set a year in advance to cover all the expenses of the clinic. In some of these groups the health plan itself underwrites the cost of the structure, heat, light, clerical staff, and so on, and the physicians are paid a capitation on a net basis. Physicians will generally be paid on a draw basis equivalent to a salary subject to adjustment at the end of the year. If the financial support for the structure and clerical staff is not adequate to cover the cost, some of the capitation for the physicians may need to be used for this purpose. The physicians may set up their own compensation system or use the balance for incentive payments to reflect individual working habits of the medical group. Some specialties may receive more money than others because of the marketplace. Deferred compensation and similar programs may also be set up. Within the medical group it is desired to encourage productivity, but within the framework of the plan the group carries the total risk of the cost of medical services for the prenegotiated capitation rate.

Let us review a number of other possible approaches. A number of major hospitals around the country are attempting to develop a hospital-based PGP program. There was recently introduced into congressional

hearings the program supported by the American Hospital Association, which makes a lot of economic sense. A hospital would basically have first call on its indigenous population group, and the physicians practicing there would have to be attached to the nearest hospital. This would tend to freeze existing hospital dominances and control the physician's freedom to practice to a degree. It would simplify his problems with multiple hospital privileges and training programs.

Many of the hospital plans which are being developed relate to teaching hospitals which have many full-time salaried staff and residency programs. It is certainly not clear how costly these programs will be if they must subsidize a medical education program. A number of medical schools with their university hospitals are also looking at this type of program. Because of the experimental nature of many treatments and the high number of personnel attached to these programs, the cost, unless subsidized by the university for educational purposes, is likely to be very uncompetitive in the marketplace. In Philadelphia, for example, some medical school hospitals run a per diem of $200 per day. Perhaps it is not out of line to say that the going rate for a university hospital is from 50 to 100 per cent higher than for a free-standing community hospital with limited educational programs. This is also one of the reasons for the more economical operation of Kaiser programs, which until recently have had only limited research-educational programs.

I also believe that the hospitals have some problems because of the pressure of third-party payers, particularly the Blues and the government, regarding the way they can charge for their services. Obviously, the charges for hospital-based ambulatory care today are higher than in many physicians' offices or medical group practices. I am not sure what the reason for this is, unless it is the fact that certain subsidized services, such as intensive care units and so on, must be spread over the entire hospital operation. An ambulatory care center separate from the hospital but on the hospital grounds, and perhaps independent of the hospital, would seem to offer a reasonable alternative.

In these hospital-based programs physicians tend to be salaried and could have a deferred compensation program. Some hospitals are interested in having this type of program in order to beef up their lagging occupancy rates. Unless they can enroll a new population beyond that which they already serve, they will not meet this goal and will undergo considerable expense. Incentives for physicians have not been built into these programs to my knowledge, and none of them has actually started.

Another possible form of organization is what I call the contractual

program. I do not believe any programs of this type are yet functioning. The contracting party here could be a management firm or an insurance carrier but generally would not be the medical group or the hospital. The managing entity would set up the plan, arrange the marketing, and contract with various provider groups to provide services under the plan. I think that it is at least seriously open to question whether this type of program will provide the integrated management which produces good results under the Kaiser system. Again, I think it is likely that this will be tried, and it seems to be a possible approach for profit-making organizations, unless they own hospitals already. To the extent that the organizer can successfully negotiate with medical groups and hospitals, he undoubtedly can set up a program at a low premium. However, when renegotiation comes around, if no control and quality review have been built into this system, it is likely to fall apart. The organizer must operate on a long-term basis to recover any early investment in capital and start-up costs.

I would like to take a few minutes to discuss the foundation program. The movement is exemplified by the San Joaquin Foundation. This foundation has a membership of nearly all the physicians in its area, and it takes a substantial element of risk on a number of programs. As we review the mechanism, I think you will begin to understand the nature of risk in this framework.

The foundation movement, to be an effective mechanism, must make efforts to reach out to provide additional medical services to needy population in addition to merely reviewing services. There must be emphasis on emergency networks and provision of access to the surrounding population on a twenty-four-hour basis.

In simple terms, the foundation is composed of physician members who agree to meet standards and fee levels. A minimum benefit plan is required, with emphasis on ambulatory services, to be underwritten by carriers. The foundation pays claims with the carriers' checks for a service charge such as 4½ per cent. Frequently a certified hospital admissions program is an integral part.

In recent years the foundations have made a move toward accepting risk. Instead of being paid a fee for service by an insurance company check, the foundation would agree to accept a premium as total payment and continue to make fee-for-service payments. If the pool of money from which these payments are made runs out, then the physicians all take a cut in the level of fee to make the income balance the outgo. In general, the foundations today are thinking in terms of a risk of 10 per cent, which

means that, after the fee level is cut 10 per cent, the insurance carrier is again on the risk.

In at least one foundation whose members I have talked to, the physicians are evidently willing to accept the total risk of a capitation paid into the foundation and paid out on a fee-for-service basis. This evidences considerable confidence in the actuarial consulting firm they use to set their rates or in the insurance carrier which is setting up the plan. In any event, it is customary to renegotiate the rates and the fee levels each year with the participating physicians. I have a few copies of a description of one such mechanism of payment.

The last item in the brief program outline for this meeting is entitled "rating problems." This is undoubtedly of considerable concern to actuaries; however, the material with which carriers and consulting firms have to operate makes this an area of even less precision than most other areas. To run over some of the problems briefly, there are four basic possibilities in approaching a rating structure.

The first approach would be what I would call integrated budgeting. This is the approach used by Kaiser. The population must be defined and the cost of supporting the organization and mechanism to furnish the necessary services determined. These costs would include compensation for personnel; costs of equipment and supplies; depreciation on buildings and equipment; cost of ambulances; taxes; interest on debts; and so on. These are basically the typical costs of any corporate organization. Oversimplifying slightly, this is the type of operating budget a manufacturer might develop to price out his estimated production for the following year.

A second approach involves an analysis or inventory of total available community services. Another way of looking at it is to count all the medical dollars or health dollars spent in a given community. If all the health providers are organized into one system and the same dollars are available, an estimate of the total cost of providing all services to one member of the community may be obtained. For this approach, statistics are very incomplete, and hard work is required to dig them out. A second major problem is that, even if the system can be organized, it is not at all certain which part of the community will enroll—the sick part, the well part, or an average spread.

A third approach might be what I would call the actuarial approach. We need to define each service to be provided, the probability of the use of this service, the price for each service, and perhaps the frequency and duration of services. This approach could be used particularly for a foundation plan, where there may be no central organization of services

and frequencies may not change from current community experience. Here, too, however, we will have the problem of relating the assumed probabilities to the population to be enrolled. Also, with this approach the costs of administration must be added to the cost of services. In addition, price structures available are not necessarily related to costs.

A fourth approach would be to price out the benefit structure of the plan by typical group insurance rates. In general, group insurance rates are based on empirical information or experience data. Thus we find in practice that many carriers have different rates for the same benefit plan, primarily because of the different nature of the groups they have insured. This is not to say that the typical group health insurance rates are not scientific; rather, their basis is considerably different from the third approach. Group health insurance rates also include the cost of claim administration and the general overhead of the insurance carrier. There is no reason to believe that this would be the same as the cost of administering an HMO. However, for certain services, pricing out group health rates may be the only practical way out. The rates could also be used to make comparisons with rates developed through the other three methods.

In practice there is doubtless an element of a number of these approaches which must be used in pricing out a prepaid option. Some of the problems involved in the prepayment option rates are obvious. In order to price out the services, we need to know more about an enrolled group population than we normally do in our business—for example, the distribution of children by age. In the Prudential, at least, we normally do not know this distribution for typical group rating purposes. Even when the population statistics are available, it is not certain that in the event of a dual enrollment a typical cross-section of the group will be enrolled. It is generally assumed that there is a selection toward the younger and larger family sizes. If the rates are to be constructed on the typical basis of one person, two persons, or family, particular care must be taken in determining the average family size.

Even assuming that these problems are overcome, there is still another basic question. We have available limited statistics concerning the experience and operations of existing plans, such as HIP or some of the Kaiser plans in California or in Portland, Oregon. The question now is whether a newly constructed health care delivery system will, in effect, be able to reproduce the type of care and experience that these older programs have provided. Kaiser hospitalization experience has proved to be 40–50 per cent lower than that of a typical insured population under either Blue Cross or commercial mechanisms. Will this obtain for a new

group? Existing prepayment plans have a relatively low level of surgery, particularly such items as tonsillectomy and adenoidectomy, hysterectomy, and similar procedures. Will this obtain in a newly formed medical group? Will this obtain in an older medical group which has been following more typical patterns? If the estimates of such utilization are made conservatively, and the rates are high, what effect will this have on the enrollment? Should a rate for a plan be structured to merely reflect the actual cost of medical services, or must it also cover a deficit due to high overhead and initial start-up costs before a sufficient population is enrolled? In some of the newer plans, rates were structured on the assumption of an ultimate overhead level, even though this was not attained in the first two years of operation. A change in this philosophy may have become necessary because of continuing losses.

What provision is being made by the management of the program to obtain statistics to reinforce the rate structure? All the estimates or guesses may neither be proved nor disproved unless the plan is very careful to provide the data which can reinforce the rate-making basis. If this is done, valuable statistics will be obtained and hopefully will enable estimates to be made more precisely in the future for new plans.

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MR. WILLIAM A. HALVORSON: Mr. Sutton, you stated that there are marketing problems with the HMO concept which have not yet been solved. Could you please expand on your remarks in this area?

MR. SUTTON: The marketing problem is one of logistics. The HMO is basically a local or regional health care system. Insurance companies are used for marketing on an employer basis and are not familiar with marketing a dual or multiple option to these employer groups. Even existing group practice prepayment plans do not enroll very small groups or individuals as a general rule. Some way must be found for individuals, small groups, and branches of large employers to have the HMO health care system as an option. The employer will face the problem that some of his employees may be conveniently located in relation to an HMO, but

many of his employees may not be. Employer plans may become nonstandardized because of many options. A key part of the problem is that much of the money for the purchase of health insurance today is tax-sheltered because it is paid through the employer's contributions. This advantage must be continued even though the individuals wish to enroll on a dual-choice basis with a local health care system.

An additional problem is the education of the individual employee or consumer to understand the advantages of PGP plans—the comprehensive nature of the services available. The negative item is that there is some type of restriction on the freedom to choose a provider.

MR. HALVORSON: In working with one new HMO, we developed the concept of "community class rates," where the class is defined in terms of age-sex-family cells and in terms of (1) regularly employed groups, (2) groups with no permanent attachment to the labor force (with underwriting), and (3) special situation groups, such as Medicaid recipients, military dependents, and others. The purpose of having such community classes is to prevent antiselection against the HMO, especially in view of the fact that the prepaid plan will be offered as an option to other plans. Is this a viable procedure for rating prepaid plans?

MR. SUTTON: Prepaid plans as we usually see them today use the concept of a community rate. However, there is no doubt that the capitation rates will be affected by demographic factors such as age, sex, family status, and possibly other social characteristics. The Department of Health, Education, and Welfare tends to recognize at least three categories of community rates: Medicare, Medicaid, and all others. I am convinced that there must be certain other categories as well, including individuals and infant groups. Underwriting could put members of these latter groups in the same category with other employee and union groups, but the cost of enrollment would certainly be higher. I think that this is a valid concept for prepayment plans, but there is certainly a legislative leaning toward open enrollment without restrictions.

MR. JAMES E. JEFFERY: Would Mr. Carter please comment on the adequacy of long-term disability disabled life reserves based on the 1964 CDT Table? Also, is there any recent credible intercompany experience on this?

MR. CARTER: To answer your second question first, the Society of Actuaries Committee on Group Life and Health Insurance has published

data in the *1969* and *1970 Reports* numbers, but the study is still in the developmental stage and no firm conclusions can be made concerning the relationship of current experience to the 1964 CDT Table. In answer to your first question, the intercompany data indicate that the disabled life annuity factors may be too low during the first two years of disability.

CHAIRMAN SMITH: It is obvious to us at Northwestern National that reserves based on the 1964 CDT Table are at best marginal.

MR. BARNHART: The 1964 CDT Table was intentionally constructed to be a conservative table. This very fact creates a reverse problem in calculating disabled life annuities, because the denominator in the calculation is too large when you use a conservative table and the annuity factor is then too small.

MR. SMITH: Mr. Sutton, will you please describe the effect that you believe Title IV of Public Law 91-515 (84 Stat. 1309) will have on the formation of group practice institutions?

MR. SUTTON: Public Law 91-515 authorizes insurers who directly or indirectly cover federal employees in any area to override state legal limitations preventing the formation of PGP's or HMO's. Existing state statutes have a strong bias toward nonprofit, and the confusion generally is with the enabling legislation that formed Blue Cross–Blue Shield. The problem is to get a definite ruling from the state insurance department or the attorney general's department that the proposed HMO plan is illegal in the state. There are now federal regulations indicating how a carrier may then go about starting an HMO subject only to federal regulation. This has not yet been done to my knowledge, but it is likely that it will be tried very shortly in a developing program in Minneapolis. The fact that a state will lose control over developing HMO's is likely to encourage rapid legislation.

MR. HOWARD L. KANE: Mr. Barnhart, does the high level of dental claims generally experienced in the first policy year tend to decrease in renewal years? Also, is there any difference between employee and dependent claim rates?

MR. BARNHART: The level of claims will tend to decrease where there has been high utilization of the program in meeting unmet dental needs, as a result of high awareness of the program. But, as I have mentioned,

other programs, where initial awareness and utilization are low, may show a substantial increase in renewal-year experience.

As to the second question, I think there is a definite tendency for dependent claim rates to run higher, except where you have employees (particularly female employees) who have a high degree of public contact in their work. They are conscious of dental appearance and will have higher-than-average claim rates.

MR. SUTTON: Mr. Barnhart, do you know how the typical retention for a dental insurance case compares with the retention for a typical group health case of the same size, in view of the more frequent use of services and higher claim administration costs?

MR. BARNHART: I hesitate to give a quantitative answer, but in general, for a $500,000 premium group dental case, you could expect on the order of three or four percentage points higher retention than for a group health case of the same premium volume, simply to cover the administrative cost of many small dental claims.

MR. SUTTON: They asked this question specifically to point out what would happen if a bill such as the Burleson Bill were to be passed in Congress. The requirements of this bill are that all ambulatory services in general would be covered under most group health insurance plans (this type of coverage is not provided by such plans today). I would expect a substantial increase in retentions for group health plans to cover the administrative costs of paying a large volume of small claims. Of course, the HMO with a capitation payment is one way to get around this high claim administration retention.

MR. BARNHART: Mr. Sutton, I recall that the Department of Health, Education, and Welfare has set down a number of qualifying principles for an HMO to fulfill before it will recognize the organization as an HMO for purposes of granting funds. What are these principles? Could you comment on them?

MR. SUTTON: The principles are conceptual in nature and are as follows: (1) there must be an organized system; (2) there must be dual choice for the employee; (3) a predetermined premium rate must be guaranteed for one year; (4) the plan must provide comprehensive coverage with emphasis on ambulatory care; and (5) part of the risk must be

taken by the provider, particularly the physician. The tendency of these principles is to shift the risk-taking element from the insurance company to the provider.

MR. BARNHART: In my experience the physicians do not appreciate this point. They think that their role in an HMO will be no different from their position in the current situation.

MR. SUTTON: This is exactly what I have experienced. One final point: two of the three HMO bills currently in Congress want doctors to work full time in group practice.

ACTUARIAL PRINCIPLES AND PRACTICES FOR PENSION PLANS

Atlantic City Regional Meeting

CHAIRMAN JOHN K. DYER, JR.: According to the program, we are supposed to review the New Orleans discussions on this subject and report on subsequent developments. I shall review the New Orleans discussions only very sketchily, and I have no subsequent developments to report.

I hope that you have all reviewed the discussion paper that the Committee on Pensions prepared and had mailed out before the New Orleans meeting. I may refresh your minds on it simply by mentioning the four courses of action it discussed:

1. Reliance on professional education and accreditation.
2. Disclosure, certification, and presentation of pension plan valuation results by amplification of the Guides to Professional Conduct.
3. Statement of or guide to generally recognized and accepted actuarial principles and practices.
4. Textbook, either for actuarial students or for pension specialists or both.

In New Orleans we had a one-and-three-quarter-hour general session, in which a panel made up of members of the Society and Conference pension committees expressed their views. This was followed by a one-and-a-quarter-hour concurrent session devoted entirely to informal discussions from the floor. In those three hours we learned one thing if nothing else, and that is that this matter is subject to as wide a range of diverse opinions as any subject discussed by actuaries in recent years, not even excluding adjusted earnings. We heard views ranging all the way from absolute opposition to guides of any sort to expressions that strongly worded guides are vitally needed and in fact long overdue.

I am not about to try to find a consensus, for I am sure that there is none. I am not about to enumerate the arguments pro and con—there are too many of them. I do wish to address myself quite briefly to one question that has been raised by a number of people. The question is: Just what is the problem? Has it been, or can it be, clearly defined? I do not think that it has been, and I doubt that it ever will be. I question whether we even need to spell it out precisely. We are probably faced with a situation with which the medical profession is often confronted—the necessity for prescribing treatment on the basis of symptoms, without having identified the disease. That there is a problem, or, more likely, a combination of problems, I am quite convinced. I believe that there are

many who agree with me. Just let me run quickly through the most conspicuous of the symptoms.

The Education and Examination Committee and many recent Fellows are well aware of the deplorable lack of good educational material in the pension area. So education is clearly a part of our problem.

Many pension actuaries have been concerned with a certain tendency for nonactuaries to write our rules for us. The Internal Revenue Service has done it repeatedly. At least one nonactuarial organization has proposed to publish guidelines for pension calculations. Six years or so ago we had a narrow escape from having the accounting profession convert pension actuaries into calculating clerks. Thus competition from other professional and official groups seems to be a prominent symptom of our problem.

We have all seen instances of a breakdown in communications among actuaries. We do not all speak the same language. We do not understand what the other fellow has done, and we conclude that he must be wrong. Thus a deficiency in internal communications, often resulting in an expensive waste of time and impairment of the credibility of actuaries generally, is a further symptom of our problem.

Do we have an adequate sense of responsibility to the public generally—not our clients or our employers, but the people who may nevertheless be affected by our findings and recommendations? There are some who maintain that we have no such responsibilities, but I cannot agree. I feel that when a management informs its stockholders that liberalization of a pension plan will not increase its cost because the actuarial assumptions have been changed, the actuary behind the figures is a party to a deception of the public. Don't we have a problem of somehow seeing to it that actuarial figures are properly and completely disclosed?

These and other symptoms, while not adding up to a full and concise definition of a problem, are enough to cause me to conclude that some sort of action on the part of the actuarial organizations is highly desirable. What form such action should take is what we are exploring, and that is why we need your help and co-operation. If you think that there is no problem, or only a problem that will go away by itself, please say so—you will have some distinguished company. If you think that there is a problem, give us the benefit of your most constructive thinking.

MR. PAUL H. JACKSON: The topic for this morning is a review of the discussions that took place on the matter of actuarial principles and practices at the New Orleans meeting, and a report on subsequent developments. Since I was not present at the New Orleans meeting, my

discussion this morning will relate to some of the other areas and problems in connection with actuarial principles and practices.

To begin with, about half a dozen years ago the Accounting Principles Board of the American Institute of Certified Public Accountants sponsored an accounting research study on the topic "Accounting for the Cost of Pension Plans"; subsequently they published *APB Opinion No. 8*, setting forth acceptable standard accounting practices. This procedure has led a number of actuaries to the conclusion that, clearly, if the accounting profession can accomplish such noteworthy gains in a short period of time, the actuarial profession must be equally capable of developing research studies and issuing opinions on actuarial principles that could similarly set forth the weight of professional judgment.

Of course, the purpose of the accountants is to eventually achieve complete uniformity in financial documents both for their own profession and for the financial community, so that one and all can understand every financial report and everyone can place the same interpretation on everything. While there may be a few accountants who question this as a desirable goal, I believe that it is one that cannot be achieved by actuaries and that it is not even a desirable goal unless the actuarial profession intends to stop with the products we now have and have its activities degenerate into the routine processing of trivial bits of information in a set of static programs that are not permitted by law to develop any further.

Looking to my own personal consulting experience, I can see a wide variation in benefits, covered groups, and ultimate objectives among the clients I serve. First, there is a very large plan covering hourly-rate employees with benefits negotiated at three-year intervals and data drawn from forty-nine separate divisions. There is also a plan for the salaried employees of the same employer, with benefits based on final average earnings and with extremely generous early retirement and disability pensions. Then there is a large nonunion employer with a noncontributory pension based on career average earnings with only modestly generous early retirement benefits and no disability or death benefit. Another is a pension plan covering several hundred thousand union members that is supported solely by member contributions and that provides for a complete forfeiture of all rights to benefit if the retired member performs any work within the scope of the union's jurisdiction. There is a very large multiemployer plan which provides flat dollar benefits with an employer contribution based on a percentage of a rapidly increasing payroll base, but there are no data at all on the active group covered. From this hodgepodge of giant plans, my experience spans a

broad range, down to a fifty-life association which is competing in the employment market with civil service and a two-life, nonintegrated annuity certain plan designed by a local lawyer. The variation illustrated by these plans may not be typical of actuarial practice, but it does illustrate the range of employment conditions and special problems that pension plans have been applied to.

Because of the wide variation in pension plans, the rapid developments in areas such as early retirement, disability retirement, integration, interest yields, salary increase factors before and after the freeze, and a host of others, and perhaps even a wider variation in personal preferences among our actuarial membership, it should be apparent that the development of a single, standard, accepted guide to actuarial practice is a hopeless matter. At the very best, we would end up with what might be called "a baby book for baby actuaries." If an actuary is to treat his client with as much individual attention as a doctor treats his patient or a lawyer his client, then it must be recognized that the sort of step-by-step standard procedures set forth in various *Opinions* of the APB are completely inappropriate. It would, of course, be possible for the medical profession to write a text for doctors suggesting that as step 1 they take the patient's name and check whether he is breathing; step 2, take his temperature unless in their judgment it appears not to be necessary; step 3, measure his height and weight accurately unless his physical appearance suggests that that may be no problem; and so on.

Our present interpretive opinions go so far into details as to be a bit silly. For example, Opinion S-4 states in rather pompous terms (slightly paraphrased here), "Accordingly, in the opinion of the Committee, the actuary's report, in addition to including the name of the actuary, should give the name of the person retaining the actuary, the purpose which the report is intended to serve, the date of the valuation, and a summary of the basic valuation results," among other items. As a practicing consulting actuary, I am not at all sure that I appreciate the obvious fact that the committee has so low an opinion of my professional judgment that they feel they must tell me to put my name on a report, and that in my report on basic valuation results I should include the basic valuation results. How would a lawyer feel if the bar association told him that in the case of a legal brief he should be sure to put down the name of the client, the name of the case and court, and the present date, type the report on onionskin paper, and make four copies? In short, once we get beyond general principles into details, the whole process becomes an exercise in the assembly of trivia. But it is of such trivial links that the chains of slavery are forged.

There is a very real danger in the development of a text setting forth

actuarial principles and practices for pension plans. First of all, it should be obvious that the development of a truly good text will reduce actuarial practice to the cookbook level. Once such a text has been developed, who needs the physical presence of an actuary to apply those principles? Any number of management consulting firms with computers could develop actuarial valuation programs that follow the principles set forth in any such official text. Thus actuarial valuation becomes a process that can be conducted entirely apart from the human actuary. Both doctors and lawyers, as professionals, have been very careful to restrict the areas in which individuals outside their profession can practice law or medicine.

To be completely realistic, recent developments in connection with accreditation would seem to indicate that actuaries cannot hope to gain federal or local recognition unless there is some sort of control exercised by the profession over the activity of the members. At the federal level, however, those in the Departments of Labor and the Treasury, as well as the working members of several of the congressional committee staffs, have indicated that they do not want merely a general book that sets forth broad ranges in methods and assumptions for use with pensions but rather that their ultimate goal is a single, standard procedure and a specific set of instructions. The Defense Contract Audit Agency, for example, has already issued an internal memorandum recommending that all reimbursement for defense contractors be developed on the unit credit valuation method, regardless of how the contributions to the plan are determined. They had previously set forth some minimum requirements on asset valuation. In any event, by issuing a general book on principles and practices, the actuary will have taken the first step down a path that must ultimately end with only one acceptable set of actuarial assumptions, such as Mortality Table T specified by the Department of the Treasury, no withdrawals, retirement at the earliest age for retirement, interest at 4 per cent, assets valued at amortized value because all investments must be in government bonds, and so on. I view this as total disaster for the actuarial profession.

Is there any alternative to all this? Perhaps we could learn something from the doctors and lawyers who have set up what amounts to a grievance procedure under which a lawyer or a doctor who has done something that is questioned by the general public or by another professional can be asked to support his statements or activities before a group of his peers. As an actuary, while I would very much like to retain my professional independence, it is clear that, in those areas in which I exercise judgment, I must even now be prepared to justify my conclusions to a rather broad group, first of whom would be my clients, then various

authorities such as the IRS, then the accountants, and perhaps others. I believe, however, that it would be better for the Society of Actuaries (or perhaps the Academy) to set up some sort of panel which could judge those cases in which an actuary's work has been questioned by some party having a legitimate interest in the matter. An actuary clearly is better off putting his case before a group of experienced fellow actuaries than before the Department of Labor or a federal court, where the reviewing body may have rather limited knowledge of the profession and its problems.

MR. RAYMOND W. BENDER: The attempt to create a guide to actuarial principles and practices for pension plans has been underway for about six years. As a new member of the Society's Committee on Pensions, charged with this task, I have wondered why we are still in the preliminary discussion stage. This has led me to try to sort out and summarize the possible problems, the proposed solutions, and the reactions to these proposals.

One problem seems to stand apart from the others. It may really be a general nontechnical problem for the profession rather than one having to do primarily with pension plan work. Is the actuary's responsibility solely to his client? Or, where he is working for a pension plan sponsor, does he have a responsibility to the plan participants?

The present Guides to Professional Conduct require the actuary to qualify his findings if his report is based, at the client's request, on assumptions or methods which deviate from sound practice. This is a rather limited requirement. It does not require him to make his misgivings widely known. It does not pertain to the actuary's observation of other aspects of the plan's operation with which he is uncomfortable.

One reaction to this problem is the argument that the actuary serves the plan sponsor, not the participants. References are made to the relationship of a lawyer or a doctor with his client rather than to the obligations of the accounting profession to stockholders. This reaction is supported by the present Guides and by Opinion S-3. However, if a plan sponsor decides to use the actuarial report—for example, by publishing some parts of it to plan participants—then a new situation is present. It is possible that the existing Guides and Opinions need amplification on this point. If the actuary's client chooses to publish the report, then I believe that the actuary has an obligation to see that those reading the publication are not misled.

Another reaction is that a minimum course of action for the actuary is to resign from serving in situations where his advice is ignored. This

leaves the matter to individual conscience. You will notice some parallel with the discussion going on about the actuary's responsibility for the net cost illustrations for life insurance contracts. Another parallel is Mr. Nader's suggestion that an individual should speak out in the public interest even if this is against his employer's interest.

Should the profession take a position on speaking out? Whether or not it does so, it seems likely that sooner or later pension plans will be required to submit reports to a federal pension agency and to participants. These reports will probably include actuarial calculations, with an actuary (of some description) certifying that the figures presented have been prepared according to certain standards set forth in federal regulations.

Next I shall mention the problems particularly related to serving pension plans. One problem that apparently has existed, which the Society has tried to meet in Opinion S-3, is that reports prepared by an actuary have been edited and presented to clients by nonactuaries. Opinion S-3 urges the actuary to take steps to avoid any intervening bodies.

It is less clear to me what problem Opinion S-4 solved. Perhaps I have not read it carefully, but it seems to do the following:

1. Urge that the term "actuarial soundness" be avoided and that a more detailed statement be made about the plan's funding progress. (This probably has protective value for the actuary, leading him to "hedge" any opinion.)
2. Urge him to do his work carefully and well.
3. Urge adequate disclosure, so that *another actuary* could appraise the report. Certain items are listed as being desirable to include in an actuarial report.

Perhaps the third item has resulted in more complete reports, although producing a report that another actuary can appreciate may not result in better communication with the client. The opposite result is possible if care is not taken to maintain perspective in what is presented to the client.

What problem or problems remain to be solved? Working back from the solutions proposed, it appears that the actuarial work being done for pension plans is not always done well. What are the difficulties?

1. Even a very complete report is not understood. There may not be an appreciation of the nature and limitations of actuarial calculations. The results may be accepted as absolutes.
2. This is related to the preceding item. When the client has calculations made by several actuaries, he gets different results, and the range may be wide. This may cause a loss of confidence in all actuarial efforts.
3. The written presentation of the report may be poorly done and incomplete.

4. The underlying calculations may be based on assumptions, methods, or approximations that are not appropriate. In other words, the actuary supervising the calculations may not be fully qualified.

The Committee on Pensions has offered for discussion two alternatives to meeting some of these problems. One alternative is illustrated by Opinion X, which would probably replace existing Opinions S-3 and S-4. It is characterized as an opinion on disclosure, certification, and presentation.

It seems to me that an expanded Opinion of the "X" type might result in more complete reports, but it would not do much more than this. The person receiving the report would continue to have difficulty understanding it—in fact, his difficulty might be increased. Disclosing or describing assumptions and procedures does not make them appropriate.

The committee's more ambitious alternative is to attempt to produce a guide or statement of actuarial principles and practices for pension plans. There is real doubt that agreement can be reached on the content of such a guide. However, if it were possible, the result would meet some of the problems I have listed. If the guidelines were observed, the quality of the calculation work done by less experienced actuaries should be improved.

Is the Committee on Pensions going to be able to do more than offer to disband? My own view is that an additional Opinion is not likely to accomplish much more than the existing Opinions. An effort to produce a guide is worth trying, even if the result is only a textbook useful mainly to students.

MR. SAMUEL ECKLER: My reaction to the discussion paper is as follows:

First, the four alternative avenues summarized on page 3 of the discussion paper are not all independent of one another. Certainly the textbook approach under alternative D affects professional education under alternative A; the statement of actuarial principles under alternative C must be closely related to the textbook approach under alternative D, and conversely; and so on. I think we would find that there is interaction among all the alternative avenues, and none of them is independent of the others.

Second, these alternative avenues are not mutually exclusive. We can follow two or three of these avenues, for example, alternatives B, C, and D. All this does not discount alternative A, but I take it for granted that professional education will be of the highest degree in any event and that accreditation will continue to be pursued. However, I do not want to rely on this avenue.

I incline to an approach that includes a little bit of each of alternatives A, B, C, and D, drafted in such a way that each can be described along the broadest possible lines.

Canada (for employment within the legislative authority of the Parliament of Canada) and four provinces—Alberta, Ontario, Quebec, and Saskatchewan—have pension benefits acts that require registration of all pension plans in these jurisdictions. Registration is not granted to a plan unless it contains minimum portability provisions and is solvent as determined by regulations. A qualified actuary is required to make triennial reports and to certify as to the solvency of the pension fund. There are no references in any of the regulations to actuarial assumptions or costing methods, but the actuarial deficit must be amortized over a period not in excess of eighteen years, except for an experience deficiency, which must be amortized in five years.

With the wide variety of pension benefits, the multiplicity of actuarial costing methods, and the many actuarial assumptions that have to be made, the Ontario regulations describe the solvency test in very general terms and give a lot of discretion to qualified actuaries to carry out the intent of the act.

Nevertheless, Ontario decided to put some constraint on the freedom of actuaries by providing in section 4(4) of the regulations that "[w]here the Commission is not satisfied that the report [the triennial valuation report containing the actuary's certificate] has been prepared in conformity with generally accepted principles of sound actuarial practice, the report shall be amended so as to be acceptable to the Commission."

In mid-1971 the Pension Commission of Ontario addressed a letter to the Committee on Private Pensions of the Canadian Institute of Actuaries, enclosing two different actuarial reports for its examination. That letter stated that the commission's principal concern regarding the enclosed reports was with the assumption of 6 per cent interest, and the commission requested the committee's comments and guidance as to whether this was in accordance with generally accepted principles of sound actuarial practice.

The Committee on Private Pensions agreed with some reservations that it should provide the commission with an opinion as to whether or not these reports were prepared in accordance with generally accepted principles of sound actuarial practice. It sent a letter to the commission stating in effect that these reports were so prepared, after obtaining the consent of the council to this action.

However, the council, on further reflection, concluded that it would not be proper for the Committee on Private Pensions to continue to give such opinions and thereby stand in secret judgment on the adequacy

of reports to a governmental body that had been prepared by members of the Institute. The CIA transmitted this conclusion to the commission and also offered assistance in resolving this difficult question. There was no difficulty with the reports then being questioned by the commission, but suppose that the CIA committee had ruled that they were not prepared in accordance with generally accepted actuarial principles. There's the rub!

Let me briefly give two views on these recent developments in Canada, which, like the four alternatives in the discussion paper, are probably neither independent nor mutually exclusive.

First, the CIA should spell out acceptable actuarial principles for pension plans, either in a code of professional conduct or in the form of a guide. The responsibility for actuarial reports would still be the actuary's entirely, and questionable cases could then be referred by the commission to the CIA. This approach avoids rigid rules about assumptions and methods and gives major responsibility to the actuary. However, it puts a tremendous burden on the CIA in terms of both work and responsibility. It may also place the CIA in a very awkward position with its members, since it may be necessary for it to sit in judgment on the members concerned.

Second, let the Pension Commission or, for that matter, any other regulatory or public body in a comparable position reach its own conclusions about the acceptability of an actuarial report. There would be no reference to commonly accepted actuarial principles, but the commission or any other body could lay charges of professional misconduct or incompetence against actuaries who prepared unacceptable reports too frequently. This procedure would not involve the CIA in work that some consider not properly its concern and would allow the actuaries whose work is being questioned an adequate defense. I assume, of course, that very few cases would go as far as the levying of charges of professional misconduct. There would be informal discussions with the actuary involved long before such a stage was reached.

Again, as in my reaction to the discussion paper, I think that perhaps a little bit of each of these approaches should be followed.

MR. JACKSON: Is it appropriate for the Society of Actuaries to set rules for pension consultants in view of the fact that Society members are largely insurance company actuaries?

CHAIRMAN DYER: All members of the Society's Committee on Pensions are pension actuaries—half are consultants and half insurance company actuaries.

MR. ECKLER: There have been, in Canada and elsewhere, examples of poor actuarial reports, and hence Opinion S-4 is needed. Also, full disclosure of actuarial assumptions and methods is important for labor-management review.

MR. DAVID LANGER: Actuarial assumptions and methods can often be profitably discussed with clients, who may be in a position to make valuable judgments on the appropriateness of some of the assumptions—for example, investment return, turnover, salary scale, early retirement rate, and so on.

MR. CHARLES L. TROWBRIDGE: There are two different goals under discussion here—education of actuaries and professional-conduct guides. These two areas should be considered separately. Much more work needs to be done on the educational side, particularly in developing new pension material and in organizing material already written. Barnet Berin's recent book is a good step forward, and much has been done by the Pension Research Council. The Committee on Continuing Education probably should be the focal point for this effort.

MR. JACKSON: My firm, the Wyatt Company, does not impose a set of generally accepted actuarial principles upon its actuaries. We feel that each actuary should be free to make his own individual, professional judgments.

MR. RICHARD HUMPHRYS: The Society should concentrate its efforts in education and on rules for ethical conduct. I am opposed to attempts to review the professional work and judgment of individual actuaries. The legislation in Canada, which is for the protection of the public, requires reports to be signed by qualified actuaries. In any pension legislation, there should be some provision for review by public authorities. I would be strongly opposed to legislation which sets up detailed standards comparable to the laws in the United States which prescribe standards for life insurance reserves and cash values.

Chicago Regional Meeting

MR. PRESTON C. BASSETT: The usual purpose of panel discussion is to hear opposing or different views on topics of current interest. However, as a member of the Society of Actuaries Committee on Pensions, I am more interested at this session in hearing the views many of you have on this important issue. You have been given a discussion paper so that you

could be informed on the issues involved, and I hope that you will soon let the committee know what action you feel they should take, if any. Perhaps this panel can provide you with further information and answer questions that you may have.

First, I would like to make a general comment which may clarify one of the issues, before we get into the more controversial items. The discussion paper given to you sets forth as one alternative the preparation of a textbook and source or reference book for actuaries and students. I consider this a separate issue. I do not look upon a textbook as an alternative to a guide to actuarial principles and practices for pension plans. Regardless of what we do on the question of a guide, it seems essential that someone prepare a textbook on what is being done, which could be used by students and by those currently in the pension field. The preparation of such a textbook is probably not the province of the Committee on Pensions, but undoubtedly the committee could be of assistance to whoever is responsible for such an undertaking. This text would cover the ways in which things can be done and the practices currently used, but it would not be a guide to tell an actuary what he should or should not do. I urge action on the part of the Society toward the development of such a textbook. I believe that a start on such a textbook was made by members of this committee.

I believe that something along similar lines, but less technical, should be prepared to educate the public. It is probably too much to hope that the man on the street will understand pension plans sufficiently to exert an influence on the types of pensions that are granted employees—for example, municipal employees. However, a textbook that would be available for businessmen, particularly for administrators of pension plans, would be most helpful. It is interesting to note that most of the literature to date on this topic has been written by nonactuaries.

Eliminating the textbook as one of the alternatives still leaves us several choices. These include the following, at a minimum:

1. Establishing a guide to actuarial principles and practices for pension plans similar to that used by the accountants under *Accounting Principles Board Opinion No. 8*. This guide would set forth recognized and accepted procedures for the valuation of pension plan benefits.
2. The second alternative would be to require further disclosure of what the actuary has or has not done. This would extend the present Guides and Opinions and would require further disclosure, with much more detail set forth in actuarial reports.
3. The third alternative is to do nothing beyond what we have already done, on the grounds that we have sufficient guides at the present time.

In order not to keep you in suspense any longer, the third alternative is the one that I favor. Just to refresh your memory, the present Guides contain statements like the following:

1. The actuary "will give such advice only when he is qualified to do so."
2. The actuary will inform the client of "his personal availability to provide supplemental advice and explanation."
3. The report will include a statement "describing or clearly identifying the data and the actuarial methods and assumptions employed."
4. The actuary will ensure that his recommendations are based upon "reliable data, that any assumptions made are adequate and appropriate, and that the methods employed are consistent with sound principles established by precedents or common usage within the profession."

It is my feeling that these statements are specific enough to guide the actuary and yet general enough to allow him the flexibility he needs in working with a client to solve pension plan funding problems. Actuaries involved in advising clients on pension costs meet a variety of circumstances calling for different but reasonable solutions. The actuary may be advising a small employer, a medium-sized employer, or a large employer. He may be establishing a plan for private industry or for a union, a municipality, or some other nonprofit organization. A plan may be for one employer or for a multiemployer situation. A plan may be for salaried employees or may cover a different classification. The plan may be funded with an insurance company or funded through some other medium. The list of variables is almost inexhaustible. The actuary must fit his recommendations to the needs of his specific client.

The greatest security for the employees covered by a pension plan is the continued profitability of the organization sponsoring the plan. As long as the organization continues to be profitable, it is highly likely that it will be able to meet its pension obligations. The actuary must have sufficient flexibility to take this important factor into consideration in working with his client.

I do not believe, however, that our responsibilities as actuaries are limited strictly to our relations with our clients. It is my opinion that the actuary must assume broader responsibilities. The results of his study are used and relied upon by others beyond his immediate client. For example, the material set forth in the annual statement for the corporation is relied upon by the auditors, by the stockholders of the corporation, and by potential stockholders. In many situations the results of the actuary's study are provided to employees, unions, and so on, as well as to the client. While the actuary can do many types of calculations on any confidential basis the client may request, he must also be prepared to

defend before the public any figures that are to be used in the calculations. You can assume that any qualifications or disclosure of the actuarial basis will be omitted when the results are published by the client.

This is one of the reasons why I do not believe that disclosure is an alternative to the Guides to Professional Conduct. Simply disclosing the salary scale used in the actuarial valuation does not relieve the actuary of responsibility for the appropriateness of this salary scale. I do not believe that an actuary can hide behind disclosure alone in providing public figures. The results of the calculations can be taken out of context, and the actuarial assumptions upon which they are based or any qualifications made by the actuary can be omitted. Further, I feel that disclosure should be limited to those areas in which it will be useful to the persons reviewing the information disclosed. A valuation report to a small, unsophisticated employer might provide very little disclosure, as compared to the disclosure that would be given an actuary, who has been requested to review an actuarial report prepared by another actuary. Thus, in my opinion, the actuary should only be required to disclose detailed pertinent information upon request. Again, I refer to the Guides to Professional Conduct, which state that the actuary will be available to provide supplemental advice and explanation. Where more information would be useful, the actuary will be available to provide such information. It is the over-all results of the actuary's calculations that are important, and in many cases the actuary will use simplified procedures which could be difficult to understand or explain in a disclosure statement.

In my opinion, it was unnecessary to issue Opinions S-3 and S-4. Perhaps they are helpful, however, although they may have been unnecessary; but I see no need for any further extensions of these Opinions.

Perhaps some of my concern for extending the Guides to include a statement of actuarial principles and practices is that I do not know just quite what such a statement would look like. At one extreme, it could be very detailed and precise, in which case it would inhibit the actuaries in their practice. I oppose this. At the other extreme, it could contain some bland statements which would be meaningless and thus would add nothing to what we presently have. I am concerned, however, when it is suggested that a peer group review the work of other actuaries. None of us likes to have his freedom of action restricted, and I feel that such review is unnecessary as long as we follow the present Guides to Professional Conduct.

It is sometimes stated that, unless the Society of Actuaries does something to regulate the actuaries, the government will. Certain bills before

Congress in the area of pension legislation talk about certifications by actuaries. It is my opinion that such certifications are perfectly reasonable and should be encouraged, but I do not see that it necessarily follows from this that we need further restrictions on our present practices.

MR. BLACKBURN H. HAZLEHURST: It is interesting to view the events that have taken place in Canada. For example, at one point one province had legislation on its books which mandated private supplements to federal pensions. Before this legislation could take effect, it was withdrawn because federal pensions were significantly improved. There survived from this legislative effort certain requirements that private pension plans meet standards of vesting, funding, investment, disclosure, and so on. Among the various regulations is a requirement that, with certain exceptions, "the reports and certificates referred to . . . shall be made by an actuary." The definition of "actuary" is "a Fellow of the Canadian Institute of Actuaries."

It is my understanding that the regulatory authorities in Canada have questioned some actuarial reports, particularly as to assumptions, and have forwarded portions of these reports to the Canadian Institute of Actuaries for comment. At first the Institute did comment, but I believe that they have now taken the position that they do not want to review reports unless they can talk directly to the actuary involved.

It is my further understanding that the Canadian regulatory authorities have rejected at least one actuarial report which used relatively high interest and salary scale assumptions. A later report was accepted. The later report used more traditional unrealistically low interest and salary scale assumptions. The two reports came up with nearly the same costs.

Apart from suggesting difficulties with government involvement and with relations between the individual actuary and the actuarial organization to which he belongs, the situation described shows, in my view, that actuarial reports may be unduly misleading. Evidently people do look at assumptions as well as costs. Unfortunately, however, some assumptions, such as the interest rate, seem to be more closely inspected than others, such as the salary scale. In fact, studies have been published that show a high concentration in current actuarial reports of interest assumptions in the 4–5 per cent range. The studies I have seen are silent about the concurrent salary scale assumptions. I do not know of any similar studies of typical salary scale assumptions.

Have we so misled the readers of our reports that they think we really expect the costs we quote to be realistic, even though only 4–5

per cent interest is earned and even though salaries continue to escalate much more rapidly than our reports typically assume? Have we gone so far that government regulations will increasingly deny a realistic appraisal? Of course, we can make a double valuation, one being realistic and the other using "cooked" traditional assumptions for regulatory consumption. Surely we do not want to force plan sponsors and ourselves into that situation as a matter of routine.

My answer to the problem is more disclosure. If we use unrealistic assumptions, perhaps well suited to the purpose of the report, I think we should say so with sufficient clarity, so that the readers of the report have a better chance of understanding the realities of the situation.

Some have suggested that disclosure may simply give the actuary a place to hide, that is, that the actuary may do something rather odd and cover it with disclosure, which disclosure may be stripped away in transmittals or misunderstood. No doubt some of this will happen. However, I think that intelligent observers, such as the accountant or regulatory body involved, will ask to see the disclosure information, especially if they know it must be there, so that "hiding" should not be a large problem. On balance, even if no one reads the disclosure, it should be a healthy requirement, since it causes the actuary to review his own thinking.

If there were more disclosure, regulatory groups would be more accustomed to seeing low salary scale assumptions accompanied by statements that losses in this area are expected to be made up by gains from interest. Confronted with this, regulatory groups would probably come to welcome individually realistic assumptions, accompanied by fewer hedging statements, rather than reject them.

I am even prepared to encourage enforcing and/or extending the spirit of Opinions S-3 and S-4. However, let us back up for a moment and see where Opinion S-4 came from. The Society Committee on Pensions, several years ago, took on the task of coming up with some sort of book. It is important to understand that a book is not easy to agree upon. I believe that at least four, and probably more, versions have been prepared but laid aside. There are many problems. For example, the book could easily be too bland; or seem to condone less than entirely desirable practices, simply because they are often followed; or go to the other extreme and suggest desirable approaches that may unnecessarily cast doubt on more traditional approaches and may be not at all desirable in some situations.

Some of us who were involved in the book problem came to the conclusion that we could more readily agree upon what to say about what we have actually done in a given situation than we could agree upon what to do. The result two years later was Opinion S-4.

Before voting for the book as a substitute for other alternatives, it would be well to keep in mind the difficulties so far encountered in preparing a book. In fact, one year ago all previous book efforts were laid aside in favor of a book designed simply to amplify Opinions S-3 and S-4.

While I am distressed at lack of disclosure in actuarial reports (for example, how often do we indicate in our reports whether cost accrual rates are likely to rise or fall in the future, and why?), I am also strongly in favor of actuarial freedom to cope with a problem on the basis that seems best for that particular situation. I look upon disclosure as a way to help preserve more freedom of action. Some of the alternatives to disclosure are "statements of principle," which I presume are likely to tell us what to do and not just how completely to describe what we have done.

One of the reasons for developing Opinion X for discussion purposes was simply to encourage actuaries to focus the impact of Opinions S-3 and S-4. Opinions S-3 and S-4 may well be enough, if their spirit is followed, although they have loopholes and there seems to be no enforcement mechanism.

Both Opinions call for reports to be in sufficient detail to permit "another qualified actuary" to evaluate and interpret the report. The question is whether our reports typically are complete enough for another actuary to fully understand the situation. Full disclosure should not make the report less readable to the plan sponsor. A brief, very readable summary can be put at the beginning of the report. Disclosure should improve understanding at least by another actuary, providing an opportunity for occasional peer review that may be quite desirable.

It seems to me that we should try to cope with legitimate needs of plan sponsors, plan participants, and regulatory groups. I would prefer that we do this with disclosure, while preserving as much freedom as possible. If full disclosure is too painful, expensive, or otherwise troubling, one suggested compromise is to issue periodic "public" reports with full disclosure, while other reports may be more private and less complete.

Regarding governmental aspects, in addition to disclosure, it would be helpful, in my opinion, to set up a liaison committee of actuaries to discuss matters of mutual interest quite informally with the various levels and branches of government. Such discussions may prompt the liaison committee to encourage other committees and/or individual actuaries to consider one or another problem or approach.

To summarize, I suggest not relying completely on a book, although a book as an educational or seminar-type effort is worth pursuing as a separate task. I am opposed to rigid how-to-do-it rules, although I am in

favor of more disclosure than has often been practiced in prior years. If all this discussion only serves to encourage more attention in practice to Opinions S-3 and S-4, I am reasonably content.

MR. D'ALTON S. RUDD: I am a member of the Pension Commission of Ontario, responsible for regulating group pension plans in that province. I wish to comment on the concern over the absence of generally accepted principles in the question of valuation of pension plans. One example giving rise to such concern has been the use of "realistic" high interest rates in the area of 8 per cent in conjunction with similarly high salary scales, while the fund itself was currently invested and earning 4–5 per cent.

I feel strongly that the profession should set up some guidelines for itself; otherwise, regulatory bodies, faced with such a great variation of assumptions, costing techniques, and so on, may decide that regulations on asset and liability valuations should be imposed by statute or regulation. Personally, I have favored the approach of a statement of generally recognized and accepted actuarial principles and practices. Others are giving consideration to requiring a signed actuarial statement by the actuary, wherein he takes responsibility for validity of the assumptions, in his personal opinion.

MR. HERBERT J. BOOTHROYD: One of the major difficulties in attempting to influence legislation and regulation is the noted lack of understanding on the part of legislators of who actuaries are and what it is that they do. One sometimes detects the feeling that this absolves us from responsibility for the actions which government takes. As a profession, we had better do everything we can to ensure that influential people do appreciate our professional role in designing and administering pension plans. We can be sure that these same people do understand what duties accountants, attorneys, and others can perform. Our profession will inevitably play a diminishing role if we cannot get our message across.

UNDERWRITING THE CATASTROPHE ACCIDENT HAZARD

Underwriting the catastrophe accident hazard, including that on jumbo jets: How are insurance companies underwriting and pricing risks presenting concentration hazards? What provisions are made for catastrophe hazards which occur so rarely that credible volumes of experience are lacking? What, if any, alternative approaches are being followed?

Atlantic City Regional Meeting

MR. JOHN M. BOERMEESTER: Because of the ever increasing concentrations of people on this continent, all life companies become subject to the possibility of paying extraordinarily large amounts of benefits because of such incidents as explosions, fires, tempests, floods, or travel accidents. Unless a company makes some sort of analysis of this possibility from time to time, its management will experience uneasy feelings about the possible impact of catastrophes upon its surplus position and dividend payment practices. Both large and small companies are concerned with this question. What may be considered a catastrophe for a small insurer could possibly also be considered so for a single line of a large company, such as its group operations.

There are a number of possible ways by which a company may protect itself against embarrassments due to claim fluctuations. A company could, for example, establish special reserves, restrict acceptances in high-risk areas, or purchase a stop-loss or a catastrophe reinsurance plan. Although there has been much discussion of the possibilities of the stop-loss plan, I understand that practical problems have limited sales to a very small number. For that reason the remainder of my comments will concern only the common catastrophe form.

To come to grips with underwriting questions concerning catastrophe reinsurance, we need to start with a precise definition of a catastrophe. For our purpose we will use a definition which states that a catastrophe is an accident which causes the death of X or more people. A value of $X = 5$ has been used for many years by the Statistical Bureau of the Metropolitan Life Insurance Company in its annual compilation of United States data relating to accidental deaths. We should note that, in this definition, deaths need not be insured. Catastrophe reinsurance contracts are generally written with a stipulation that a minimum number of deaths in any one accident must be assured by the ceding company. This minimum number in some cases is as low as 3.

Under a typical plan, the reinsurer, with respect to a single catastrophe, pays a proportion, say 90 per cent, of the total loss in excess of a specified amount, subject to certain limits. A limit may be set for the total payment for any one catastrophe; another limit may be set for any single death; still another limit may be set for the total payments for a contract year. Exclusions will probably be made for specified events such as war or nuclear accidents. How many catastrophes and associated deaths are

TABLE 1

CATASTROPHIC ACCIDENTS IN THE UNITED STATES, 1941–65

Type of Accident	Accidents		Deaths	
	Number	%	Number	%
Motor vehicle	1,282	39	8,965	24
Fire and explosion	970	30	8,251	27
Air transportation	275	8	4,831	14
Tornadoes, floods, hurricanes, etc.	249	8	5,921	18
Water transportation	196	6	1,900	6
Mines and quarries	85	3	1,356	4
Railroad	72	2	1,259	4
All other	126	4	899	3
Total	3,255	100	33,482	100

TABLE 2

NUMBER OF CATASTROPHIC ACCIDENTS AND DEATHS

Year	No. of Accidents	No. of Deaths	Year	No. of Accidents	No. of Deaths
1965	144	1,682	1960	171	1,501
1964	162	1,363	1959	186	1,430
1963	158	1,375	1958	179	1,592
1962	156	1,292	1957	171	1,707
1961	148	1,233	1956	157	1,320

we talking about when a catastrophe is defined as an accident involving 5 or more deaths? Table 1 shows a summary compiled by the Metropolitan of such catastrophes in the United States during the twenty-five-year period ending with the year 1965. You will note that the number of catastrophes totals only 3,255, roughly 130 per year. The death total averages roughly 1,350 deaths per year. The average number of deaths per catastrophe is, therefore, roughly 10.

Table 2 presents data for each of the years in the ten-year period ending

in 1965. It shows that the yearly number of catastrophes is quite stable. The average yearly number for this decade, 153, is somewhat higher than that for the twenty-five-year period. The average number of deaths is also somewhat higher. It is true that this period did not have any catastrophe with more than 550 deaths; but then only three catastrophes with more than 1,000 deaths have occurred in the United States during this century. The last one was the 1928 Florida hurricane, which took a toll of 1,833 lives. The largest United States catastrophe on record for this century is the 1900 Galveston flood, which killed 6,000 people.

Those of you who have read John Wooddy's reinsurance Study Notes will remember that he stated that, while many companies might feel that they need catastrophe coverage, unfortunately very little information was available for analyzing their financial requirements. Wooddy added that the specifications for establishing market rates for catastrophe reinsurance premiums were as closely guarded as group dividend formulas and that the premium rates that have been quoted were high enough to introduce second thoughts in the minds of many would-be purchasers.

Some aura of mystery thus seems to exist with respect to catastrophe reinsurance. One reason is that life actuaries in the United States and Canada have not directed their energies to the solution of problems associated with this type of reinsurance. One lone paper by Ed Green appearing in the 1954 *Transactions* provides a good discussion of the reasons for buying catastrophe insurance; it does not, however, attempt to solve the financial requirements for various situations.

One brochure which I have seen from a company offering catastrophe reinsurance stated flatly that no actuarial basis exists for rate-making. This statement no doubt is true if one is considering providing unlimited coverage for only the very rare catastrophes which involve thousands of deaths. The question then arises as to whether an actuarial basis exists or can be developed for restricted coverage.

I believe that actuaries are now in a position to obtain better cost estimates for their company requirements than they could obtain a few years ago. One reason for this optimism is that companies may know more about the nature of their business. A second reason is that practical machine techniques for performing simulations and solving risk-theory equations have been developed. A third reason, I believe, is that a research study could be organized to analyze historical catastrophe data and develop information required to evaluate the hazard properly.

In order to measure the cost of catastrophe insurance, theoretically at least, we need the frequency distributions for various types of accidents. Table 3 shows such a distribution, which I had prepared to represent all

types of United States catastrophes. This generally represents the experience for the decade 1956–65, modified to reflect data for large catastrophes during a longer twenty-five-year period. You will note particularly that the curve for this distribution has a long right tail.

Given proper catastrophe data, how can one proceed to compute premiums and fund requirements to cover the costs of catastrophe insurance at a confidence level of, say, 95 or 99 per cent? An analytic approach for computing the requirements of catastrophe insurance for a relatively simple company model was outlined in a paper by Dr. Paul Strickler, "The Accumulation Risk in Life Insurance," which was presented in 1960

TABLE 3

DISTRIBUTION OF CATASTROPHES BY NUMBER OF DEATHS

No. of Deaths	Frequency	No. of Deaths	Frequency
5	42.8%	41–60	1.0%
6	21.8	61–80	0.30
7	11.8	81–100	0.10
8	5.6		
9	4.1	101–150	0.32
10	2.3	151–200	0.18
11–15	4.1	201–350	0.14
16–20	2.1	351–500	0.10
21–30	2.2	501–600	0.06
31–40	1.0		
		Total	100.00

at the Sixteenth International Congress of Actuaries. An English translation has only recently become available to North American actuaries. This translation is included in the first issue of *ARCH*. *ARCH*, which stands for *Actuarial Research Clearing House*, is the new communication being distributed to interested members of the actuarial community by the Society's Committee on Research.

Dr. Strickler set out to develop a method for giving the order of magnitude of costs associated with various possible plans. He used three major assumptions: (1) the distribution of the number of deaths in catastrophes involving X or more lives could be represented by a simple function of X; (2) the distribution of the sum insured for individual deaths could be represented by a simple exponential function; and (3) the insured lives were subject to being killed in a catastrophe in accordance with the probabilities applicable to the United States public in general.

Strickler's paper gives tables displaying net premiums and their

standard deviations and suggested gross rates for a number of possible plans. He cautions the reader that the purpose of the paper was not to set up a ready-made rate structure for all possible situations. This, he said, is not possible because the essential factors of the catastrophe risk vary too greatly from company to company. Incidentally, Dr. Strickler based his calculations on Metropolitan's catastrophe data for the period 1946–50.

You may well ask how you would proceed if your company's situation simply could not be represented by Dr. Strickler's model. For example, the proportion of insured lives subject to a particular hazard such as hurricane or flood may be especially high, or your company might insure a large number of group policies which are subject to special industrial accidents.

A few years ago, my company decided that it should evaluate rates being suggested to us for catastrophe reinsurance. It was quite evident at that time that we could not cope with structuring a realistic analytic method for the company's operations. Consequently, the only method left to our disposal was a simulation procedure using a sequence of Monte Carlo steps to estimate the cost possibilities. This was found to be a most challenging exercise.

How can one proceed to make an analysis based on simulation? The best I can do at this time is to give a rough sketch for a simple model. Let us assume that a company writes typical group and individual insurance policies and that a typical reinsurance contract is under consideration. An accident qualifies as a catastrophe if at least 5 assured lives die. The primary question of interest is, "What is the amount of a fund which would cover total claims with a confidence of, say, 95 or 99 per cent?"

One could proceed as follows to obtain a sample claim cost for the first year of, say, 1,000 years of simulation:

1. Obtain the number of area catastrophes for the year.
2. Classify each catastrophe as being industrial or nonindustrial.
3. Obtain the number of deaths in each catastrophe so classified by type.
4. Determine whether or not each industrial type is insured by the group line. If so, assume that all deaths will be insured by the company. Determine the death benefit for each death from the sum insured distribution appropriate for group business.
5. If the type is nonindustrial, determine whether 5 or more lives are insured by the company. If so, determine the death benefit for each insured death from the sum insured distribution appropriate for individual lives.
6. Add up the costs to determine the total reinsurance benefits for year 1.
7. Repeat this operation for 1,000 years and obtain an estimate of the theoretical distribution of costs.

A realistic simulation procedure will present the same problems that are found under a more sophisticated analytic approach. These problems relate to obtaining distributions for the amounts at risk with respect to sex, age, occupation, and so on.

In summary, if a company wishes to test any reinsurance proposition, it would be most desirable to make a reasonable estimate of the costs involved without undue difficulty.

I believe that practical techniques for pricing can be formulated for both simulation procedures and analytic means. A need exists for making a thorough analysis of the history of catastrophes. A need exists for papers on the subject of financing catastrophe reinsurance which meet the standards of the Committee on Papers.

Admittedly, I have not answered the question as to how reinsurance companies actually price their catastrophe risks. I simply do not know. Perhaps someone will volunteer to elaborate on this matter.

MR. DAVID G. HALMSTAD: My discussion will cover some of the complexities one encounters in "underwriting" from the point of view of "setting a proper price on an insurable risk." That is, my remarks will disclaim knowledge of the peculiarities of a given risk and concentrate on the difficulties in setting proper prices on "catastrophic" risks.

I also intend to use "catastrophe" in a broader, less technical sense than is used in John Boermeester's discussion of the catastrophe life coverages defined by variations of the "five-life" rule. One dictionary definition of catastrophe is the following: "an overturning: a final event: the climax of the action of the plot in play or novel: an unfortunate conclusion: a sudden calamity."[1] In this context, the catastrophe shall be defined in terms of the insurer. What is of concern in this discussion is the sudden "overturning" of the insurer's position to that of one needing protection rather than supplying it. I am, of course, referring to "ruin" as defined in risk theory.

It is fairly evident that "ruin theory" is a natural accoutrement for catastrophe coverages. The theory deals with the insurer's surplus, retention, and loading positions in light of sudden and extreme losses that may arrive at a time when adequate financial resources are not available to

[1] *Chambers's Twentieth Century Dictionary* (American ed.; New York: Hawthorn Books, 1965). The ancient "overturning" sense is corroborated by *Brewer's Dictionary of Phrase & Fable* (Centenary ed.; New York: Harper & Row, 1970): "A turning upside down. Originally used of the change which produces the denouement of a drama, which is usually a 'turning upside down' of the beginning of the plot. . . .

> Pat! he comes like the catastrophe of the old comedy.—SHAKESPEARE, *King Lear*, I, ii."

fulfill the insurer's promises. What has not been so clear in the past, however, and has been borne out by our studies of the catastrophe element of aviation reinsurance coverages, is that ruin theory itself needs extension to be correctly used in practical insurance problems.

This fact has been recognized for some time and is being corrected. I am not referring to the operational problem of getting numerical results from the theory, which has been successfully tackled in the past.[2] I am more concerned with those elements which make the theory erroneous in application.

Risk theory can be viewed most easily as queuing theory seen through an insurer's problems.[3] Particularly in such a context, it is evident that the influence of interest is not accommodated by the classical theory. This is now being studied by some researchers, and analytic solutions can be obtained.[4] Of related concern in actual insurance problems is the influence of inflation on the claim amount distribution, especially on liability coverages where long lags may occur between incurral of liability and final settlement of the amount involved. E. A. Lew and I presented a simulation model approach to determining an "incurred-time claim amount distribution" at the Wisconsin Actuarial Conference,[5] a study which could have been made from an analytic model just as easily, but in this approach interest and inflation were treated only after a claim was incurred, not before. For our specific problem—airline coverages involving terms of comparatively few years—interest on premiums collected is not crucial to the problem. It may be argued that interest on any surplus used for such coverages is properly assignable to other insurance cover-

[2] Besides the classic and more modern approximations of Esscher, Bohman-Esscher, Hovinen-Pesonen, Bowers, and Beekman, one can note the most recent papers of H. L. Seal in the *Bulletin of the Swiss Actuarial Association* and Seal's notes for his risk-theory course in New York City in 1972. Seal's work emphasizes that modern computers allow one to calculate the exact risk-theory results from arbitrary distributions for claim numbers and amounts.

[3] Besides the many queuing texts which mention risk theory, special note should be made of H. L. Seal, *Stochastic Theory of a Risk Business* (New York: John Wiley & Sons, 1969), and his class notes for Statistics 50 at Yale University.

[4] See, for example, the recent work of Hans U. Gerber, "On the Discounted Compound Poisson Distribution," *Proceedings of the Wisconsin Actuarial Research Conference* (Committee on Research, Society of Actuaries [forthcoming]), and "Games of Economic Survival with Discrete- and Continuous-Income Processes," *Operations Research*, Vol. XX, No. 1 (January–February, 1972).

[5] "A Practical Approach to Aviation Liability Reinsurance," *Proceedings of the Wisconsin Actuarial Research Conference* (Committee on Research, Society of Actuaries [forthcoming]).

ages, but this does leave open the question of interest lost on temporary use of such surplus to meet claims.

Our Wisconsin study developed this model for claim liabilities in a ruin-theory framework to determine loadings, surplus, and retention limits for airline reinsurance on a conservative basis. Loadings were calculated, for a given retention and initial surplus, on a basis which makes that part of the gross premium impervious to inflation erosion: the amount of loading was taken to be the same as if all incidents that occur (even before application of any deductible) were insured for a flat sum equal to the maximum coverage possible. This basis is very conservative, and it was hoped that, by using it, insurers might be guided to a conservative decision regarding retentions on such business. What remains, after all the safety precautions are taken, in calculating the loadings needed (or, conversely, the retention limits that should be used) is then merely the expected number of such incidents in a given period of time.

It is this parameter that I am concerned about today. As will become clear, the determination of such a parameter is critical not only if one uses the conservative, practical loading formulas of our Wisconsin presentation but also if one attempts to use ruin theory on a more realistic basis. For example, loadings developed with due consideration for a finite time period in which claims may be incurred will be shown to be heavily dependent on the expected number of events in the given period. The influence of this parameter in the risk-theory model has apparently not been given quantitative consideration before. Its influence is most easily understood in the catastrophe context rather than in a queuing or classical insurance context, where larger numbers of expected claims apply.

One of the restrictions that I should have added to the scope of my use of "catastrophe" in this discussion is that catastrophic claims will be considered as those which are rare and, consequently, large in comparison to the premium which may be placed on them. There are, in airline reinsurance coverages not including a deductible, many small claims that occur, and these may be priced by classical methods. What we are concerned with is only the catastrophic element—the large, rare incident (or "crash" in the colorful terminology allowed by aviation coverages), the one that could seriously embarrass the insurer. While we use the catastrophic "crash" terminology, our principles may be applied to other catastrophes, including that of a sudden shower of smaller claims.

A key factor in the analysis of airline catastrophes, in addition to their rarity, is the influence of technology on the rate at which they occur. Generally, this influence has been beneficial and applies to "pilot error" conditions as well as to those which are entirely mechanical. Studies of

crashes by aircraft manufacturers and the National Transportation Safety Board have, for example, led to the use of digital altimeter readouts to minimize hasty, erroneous readings from clock-style altimeters. Such changes are continually being made, and their influence should be recognized in one's forecasts of future experience. Similar, but opposite, effects can be recognized in air traffic density increases and the potential hazards of a new type of aircraft such as the supersonic transport.

We have, then, two interrelated problems in the determination of crash rates or similar catastrophe rates. The rarity of events of a catastrophic nature and the influence of technological change, both good and bad, force us to use historical data that must be treated as only a base on which to make some kind of forecast, and, moreover, that forecast must recognize uncertainty based on a paucity of events.

Our uncertainty about what the "true" crash rate may be is, unfortunately, of some importance in the application of ruin theory when finite time period restrictions are imposed. When "infinite" period assumptions are used, this problem is of less importance. To make this more precise, I would like to discuss some results from our studies.

For a Poisson claim process involving claim amounts of a constant size (say unity), the interrelationship between initial surplus, loading needed, and a finite period of time measured by the expected number (and hence total amount) of claims may be derived analytically. In Figure 1 we display the multiple of expected claims that is needed as loading to hold the level of ruin risk to 0.5 per cent with several amounts of initial surplus for a range of expected claims up to 10. These values were calculated from the exact expression given by Seal.[6] It is evident that, for this unit claim coverage, the loading for a given level of surplus rises quickly to the ultimate level set by an "infinite period" assumption.

It is also immediately apparent from Figure 1 that loading, for example, is not linear in the expected claims, for a given initial surplus. For example, the loading needed in addition to an initial surplus of 5 and the net premium (expected claims) varies nonlinearly from zero, if expected claims are really less than about 2, to over 50 per cent of the expected if they are greater than 4. It should be noted that, for example, if the number of expected claims in a given period is, in fact, only unity, the insurer who insists that he is willing to expose 5 claim units of surplus to 0.5 per cent chance of loss in the period needs, in cold fact, *no* premium income whatsoever, since the probability of more than 5 claims in the period is already less than 0.5 per cent on a Poisson assumption. Obviously this condition also holds for any nonsingular claim amount distribution when

[6] *Stochastic Theory of a Risk Business*, sec. 4.20.

the surplus held is 5 times the maximum claim and the actual number of expected claims is one or less.

Similarly, at an expected claims level of 2, net premiums of 2 and the 5 of surplus will cover up to 7 claims, and this also will be exceeded less than 0.5 per cent of the time if the expected number of claims is really 2.

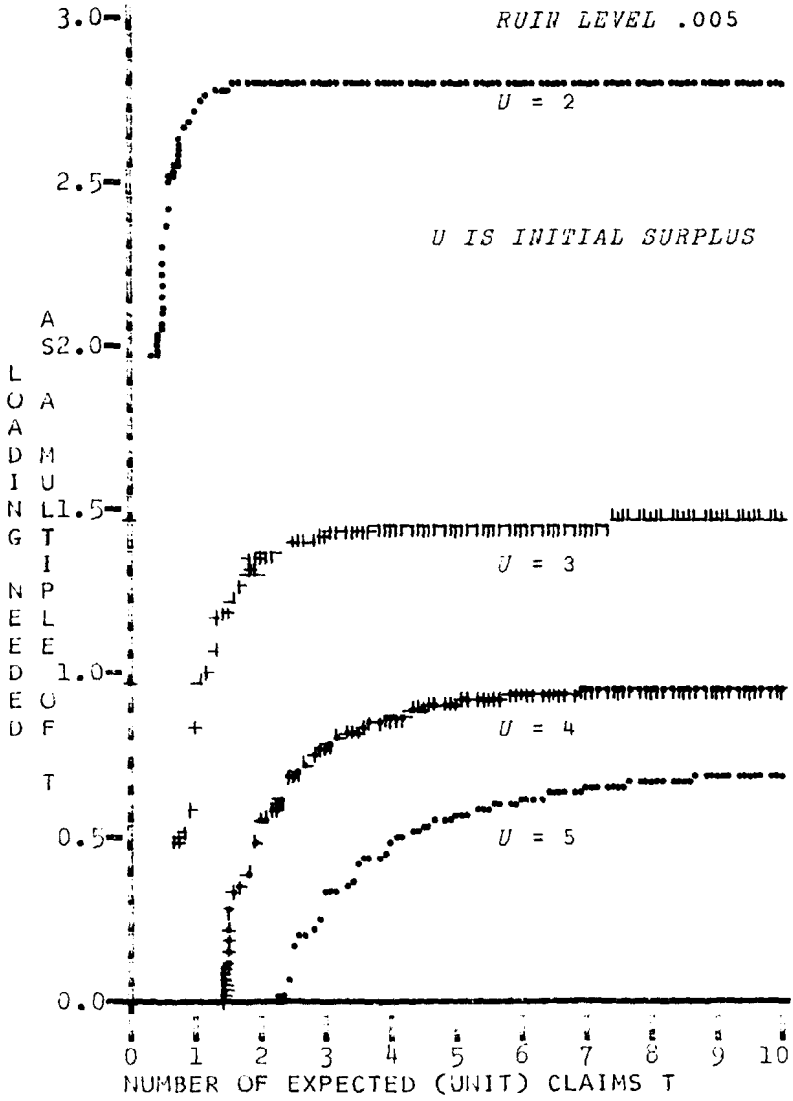

FIG. 1.—Multiple of expected claims needed to hold level of ruin risk to 0.5 per cent, as a function of number of expected claims, for several amounts of initial surplus.

No loading is needed in this case. These results should give us pause before we blithely apply risk theory to actual catastrophe problems. Small numbers of expected claims may need careful interpretation before risk-theoretic results are used.

Our present interest in Figure 1 is in the nonlinearity shown. For, if we are uncertain about the precise number of claims expected, and we can express that uncertainty mathematically, we can combine Bayesian uncertainty with the risk-theory results to obtain an expected value for critical items such as gross premiums. Net claims are linear in the number of expected claims (if the number and amount distributions are stochastically independent), and the expected net claims can easily be obtained as the net claims expected at the level of the expected number of claims. Any multiple of, or addition to, such net claims is also linear, which would apply if we use, for example, the "infinite period" loading factors and usual expense formulas to obtain gross premiums. If, however, the insurer insists that loading factors be calculated from finite period assumptions, on catastrophic coverages he runs the risk of both misusing risk theory and also underestimating the real underlying claim rate.

How can one measure the uncertainty associated with a claim rate when there are few incidents and one feels that the underlying rate is constantly changing? In our studies of airline incidents we have developed a form of Bayesian adaptive forecasting which gives us excellent control on the underlying rates. We shall denote Bayesian adaptive forecasting as BAF in the sequel. While the method and tests of BAF are described elsewhere,[7] Figures 2 and 3 show the type of information that can be obtained with it.

Our data for these displays are identical with those used in an article in the Metropolitan's *Statistical Bulletin* (May, 1972), although our interest is in the rate of fatality-producing accidents rather than, as in the article, the passenger fatality rate. While one can assume that the process generating the first of these is Poisson, and our BAF methods are easily applied, the second is obviously compound Poisson and depends on auxiliary distributions for the changing capacity and load distributions of aircraft. It should be noted that the data used in the article, while concentrating on the passenger fatality hazard, include in their base all revenue aircraft departures, including cargo as well as passenger flights. To the extent that our BAF method implicitly tracks the effect of a

[7] Diane G. Wasser and David G. Halmstad, "A Heuristic Bayesian Adaptive Forecasting Method," *ARCH* (Catastrophic Insurance Special Issue, Committee on Research, Society of Actuaries [forthcoming, spring, 1973]). The original source for the BAF method is Edward A. Silver, "Bayesian Modelling of a Non-stationary Poisson Process," *INFOR*, March, 1971.

changing passenger-cargo mix, this is not a serious problem in our analysis.

In both these examples the data used cover the period 1957–71. The period 1957–59 was used in both to provide the initial a priori gamma distribution to which each successive year's data (number of fatal accidents

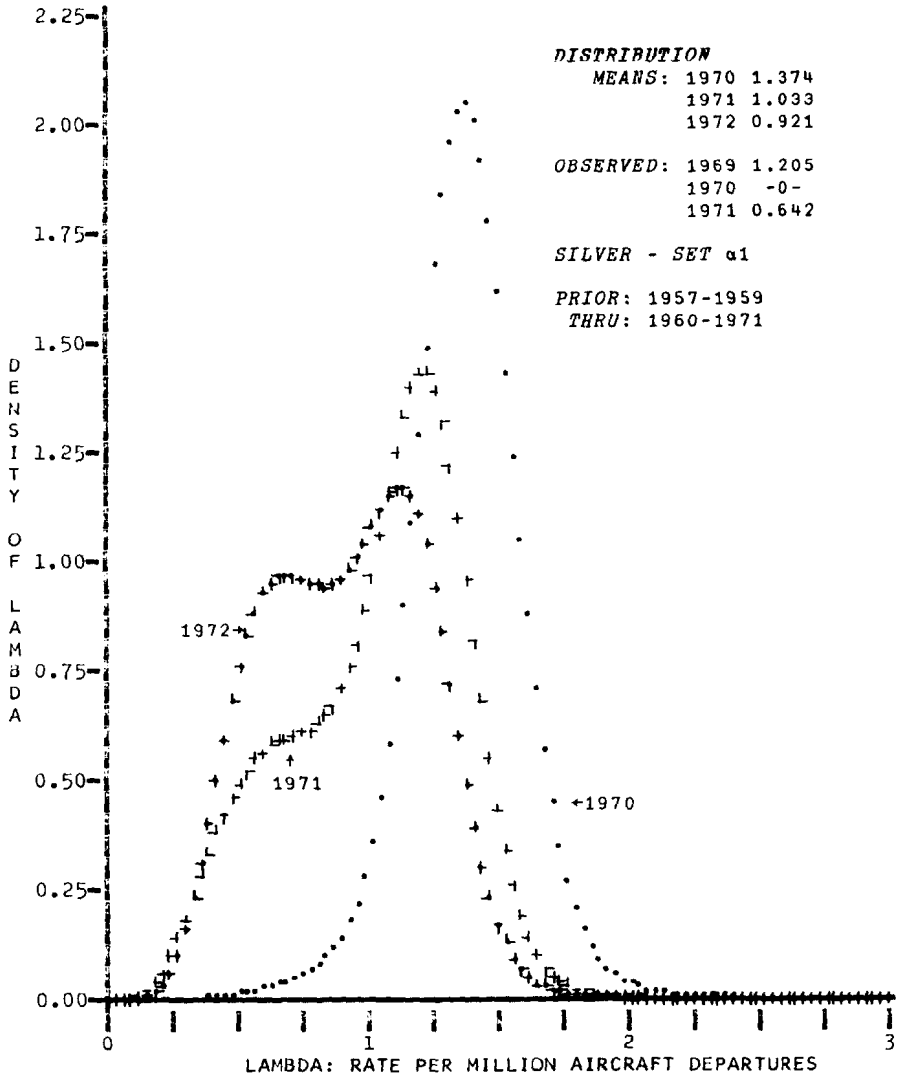

FIG. 2.—Bayesian distributions of fatal crash rates forecast for 1970, 1971, and 1972 from 1969, 1970, and 1971, for domestic operations of United States certificated airlines.

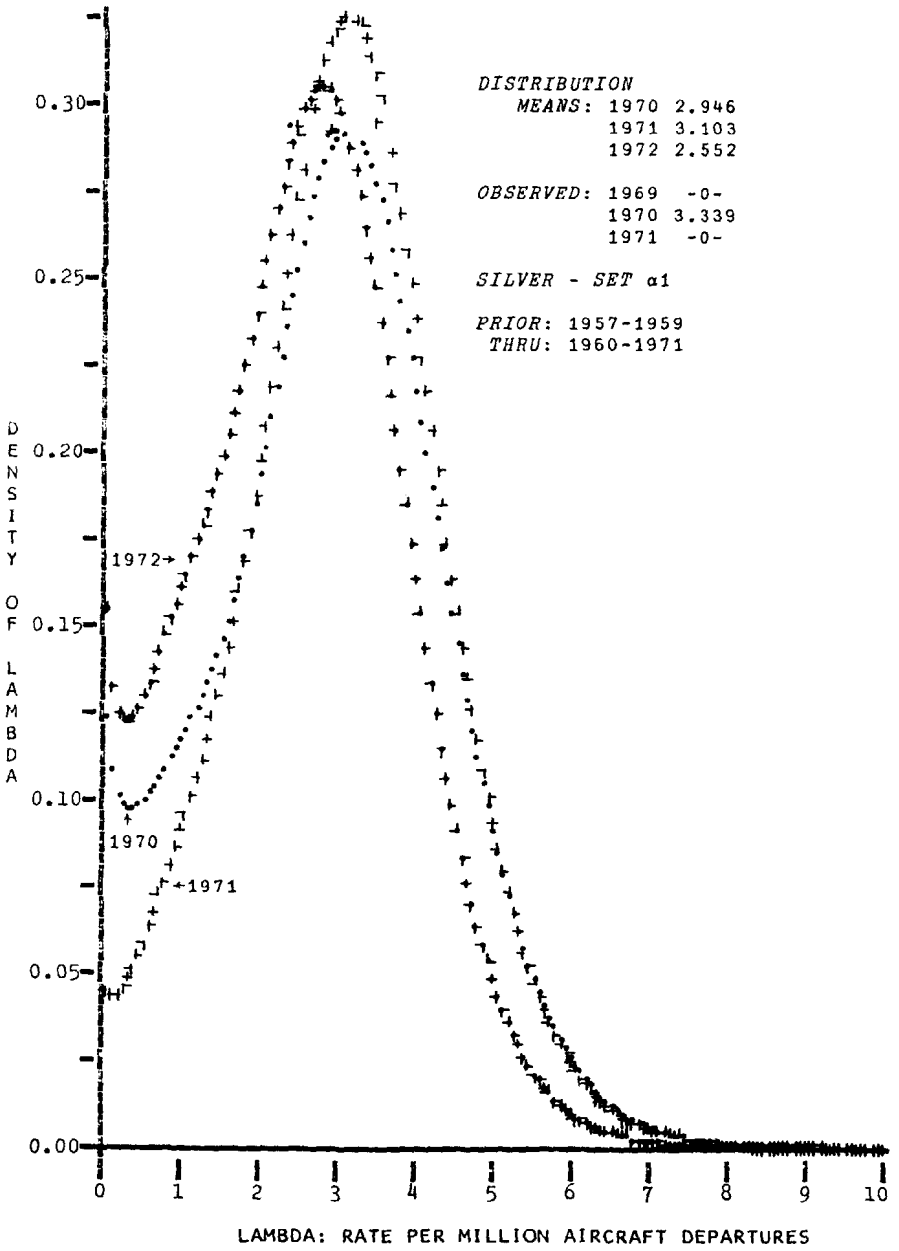

FIG. 3.—Same distributions as in Fig. 2, for international operations of United States certificated airlines.

and millions of aircraft departures) were measured on a Bayesian basis, modified and supplemented by the new data. Thus the adaptive forecast for 1970 consists of a weighted mixture of eleven gamma distributions representing the initial 1957–59 data set and the ten separate years from 1960 to 1969. The parameters of these gamma functions have been modified since their original establishment by a Bayesian view of the intervening data, and the weights given to each have likewise been modified by Bayesian principles. Thus, for example, the mean of the gamma distribution derived from the 1960 data on domestic operations has been modified from 1.93, as used in the forecast for 1961, to the lower level of 1.24 for the forecast to 1971 from 1970, and its weight has dropped from 0.15 to 0.0355 in the same period. These values are dependent to some extent on the control values used in the adaptive forecasting model. For the examples presented here, these controls are conservative in the sense that a trend is changed only in extreme cases.

With that in mind, consider Figure 2, which covers domestic operations of United States certificated airlines. It shows the forecast Bayesian distributions of the fatal crash rate for 1970, 1971, and 1972 from 1969, 1970, and 1971. In the years up to 1970, the crash rate forecasts had been narrowing in on a bell-shaped curve ranging from about 1 per million to 1.7 per million (both points at 5 per cent tail areas). Then, in 1970, following a series 4 4 8 7 5 4 4 6 6 3 7 8 6 for the numbers of fatal crashes, there were *no* fatal accidents for this category of airline activity. Periodicals in this country and abroad noted this fact with appropriate emphasis, but we still were surprised at the mathematical corroboration of this feat. The forecast for 1971 has dramatically shifted downward from that for 1970 and recognizes the strong possibility of a much-reduced claim rate. The effective range for the 1971 forecast has now been broadened to 0.40–1.5, and a hump shows up in the range under 1 per million, a rare possibility in the forecast for 1970. In 1971, while the record was not entirely clean, with 3 fatal accidents, the 1971 forecast was corroborated, and a lower crash rate is possibly forming at less than 1 per million departures. In a sense, the 1971 actual record is even better than that of 1970; it strongly confirms the apparent shift made by the 1970 experience.

Naturally, with this dramatic development under the conservative controls used for this analysis, we double-checked the results. When one does so, it becomes apparent that the zero-event possibility was just too remote to ignore on previous experience.

Interestingly enough, some manufacturers of aircraft are maintaining that the safety design work for the jumbo jets, including many backup

systems and engineering to minimize human error, has been successful. It has also led to many modifications of design on existing models. In studying the accidents of the recent past, one is struck by casualty-free incidents that would probably have been disasters in the past.

In Figure 3 international operations of United States certificated airlines are analyzed. Here again, recent experience has included some fatality-free years, but the total number of fatal accidents between 1957 and 1971 (13, as compared with 75 for domestic operations) does not lend much credibility to these values on their own. The 90 per cent range of the 1972 forecast is about 0.4–4.85. There is an indicated trend downward, but the general level of the crash rate is not yet apparent.

Because the BAF method is merely a heuristic blending of Bayesian analysis with the adaptive forecasting methods usually associated with inventory control procedures,[8] we felt that it was necessary to test the method adequately to be reassured that it does in fact give us reasonably good control on the underlying process. From a secondary viewpoint, we felt it necessary to gain some feeling for the proper settings, in several contexts, for the controls afforded by the adaptive forecasting model. While these tests are more completely described elsewhere,[7] it should at least be noted here that our tests took the form of setting the "true" underlying rates and, with various assumptions about exposure levels to these rates, seeing whether the BAF method at least enclosed the true rates when used on the 5 percentile "best" and "worst" experiences obtained from simulations of possible experiences of the underlying rates. Our tests indicate that the method does trap the real rates very effectively and is surprisingly good when the assumed underlying rates move in periodic curves upward and downward.

In underwriting an individual airline or analyzing the operations of a particular model of aircraft, even fewer data of a catastrophic nature than used above are available. Our present studies concern the possibility of blending actuarial credibility methods into the use of BAF. It would seem possible, for example, to let the experience on domestic operations of United States lines help us narrow the range indicated on international operations. What is apparent from our studies, however, is that blending of such experiences must be done on carefully developed principles—BAF is a powerful technique. In a simple test we attempted to narrow the range of the international operations forecast by using the entire 1957–71 domestic experience as a starting prior distribution to the series of 1957–71

[8] See, for example, G. E. P. Box and G. M. Jenkins, *Time Series Analysis, Forecasting and Control* (San Francisco: Holden-Day, 1970), or R. G. Brown, *Smoothing, Forecasting and Prediction of Time Series* (Englewood Cliffs, N.J.: Prentice-Hall, 1963).

international experience. The 1971 and 1972 forecasts which resulted were practically identical with Figure 3, with the addition of a slender spike at about 1.3 per million. While the 75 fatal domestic incidents of the first prior distribution were powerful enough to dominate the first few forecasts, later experience on international services was clearly not the same as the original assumed distribution, and by 1971 the influence of the latter had been heavily discounted. The range, and the shape of the curve, were essentially the same as those that we would have obtained from the 13 incidents on international flights by themselves.

The BAF method, and our studies of the possible "true" underlying crash rates and their general direction, represent only part of the studies that we believe necessary to properly apply ruin theory to the problem of catastrophes. Perhaps more significant is a study which we are only now beginning: we would like to establish an optimal decision policy regarding loadings, retentions, and even the amount of business one should strive to accept, based on previous history of original assumptions and the claims that followed. While ruin theory does give one proper loadings and retentions in static conditions (proper recognition being given to the problems described in this discussion), the real world will inevitably force us to change our posture on these matters as experience develops. Questions of related interest, such as maintaining equity between existing clients and new ones, are also much more difficult when few catastrophic claims exist. I believe that the answers to many of these questions will come from the existing works of Karl Borch and that we will have to face the eventual possibility of definite ruin (at least to some prescribed financial extent) and hope only to maximize the return in the interim. This work has begun, but we do not expect to see clear-cut answers soon.

MR. JULIUS VOGEL: I would like to speak about aviation reinsurance —what it is, why the Prudential is in it, and what some of its marketing and legal aspects are.

First, what kinds of risks are covered by aviation reinsurance? For purposes of this discussion I would like to limit myself to the airlines. An airline needs two kinds of insurance. First, it wants to insure its own airplanes against accidental damage or loss. This is called hull insurance and is analogous to automobile collision insurance. If the airline loses a plane, it wants to be reimbursed for the loss, perhaps so that it can buy another plane and in any event to offset the effect on its earnings of the loss of a valuable asset. The values of the planes now in service range from about $4 million for a new DC-9 or 737 to about $17 million for a new DC-10 and to about $25 million for a new 747. The premium for hull insurance

is generally expressed as a percentage of the hull values. The annual premium will vary from perhaps 0.25 to over 1 per cent of hull values, depending on such things as the kind of airline—United States trunk, regional, foreign; the kind of airplanes the airline flies; its past experience; if it is a large airline, its experience during the period of coverage; the amount of deductible (some airlines attempt to keep their insurance costs down by paying the first $\$X$ million of hull claims themselves); and so on.

The other major airline insurance need is for liability coverage. As you may know, on domestic flights an airline's liability to a passenger killed or injured in an accident depends on what the plaintiff's attorney can get in court, or in an out-of-court settlement, under the same kind of tort liability procedure that would apply if a person were killed or injured in an auto accident. The travel accident insurance that the passenger may have bought at an airport, or any insurance that his company has furnished him as an employee benefit, is completely irrelevant in such a case. The development of tort liability cases in airline accidents is a highly specialized field, but there are plaintiffs' attorneys who are very knowledgeable in this field—who know all about FAA control procedures, flight recorders, aircraft and airline operation manuals, and so on. The average airline death claim settlement made in 1970, the last year for which I have seen figures, was $200,000 per life. A few years earlier the figure was $100,000 per life. It has obviously been climbing very rapidly. Since some settlements must be very large indeed in order to produce averages of $100,000–$200,000 per death, there is a considerable lag between an accident and the final disposition of the liabilities arising from it. I have no doubt that if a plane were to crash today, the average settlement that would emerge would be considerably in excess of $200,000 per death.

A 747 holds between 360 and 500 passengers, and an airline that flies a 747 in the United States therefore needs $25 million of hull insurance and—just using $200,000 of liability exposure per life, which is clearly too low—at least $72 million of liability insurance. Actually airlines want more insurance than that, since the $200,000 figure is low and there is always the possibility that the airline will be held liable for a multiple-plane collision or for damage to buildings or people on the ground.

As a result, United States airlines with 747's carry about $150 million of liability insurance and $25 million of hull insurance. Let me point out that the $150 million of liability insurance is per aircraft per accident; it is not per year or anything like that. It is the same as if you own two automobiles and have $300,000 of liability coverage. This $300,000 is at

risk every time you or your family drive any of your cars, and it is not subject to any aggregate annual limit.

The customary unit for quoting premiums for airline liability insurance is cents per 1,000 revenue passenger miles, and an airline will pay anywhere from about 20 cents to $1.00 per 1,000 revenue passenger miles. All the factors of type of airline, type of aircraft, experience, and so on, apply in setting the premium rate. An additional factor is the limitation of liability on international flights. By treaty an airline is not liable for more than $75,000 per passenger in international carriage—and that much only if the trip involves a takeoff or a landing in the United States. However, this $75,000 limit does not apply to damage that the airline does to passengers of someone else's plane or to people on the ground.

Amounts of insurance such as those I have cited above—$25 million of hull insurance, $150 million of liability insurance—are clearly beyond the capacity of any one company to insure. The airline's broker must assemble the coverage from several sources of insurance. These sources are referred to as the insurance markets, and prior to the advent of the life companies into this field there were three major markets: London, which means Lloyd's plus some British aviation insurance companies plus a lot of reinsurers all over the world; the Associated Aviation Underwriters, which is a big pool of United States companies; and the United States Aircraft Insurance Group, which is another big pool. Nowadays a large United States trunk airline will probably have its insurance program made up of all three, or at least two, of these sources. And, of course, slowly but surely, the life companies are providing part of the insurance for many of the airlines. One source that is always used in insuring a large United States airline is the London market. At the moment there is not enough total insuring capacity among the Associated, the USAIG, and the life companies to complete the insurance program of a United States airline that has a 747.

Now why have some of the life companies begun to accept aviation risks? It started over two years ago, when the 747's were about to go into service. These new planes could carry about three times as many passengers as most airplanes then being flown and cost three times as much. There seemed to be a genuine concern that there was not enough aviation insurance capacity available in the world to cover airlines that used these new planes. By "capacity" all I mean is what is called net retention in the life business. If a life company accepts only, say, $1 million of insurance on any one life and cedes any excess over $1 million, it is supplying $1 million capacity to the life insurance market. Similarly, if the Pru-

dential is willing to insure a loss on any one accident of up to $15 million, it is supplying $15 million of capacity to the aviation insurance market.

At any rate, the life companies were approached about two years ago from a number of directions about entering the field of aviation insurance, and it seemed to us in the Prudential that there was considerable merit to the idea. We felt that we could render a service to a new class of insureds—namely, the airlines. We could also render a service to our existing policyholders, who have supplied the surplus which enables us to reinsure these catastrophic risks. Aviation insurance has been a profitable business, and we expect to make a profit in it. This profit will ultimately benefit our individual policyholders whose surplus makes our entry into this field possible.

I want to make it clear that our entry into this business does not carry any implication that we somehow think that the surplus of the Prudential is too large. Our surplus is about 5 per cent or so of other liabilities, and we need to retain this surplus in order to guarantee our ability to carry out our contractual obligations to our existing life, health, and annuity policyholders. However, since we need to retain this surplus anyway, we would like to use it to benefit our existing policyholders in every way we can. This is why we invest the surplus in securities and real estate instead of keeping it in a vault somewhere. Similarly, we believe that we can have the same surplus dollars generate another source of income by using them to back our aviation reinsurance venture.

Of course, we recognize this is a catastrophe insurance business. It is very likely that in the next twenty years we will have several bad years. There is even a real possibility that sometime in the next twenty years we will be cumulatively in a negative position. We expect and believe, however, that after, say, twenty years our regular life policyholders will be better off as a result of our having been in this business. I think that when you are doing a type of insurance business that is characterized by infrequent claims, the period of time over which you measure profitability should be large enough that you can reasonably expect several of the claims to have occurred. That is why I believe that it is necessary to speak of the profitability of the aviation reinsurance business in terms of decades rather than a year at a time.

Let me mention why the life companies have restricted their activities to reinsurance. We feel that what we are bringing to the aviation insurance marketplace is additional insuring capacity. This additional capacity can be used effectively as reinsurance without requiring the life companies to build up staffs of lawyers, claim handlers, and so on. Naturally

in our transactions with the ceding companies we recognize that they are entitled to retain a portion of the premium as reimbursement for such expenses.

As a result of all these considerations, the legislatures of both New York and New Jersey, with the approval of their insurance departments, passed laws authorizing life companies to "reinsure any risk arising from, related to, or incident to the manufacture, ownership or operation of aircraft." As you may know, the Metropolitan, the Prudential, the Equitable, and others have made known their intention to organize a pooling arrangement so that the life companies can do an aviation reinsurance business using the services of a hired manager who would be responsible for underwriting and accounting. This arrangement is known as the extended reinsurance group (ERG) and is in the process of being organized.

The intention is to add life companies to ERG on the basis of a commitment of insurance capacity by each company of an amount equal to at least 1 per cent of the total ERG capacity and at most 2 per cent of the surplus of the company. The requirement that a new company add at least 1 per cent to the total capacity of ERG is, of course, in order to avoid a lot of trivial bookkeeping. The maximum limitation that no company's capacity in ERG may exceed 2 per cent of that company's unassigned surplus is in recognition of the fact that the aviation reinsurance business is subject to sudden catastrophic losses. The total capacity more or less committed to ERG currently is something in excess of $38 million, which is a quite respectable total. It might very well reach $40 million or $50 million before the year is out.

As I said before, ERG is still not operating, and meanwhile the Prudential, and the Metropolitan as well, have been writing aviation reinsurance on our own accounts. Although I stressed the insurance capacity problems which were brought to a head by the advent of the 747, I should explain that when we insure an airline we insure all its airplanes, not just the 747's. In fact, I believe that we have insurance on one or two airlines that do not even operate 747's.

As to the actual underwriting, we in the Prudential have looked at enough statistics to give us a feeling for what is a reasonable premium for an airline to pay, on the basis of the various kinds of planes it flies. I might say in passing that accident statistics on commercial airlines are very complete indeed. The events are rare, so you have relatively little statistical reliability, but there is ready access to all the exposure and accident figures you can possibly want. When a piece of aviation

reinsurance is offered to us in the Prudential, we are readily able to tell whether it is in the ball park or not.

Sometimes there is a profit-sharing feature, particularly in the large United States airlines. These arrangements involve a return to the airline of part of the premium in the event of no or small losses. Essentially this amounts to a kind of coinsurance between the airline and the insurer, with the airline further protected by the fact that, no matter how large the losses are, the premium will not in any event exceed the agreed-upon maximum. Naturally, the smaller the minimum premium the airline pays in the event of no losses, the higher the maximum it should be willing to pay in the event of poor experience.

We have a very simple computer program in the Prudential that gives us additional confidence in what we are doing. We input the size and composition of the fleet of a proposed risk, as well as the proposed rating structure, including any arrangement for return of part of the premium for good experience, and our best estimates of expected accident interarrival times per plane and hull and liability values. This takes perhaps ten or fifteen minutes to insert on a time-sharing terminal on our floor. Back comes the expected value on the contract, which is, of course, a trivial calculation, and also, more interestingly, a cumulative frequency distribution of financial outcomes, showing, on these assumptions, that for this contract we have a 95 per cent probability of making X dollars, a 98 per cent probability of not losing more than Y dollars, a 99.99 per cent of not losing more than Z dollars, and so on.

Chicago Regional Meeting

MR. FRED SCHONENBERG:* Life insurance companies now need to know about aviation insurance, since recently enacted legislation in New York and New Jersey permits life companies to reinsure aviation insurance risks. This is a brief report on the history of aviation insurance, with remarks on the role of the life companies as reinsurers.

Aviation insurance commenced in earnest only in the early 1920's. Prior to that time, heavier-than-air aircraft were in the proving stage from 1903 to the commencement of World War I and then, during the war years, in the military business. The first accepters of aviation insurance were Lloyd's Marine Syndicate underwriters, who coined the phrase "hull insurance" to describe physical damage insurance for aircraft.

* Mr. Schonenberg, not a member of the Society, is aviation underwriter at the Prudential Insurance Company.

Lloyd's led the market in aviation insurance but found it difficult to survey risks in other countries. In the United States and elsewhere, local underwriting firms were developed to select risks on the basis of the aviation-oriented personnel's advice of what was good according to the state of the art at that time. Lloyd's provided reinsurance to the groups of local companies who shared the risks accepted for them by their underwriters. In the United States three such groups or pools were started late in the 1920's. Some large insurance companies did accept risks on their own outside the pools.

The 1920's saw the airplane develop from a barnstorming oddity into a metal-clad, reasonable machine capable of some consistency in performance and already indicative of much to come. Lindbergh's flight from New York to Paris was the highlight of the 1920's.

The thirties saw an increase in size of aircraft, proved multiengined capability, more companies in the pools, and increasing needs for insuring capacity as hull values increased and not only were more seats put in planes but also death value of passengers began to catch the interest of claimants' attorneys. By international treaty in the late thirties, the responsibility of the airlines for a passenger death on an international flight was set at $8,300 maximum and, domestically, many states still had death statutes which limited liability for death to sums such as $15,000, $20,000, and the like. The thirties closed with war on the horizon and hull values for four-engined airliners up to $500,000.

The war accelerated aircraft development, culminating in the commencement of jet engine operation. Soon after the war we went through a rough period of turbo prop operations, and then came the pure jets—the Comet from England, the Caravelle from France, and from the United States the 707.

These jets did two things: they suddenly put large values before the underwriter ($7.5 million) and seating capacities up to 150 passengers. They also came in at a time when claimants' attorneys were finding society favorably inclined to remove death statutes from the state lawbooks and acknowledge claims of much larger sums for proved damages resulting from a passenger's death. Whereas at one time an airline could feel secure with limits of $50,000 per passenger and $3 million per accident, now the demand was for insurance up to $20 or $30 million. Even the property damage limit had to be increased from the once "safe" $1 million to accommodate a possible injury to another's valuable jet.

Aviation kept on moving until the stretched DC-8 was on the scene, with a plane valued at $12.5 million and configured to carry 250 passengers. Insurers met the challenge by taking more net retention per risk and by reinsuring heavily in London, which dominated the aviation insurance market.

Then came the jumbo jet, valued at $25 million per copy and large enough to seat up to 500 passengers in tourist configuration. At this point the aviation insurance industry trembled as it contemplated the effect of a loss of a fully loaded jumbo or, worse, an occurrence involving two or more of them. The airlines wondered whether they could buy the necessary insurance and, if so, at what price to bring in needed capacity of market.

The jumbos were accommodated by the aviation insurance market in what is known as vertical sharing. Each market wrote its full line (or almost), and, between them all, the capacity was found, on the liability side to a new high of $100 million per aircraft per occurrence. Even this huge sum, however, was felt to be only temporary, since on the books case after case of court-awarded settlements for deaths of passengers showed figures far above those a decade ago. By 1968 the *average* settlement for death of a passenger on a United States scheduled flight was $200,000. Considering this, the airlines conceived the idea of developing a self-insurance fund, while others decided that this was the time to bring to the scene the huge insuring capacity of the United States life companies. This, accordingly, was the scene which the life companies saw when, in 1968, they began thinking about aviation insurance.

Today in 1972 the market has the capacity to insure more than $100 million for aircraft liability. Airlines buy up to $175 million per aircraft per occurrence and envision the need to go to $200 million. The SST's, such as the Concorde, require physical damage amounts up to $50 million per copy, and who knows what the future will bring?

Others here on the panel will be discussing the actuarial approach of these risk-takings. In the meantime, the Prudential and the Metropolitan are doing an aviation reinsurance business, planning to be the nucleus of a group of life companies that will accept further cases and ready to answer the questions you may have for your own companies.

CHAIRMAN COURTLAND C. SMITH: The aviation reinsurance market is highly competitive. Each major world airline pays over a million dollars of premium a year for hull and liability insurance, and the total premium volume for all aviation business has been estimated in the

neighborhood of $500 million annually. The principal markets or places where aviation coverage may be obtained are Lloyd's in London, the various casualty companies and aviation pools on the continent of Europe, and the two big aviation underwriting groups in the United States, the Associated Aviation Underwriters and the United States Aircraft Insurance Group.

As a result of intense competition within Lloyd's and between Lloyd's and the other world markets, rates tend to drop until a disastrous year of experience or else until the introduction of new equipment involving greatly increased hazard. At this point, many reinsurance outlets withdraw from the market, underwriters become much more cautious, and rates increase dramatically. However, within a short period of time competitive influences again emerge, and the "rate roller coaster" begins all over again. In recent years the number of crashes has been relatively small, and experience has been improving. Since 1966 there has been a sharp rise in aviation liability settlements in the United States. More importantly, in 1969 the Boeing 747 jumbo jet was introduced, producing a tripling of hull values and seating capacity and a sharp rise in insurance rates. Since that time the Boeing 747 and other jets have had very good experience, and rates have decreased. However, if we have some serious losses due to hijacking or other causes, we will probably witness a marked jump in premium rates.

American life companies have been studying the possibility of going into the casualty business for some time. Some companies had been seeking ways to diversify or broaden the spectrum of products and services which their sales representatives could offer the public. Other companies had joined the American Accident Reinsurance Group, which was formed by Duncanson and Holt at the beginning of 1969 to cover certain catastrophic accident risks. Still other companies had been stimulated to consider entering the casualty business by various discussions of the aviation capacity problem. In any event, by the end of 1969 the Metropolitan and the Prudential had provisionally decided to bring their risk-taking capacity into the catastrophe accident and aviation reinsurance markets. The necessary enabling legislation permitting life companies to go into aviation reinsurance was passed in New Jersey and New York during 1970 and 1971. The Metropolitan and the Prudential are now actively writing this business, and they recently formed the ERG (extended reinsurance group) "pool." It is our hope that over the long term life company participation will produce some stabilization in airline insurance costs.

The aviation reinsurance business is very exciting. There are large risks but large satisfactions as well. The large risks cause the underwriter a good deal of anxiety, and an underwriter may come to regard the opportunity to make a decision as a chance to obtain welcome relief from tension. The brokers and lead underwriters tend to spend considerable time in negotiations and approach the reinsurers only about a week before the coverage is due to commence. The offer to the reinsurers usually comes with a request for immediate decision. While reinsurance decisions have to be made relatively quickly, they should always be well thought out.

Aviation underwriters use various rules of thumb for estimating premiums. Expected claims are typically developed as a function of both frequency of occurrence and severity, and then a margin is added for contingencies and expenses. When underwriting hull insurance, we are concerned with the rate at which partial and total losses may occur among the aircraft of a fleet and the expected costs of those losses that do occur. When we underwrite liability coverages, we tend to focus on the number of passenger deaths or injuries likely to be produced by a given type of aircraft and the average claim cost of each death or injury or else on the number of seats in an airline fleet and the average cost of liability coverage per seat. However, the fluctuation margin required is a function of the expected number of accidents rather than of the number of deaths or of seats occupied.

MR. GORDON D. SHELLARD: I shall try to say something about premium calculations and financial implications of reinsuring the hull and personal liability risks of scheduled airlines. A good place to begin is with the accident statistics. Our Society has had quite a bit of experience in this area, but what I shall show you first is a little different from what is generally in our Aviation Committee Reports. It is the domestic fatal accident experience over the past several years of each of the eleven domestic trunk airline carriers. While there are differences, in view of the small number of fatal accidents for any one line it is questionable whether the differences are significant. Much more significant is the difference that appears when the experience for all lines is combined but split by calendar year. The experience of domestic trunk lines in international operations is similar. These fatal accident rates are shown in Tables 1 and 2.

These accident rates may be expressed in different ways. Rates such as 0.083 or 0.104 per 100,000,000 aircraft miles may be multiplied by a

speed of 440 miles per hour, the average flying speed of aircraft in service on the trunk lines, to convert to rates of 0.365 or 0.458 per 1,000,000 aircraft hours. Since each aircraft in the fleets of these airlines flies an average of about 10 hours per day each of the days of a year, or 3,650 hours per year, the fatal accident rates work out to 1.33 and 1.67 per 1,000 aircraft years. If we assume a fatal accident rate of 1.70 per 1,000 aircraft years for jumbo jets and 1.15 per 1,000 for standard jets, and

TABLE 1

DOMESTIC FATAL ACCIDENT EXPERIENCE OF DOMESTIC TRUNK AIRLINE CARRIERS, 1960–71

Airline	Number of Fatal Accidents	Aircraft Miles Flown	Fatal Accident Rate per 100,000,000 Aircraft Miles
1	3	2,159,692,000	0.139
2	3	1,738,688,000	0.173
3	5	1,776,188,000	0.282
4	8	3,043,770,000	0.263
5	2	537,691,000	0.372
6	2	525,807,000	0.380
7	0	1,158,777,000	0.000
8	1	560,473,000	0.178
9	1	298,158,000	0.335
10	4	593,967,000	0.673
11	0	499,586,000	0.000
All	29	12,892,797,000	0.225
1960–65	22	4,434,265,000	0.496
1966–71	7	8,458,532,000	0.083

TABLE 2

EXPERIENCE IN INTERNATIONAL OPERATIONS OF DOMESTIC TRUNK LINES AND PAN-AMERICAN DURING 1960–71

Calendar Years	Number of Fatal Accidents	Aircraft Miles Flown	Fatal Accident Rate per 100,000,000 Aircraft Miles
1960–65	5	960,741,000	0.520
1966–71	2	1,932,616,000	0.104
1960–71	7	2,893,357,000	0.242

further assume that every fatal accident results in total loss of the aircraft, we can easily calculate premiums for hull insurance.

Suppose that the value of a standard jet is $5,000,000 and the value of a jumbo jet is $20,000,000. Suppose also that a fleet consists of 200 standard and 25 jumbo jets. The net premium per year for hull insurance would be, for the standard jets,

$$(200)(\$5,000,000)(0.00115) = \$1,150,000$$

and for jumbo jets,

$$(25)(\$20,000,000)(0.00170) = \$850,000,$$

or a total net premium of $2,000,000.

This is simple enough. Of course something must be added for minor damage, something for expenses, and something for the risk involved. And there really is a risk. Two million dollars of net premium is taken in each year, but, if there is the loss of just one standard jet in the first year, claims will exceed net premiums by $3,000,000. If the loss is of a jumbo jet, claims will exceed net premiums by $18,000,000 the first year. It is clear that the probability of substantial net losses is greatest in the early policy years, before reserves of premium income can be accumulated. If net premiums carry a specific risk loading, the premium reserves increase as the amount of risk loading is increased. That is, if, instead of charging only the net premium, we charge the net premium times $(1 + l)$, the probability that net accumulated losses will ever exceed any particular given amount will be less as l is increased. This is illustrated in Table 3, where no interest has been allowed on either premiums or loss accumulations.

The probabilities shown here are calculated by a method developed and described in the paper "A Ruin Function Approximation," by John Beekman (*TSA*, XXI, 41–48, 275–79). It assumes multiple accidents according to the Poisson process. Actual calculations were made by a program shown in the first number of *ARCH*.

Personal liability coverage is more complex, since claims depend upon the number of persons killed (or injured), which in turn depends upon the number on board and upon the amount of settlement on each individual claim. Premium calculations can be approached in the following way.

Suppose that the probability of there being just n persons on board a plane is $p(n)$, and the probability that, if there is a fatal accident,

just m of them will be killed is $g(m|n)$. Then, if there is a fatal accident, the probability that just m will be killed is

$$g(m) = \sum_{n=1}^{\omega} p(n)g(m|n) .$$

In a similar way, if the probability that the total claim payments arising from m deaths in a single accident equal x is $l(x|m)$, then the probability of claims from a single accident amounting to x is

$$l(x) = \sum_{m=1}^{\omega} g(m)l(x|m) .$$

TABLE 3

PROBABILITY THAT ACCUMULATED LOSSES LESS PREMIUMS WILL EVER EXCEED THE AMOUNT INDICATED

(No Interest Accumulation)

ACCUMULATED LOSSES LESS PREMIUMS	WITH RISK LOADING AS PER CENT OF NET PREMIUM	
	25%	50%
$ 25,000,000	0.2943	0.1259
50,000,000	0.1083	0.0238
75,000,000	0.0398	0.0045
100,000,000	0.0147	0.00085
125,000,000	0.00539	0.00016
150,000,000	0.00198	.....
175,000,000	0.00073	.....
200,000,000	0.00027	.....

Perhaps I should say something here about these distributions. First there is the distribution of aircraft by number of persons aboard. Right now aircraft average about half-loaded, but some are filled to capacity. Then there is the distribution of fatal accidents by the proportion of persons aboard who are killed. About 65 per cent of the time everyone aboard is killed. Another 10 per cent of the time less than 10 per cent of those aboard are killed. The remaining 25 per cent of the time somewhere between 10 per cent and 100 per cent of those aboard are killed. These data are shown in Table 4.

The amounts for which individual claims are settled vary widely, as shown in Table 5. Yet the form of the distribution is fairly well de-

TABLE 4

DISTRIBUTION OF FATAL ACCIDENTS

PROPORTION ABOARD KILLED	FATAL SCHEDULED AIRLINE ACCIDENTS (WORLDWIDE)			
	Number of Accidents		Proportion of Accidents	
	1961	1968	1961	1968
1.00	17	20	0.68	0.64
0.80–0.99	1	2	0.04	0.06
0.60–0.79	3	1	0.12	0.03
0.40–0.59	1	2	0.04	0.06
0.20–0.39	1	2	0.04	0.06
0.10–0.19	0	1	0.00	0.03
0.01–0.09	2	4	0.08	0.12
All	25	32	1.00	1.00

TABLE 5

COMPARISON OF EXPONENTIAL DISTRIBUTION WITH ACTUAL NON-WARSAW SETTLEMENTS

(Proportion of Settlements Exceeding Stated Amount)

RECOVERY AMOUNT	1966		1967		1968		1970		1971	
	Actual	Formula	Actual	Formula	Actual	Formula	Actual	Formula	Actual	Formula
1,000	95.7	98.8	96.8	98.5	100.0	99.1	99.6	99.3	100.0	99.5
10,000	81.8	88.4	72.2	86.6	95.3	91.0	96.4	93.0	98.2	95.1
50,000	41.0	54.1	34.6	48.7	43.3	62.3	62.2	69.8	73.4	77.8
75,000	34.0	39.8	25.9	33.9	39.5	49.1	54.6	58.3	68.3	68.6
100,000	27.9	29.3	20.1	23.7	33.9	38.8	47.6	48.7	63.2	60.5
125,000	24.4	21.5	18.7	16.5	30.1	30.6	43.8	40.6	59.8	53.3
150,000	18.3	15.8	17.3	11.5	28.2	24.1	38.7	33.9	58.1	47.0
200,000	10.5	8.6	11.5	5.6	18.8	15.0	27.3	23.7	48.7	36.6
250,000	4.4	4.6	4.3	2.7	12.5	9.4	19.7	16.5	35.9	28.4
300,000	2.7	2.5	2.9	1.3	7.5	5.8	10.2	11.5	23.9	22.1
500,000	1.8	0.2	0.0	0.1	0.6	0.9	1.3	2.7	1.7	8.1
1/a	81,400		69,400		105,500		138,800		198,800	

scribed by the exponential function, $F(x) = 1 - e^{-ax}$, and the proportion of claims exceeding x is given by $H(x) = 1 - F(x) = e^{-ax}$. The closeness of fit is not quite as good as may appear from this table, but it is nonetheless quite good. The corresponding density or frequency function is $f(x) = ae^{-ax}$. The sum of m mutually independent random variables each having the exponential function has a density given by $g(x|m) = [a(ax)^{m-1}/(m-1)!]e^{-ax}$. This really corresponds to $l(x|m)$ above, from which $l(x)$ is obtained.

Having now the distribution of claims by amount for a single accident, we need to calculate the distribution by amount for 2 accidents, 3, 4, and so on. We can do this using only the distribution $l(x)$. Suppose that the probability of loss amounting to x from two fatal accidents is indicated by $L(x|2)$. Then

$$L(x|2) = \int_{y=0}^{x} l(y)l(x-y)dy ,$$

$$L(x|3) = \int_{y=0}^{x} L(y|2)l(x-y)dy ,$$

and so on.

We now need to know only the probability of 1, 2, 3, or more fatal accidents in a time period. These can be found by assuming the Poisson distribution, $P(n) = e^{-a}a^n/n!$, where $1/a$ is the average number of aircraft accidents expected. This brings us back to the accident rates discussed under hull insurance.

We now know the probability of n fatal accidents, $P(n)$, and the probability of claims amounting to x if there are n fatal accidents. The final probability of claims amounting to x, regardless of the number of fatal accidents, is

$$L(x) = \sum_{n=1}^{\infty} P(n)L(x|n) .$$

There is one factor in the settlement of claims that I have not yet mentioned, which is indicated in Table 5. The average amount of settlement per claim has increased dramatically over the years. Not only should premiums be recalculated every year to provide for this increase in average claim amounts, but, because claims take an average of four or five years from time of accident until settlement, premiums should allow for about twice the current claim rate by amount at the time of their calculation.

I have indicated one method by which the distribution of airline personal liability losses may be calculated. There are other methods.

One would be the construction of a mathematical model with all the random variables I have indicated, by which a computer would make many simulations of experience. The distribution of losses would be found from the results of these simulations.

One hundred simulations of five-year experience were run for the fleet of 200 standard and 25 jumbo jets used above as an example of hull insurance. A capacity of 120 persons was assumed for standard jets and 360 for jumbos. An average loading of 55 per cent capacity was assumed, with 10 per cent of the planes fully loaded and the remaining 90 per cent uniformly distributed with loadings from 0 to 100 per cent capacity. Individual claims were assumed log-normally distributed, with an average of $200,000 during the first year of experience, and an increase

TABLE 6

RANKING OF TOTAL CLAIMS IN EXPERIENCE

Percentile	Sum of Total Claims at Time of Crash	Percentile	Sum of Total Claims at Time of Crash
0%	$ 0	80%	$ 86,792,978
10	0	90	119,731,994
20	1,985,031	100	197,542,210
50	52,204,743		

Total net premium over five years = $53,444,213

of 18 per cent each year. Settlement of claims was assumed delayed an average of five years, exponentially distributed, and during the delay claim amounts were assumed to increase at the rate of 18 per cent per year. In calculating the experience, these claims were discounted back to the date of crash at 6 per cent. The maximum amount of coverage per crash, at time of settlement, was limited to $100,000,000.

Total claims at time of crash were summed for each simulation and used as a measure by which to rank the experiences. In 19 there were no claims, and in the median experience claims amounted to a bit over $52,200,000. Total claims corresponding to other percentile points are shown in Table 6. A considerable amount of fluctuation is indicated.

On the basis of the assumptions outlined above, net premiums for each year of experience were calculated. These ranged from $8,759,574 for the first year to $12,651,018 for the fifth year, reflecting the increase in amount of individual claims with the passage of time, and represent rates in the neighborhood of from $0.30 to $0.45 per 1,000 revenue passenger miles.

To give some idea of the financial results that may be expected, funds were accumulated at 6 per cent over the five-year period with risk loadings equal to 0, 35, 50, and 100 per cent of net premiums. The funds corresponding to the percentile points above are as shown in Table 7. A similar table is shown for various basic net premiums expressed in cents per thousand revenue passenger miles (Table 8).

TABLE 7

FUND AT END OF FIVE YEARS ACCUMULATED AT 6 PER CENT WITH VARIOUS RISK LOADINGS

(000 Omitted)

PERCENTILE EXPERIENCE	NET PREMIUM LOADING			
	0%	35%	50%	100%
1	$ 61,405	$ 82,897	$ 92,108	$ 122,810
10	61,405	82,897	92,108	122,810
20	59,238	80,730	89,940	120,643
50	4,408	25,900	35,110	65,813
80	− 39,290	− 17,798	− 8,588	22,115
90	− 71,100	− 49,608	− 40,397	− 9,695
100	−176,531	−155,038	−145,828	−115,125

Total net premium over five years = $53,444 thousand

TABLE 8

FUND AT END OF FIVE YEARS ACCUMULATED AT 6 PER CENT WITH VARIOUS BASIC NET PREMIUMS

(000 Omitted)

PERCENTILE EXPERIENCE	BASIC* NET PREMIUM PER 1,000 REVENUE PASSENGER MILES			
	$0.20	$0.25	$0.30	$0.40
1	$ 40,867	$ 51,084	$ 61,301	$ 81,734
10	40,867	51,084	61,301	81,734
20	40,867	51,084	61,301	81,734
50	− 218	9,999	20,216	40,649
80	− 26,937	− 16,720	− 6,504	13,929
90	− 41,880	− 31,663	− 21,446	− 1,013
100	−144,325	−134,108	−123,891	−103,458

Total net premium over five years = $53,444 thousand

* Increases with experience year in same proportion as net premium, *and* airline pays claims up to $0.50 per 1,000 revenue passenger miles.

MR. DONALD J. VAN KEUREN: The formation of a pool of life insurance companies to reinsure aviation risks arose in response to a stated need for greater financial capacity in this branch of the casualty field. The coverage is needed because, lacking it, the traveling public would be without adequate insurance protection while flying. The formation of the pool here, where there is so high a proportion of the world's air travel, will serve to strengthen the economy of our country. This expansion of our business is both proper and reasonable. It demonstrates a willingness to work toward the solution of a serious problem and supply a needed service.

Reinsurance, rather than direct insurance, is appropriate in entering a field where we have no established service organization to appraise all forms of the risks and to settle claims. In this way we use the existing facilities of the direct writers in dealings with the insured corporations and the public. Moreover, a full familiarity with the people already in the business as brokers and insurance executives is essential, together with proficiency in established business procedures. These requirements argue in favor of employing a professional manager rather than relying on the staff of one of the member life companies to run the pool.

MR. FREDERICK W. KILBOURNE: The tradition in insurance pricing has been that underwriters, using judgment, have reigned supreme in the property lines, while actuaries, using mathematics, have done the same in the life lines. Only in the casualty lines has there been much of a blend of underwriting judgment and actuarial mathematics. The new situation of life insurers writing aviation reinsurance seems to be producing a collage, rather than a blend, of these techniques.

Reference was made to the roller-coaster history of aviation insurance premium rates, caused by the subjective reactions of rate-makers to recent conditions. It is to be hoped that the pricing method of life insurers, no less than their assets, will lend a measure of stability in this regard.

But the life actuary must avoid certifying the criticism of the property underwriter that he is out of touch with reality. As a mathematician, of course, he must remember that the credibility of catastrophe data is low for the very reason that claims are few even when exposure is large. Perhaps more important, he must remember to adjust his model to allow for future contingencies that are expected or even suspected. He must learn to qualify judgment, even that of the underwriter, and include it in his mathematical assumptions and projections. What will be the effect of the economy on the empty-seat ratio on airline flights? What changes

are likely in laws affecting liability for passenger injury and death? Will hijacking and bomb-threat activities increase or decrease in frequency and severity? These and many other pertinent questions must be asked and answered.

A final observation comes to mind with regard to the last question above. It will be unfortunate if the insurance industry reacts to the threat of aviation terrorism with a growing list of coverage exclusions and restrictions. Our supply of public relations capital is too low for that. It is to be hoped that the life part of the business will exert its influence, as did the inland marine many years before, to move property and liability contracts farther along the road from named-peril coverage to all-risk coverage.

CONSUMERISM

Atlantic City Regional Meeting

1. What is consumerism? Is it a valid force operating in our society, or is it a fad? How has the life insurance industry responded to consumerism? What else should be done?
2. What information should be disclosed to the buyer of individual life and health insurance? About how the product works? About product choice? About price? Is there too much emphasis on price?
3. What changes, if any, are needed in the current operation of life insurance companies to make intelligent choice feasible for the buyer? What changes, if any, are needed so that the interests of the buyer, the agent, and the company will not be in conflict? What can be done to bring such changes about?
4. Will consumerism have an impact on future regulations?

CHAIRMAN ANNA M. RAPPAPORT: As we begin our session, I would like to point out that I think our purpose today is to stimulate some thinking on consumerism. We are going to present to you some pretty controversial ideas. Some of you may be shocked, and some of you may be caught up by our ideas. But if you leave here thinking about consumerism, I think we will have accomplished our purpose.

Consumerism is an often-used term, and one with many meanings. There are two widely divergent types of activity which I associate with consumerism. One is constructive. It is involved with trying to help the buyer get a better product and better service and with trying to provide him with information to make a better choice. It recognizes the problems of the buyer operating in our system; it tries to modify the way the system operates and also to help the buyer to understand the system and its products better so that he can choose more intelligently. The other type of activity is destructive. It is usually antiestablishment and anti–big business. Activities of this type do nothing to help the consumer to make a more rational choice. They may even serve to attract the consumer's attention to other areas and in doing so may lessen the chance that he will try to make a rational choice. Our discussion will be centered around constructive consumerism—around the present method of doing business, around how we can improve in order to better meet the needs of the buyer, and around the concept of rational choice.

I would like to read three paragraphs by Ralph Nader:

The consumer movement must be understood as an effort toward structural reform in government and corporations that will give the public an effective voice in decisions affecting large numbers of people. "Consumerism" involves new approaches to judging and influencing corporate behavior; it presents new concepts of corporate responsibility, including protection of the safety and health of citizens and a meaningful choice for consumers in the products they buy. This movement seeks to develop forces representing the public interest to counter corporate power both in and out of government.

Enlightened government regulation is necessary in any complex and interacting economy. The real question is not whether such a government role is desirable—it is inescapable—but whether the government will intervene on the side of the public or, as is all too often the case, on the side of big business, whenever the interests of each fail to coincide. The evidence that government regulatory agencies have become apologists for the industries they are supposed to regulate and that laws are not followed up with adequate enforcement is a major concern of the consumer movement.

Years ago, corporations learned how to handle their regulatory agencies. Business lobbying—including campaign contributions, powerful law firms, trade associations, and public relations—works against vigorous enforcement. Often, even with agencies that fail the public most egregiously, it is not a problem of corruption or venality but one of incompetence, weakness, or a misconception of government's responsibility to the consumer. The only organized and effective daily pressures on the agencies responsible for setting standards have come from the same economic interests that are supposed to be regulated.

MR. WILLIAM A. WHITE: Is consumerism a fad? Any intelligent person who allows his name and public statements to be associated sympathetically with the "consumer movement" must ask himself this question. I would hope that you might conclude, seeing me here without shoulder-length hair, chin-length sideburns, and a bib-wide necktie, that I am not one easily taken in by fads. Nevertheless, I subscribe wholeheartedly to the consumer movement as defined here today; I honestly believe that it is a valid and irreversible force operating in our society—that it is not a fad.

Many people in our industry would like to believe that consumerism is nothing more than a fad. This is a lazy and self-serving belief, because, if consumerism is a fad, it can be ignored, and eventually it will go away. Certainly, consumerism has many of the characteristics of a fad. No self-respecting speechifier today dares omit a bow to consumers and consumerism, no matter how remote the connection with his topic. The movement has attracted a lunatic fringe and a body of camp followers who profess allegiance to the consumerism cause for the sake of promoting

their own selfish interests, because they like anything that is antiestablishment or simply because it is the "in" thing to do. These people, I believe, are genuine faddists, and they have managed to give much of the consumer movement a bad name. Their basic objective is the overthrow, rather than the improvement, of our establishment. Hopefully this element will tire of consumerism and move on to some new fad. At the heart of the consumer movement, however, is a growing number of sincere and intelligent people who believe in our system of free enterprise but feel that there are significant constructive changes that can be made to produce an even better system. This consumer is here to stay—he is a natural product of the evolutionary process.

Today's consumer is the evolutionary product of a reaction to establishment abuses and a natural outgrowth of a tremendously improved educational system. The establishment abuses have mainly taken the form of a gigantic credibility gap championed by Madison Avenue, a planned obsolescence, or an emphasis on the psychological aspects of the sales process. Today's consumer resents the hypothesis that you can fool all of the people some of the time; he has studied the experiments of Pavlov's dogs and refuses to drool when an advertisement rings his chimes. The reaction to this credibility gap in the establishment's product design and sales methods for the last several decades was inevitable.

If reaction to the establishment credibility gap were the only positive factor in the consumer movement, then we might expect the movement to run its course in a few years when counterreaction sets in. However, the main support for the movement is found in the greatly improved education of a new generation of buyers. Bob Pawelko, actuary for the Illinois Department of Insurance, described this succinctly last December in an article published in his department's newsletter:

> Essentially, consumerism appears to be the natural result of the efforts of education. That is, today's youth are far better educated than the adults of today could ever hope to be. Consequently, today's youth feel that they are far more capable to make decisions on their own rather than to automatically accede to the decisions made by others. The younger generation will no longer put up with the old system of industry dictating how the consumer is to act. Thus, the entire consumerism issue is essentially the desire to be fully informed about a product so that a person can make an intelligent choice by himself.

The term "consumer" is an unfortunate one. Webster's Unabridged gives the economic definition, which is undoubtedly the origin of the movement's name: "A person who uses goods or services to satisfy his needs rather than to resell them or produce other goods with them: opposed to producer." However, the generally understood definition, also

from Webster, is: "One who consumes, spends, wastes, or destroys." It is very easy to equate "consumer" with an impersonal, unthinking, and generally destructive force in the society. The term is easily attached to a faceless enemy bent on destroying the status quo.

Clichés such as "the *threat* of consumerism" easily creep into our vocabulary. For my own purpose, I prefer to think of the era of the consumerism movement as "the age of the discriminating buyer." When we refer to home office responsibilities, let us think of policyholders; when we refer to our field force, let us concentrate on "prospects" or "buyers"; for my part, the regulatory responsibility is to taxpayers. In each instance, of course, we are talking about the same group of people—the public, the people to whom we owe our livelihood and for whom we should be striving to provide the best possible service.

The thoughts I offer today are those of an actuary wholly committed to the principles of life insurance. For fifteen minutes I may speak of the industry in terms you might consider to be critical. If the topic were "What Is Right about the Life Insurance Industry?" the time needed to deliver my thoughts would be measured in days rather than minutes. The thoughts I have expressed in no way represent intended policies of the regulatory agency that pays my salary; they are personal observations which hopefully may influence you in your thinking and do not in any way constitute the shape of regulatory things to come.

MR. GEORGE D. SUTHERLAND:* Consumerism is a fact of life in the marketplace and will continue to be so in the foreseeable future. It is not going to go away, although it may at times receive less attention and publicity than it is getting currently. It stems from a number of things, has many facets, and is expressed in many ways, and there is no simple, easy definition of it.

I see consumerism fundamentally a state of mind existing among today's buyers, characterized by a feeling of helplessness in dealing with a large organization or institution—be it public or commercial. Some of the things that feed it are the following:

1. Complexity of products.
2. The many layers of processors, fabricators, manufacturers, wholesalers, retailers, advertisers, and so on, that exist between the producer of goods and the buyer of goods.

* Mr. Sutherland, not a member of the Society, is a chartered life underwriter and is director of consumer affairs at the Connecticut General Life Insurance Company; he was also chairman of a study group on customer service sponsored by the Institute of Life Insurance.

3. The overpromise of advertising and the underdelivery of the product itself.
4. The lack of accountability on the part of a producer of goods—that is, whom (what specific individual) do you go to when something breaks down or does not live up to the advertised expectations?
5. The depersonalization of the marketplace (mass-produced goods, the supermarket psychology, the "do-not-bend-fold-or-mutilate—I-am-a-human-being syndrome").

Legislators at every level of government, along with other office seekers, are going to help to keep the flames of consumerism burning by giving greater currency to it. Consumer legislation is popular and does not involve expenditures of public money, and, consequently, it is a bandwagon that many congressmen and senators are clamoring to be aboard.

So far the insurance industry (or at least the life insurance business) has not really responded to consumerism. This is probably because we have not really been touched by it yet, although the automobile insurance business, credit insurance, pensions, and health insurance have come under some fire.

I think that the tide of consumerism has not really washed over us yet because of the nature of our product. It deals with the most fundamental of human anxieties, but healthy people are never going to stand in line to buy it and very few members of the public at large understand our product; I think that there is plenty of evidence that the citizens of this country accept the need for life insurance but that, when the purchase has been made, all they expect is a bill and prompt claim service.

There are strong indications, however, that the guardians of the public interest (some of them self-appointed) will be focusing more of their attention on our business within the next few years. Certainly the things that are going on in Pennsylvania and Wisconsin are indications of this, and there are plenty of rumblings in Washington that are worthy of our attention. We are going to come under increasing scrutiny on the broad subjects of "price disclosure," "suitability," and "marketing and distribution costs." I think that we must continue and intensify our self-examination and determine whether or not we can continue indefinitely with "business as usual."

The purchase of life insurance is probably the most personal commercial transaction that an individual enters into. For most buyers of life insurance, however, the relationship created during this introspective process is maintained by form letters and premium notices; postsale service consists largely of premium notices and a claim check.

Companies have given their agents the responsibility for providing postsale service to policyholders; yet at the same time companies have

told their agents through the commission schedule that new sales were far and away the most important part of their activity. Thus agents tend to provide service to those policyholders whom they perceive to have the capacity to buy again. As an agent matures, this group of actively serviced policyholders becomes an ever decreasing percentage of his total body of customers. At the same time, what companies call "policyholder service" in the home office is essentially contract administration—fulfilling the legal obligations of the life insurance policy.

There is considerable evidence that our customers' understanding of the life insurance product is poor and that their expectations of postsale service are low. This, coupled with the fact that life insurance must be aggressively sold, has led companies to think of their primary customer as being the agent and not the policyholder. The lack of policyholder awareness of the need for service has also permitted a life insurance company to feel that its policyholders are happy and that they do not want more than they are getting currently.

All this leads to the obvious question, "Why should a company bother to provide more service to customers who do not seem to want it?" Silence on the part of policyholders should not be any more impressive to a life insurance company after the sale than it was before the sale. Any company that sends its salesmen to see only those people who express a desire for life insurance will not sell much life insurance. Furthermore, it is almost axiomatic in any business that a satisfied customer is the best prospect, and existing policyholders represent one of the best markets that any life insurance company can have—provided that those policyholders are "satisfied customers." Another reason for a company's doing more than it is doing now is that most of the sales presentations include a promise to provide continuity of service and periodic reviews, and most policyholders have been led to believe that they are going to receive more than the premium notice.

A final but significant element in this is the fact that the whole business environment is changing. Consumerism is a fact of life in the marketplace, and buyers of life insurance will most certainly become more aware of the gap between promise and delivery and also more prone to seek some form of remedy.

If the life insurance industry is to improve on its delivery of postsale service, each company must begin with a clear statement of its own corporate customer service policy. This requires a commitment from the highest level of management. Each company must then develop a customer service program within the framework of that service policy. There are a number of "tools" that can be used in the construction of a customer

service program, but even during the development stages of service programs there are things that can be done by any company to sharpen its delivery.

In the absence of a drastic change in the compensation patterns for agents, the company that wishes to provide genuine continuity of service to all its policyholders will have to recognize that the agent is primarily a creator of relationships and that the primary responsibility for providing continuous postsale service to the large majority of policyholders must be borne by a group of representatives whose foremost responsibility is service and not sales. Furthermore, companies must sharpen their own abilities to deal with customers as individuals and be able to respond to customers in a personal way and communicate with them in terms that the customers themselves can understand.

CHAIRMAN RAPPAPORT: On the surface the question, "What information should be disclosed to the buyer of individual life and health insurance?" might appear to be relatively simple, but the more one looks at the problem the more complex the answer becomes. A basic premise is that the buyer has a right to the information needed for him to be able to make an intelligent choice.

I hold as a companion premise that, as the seller, we have the obligation to make that information available. If the buyer does not use the information, that is not our problem. This is in contrast to a traditional viewpoint that the life insurance product is too complex to be understood by the buyer. The traditional viewpoint holds that the buyer must accept the expert advice of his agent. It also states that the agent will recommend the best product for the buyer and that therefore the obligation of the industry to the customer is being adequately met even though the buyer is provided with little information and cannot understand what has taken place. I cannot accept this viewpoint, for several reasons.

First, the personal values of the buyer may differ from the personal values of the agent. In those circumstances, even with a complete understanding of all of the facts and complete good faith, the agent may recommend a product different from the one which the buyer would choose to meet his objectives. Second, the agent may act in his own interest, rather than in what he considers to be the buyer's interest. Third, the agent may not be well trained. The buyer must be able to evaluate what he is getting.

The buyer has a right to know, and the seller has an obligation to tell him. Our next questions are: What information is needed, and how are we going to tell him?

The most important thing for the buyer is to understand what the

various types of insurance products are and what benefits they provide. The buyer, before he can choose rationally, needs to understand what term insurance is, what whole life is, and so on. He also should have some idea of the relative cost.

The second thing the buyer needs to understand before he can make a rational choice is what his priorities are. This is an extremely complex matter, involving personal long-term financial planning. The greatest roadblocks to rational choice on the part of the insurance buyer are probably rooted in the inability to set priorities. Public education can point out the problem. However, the industry cannot solve it. It is closely related to another basic fact of life which the industry must face on a daily basis. The public does not understand the need for life insurance, and therefore the sale of life insurance usually consists of selling the prospect on why he needs the coverage. This fact of life gives rise to many of the practices for which the industry is criticized. The buyer needs to be able to understand his situation so that he can determine how much coverage he needs and what various products are, and how they work, so that he can choose in light of his death benefit and savings priorities. The buyer also will want to compare the services which can be provided by different agents, the costs of various product choices available, and the costs of a given type of product as supplied by different companies.

The company must be willing to disclose (1) the benefits and costs of various products which might fit a client's needs; (2) how the various products will meet the client's needs; (3) the interest-adjusted cost of the various products, so that the client can make comparisons between companies; and (4) what special features or options are included in the product. The company should make an effort to keep the information in terms that are as understandable as possible.

How can we tell the consumer about our products? Our agents can provide information to their clients. We can provide information to the public through public information programs. This can be done by individual companies and through industry organizations. I believe that a great deal can be accomplished by public information programs. Intelligent choice will be possible only for those consumers who want to make an effort to learn about our product. This group should be willing to use available information. Providing information from a source other than the seller and at a time other than the time of sale will help build public confidence and educate the interested members of the public about our product.

I believe that in most types of situations, if members of the public are knowledgeable when they are buying a product, they have obtained information from someone other than the seller and at a time other than the

time of sale. They have probably received much of the information from third-party sources. Public information could be provided either by individual companies or by industry organizations; it could be provided by publications such as *Consumer Reports* or by insurance courses in colleges or universities. All this goes only a little piece of the way. Public education about our product is an enormous challenge. I do not know how to meet the challenge.

Does providing a list of information mean that the buyer will choose rationally? I believe that most of the time the answer is no. However, an increasingly large proportion of the better-educated young people are likely to try to choose rationally. Many people are becoming more aware of the need to evaluate their actions carefully, and I believe that these people will try to make a rational choice when they are buying life insurance.

The industry is faced with a dilemma—one that it cannot solve. Our basic distribution system is built around personal selling by an agent who creates the need for the product and then sells the product to fit that need. As long as the buyer has a relatively fuzzy conception of the need, and has not defined his priorities, he will have difficulty choosing rationally. The nature of our product is such that, even though it is of vital importance to most buyers, they do not clearly understand either the product or the need for it.

Intelligent choice becomes possible only when two things happen. First, the industry must provide the buyer with the information he needs, and, second, the buyer must be willing to make a substantial effort in order to use that information.

MR. JOHN H. HARDING: Rational choice on the part of the insurance buyer, regardless of his general educational level, is a remote ideal. People in general do not have much more than a rudimentary understanding of their day-to-day financial environment, and I do not really see any indication in our current educational structure that it is going to improve very fast. Our agents have a real dilemma here. They are afraid to kill a sale. To take an example from outside our industry, a salesman in Florida was selling condominiums and was going through his pitch with a couple. They were just about ready to sign on the dotted line when he threw in one extra detail that he thought might add to the general sales pitch. He said, "Of course, our pest control is thrown in free." The wife recoiled in horror and said, "Bugs! I don't want anything to do with it." The sale was dead. Any salesman recognizes pretty quickly when to shut up if he really wants to remain an effective salesman.

MR. WHITE: There are two distinct time frames when we talk about disclosure. There is disclosure at point of sale, and there is a long-range disclosure obligation of the industry. I think that disclosure at point of sale would normally conjure up images of a prospectus to be delivered to each prospect. This would amount to badgering the industry to try to accomplish something that would be virtually meaningless. A prospectus that supplied the prospect with all the information he needs to make a rational decision would be a textbook. The consumer to whom we have an obligation at point of sale cannot be relegated to the masses of insurance prospects, but he is part of a growing minority of the public that does have a genuine interest, a genuine desire to know what it is that he is buying. Possibly something more could be done in terms of disclosure at point of sale. I think that our replacement regulations as they are evolving probably constitute a form of disclosure at point of sale. But it is going to be very difficult, particularly with the present agency system. The longer-range disclosure obligation, the education of the public, is something that one or two companies have been attempting on their own.

MR. HARDING: I would like to discuss the question, "What changes are needed in the current operation of life insurance companies to make intelligent choice feasible for the buyer?" from the point of view of our products themselves and from the point of view of our delivery of those products.

First, with regard to the products themselves, we have entered an era in which it is practical to develop all kinds of new and complex product concepts. Only five years ago, when the Institute of Life Insurance published the results of its first Future Outlook Study, variable life insurance and index-based life insurance were rarely mentioned. They were relegated to the distant future. At that time, however, a very valuable notion was presented concerning the life-cycle policy, which considered the customer as the service unit and emphasized the co-ordination of the needs for death, disability, and annuity coverage with the customer's ability to pay. Further, as the needs changed and the ability to pay changed, this one life-cycle policy could be modified to accommodate these changes.

Frankly, very little has been done in the last five years to develop the life-cycle policy, and this is not very surprising. First, the regulatory structure under which we operate is not oriented toward this type of flexibility after issue. Second, although in theory our data-processing capabilities may have been adequate to the task five years ago, for practical purposes we were not ready. There was just too much left to do to handle our existing merchandise effectively.

In this decade I am confident that our data-processing capabilities will include such things as variable life insurance and life-cycle policies. Also, I am hopeful that there can be sufficient changes in our regulatory structure to provide for realistic product design in these areas.

However, regardless of the degree to which we can develop toward the ultimate in complexity, our products can serve the public well only if the complexity is entirely internal to the product. The face of the product—what the customer sees—must be simple enough for him to understand. It is unreasonable to expect even our most sophisticated customer to wade through any kind of explanatory swamp in order to understand what he has bought. This does not argue against internal sophistication. Perhaps a crude analogy would be that of a wristwatch. It does not matter to the customer how complex that watch is inside, as long as it performs for him in the way that he has been led to expect.

Now let us take the second aspect, distribution. Regardless of the pattern of distribution, the analogy of the watch can be properly extended. The distribution system must provide the customer both with sufficient incentive to buy the watch and with sufficient information about how to use the watch. In addition to knowing how to get the most out of it when things are going well, he must also know to whom he can turn when the product is not performing well.

In the past few years I have had the very fortunate experience of getting to know many of my company's agents personally. I recommend this highly as an important part of the development of an actuary who really wants to understand our business. As you listen to these men, you will find a substantial spectrum from genuine to not so genuine. You will find that they have a substantial job to do in determining the customers' needs and in translating our product into terms of those needs. Frankly, I am somewhat relieved to find that we have as many dedicated, capable, honest men as we have. I have also found that a significant number of agents whom I would not categorize in that fashion have made their mistakes because they do not understand the products well enough. We have a significant responsibility to ensure that our future products are understood as well as understandable.

MR. WHITE: There are at least two big concerns in my mind that we should be addressing ourselves to as a profession. Unfortunately, I am drawing conclusions from impressions and appearances. But I have the distinct impression that a lot of term insurance should be sold to people who are at present buying permanent life insurance. There is a very handy consumer-oriented law in New York State (section 213) that quite frequently places the agent in a position where he is influenced not

to recommend the form of insurance that is best suited to the applicant's needs. This is an impression. I think that the industry and the regulatory authorities might very well want to address this problem.

There is also an interesting little law in New Jersey which apparently has been on the books for quite a while and which addresses itself to the same sort of question. This is New Jersey Statute 17B:24-11. Let me just read it to you and then speculate as to how a similar law might work to the public's benefit. It says that no life insurance company doing business in this state and issuing policies on both a participating and a non-participating basis shall pay commissions at a higher rate with respect to participating policies than it pays with respect to comparable non-participating policies. According to some of the old-timers in the department, it appears that this law was designed to accomplish the obvious objective of ensuring that the agent will not be influenced by a commission bias but rather will offer the product that he feels is best suited to the applicant's needs. Now change this law around a little, and call it the "White Model Term Commission Law." No agent's license to sell life insurance shall be issued or renewed in this state unless the remuneration agreement between that agent and the company or agency he represents calls for first-year commissions for term insurance renewable for ten or more years at a rate, when related to the premium for the first policy year, at least as large as the comparable rate payable on whole life (or its equivalent most frequently sold policy). I have heard the argument that section 213 of the New York law has a built-in bias in favor of permanent insurance. I am not optimistic that New York's section 213 will necessarily be changed so as to eliminate this bias. The other forty-nine states probably can take action that would effectively overcome the extra-territorial restrictions of section 213. It would be very interesting to propose a piece of legislation like this, but I have no intention of introducing it.

Now for the second point. If you put yourself in the consumer's position, a lot of the things that we take for granted in the life insurance profession and the life insurance industry and in the actuarial profession take on a significantly different appearance—consider first-year lapses. Most of the major companies now are realizing first-year lapse rates between probably 15 and 25 per cent. The philosophy of the companies is that the lapsing policyholder is somehow doing a disservice to the industry, and our general pattern of surrender charges is punitive. The policyholder paid his way into what could very well be an expensive savings program. Rather than regard the first-year lapse rate as a statistical phenomenon, I tried to reconstruct the sales situation that might have resulted in a

first-year lapse. I think in terms of a 27-year-old prospect, married with a couple of children, with moderate income—maybe ten to fifteen thousand dollars per year. He has been persuaded by one of our companies' agents to take about the most altruistic action he is ever likely to take. He has purchased an intangible product that has very little benefit for himself other than the peace of mind of knowing that his family is protected. This prospect may very well have been persuaded to buy this policy by a brand new agent of a company, someone who has just been handed a rate book and a commission schedule. He is probably more familiar with the intricacies of the commission schedule than he is with the intricacies of the product he is selling. He has been loosed on the public, and he has gone out and sold all of his family, his friends, his classmates, and his neighbors. If, as very frequently happens, this agent terminates his contract and agreement with the company before the end of the first year, somewhere between 60 and 90 per cent of his new business is probably going to terminate without paying any portion of the second year's premium. Can we as an industry honestly feel that this is the policyholder's mistake? There are very few instances of first-year lapses where I can attribute the blame for the lapse to any agent other than the company that is selling the coverage. In a typical case, the 27-year-old policyholder who has been induced to purchase whole life insurance ends up at the end of the first year having paid about four times as much for the insurance protection as would have been necessary had he purchased term insurance. I am not saying that first-year lapses are invariably the result of selling the wrong kind of policy, but I feel that a good number of them are. A lot of first-year lapses are the result of having sold too much insurance or the wrong kind of insurance. A lot of them result from the orphan problem.

Consider, just for the sake of argument, an extreme voluntary action that a company might take. The company agrees to the presumption that first-year lapses are, in fact, the fault of the company rather than the fault of the terminating policyholder. The company agrees that, in the instance of first-year lapses, the net cost to the policyholder should not be more than the cost would have been to him had he purchased the company's cheapest form of insurance for what he has actually received in the way of benefits. What would be the consequences of such a new practice? First, we would see a significant change in the underwriting practices of the company. The company, faced with loss of more than the potential profit on the business and the actual loss of commissions paid to the agent, would emphasize in its underwriting review the suitability of the product sold to the prospect. Second, we would see a definite change in our agents' training processes. We would not be so inclined to unleash un-

trained agents to do their apprenticeship at the expense of the public, because the apprenticeship would be at the expense of the insurance company, at least to the extent that the agent did sell improper insurance.

We would see a closer supervision of some of the established agents. Most of you have agents in your company who are million-dollar producers but are suffering 35 per cent first-year lapse rates. They would be in a much less healthy position than if, in fact, the company were acting on a presumption that that agent's first-year lapses were the company's responsibility. We would see a big change in the company's service practices, particularly with reference to its orphaned policyholders, but probably for all of its policyholders. The company faced with the threat of financial loss on early lapses would do a much more vigorous job of reselling its policy after renewal dates. The company would have a real interest in providing meaningful service. The replacement problem would be greatly diminished if the financial impact of twisting were transferred from the policyholder, who is rather ineffectively protected by most of the replacement regulations I have seen, to the company. Finally, I think we would see an improvement in the market acceptance of the insurance mechanism. I am disturbed, as I am sure you are, about public opinion surveys that indicate that insurance is just about at the bottom of the list in respectability among the general public. I am sure you have reacted to the coolness of people at cocktail parties when you have mentioned that you are in the life insurance business. I think that the first-year lapses that we scatter around among the public represent dissatisfied customers, and they probably contribute substantially to the low opinion of the life insurance industry.

MR. HARDING: Consumerism can have an impact on future regulations, and the nature of those regulations will probably depend upon who initiated them. If the regulations are generated as a result of public outcry, they are likely to be punitive in form, their long-range effect probably being to the detriment of both our industry and its customers. I, for one, resent seeing our industry controlled by many regulations which came about as the result of the Armstrong investigation, which detailed abuses that happened thirty years before I was born. Regulations which spring from such sources are much harder to adapt to meet changing social environments than are those developed through enlightened self-interest.

It is essential, then, that our industry and its regulators work together to make sure that both the regulations and the system of regulation adequately protect the consumer. Our basic problem will be one of determining who should initiate the action. No one company can do it by itself, nor can one state insurance commissioner.

We should examine closely the existing structure of regulation and work to improve it, to make sure that claims cannot be made that it serves the regulated rather than the public. One of the committees of the Institute of Life Insurance Future Outlook Study that was completed this year developed a list of what might be described as common elements of ideal regulatory structure. These are as follows:

1. Minimum overlap.
2. Ability to anticipate and respond to new environments.
3. Elimination of trivia.
4. Effective enforcement.
5. Right of appeal.
6. Dialogue between the regulators, the regulated, and the public.
7. Nondiscrimination—inside and outside the industry.
8. Room for experimentation.
9. Consistency of regulation and enforcement.
10. General acceptance.

Obviously no regulatory structure can ever contain all these elements to the degree that one might wish. However, this does provide a reasonable framework for analysis.

MR. WHITE: The threat of consumerism is much more real for state regulation than it is for the industry. The alternative is much closer; it is the takeover of state regulation by the federal government. I think that there are unquestionably major changes that are necessary in the regulatory process if we are to accommodate the challenge and the opportunity of the consumerism movement. The one thing we must move away from is the predominant stress on the regulation of solvency. Insurance departments, in their examination procedures, must look beyond the strength of the reserves, liabilities, and surplus and must look to the sales process. Is the company actually providing satisfactory service to the public we represent?

MR. ROBERT L. PAWELKO: I am not sure that I want to comment on disclosure. I have not thought about that too closely. I like the idea of the booklet on how to select a life insurance company published by the Bankers Life of Iowa. However, I would like to see the Society of Actuaries start disseminating some type of explanatory information to be published throughout the country so that people can understand the basic components of insurance. It should not consist of actuarial explanations but should be something that people can really understand.

MR. ERNEST J. MOORHEAD: This observation refers to one adjective used by one speaker. I think that the adjective was "unbiased." He was referring to the material put out by the Institute of Life Insurance. I would like to register my concern that the Institute of Life Insurance and other trade associations are a great deal too unbiased at the present time. We are handicapped in our ability to convey things that have to be conveyed simply because the trade associations are much too much concerned with making all their member companies happy. They therefore restrict themselves to information that will not make anybody unhappy. I think that they are going to have to start to be biased in the particular sense to which I am referring. I have practically given up hope that the Institute of Life Insurance will take any such stand, and I have been going around the country urging that we recognize that our trade associations cannot do the kind of job referred to. I have also urged that we accept that fact and go to an ombudsman system. I think the ombudsman system would work. In the last few months, however, the Institute of Life Insurance officials approached their board and asked for permission to do something that was more nearly along the lines that I have in mind. That is to take some kind of stand, both in private and in public, on matters in which individual companies, or groups of companies, are doing things that are damaging to the future survival of the life insurance industry. I am waiting just as eagerly as anyone to see what emerges. As to what the Society of Actuaries could do, the possibilities are perhaps greater because the Society of Actuaries is not beholden to member companies; but it still is a difficult matter.

MR. WILLIAM E. NEAL: I would like to address myself to the image the insurance industry projects to the general public. Most surveys that I have heard of seem to indicate that we are not held in high regard as an industry.

I would like to draw a parallel between our industry and the banking industry. The image of the banking industry was obviously at a very low point during and immediately following the depression of the 1930's. When I was a small boy, banks were formidable places. Tellers were enclosed in virtual cages and served the public through small openings in heavy grillwork. Banks were open only for a limited number of hours each day. Very little was done for the convenience of the customer. In short, they seemed to be saying, "We are here—we perform a vital public service, but we are not necessarily going to be friendly about it."

Today the situation is completely reversed. Open counters and well-lighted modern interiors greet bank customers. Many banks offer drive-in

service, and many are open evenings and on Saturdays. Advertising abounds in all the media. Friendliness, cheerfulness, and the theme of customer convenience are the keynotes. Banks perform a whole host of new services, including the issuing and servicing of credit cards and the granting of automatic loan privileges to established checking account customers.

I do not mean to suggest that insurance companies should ballyhoo themselves or their product with a lot of sloganism. Neither do I mean to imply that the industry has not rendered service or striven to meet policyholder needs. It is a matter of the degree to which we have done so. A concerted effort on the part of individual companies and trade associations to upgrade our image is necessary if we are to avoid consumerist attacks. A well-informed public is our best defense against unjust criticism. No industry should try to avoid just criticism.

One may well ask just what role the actuary can play in this area. In most companies the actuary (and in many cases several actuaries) are respected members of the executive hierarchy. They can use their influence to promote image-building as a corporate goal. They should encourage advertising which educates the consumer and which enhances the products and services we offer. Actuaries who have not reached executive levels and even students can promote image-building simply by considering it a personal goal. In the long run it may turn out that a good industry image is more important than, say, the interest bases on which we value supplementary contracts.

Chicago Regional Meeting

1. Is life insurance bought or sold? How does it compare in this respect with other items?
2. What has been the impact of consumerism on life insurance?
3. What restraint is there on life insurers' response to consumerism due to regulations and other factors?
4. Should insurance regulators assume the role of consumer protectors?
5. What changes are needed in a life insurance product to avoid conflict of interest of the buyer, producer, and company?
6. What degree of knowledge must the industry impart to the consumer to meet his "consumerism" demands?

CHAIRMAN WALTER S. RUGLAND: We are not going to spend much time initially on definitions; everybody has his own. We all know the concept of consumerism. To my mind, in the life insurance and health insurance business consumerism is really customer awareness,

and I would like to leave it at that. We may find today that we will be speaking of insurance in a general sense rather than of life and health insurance individually, perhaps because we can learn from the experience of other forms of insurance. It is my feeling that we no longer need to observe consumerism. What we need to do is to step in and understand it as it affects us.

It is my firm belief that we in the life and health insurance industry should hold our heads high when we start talking about consumerism. We have done a significant job during the twentieth century of helping people with problems that they cannot solve themselves. We should start out by saying, "Well done!"

At the same time, that does not excuse us from being aware of the accelerating rate of change, the change in life styles, the change in the awareness of the people we serve. We need to be concerned about consumerism and the impact it will have on us today and in the future.

Our job is to capitalize, as purveyors of products, on better customer awareness, to think hard about how it affects the whole of our business—not just whether people should buy term or permanent or whether we should have level commissions or no commissions or whether we should charge for service or whether we should concentrate on price, and so on. We need to take this consumerism concept and apply it to the total of our business!

One of the real considerations in attacking this opportunity is the question of what life insurance is and whether it is bought or sold. Buying life insurance is not like buying a car or breakfast food. It is an intangible thing—really a concept. You have a piece of paper, but that does not really mean anything until something happens. I would like to go back to the example of automobile insurance: when automobiles were a luxury, it was also a luxury to have automobile insurance, liability insurance, or collision insurance; somebody had to sell it and we paid somebody well for making that sale. As you know, now owning a car is almost considered to be a right, and it is also an obligation and a requirement that you be insured. Automobile insurance used to require a sale and needed somebody actively selling it. Now people want to come in and buy it.

I think we can apply that question to life insurance also. To what degree is life insurance bought, and to what degree is it sold? It is my contention that in some instances life insurance is bought. In many other instances life insurance is sold. You can think of all the obstacles before the life insurance salesman—people dislike talk about death; they do not want to talk about putting money away for a period when

they cannot use it. The public also does not understand the utility of life insurance; somebody has to educate them, and that costs money. As we discuss consumerism and customer awareness, I urge you to be especially aware that we cannot necessarily equate life insurance to another product.

MR. ROBERT N. HOUSER: What in the world is consumerism? I am not going to try to define it. However, I have heard it defined as the opposite of *caveat emptor*. We have all heard that—"Let the buyer beware." It has been suggested that in an age of consumerism this should be changed to *caveat venditor*. Now I don't know my Latin, but presumably this means, "Let the seller beware." The situation has shifted.

I do think that we are in an age in which our customer's expectations have been greatly elevated, and this puts a new and higher level of requirement on what constitutes an adequate performance. Whether we like it or not, we are in age in which we are judged by what we do wrong, not what we do right. It does not make much difference if we do 90 per cent of the things right. The attention is going to be on the 10 per cent that we do wrong—and consumers *have* been taken advantage of in many areas. I heard someone say that man is the only animal that can be skinned more than once.

If you put on your consumer hat and look around a bit, you will find it very easy to throw challenges against many things. If you have ever bought an appliance and it would not work after you got it home (we just bought a new car, and the automatic transmission wouldn't even work on the way home from the dealer's), you begin to get the feelings of a consumerist. Put yourself in that mood, and then look objectively at the life insurance industry. See whether you can pick any areas where our performance is less than 100 per cent.

The one thing that has bothered me most about consumerism of late is that it has become synonymous with trouble. It has almost taken on a vicious tinge. It seems to be no longer a matter of reforming business but rather of killing business, so that the government or someone else can move in. I resent this. I do not think it is fair, but that is the turn consumerism has taken of late.

I would say on the positive side that consumerism does imply change, and change implies opportunity. I think that in a period of change there is a real opportunity for the company that will come forward and do a good job.

I frankly do not think that we need 1,800 life insurance companies to serve the needs of the public. I know that we have a lot of good com-

panies, but I also think we have some "schlocky" ones around. I think that in an age of expanded consumerism there are real opportunities for quality companies to move ahead.

In looking at what the impact of consumerism has been on life insurance, I divided it into two categories. I am not going to discuss them at this time but will simply relate them. One category is the charges and attacks which have been made on the industry. The other is the industry's response to these attacks.

The public does not distinguish life insurance from other forms of insurance. We all know that the automobile insurance field has been attacked from various standpoints. We also know that the health insurance field—and many of us are directly involved in that field—has been strongly attacked, and some of this inevitably rubs off on life insurance.

Another area of attack is that of cost comparisons. Professor Belth for the last ten years has been complaining about inadequate cost comparison information for the buyer. Senator Hart got on the bandwagon about four years ago when he publicly attacked the life insurance industry's use of the traditional cost comparison method. We know that in the headlines today there are frequent attacks on the private pension system—charges that the life insurance industry has done a very poor job in this area. We have also had attacks on social aspects of our investment policy. There have been other areas, but these are the key areas where our industry has been subject to significant attack in the name of consumerism.

What action has our industry taken in response to these attacks? We have been much too complacent. We have done much too little. I have been involved in several situations lately in which I have gained the feeling that our industry is not going to change very fast unless someone makes it. There seems to be quite a tendency in our industry to be happy with the status quo. I think that this is a poor stance to take at this particular point of time.

One rather good example is that of the interest-adjusted cost method. I do not care whether you think it is a good method or a bad one—it may be the second worst cost comparison method in existence—but it is certainly much better than the traditional method which has been around a long time. I have not seen much evidence that actuaries have taken the lead in trying to develop better cost comparison methods or to foster their use among companies. Therefore, it has been left for Mrs. Knauer, or for the state of Wisconsin, to prod the industry. I do not think that we have much to be proud about in this area, but at least there is now beginning to be some movement. Perhaps this is the begin-

ning of a change toward general use of a cost comparison method superior to the traditional method.

A number of companies have put in consumer information departments, ombudsmen, and that type of thing. I cannot list the companies—I really do not know them—but a number of them have taken this particular step. I think that it is a good first step. The Travelers set up its office of consumer information, which I think has done a good job in giving the public a chance to ask questions and to talk to someone who can give them straight answers. There have been other attempts to educate the public. The Institute of Life Insurance has a program going on now that would help toward this end. Some individual companies have also done things in this area. My own company, the Bankers Life, has put out a booklet on how to select a life insurance company, and this booklet is not so biased as you might first suspect.

So things are being done. However, I do not think we have gone far enough fast enough.

MR. RAYMOND M. MILLAN:* About a year and a half ago our president asked a group of people to identify what consumerism is, where we might be vulnerable to it, and where we have some opportunities as a result of it. They found consumerism impossible to define initially, so they proceeded with the task of identifying areas of vulnerability and responsibility. The people selected were primarily those with public contact, under the age of forty, and nonofficers. They did not pull any punches.

They came up with a list of fifty-five areas that were grouped under the broad categories of what we sell and service, how we make our investments, our social responsibilities, and our responsibilities to employees—both field and home office.

We learned a couple of things from this process. The first was that we felt it important to take a philosophical position on consumerism. Our president has communicated to our policyholders and to our employees how we have defined consumerism and what we are doing about it. The definition part was easy the second time around, because the fifty-five areas represented the way in which we do business and all that this implies, and that is our definition of consumerism. The second thing we learned was that we were already involved in doing "something" about every one of the fifty-five areas identified. This reassured us that we must be doing something right!

* Mr. Millan, not a member of the Society, is second vice-president, Connecticut Mutual Life Insurance Company.

Thus my comments have been forged by this experience or lack of it in trying to wrestle with the issue. I think that it is necessary to make a distinction between consumerists and consumerism to measure the impact of consumerism on our business. We have defined consumerists to be those who are advocating change in our business in the name of consumerism, and the most obvious examples of consumerists are people like Ralph Nader, Herb Denenberg, and the state insurance departments. The impact that the consumerists have had is pretty obvious—the interest-adjusted method of cost measurement and disclosure; the setting up of different kinds of organizations to comply with changing requirements on handling customer complaints; the ways in which we factor in environmental and social needs while making investments; and so on.

A much more positive impact has resulted from the consumer part of the issue—as we have defined the term. We look at the consumer as someone who has needs and wants that we are either satisfying or trying to satisfy through the use of our products and services. One of the most important "impacts" of the consumer is that everyone in the company is becoming aware that we are dealing with an increasingly sensitive and sophisticated consumer. We have also found that different people are looking at the same problems in a different perspective, and this is another impact of the consumerism movement. This has resulted in a broader range of alternatives. So the impact of the consumer part of the consumerism issue has been a positive one—more awareness of who we are trying to sell and serve and how we go about that job and more alternatives for doing a better job of it.

Since employees of any company are involved in this issue, it is important to know whether they are speaking from the viewpoint of consumerists or of consumers. Some employees may be using the consumerism issue to foster change that cannot be obtained in any other way. I would suggest that this be recognized so that the question involved can be dealt with honestly.

A further thought is that employees are both producers of goods and consumers of goods. This is an important point to get across to everyone, because people who are part of the problem are also part of the solution.

MR. RAYMOND A. BIERSCHBACH: It was said that we were going to be judged on what we do wrong rather than what we do right, and I think that is a correct appraisal, but I think that we are more likely to be excused for doing some wrong if the public is aware of some of the things that we do right. I think that the insurance industry has had a

tendency not to make public the things that they do right as much as they could. The industry can make two mistakes when they look at the consumerism movement and how it affects them. At the one extreme, they can sit back and say, "We're great. We're really wonderful and everything is hunky-dory." On the other hand, they can put on sackcloth and ashes and say that everything we do is wrong. Somewhere in between we have to draw the line.

An examination of conscience is good, but a public confession may not be good. We have to be a little more careful in how we examine ourselves. I would agree that actuaries probably have not been as active as they should have been. If the actuaries who fault the interest-adjusted, net cost method had been a little bit more active in the development of it and given Jack Moorhead more input, maybe something different would have evolved. But they were willing to sit back and let somebody do something and then criticize after the fact.

MR. JOHN M. BRAGG: We in the insurance industry need to understand the real needs and wants and desires of the consumer more than we do. We have to do a better job of satisfying these real needs and wants and desires.

The interest-adjusted cost comparison method is fine, but it seems to me that the mere comparison of the cost of insurance products by index of any kind is not the total answer to the consumerism question by any means. It may be one small part of the answer, but it seems to me that this is not the way it works in other industries. Take the automobile industry, for example. They are not criticized for the difference in the cost of a Ford versus that of a Chevrolet. They are criticized because the bumpers are no good or the brakes are no good—they are criticized because of their products. I think that it is our product that should be the major consideration in this matter of consumerism and not just the price comparison question.

I can think of two or three specific aspects of our products that we perhaps should be looking at more than we do. I am sure that we could come up with many more aspects which deserve consideration as well. First, I think that we need to be doing something to protect the erosion of insurance values that is continually being caused by inflation. In other words, we need to do something along the lines of protecting the purchasing power of the insurance dollar, and we need to be doing far more than we are currently doing on this problem.

Second, I am afraid that we are probably falling down in the matter of the method of premium collection and payment. We are allowing our

customers to pay their premiums in a manner that is more costly than is appropriate for them. I will not be any more specific than this, but I think that it applies to every company of any kind.

Third, what about the agent's service—the service we render the customers? I can think of a great many instances in which we are falling down on the service which we should be rendering our customers. I am sure that there are plenty of policyholders who could have ratings removed, and we are not rendering the service to them necessary to have those ratings removed. Even more specifically, what about the widow at the time of the death claim? Are we doing a good enough job for her? I am sure that all of you know about something that is called "The Widow's Study," which seems to show that we are not doing a good enough job.

It is in all these areas and other similar areas that I think we need to do a better job of recognizing the real needs, wants, and desires of the consumers.

MR. RICHARD L. HOLOFF: I would like to return to the question of informing the consumer. In view of the importance of life insurance to the financial planning of most clients, and considering the heavy front-end loading of most policies, I believe that even more than aftersale servicing, initial disclosures must be improved. I am not referring primarily to price disclosure, for that is likely to be revealed in some form to most consumers and is already receiving much attention. I believe that the area in which improvement is needed most is the explanation of the benefits, options, and limitations of the policy before the actual sale is made.

A common example of this need is found in the sale of many minimum deposit and so-called "piggyback" cases. I have seen and read of countless examples in which policyholders were not informed that policy loans reduce surrender and death benefits or that their outlays would sooner or later start to increase as cash values became fully loaned and loan interest began to grow. This does not necessarily imply a conscious attempt by the agent to conceal certain facts; rather it demonstrates the often unintentional incompleteness which characterizes many sales presentations.

This problem suggests that agent training should emphasize informing the client rather than making a sale. This would benefit the client as well as, in the long run, the agent, who could expect better persistency and more repeat sales from the well-informed policyholder; and, of

course, it would help the life insurance industry to better assume its obligations to the buying public—obligations which have thus far not been satisfactorily fulfilled.

MR. MILLAN: I would like to respond to that last statement because it struck a very sensitive chord with me. Consumerism is a complex issue simply because it means different things to different people. This session and the statements being made provide ample support for this assumption. Nevertheless, it is possible to identify specific areas of opportunity and vulnerability and to do something about them. We have used our list of fifty-five areas as a starting point, and a group of both field and home office people have identified the one area among the fifty-five that should have the greatest priority—service after the point of sale.

Can anything be done about it? We think so, and we think that one of the ways of doing so will be to make people who are the company aware that they are part of the problem and part of the solution. In much more simple terms, we should stop pointing fingers at each other, and the field and home office should work together in finding better ways of doing business. The field alone is not responsible for any problems that may exist, nor is the home office responsible all by itself; the field cannot solve any problems alone, nor can the home office solve them all by itself.

MR. HOUSER: We have in our company an agents' advisory council. This is a group of some of our better agents with whom we meet regularly to get the field force viewpoint on various things concerning it. The last time we met with the agents' council, we talked about the comsumerism movement. How did they feel about it? What did they see that we are doing wrong? What changes should be made? Surprisingly, there was rather common agreement between the agents and home office on the matter of service to policyowners. The home office people felt that in many ways our service to policyowners was deficient, and the agents' council seemed to agree 100 per cent. However, there was a noticeable difference. The home office people felt that poor service was the fault of the field people, and the field people thought it was the fault of the home office people.

This is the all-too-common attitude. We all agree that there is a problem, but we blame the other guy. We can blame most of our problems on the field force if we have a mind to do it, but I do not think that this

will hold water. I think that there is enough blame to go around for everyone. In any event, if there is going to be a solution to the service and other problems, then there is going to have to be heavy home office involvement in it.

MR. BIERSCHBACH: I agree with that. The agent probably is the contact with the consumer, and, as such, he has to provide the service, but we have to remember that the agent has to make a living, too. I think that the home offices can do more to assist the agents in providing the sort of service that they should provide and that the consumer really needs.

MR. RALPH D. WALKER: I think that companies could do a lot more to clean up sales presentations so that we would get fewer complaints. Most complaints that I see are the result of the method of sale. I also think that the industry could make it clearer to policyholders through the Institute of Life Insurance and through various forms of public advertising that there is a surrender charge that they pay when they surrender and that this cost should be taken into account in comparing a replacement policy. This would solve a lot of the replacement problems we have. We would not need all the replacement regulations if policyholders realized that, in most cases, they lose when they change from one company to another.

MR. ROBERT L. PAWELKO: One of the items about which I have talked at length with several people who are very much involved with the consumerism issue is that of service to the persons who own products of your company. It is quite obvious that many companies are failing to service those persons who are already policyholders of the company. For example, let us take an arbitrary number of policyholders, say 20,000. Out of these 20,000 policyholders, your agents will probably continue to service 500–1,000 since these are the ones that are likely to purchase more coverage from the agent. These 500–1,000 individuals are most likely to be the ones who have expanding incomes or expanding insurance needs. The other 19,000 or so policyholders which the company already has on its books are going to be ignored. The reason for this is simple economics. Your agents are paid to sell new business. The compensation schedules are designed to encourage new sales. They are not designed to encourage service. If your companies can develop a system wherein all policyholders will be contacted and will be serviced, then there is likely to be a large number of these remaining policyholders who will either purchase new products from your company or will recommend

your company to other individuals. A good example of this type of approach would have to be in industrial insurance. Those of you who have been acquainted with the debit business know that there was a close rapport between the debit agent and the individual consumer. The individual consumer got to trust the debit agent. Now it is a costly way of doing business, and most companies are shying away from the debit business, but the concept of service and the concept of going back and visiting the policyholder on a regular basis is certainly one of the areas in which I think the industry could help itself. I would much rather see the cost of insurance increase if there is an ensuing increase in the service to the policyholder.

George Sutherland is attempting to develop a subagency system, so to speak, which would service predominantly the group of policyholders who are not being serviced by the primary writing agents of the company. This subagency would be comprised primarily of new college graduates. In all likelihood the individuals within the subagency would last in that agency for a period of time of approximately four to five years at the most. They would graduate or would be promoted into home office positions or into direct sales. While they were in a subagency, however, they would be remunerated by means of a salary from the company and by means of a small commission. As these individuals in the subagency visited and corresponded with the policyholders of the company, they might be selling new products to these already existent policyholders. When they did sell a new product, the original writing agent would get a certain percentage of the commission, and the subagent would also get a certain percentage. Now this is evidently a long, complex, drawn-out procedure, and it is certainly going to be a long time before it is completely successful. However, I do believe that this type of approach has much merit, and it should be more closely explored by other companies. You all have policyholders in your company who are not receiving service at this time. Why not try to work on these policyholders, and why not try to improve your name to your own policyholders?

MR. JOHN D. KIRKMAN: My position in my company is probably slightly different from those that most of you hold. I am an electronic data processing manager and, as a result, I can look at this problem from a slightly different viewpoint.

With regard to policies being "bought" rather than "sold," people who have "bought" policies are not a service problem. They demand, and probably get, what they need. Those who were "sold" policies are the problem.

In the area of increased service, I cannot imagine any of the improvements mentioned here being performed without the computer. Letters to policyholders, lists of orphaned policies to agents, and the like, all will probably be printed in the computer rooms of most of your companies. Whether the programming is contracted out or defined and coded in house, the lead time required to realize these improvements is substantial. It should be emphasized that, if you know what should be done, you should start *now* to plan and design the system modifications required.

MR. BIERSCHBACH: Very frequently we hear that the insurance industry is helpless to do anything because, if the companies try to get together and make changes—perhaps to control some of the maverick companies referred to—we would be guilty of restraint of trade. I think that that is a specter that is raised more often by the attorneys than by other people in the home office, and maybe we should not be quite so afraid of it as we tend to be.

As for other factors, in a way competition itself works against us. It is my feeling that the profit margins in some of our policies are not uniformly distributed among all types of policies and all ages. If the actuary had infinite knowledge and were able to assign the expenses properly, and again had infinite knowledge and were able to set profit margins properly, equally across all types of policies, he would probably come up with premiums in some cases which simply could not be sold because the going rate in certain categories would not allow the premium that he came up with to ever sell anything. So competition in a way works against us.

Perhaps the most classic example of an area in which we are guilty is in the policy form area. We put together legal documents. We take notice of the fact that people cannot understand their life insurance policies, and we say that that is not too bad because we have to make them legal documents. They have been interpreted by the courts, and if we use wording that has already been interpreted by the courts, we know that we are providing the coverage that we think we are providing and that the premiums were set to provide. I think that we could and we should take more pains in our policy forms to make them understandable to the insureds. This is probably more true in health insurance than it is in life insurance; but I think if we really used some imagination, we could arrive at policy forms more easily understood by the buyer.

MR. HOUSER: Several years ago we tried to solve this problem. We agreed that policy forms were complicated and that we had gone about as far in simplifying them as we could under state law. So we got the

bright idea that we would put out a supplemental booklet to explain in layman's language what the policy really meant. We were shot down by our lawyers, who said, "You can't put out a supplemental booklet that says what the policy really means. The policy is the policy and it means what it says." Thus our attempt was short lived.

The other thing I want to comment on is the reference to possible antitrust restrictions. I frankly think that we make all too much of potential antitrust problems. We have used this as an excuse to do nothing. This was recently brought home a little closer to me. I have a brother who is in the appliance industry and works for one of the major appliance companies. He provided me with a copy of something that their industry has done in the consumerism area. They have formed something they call MACAP, which stands for "Major Appliance Consumer Action Panel." This is a panel to represent consumer interests. It is made up of consumerists and educators and is designed to serve as a watchdog on the major appliance industry. If a customer's complaints are not handled adequately, they are referred to MACAP. MACAP has the authority to take whatever action it deems necessary. This particular organization includes about all of the major appliance manufacturers. You name it—it is a member of the group. It seems to me that if you are going to worry about antitrust in the consumerism area, here is a prime example of a situation in which an industry might be clobbered. They were not clobbered, and I am told that MACAP has worked effectively. It has won praise from Mrs. Knauer for doing a good job for the consumer. Thus I would say that the specter of antitrust action may be more of an excuse for doing nothing in the consumerism area than it is a valid reason—but I am not a lawyer.

MR. MILLAN: Since we are trying to understand some of the barriers in doing something about consumerism—however you may define that term—I will add a few more.

One assumption that can be made about consumerism is that it will bring about change in the industry and in our respective companies. The most fundamental barrier to change is people's attitude toward it and the threat it represents—as they perceive it.

Another barrier is the cost of doing something. We are in the business of providing future financial security, and the products and services designed to do this basically involve long-term commitments. It is to the consumer's advantage for us to operate as efficiently as possible. Yet to do so requires a fairly stable method of service and administration. Any changes made in the way we sell and serve will either increase the cost of our products or services or decrease the benefits paid. Is this in the

consumer's best interest? Here is a set of conflicting values, and I hasten to add that our product and services are not detrimental to the health and safety of the buyer where the increase in costs or decrease in benefits can be justified.

Tied in with this is the fact that we are dealing with a moving train. We are in business and have been in business for a number of years. We are not like a soap manufacturer, who can do something simply by changing the ingredients of his product. Any changes that we make not only affect the new buyers but also affect the old buyers that we are still serving. We also commit a considerable amount of resources to our existing policyholders. There is an expression in our company that our first priority is a simple one, just as the first priority of any person is a simple one—to keep breathing. A considerable amount of time, effort, and resources are committed to the job of simply breathing and staying alive, and this is a reasonable restraint simply because of the kind of business we are in and the way in which we go about doing that business.

MR. RALPH H. GOEBEL: The maximum statutory reserve interest rate of 3½ per cent definitely restrains some companies from lowering premium rates on ordinary life insurance and single premium annuities on account of the surplus strain involved (including the setting up of deficiency reserves on ordinary life, in certain instances). I understand, however, that the maximum statutory reserve interest rate may be increased in the next few years, so that this may be only a current problem.

As a second point, I believe that a more competitive ordinary life policy could be developed if there were no statutory ceiling on the policy loan interest rate. There is a conflict here from the consumerism standpoint—people that borrow on their policies would like low policy loan interest rates, but policyholders as a group might prefer the lower ordinary life rates that would accompany higher policy loan interest rates.

Finally, the restrictions on credit reports have increased insurance costs. These restrictions do not benefit the buyer of insurance for which no adverse information is uncovered by the inspection report.

MR. JAMES A. MITCHELL: A thought that occurs to me is that consumerism must be good business for two basic reasons:

1. We must deliver products and services satisfactory to the consumer if we are to stay in business.
2. The organizations which do the best job in this regard are those which will grow and prosper over the longer term.

Thus, instead of looking exclusively at the short-term "costs" of consumerism to our companies, we should seek out and invest in the many areas where the interests of the policyholder and the company are parallel. As an example, the key to delivering and maintaining our products is the agent. The basic reason that many of our policyholders are "orphans" is that such a high proportion of our agents do not survive more than a couple of years in business. The attendant costs to our companies are large. If we can find the keys to doing a better job of recruiting, training, and helping to make our agent a success, then he can do the job of servicing his policyholders and we will have greatly increased the return on our investment in field manpower.

MR. WILLIAM J. SCHNAER: In an earlier session on product development, several people pointed out that no really new life insurance product had been released for a long time. Earlier in this session, it was also observed that consumerist criticism of other industries centers on the product itself rather than on its price or any other aspect.

Criticism of the life insurance product has been around for many years and has been especially strong during the last decade. However, as the current tumult over variable life insurance shows, any significant innovation in our product, designed to answer these criticisms, stands a good chance of running afoul of securities laws or insurance laws or both. I feel that, if the life insurance industry cannot find a way to create within the confines of those laws or, alternatively, to change them, then we must resign ourselves to an ever decreasing share of the savings dollar as well as mounting consumerist attacks.

MR. L. C. JOCHELSON:* It seems to me that it is generally accepted in the discussion so far—and it has been highlighted and emphasized by the report of the Joint Special Committee on Life Insurance Costs—that a straight cost comparison is one of the less important aspects. I would just like to emphasize the wording right at the end of the report (in fact, it is highlighted over and over again):

> Even such information on cost will not especially indicate to any particular person what his choice should be. The purchase of a policy commands not only the dollar benefits in the policy but also, and most importantly, the services of the agent and the company that issues it. These services are of tremendous value to the policyholder. Differences in the quality of these services are far more important than moderate differences in apparent cost.

* Mr. Jochelson, not a member of the Society, is from the University of Cape Town.

Now, referring to Mr. Bierschbach's remarks, it seems to me a contradiction in terms if, on the one hand, we recognize this and, on the other hand, we come up and suggest that one of the restraints—one we cannot do anything about—is the cost factor. This is, in fact, a challenge, and the challenge is to forget the game that costs are important. Let us get on with the job of improving the service, and the cost will be a less material factor.

MR. HOUSER: I cannot help reacting to the implication that the cost of life insurance is unimportant or nearly so in the sale. We might like to feel this way—and I think traditionally this has been true—but I think that it is going to be much less true in the future, Commissioner Denenberg notwithstanding. I believe that there are substantial differences among companies in life insurance costs. One reason this condition exists is that the public has not been aware of the fact. I simply want to say that just the fact that in the past most individual life insurance sales have not involved price competition does not mean that this will necessarily continue to be true in the future. It is very easy for an agent to say that his company has a higher cost but that it gives better service—that is a standard type of answer and is mostly a smokescreen. I do not really believe that any company can claim that all its agents are better trained and give better service than those of another company.

I certainly agree that cost is not everything—perhaps it may not even be the most important thing—but I take exception to any implication that cost is not important. If it has not been important in the past, I think that it is going to be much more so in the future.

MR. BIERSCHBACH: My initial reaction, in agreeing to lead off on the question whether insurance regulators should assume the role of consumer protector, was to simply say yes and then shut up. However, I happened to come across an article from the *Journal of Commerce* in which the insurance commissioner of West Virginia did a better job of answering the question. Let me quote a few paragraphs from this article. I think that they apply directly to the question. The commissioner said:

> Today the emphasis is on the consumer, or, more specifically for the insurance commissioner, the insurance-buying public. No one should be more aware of this than state governors. They know that if they are going to satisfy the majority of the state's voters, they must take a serious and objective attitude towards the interest of consumers, and regulation of insurance has become a very important part of the consumer movement.

Later, he says:

> There is no doubt that the proper role of the insurance commissioner is one in which he is policyholder-oriented. He should never lose sight of the fact that his office is supported by the taxpayers and that he is there to assure them of the best possible insurance-buying environment.

In summary, then, yes, the role of the insurance commissioner should be that of protector of the consumer. Having answered the question, can I let the matter end there? I rather doubt it. There may be an implication that, if the insurance commissioner is the protector of the consumer, he is against the industry. This need not be the case.

In fact, I will quote again from the same article, because Commissioner Weese also went right to that point:

> A good insurance commissioner should consider himself consumer-oriented. There is, however, a dangerous possibility that the consumer-oriented commissioner can let his passions for the policyholder reflect an anti-insurance company attitude. A great dislike for the insurance corporation can easily emerge, which is not necessarily synonymous with consumerism. Much greater benefit to the policyholders will come about through an effort to work with the insurance companies and not against them.
>
> When one says work with them, he does not mean to necessarily agree with them or accept or allow anything they want to do. It is important to develop what should be considered an attitude of mutual respect whenever possible between commissioner and the insurance industry.

Then it would seem that the insurance commissioner has a very important responsibility. When he sees wrongs, he must try to right them; but Commissioner Weese would suggest, and I would agree, that he should try to work first with the industry. If he fails to get co-operation, he has ample other courses of action.

I would like to cite an example in which I feel that a consumer-oriented insurance commissioner took an action to right what he saw to be wrong but did it without working with the industry. By following the course of action which he chose, I feel that he may have hurt the industry; more importantly, I think he may have hurt the insurance-buying public. A month or so ago, Commissioner Denenberg released his *Shopper's Guide to Life Insurance,* and it purports to give some key cost comparisons for aiding the buyer in finding the best buy for straight life insurance. The text of the guide contains ample caveats. He points out that the charts which he shows are not designed to make recommendations on which insurance company is the best—from which insurance company to buy your straight life insurance. He also points out that

"service rendered by the insurance company and the agent can be one of the most important factors in the decision to buy life insurance," and he goes on to point out that the guide does not attempt to show which companies or agents give the best service. Unfortunately, but I am afraid predictably, the press did not pick up these caveats—they merely picked up the tables.

I said a moment ago that I felt that this action may have hurt the insurance-buying public. We all know that there is a certain reluctance on the part of many people to buy life insurance. I feel that the guide may very well tend to strengthen that reluctance. Individuals who are suspicious of life insurance companies may very well say, "See, even the insurance commissioner says those companies are no darn good—you can bet I'm not going to buy any life insurance." If that happens, and I think it probably will happen in certain cases, then I think that the commissioner has been guilty of doing a disservice to the people who take that attitude. There was an alternative. Commissioner Weese of West Virginia pointed it out. Commissioner Denenburg could have worked with the industry and, at least hopefully, might have been able to work out something that would have been for the betterment of all.

MR. MILLAN: This question of insurance regulators assuming the role of consumer protector may be redundant, because some of them already have. A better question—and the one I would like to address myself to—is, What do we think of it?

My reaction is that it depends. If the regulators can pull it off without increasing regulation, then it will be a positive move. But if this kind of focus results in greater regulation, then it is self-defeating from the consumer's viewpoint, because most regulation restricts competition instead of encouraging it. Since the only source of power for the regulator is through regulation, the real question might be, Is the regulator interested in more power, or in what is best for the consumer?

Beneath all this is the fundamental question of who should decide what is best for the consumer. Speaking as both a producer and a consumer, my answer is simple—the consumer.

MR. HOUSER: I am in a vulnerable spot in replying to this if you have seen the Denenberg list. Incidentally, we found among our field force that Denenberg quickly switched from a black-hat to a white-hat guy when the list came out. I do feel that it would have been much better if the comparative price list had been put out by the industry or by some industry-related organization. I feel that publishing the list tends to put

the commissioner in a biased position and removes him from the impartial role of arbitrator that I feel he should play. But I have to say that I think if we had waited for the insurance industry to put out such a list on its own, we would have waited, and waited, and waited. Under those conditions, I cannot really fault Denenberg too much for stepping in and doing something.

I wish that the attitude of our industry were such that we would do for ourselves what needs to be done and not, by our inaction, force regulators to step in and do it for us. Let me give you one other example. I think some of you know that in the state of Wisconsin there is a hearing on the department's proposed requirement that interest-adjusted cost information be presented to the buyer in every case where he asks for it. There would also be a requirement that companies provide interest-adjusted cost information to their field force. The earlier Wisconsin proposal was that interest-adjusted cost information be presented to every potential customer whether he wanted it or not. Unfortunately, the industry's response to this proposal was extremely negative. In essence, they said that they did not want any kind of regulation but were completely happy with the way things were. The Wisconsin department obviously did not buy this answer.

I point this out simply to show that, if we do not respond in a positive way to situations that come up, we are going to have things that we do not like jammed down our throats. I do not really think that we can complain when we have things jammed down our throats, if we have passed up opportunities to do something on our own while they existed.

MR. FRANK W. PODREBARAC: Copies of Denenberg's *A Shopper's Guide to Life Insurance* can be obtained by writing to the Pennsylvania Insurance Department. They are sent out only on request.

An initial review of the guide reveals the following:

1. There is no adjustment for companies on an age-last-birthday basis.
2. The "straight life" policy purportedly compared included the following:
   a) Modified life—three and five years.
   b) Life at 85, 90, and 95.
   c) Endowment at 95.

   Presumably the above plans were used because interest-adjusted straight whole life figures were not readily available in the *Cost Facts on Life Insurance: Interest-adjusted Method*, published by the National Underwriter Company of Cincinnati.
3. No indication was made of the companies with a $10,000 minimum policy issue amount.

4. For companies which automatically include waiver of premium "at no extra cost," the following deduction was made for all such companies:
   a) $2.40 at male age 20.
   b) $4.80 at male age 35.
   c) $7.60 at male age 50.

In the text Mr. Denenberg indicates that illustrated costs are based on data as of November, 1970. This is not apparent from his charts, and concern on the part of some companies resulted when a portion of them was printed in the newspaper. Unfortunately, the newspapers also failed to present the complete picture.

MR. MILLAN: At this point I would like to interject a comment. I am having difficulty understanding what the issue is with interest-adjusted cost information as we are discussing it. Would we be saying the same things about Denenberg if he had published a comparison based on traditional net cost? Would we be saying the same things if our companies were in the top ten or the bottom ten? Would we be saying the same things if more accurate and up-to-date figures were used?

As I see it, the issue is whether or not a cost comparison index or measurement (call it what you want) can be designed and given to the public. If we in the industry cannot agree on one, then consumerists like Denenberg are going to do it for us. So the initial question is: Can the industry design and support some kind of cost comparison that will give the buyer a way of measuring the relative value of different policies issued by the same company or of the same policies issued by different companies?

If we cannot do this, then we should begin to communicate to the public why it is not possible. Cost comparisons have become an issue with the consumerists.

MR. BRUCE E. NICKERSON: In talking about insurance as a product, Jack Bragg earlier made an interesting analogy to the auto industry. We seem to be faced with a dilemma from the regulatory viewpoint, from the consumer viewpoint, and from the insurance company viewpoint. To what extent is life insurance a commodity, as opposed to a product with significant differentiation among competing brands?

In many ways, this is the nub of the price comparisons problem. Some types of insurance, such as ordinary life, are seen as being very, very close to a commodity. But there are many policies which, because of variations in benefits and premium payment patterns, are as clearly differentiable—and perhaps much more so—as brands of tires or of automobiles.

Perhaps the answer lies to some degree within our profession. If fair cost comparisons were available for the commodity type of policy *and* if costs for our noncommodity products were, in fact, equitable and consistent with the costs of the commodity products, then it would be possible to continue to sell insurance in nonstandardized packages to fit individual needs and desires while still having a reasonable idea (better, I think, than we have now) of how the value and cost are related. At present we are far from this situation. I feel safe in suggesting that in most companies some policies are clearly "better buys" than other policies. If we do not correct this problem voluntarily, I suspect that the forces of consumerism will, in time, compel "correction" on a basis that may be much more upsetting to the industry.

Aside from questions of marketing strategy and underwriting practices, however, there are some very real regulatory barriers to providing such "equal value." One of the strongest barriers is that our entire agent compensation system, even in companies that do not do business in New York, is to a significant degree structured by the New York law. I think that most of us would agree that the compensation pattern dictated by the New York law does not correspond to the value of the product in any particularly direct manner.

MR. ROBERT MERRITT: Earlier in my career I spent nine years in actuarial pursuits in the savings bank life insurance systems of New York and Connecticut. This brought home to me very clearly that life insurance is not bought on cost alone because, as you all know, the savings bank life insurance systems which have now been in existence in Massachusetts for well over sixty years are still not in a very commanding position in sales. So it is just not true that in most cases life insurance is bought on cost. I quite agree with Mr. Houser—a proper measure of cost is very important, and the industry has been weaseling in facing up to this question. I think, however, except in the brokerage or business situation where the really sharp pencils are involved, that the average man does not go out to buy insurance. He has it sold to him by his friend or neighbor, and all the price information in the world is simply not going to be relevant to that particular sale. The main burden of what I have to say is that only tangentially have we touched upon the marketing arrangements of the industry as being, it seems to me, really one of our main problems in meeting the challenge of consumerism. Life insurance will probably always have lower persistency than, say, automobile or homeowners insurance, because of the lack of compulsion and the unwillingness of the average man to think of his own death. The fact remains that we are paying our agents primarily to make sales and not

very much to keep their policyholders happy, and that is why widows do not get adequate advice about settlement options. We seem to be locked into this situation, and I have no suggestions as to how we are going to get out of it. Some people have suggested that as more and more companies have got into the sale of mutual funds, the National Association of Securities Dealers requirement in regard to suitability, the whole scrutiny to which the front-end load is being subjected, and the increasing awareness of no-load funds might eventually have some effect on life insurance marketing. It would be my hope that someday—perhaps from the casualty end, perhaps from some company such as the one from which I buy my automobile insurance, which seems to do very nicely without any agents at all (because everybody has to have automobile insurance)—perhaps some such company would be able to set up a life insurance organization and compensate its agents on a basis that would de-emphasize the hit-and-run character of the selling process in our business.

MR. HOUSER: Our local actuarial club recently had a professor speak to us on the subject of consumerism. He gave some insight into how much information a consumer might be entitled to. I thought it was good enough that I jotted it down and have remembered it.

He recorded four progressively higher levels of possible consumer information. First of all, there is the level of enough information to prevent outright fraud or deceit. I think we would all agree that every consumer is entitled to this amount of information. The second level is enough information to prevent an unwise choice. To turn this around, the consumer is entitled to enough information to make an intelligent choice. This is a relatively new concept, but one most of us would accept. The third level is enough information to avoid a dangerous or unsafe product. This is a higher level of information because it involves factors which may be completely hidden to the customer. It involves knowing more about a product than a purchaser would typically know. Much consumer interest has lately been centered in this area of information, with the demand for better labeling, elimination of potentially harmful ingredients, and so on. The fourth and final level is enough information to protect the consumer against his own folly.

Now, if you reflect on these four possible levels of consumer information, you can make your own value judgment as to how far business should go in providing information for the consumer. How much information do you feel that he is really entitled to? In the life insurance business we do not have to worry about a dangerous or unsafe product.

Thus the only level of consumer information which bothers me is the last one—protecting the buyer against his own folly. I do not really buy that, because I do not particularly like the big brother attitude. I get mad every time I get into my car and it makes a big noise unless I buckle my seat belt. I somehow feel that is my problem, not the government's. Recently I heard someone say that a consumer has one additional right—the right to be wrong. I think there is some real point to this. I prefer the "right to be wrong" theory to the big brother attitude, but I do believe that the consumer has the right to enough information to make an intelligent choice if he wants it. I do not think you have to cram it down his throat.

Now what is enough information to make an intelligent choice? I think, first of all, that it involves knowledge of the product. I think that the consumer is entitled to enough information so that he can make an intelligent choice as to type of product. I also think that he is entitled to enough information to be able to make an intelligent choice as to the amount of insurance coverage he needs. I agree with the previous speaker. One of our real problems is that the agent may not even mention term insurance to the prospective customer. Too frequently he tends to sell simply what he wants to sell, not necessarily what is best for the customer. If we are going to have informed buyers with enough information to make an intelligent choice, then they will need to know what products we have in our product line, not just the ones we are pushing today. Even if the customer has this product knowledge, he also has to have some reasonable idea as to how much life insurance he really needs. Then, and only then, it becomes important for him to consider the price of the product.

I think that there are many customers who do not want this amount of information. I do not think that you have to ram it down their throats, although I have heard it said that you should. However, I believe that even the unsophisticated buyer is at least entitled to the best advice of an agent—hopefully with the commission structure such that the agent is not strongly biased in favor of a particular type of contract. I feel that in this area the agent operates somewhat in a trust capacity. In contrast to some industries, I do not think that we in the life insurance industry have any right to give poor advice just because we can get away with it.

MR. BIERSCHBACH: Here is a key spot where the actuary can play an important role. Bob referred to our selling products which we particularly want to sell or the agent's selling a product which he particularly wants to sell. I think that the actuary can make a contribution here by

pricing the product in such a way that the company does not favor the sale of one policy form or one type of policy over another, and that the agent does not—that is, set commissions so that the agent does not necessarily favor the sale of one type of policy over another. If the agent has no bias or the company has no bias in this, then the agent is more likely to make an open comparison of the different products that he has available in his rate book to sell to the prospective buyer, therefore giving the buyer a greater selection from which to choose and hopefully giving him the product which best suits his needs.

MR. PAWELKO: One additional point which I would like to add is on the state of New York and the section 213 prohibition in the New York Insurance Code which limits the amount of commissions payable on term products. The maximum commission for term products under section 213 is 37½ per cent, while ordinary life products can receive commissions up to 55 per cent. This type of discrimination on commission schedules automatically infers some type of discrimination in the sales process. The agent is going to definitely produce or sell the product which produces the most income to himself. I believe that companies should be paying commissions on the same percentage basis for all products, so that the agent has no real incentive to sell one product rather than another, other than that of policyholder need. One thing that companies can do along this line is to start working on these idiotic regulations that exist in the various states. Companies should be working with the New York Insurance Department to temper section 213 in order to stop this type of discrimination.

MR. ALEX ROBINSON:* My authority in the Illinois Department of Insurance includes the area that we are discussing today. There are four broad divisions of the Public Services Branch of the Illinois Department. They are the Life, Accident, and Health Division; the Property and Liability Division; the Agents and Brokers Examination Division; and the Consumer Service Division. The Consumer Service Division takes very much into consideration many of the things that we have talked about. I do have a couple of observations that I would like to make. There has been much talk about the Denenberg *Shopper's Guide for Life Insurance*. It has been, of course, a very controversial guide, with much discussion pro and con throughout the country. I am of the opinion

* Mr. Robinson, not a member of the Society, is with the Illinois Department of Insurance as a deputy director in charge of the Public Services Branch in the Chicago office.

that the guide published by the Pennsylvania Department of Insurance is a very excellent item and has great merit. However, there are some very important qualifications to be made. One is that the guide, while mentioning the value of the life insurance salesman, does not point up the very important role that the life insurance salesman plays in aiding the prospect in the purchase of life insurance. I would certainly hate to think of a day when consumers will consult a buying guide as a basic object to the purchase of their life insurance, without the counsel of a professional and highly skilled or trained life insurance salesman.

My past experience has been in the life insurance business, basically as a salesman. My experience in the business has been that the role of the agent is very, very important, and I am sure that it still is and always will be. Therefore, the *Shopper's Guide* in itself is ineffective in terms of aiding the prospective insured to purchase life insurance without the services of the salesman to help the prospect realize his various needs for insurance and the types of policies that will best cover those needs. Commissioner Denenberg's *Shopper's Guide* does not overlook this fact, but it does not highlight it and explain the importance of this to the shopper. Therefore, the shopper may get the impression that he can select a company that will automatically provide this type of service, whereas this is not necessarily the case. Although the company he chooses may be among the first ten companies so far as cost is concerned, it may not be among the first ten so far as the training of salesmen is concerned, which is of more importance or value to the consumer. Life insurance company management should think in terms of better development of agencies or salesmen and also of helping salesmen to become more mission-minded instead of commission-minded, therefore providing a better service in analyzing the prospective insured's life insurance needs instead of thinking solely in terms of making sales. If the salesman is mission-minded, as opposed to commission-minded, his chances for success are much greater, in that he will be more concerned with servicing his clients than with making sales.

There has been some discussion here today about life insurance agents' commissions and the fact that agents are paid more for sales than for service. Perhaps we should alter the commission structure so that the salesman is paid additional commission for service, or perhaps introduce a schedule whereby he is paid some of the first year's commission in later years—an incentive to preserve existing coverage in force. As we all know, greater sales are made through giving better service, and, if the agents are constantly reminded of this, probably greater service will be given, therefore reducing the high turnover rate that exists in the life

insurance business. My experience has indicated that many companies were seemingly interested primarily in getting business. Therefore, many agents in the field have tremendous first-year sales records. However, they are not adequately trained in the art of prospecting for future sales or for the life insurance career. This high rate of agent turnover creates confusion and misunderstanding among policyholders. A lack of service leads, ultimately, to a lack of confidence in the life insurance industry as a whole.

"Should insurance regulators assume the role of consumer protectors?" It is my personal opinion that insurance regulators should be just as concerned with aiding in the progress and development of life insurance companies as they are with protecting consumers. The regulators of the various departments should not become overly concerned with the consumer, to the extent that the effects are damaging to insurance companies.

An example of what we consider to be good consumerism on the part of a state department of insurance is the establishment of a program similar to that of our very own Illinois Department of Insurance. We recently established a hot line in the Chicago office of the department. It has only been installed for a few weeks, and we are feeling our way with it. However, it has been fairly successful. The hot line is a special telephone line set up for insurance consumers of the general public to call us on any question, inquiry, or complaint that they may have concerning insurance. This hot line is open twenty-four hours a day and is answered during working hours by our personnel. After working hours the hot line is handled by an answering service. The answering service operators do not attempt to give information concerning inquiries or complaints. They merely get the necessary information so that the calls may be followed up the next day by our personnel. Since the hot line has been installed, we have received approximately one hundred calls per day, and, of course, this is a great step toward better consumer service.

INVESTMENT OF ASSETS—THE OTHER HALF OF THE BALANCE SHEET

Atlantic City Regional Meeting

Co-ordination of invested assets with actuarial liabilities; portfolio management for institutions with predictable cash flows—life insurance companies, pension funds, and so on; matching of asset maturities to cash requirements; mathematical immunization of a fund to render financial results independent of future changes in interest rates.

1. Exposition and examples of the theory of immunization.
2. Alternatives to immunization, and other techniques of co-ordinating investment strategy with life insurance product design.
3. Current practices in England; requirements for matching of assets and liabilities as part of valuation.
4. Other interest assumptions inherent in adjusted earnings and its relation to company assets.

CHAIRMAN IRWIN T. VANDERHOOF: Interest rates are now at historically high levels, and, as a result, the range of interest rates that responsible actuaries are assuming for the future has widened dramatically. Ten years ago an assumption of 4½ per cent for nonparticipating rate calculations was an average high assumption compared to the previous twenty-five years' earnings. The same 4½ per cent is now deemed by many to be the lowest level to which rates might fall in the foreseeable future.

The problem and importance of interest earnings rates and assumptions about them are increased by the current movement to adjust the statutory earnings of life insurance companies by the financial analyst and accounting professions. These adjustments will have the effect of reducing the penalty on earnings that statutory accounting exacts when high interest assumptions are used. This would eliminate the margins that might protect us if our assumptions prove too optimistic.

Since there is, in fact, no generally accepted theory for the long-term prediction of interest rates, and neither actuaries, accountants, economists, financial analysts, nor politicians have any demonstrated accuracy in this field, a new approach must be adopted which will either allow the prediction of this unpredictable or make the accuracy of such a prediction less crucial.

Mr. James C. Hickman has done research on this topic, and some of

his findings are reported in a most interesting paper entitled "Investment Implications of the Actuarial Design of Life Insurance Products" (*Journal of Risk and Insurance*, December, 1971).

MR. JAMES C. HICKMAN: The design of a life insurance or pension system requires an actuary to develop a model that incorporates at least four random processes: (1) the benefit payment process, (2) the premium or contribution income process, (3) the expense payment process, and (4) the investment process. After the basic design is fixed, the actuary's responsibility is to monitor the path of each process as it develops. This surveillance is required because action may become necessary to modify the course of a process which is deviating from its expected path in a fashion that may prevent the attainment of the objectives of the system.

Actuaries have developed rather elaborate models for the benefit payment process. For example, the mathematics of life contingencies, which is often acknowledged as the intellectual keystone of actuarial science, is directed toward computing the present expected value of future streams of random benefit and premium payments. Risk theory is used to supplement these expected value computations with probability statements about the benefit payment process or the net of the premium and benefit payment processes. Nevertheless, these models for the benefit and premium payment processes have been justifiably criticized for their simplistic economic assumptions. The textbook life contingencies (individual risk theory) model assumes that the entire investment process may be summarized by a single interest rate which is used to convert streams of future payments to a present value. The sophisticated collective risk model makes no provision for the investment process. Free funds are unproductive in the collective risk model. After paying compliments to the authors of this marvelous theory, one is moved to ask in what sense asymptotic probabilities of ruin are to be interpreted when the model ignores the investment process. The question becomes even more imperative when one observes that the investment process has played a dominant role in the United States in forcing the ruin of some companies and in saving others from unfortunate insurance experience. In fact, it appears that risky insurance operations might be counteracted by conservative investment operations or that bad luck in insurance is sometimes offset by good fortune in investment operations.

If insurance and pension systems are to be successful, it seems that some body of theory should exist for co-ordinating the management of the benefit, expense, and premium payment processes (to be called, collectively, the insurance process) and the investment process. In fact,

several aspects of such a theory for the "matching" or co-ordination of insurance and investment activities do exist. It is the purpose of this session to critically review these ideas and to suggest some problem areas in insurance-investment co-ordination where new ideas are needed.

In summary fashion, we will list some of the types of insurance-investment matching.

1. *Currency matching.*—In order to minimize the risk of unfavorable exchange rate changes, it is prudent to match insurance liabilities stated in one currency with investments denominated in the same unit.

2. *Fixed unit liabilities and fixed unit asset matching.*—The banking system, with its fixed unit deposit liabilities, has matched these liabilities with consumer, commercial, and mortgage loans also stated in terms of fixed units. Similarly, the North American life insurance industry, having sold contracts creating liabilities in terms of fixed monetary units, has tended to match these liabilities with fixed unit mortgage loans and bonds.

3. *Maturity matching.*—Because of the exceptionally long time span over which the liabilities of a life insurance company may become payable, these companies have been particularly vulnerable to changes in the interest rate at which reinvestments are made. The "immunization rules" for selecting maturity dates for fixed unit bonds were developed by British actuaries for the purpose of minimizing the adverse impact of a change in the interest rate. An even simpler example of maturity matching is provided by the strategy of staggering the maturity dates of a portfolio of bond investments to match the expected benefit payments to a block of single premium immediate annuity contracts.

4. *Expectation matching.*—In the years since World War II the growth of real per capita income and the devastating effect of price inflation have combined to reduce the value attached to long-term insurance and pension benefits stated in terms of fixed monetary units. One of the major projects of the actuarial profession in recent years has been the design of insurance and pension systems in which economic growth and price inflation are in some way reflected in benefit payments. Concomitant with the design of a benefit structure has come the necessity to design an investment strategy for matching the new type of liabilities.

This session will be primarily concerned with maturity matching. The subject of expectation matching would be more appropriately assigned to a session on "pensions in a dynamic economy" or on "the design of variable benefit, equity-based products." Fortunately, the task of the panel has been made easier by the appearance of Irwin Vanderhoof's paper, "The Interest Rate Assumption and the Maturity Structure of the Assets of a Life Insurance Company." We should also mention a recent short paper by Karl Borch, entitled "A Short Note on Overall Risk Management in an Insurance Concern" (*ASTIN Bulletin,* Vol. VI,

Part 2), which also treats the subject of the co-ordination of the insurance and investment operations of a company.

The dominant impression on reading Vanderhoof's provocative paper is that it should have been published twenty years ago. It seems that the paper makes two fundamental points that simply cannot be denied:

1. The balance between income and expenditures in long-term insurance and pension systems, with built-in interest guarantees, may be destroyed by a reduced investment income stream caused by the failure of reinvestments of early financial income to generate earnings as anticipated.

2. The risk of an inadequate investment income flow may be managed by the employment of an investment strategy that requires that securities selected for the investment portfolio produce a weighted average time of payment (duration) that corresponds to the weighted time of payment for the insurance operations.

Several consequences follow from these propositions. For one, an important dimension is added to the analysis of actuarial balance sheets. If existing liabilities are immunized, an important risk to which an insurance system is subject is under control. Information such as that presented in Table 14 of Vanderhoof's paper should be of considerable value to managers and state supervisory officials; both classes are interested in measuring the risk to which an insurance system is exposed.

An insurance company that finds itself with an unacceptably large insurance risk may manage this risk by entering the reinsurance market. In this market the insurance risk may be reduced, for a price, to a level commensurate with the risk-aversion characteristics of the original company. In a somewhat similar fashion, an insurance company that is not in an immunized position may enter the securities market and reduce the risk of a loss due to an adverse change in the interest rate by shifting to long-term securities. This action would create both transaction costs and a certain opportunity loss, for the gains that might be realized by an abrupt jump in interest rates will be reduced by an immunization program.

The degree of immunization should also influence the inferences drawn from an earnings statement of a life insurance company. Currently accountants and actuaries are engaged in an extended conversation on the question, What probability should be attached to the permanence of an apparent increase in the value of an enterprise before this increase is recognized in the earnings statement of the enterprise? Since the degree of immunization influences the certainty with which liabilities are estimated, it is apparent that the degree of immunization influences the vola-

tility of earnings. It is difficult to find where the accounting profession has developed this question. Apparently the answer depends on the purpose for which the earnings statement is prepared. A survey of the growing literature on adjusted earnings of life insurance companies suggests that a higher probability of permanence must be attached to increases in value before they are recognized in the earning statements reviewed by regulatory officials interested in solvency than is required for earnings reported to the federal tax collector. For statements designed for the eyes of stockholders, a still lower probability of permanence not only is permitted but, in the name of realism, is required.

Richard G. Horn, in his paper entitled "The Release from Risk Policy Reserve System" (*TSA*, XXIII, 391), devotes a section to the topic "Recognition of Risk." In this section he develops the idea that risk is at the heart of the insurance business. Yet the release from risk policy reserve system he develops does not force a specification of the multivariate distribution of the random variables that determine the outcome of a life insurance operation. The earnings described by Horn depend on subsequent uncertainty being adequately summarized in the special reserve defined within the release from risk system. The discussions of Horn's paper by Cardinal, Noback, and Rosser make a substantial contribution by sharpening some of the perplexing questions involved in defining risk for long-term life insurance contracts and in establishing when this risk is finally terminated. The relationship between interest rate risk and insurance accounting will be ably developed by another member of the panel.

Vanderhoof has warned of the perils involved in basing earnings estimates on reserves with some kind of "most probable" interest rate assumption but with matching assets with significantly shorter duration. In a mismatched situation, natural reserves cannot adequately measure the rate at which the interest rate risk is released.

The ideas on immunization developed by Vanderhoof are important. Yet two very serious warning signals should be transmitted to those who are receiving his message. First, if management decides to control the risk of adverse interest rate changes on the assets matching its liabilities with interest guarantees, it is committing itself to an ongoing process. Long-term securities soon become short-term securities. Although the characteristics of the liabilities of a mature life insurance company do not change abruptly, neither does real-world experience unfold inexorably like the numbers in a model-office calculation. The duration of insurance liabilities will change as the characteristics of the business change and

as the assumptions by which the future is perceived are modified. A program of immunizing long-term liabilities will almost inevitably involve equity investments. The durations of such investments are determined by making assumptions about future growth rates. Intelligent assumptions about these rates must be revised in the light of the best current information. Even fixed-dollar bonds and mortgages involve uncertainty because of the possibility of advanced repayments and the exercise of call provisions. In a word, the implementation of an immunization program requires the actuary to make all the assumptions made in conventional asset share computations and, in addition, assumptions about growth, reinvestment rates, and accelerated repayments. Immunization is achieved only in the sense of "present expected values" and must be a continuous process.

Second, some recent product developments and marketing trends indicate that at least some of the purchasers of insurance and pension products no longer value interest rate guarantees. If investment performance is to be reflected directly in benefit or premium payments, unmodified by interest rate guarantees, the risk created by interest rate guarantees is shifted to the customer and the motivation for a program of immunization is gone. If investment guarantees are no longer valued in a dynamic and inflation-plagued economy, the problem is no longer to manage the risk inherent in such guarantees but to develop techniques by which those who purchase insurance and annuity contracts may formulate their expectations and to develop investment strategy by which these expectations may be matched.

MR. DEREK I. BOURDON:* Although my comments on immunization will make some reference to my own company's approach—and Frank Redington was chief actuary of the Prudential of England until he retired a few years ago—I am really trying to paint an over-all United Kingdom picture, albeit with a personal slant.

One cannot refer to the United Kingdom statutory requirements without looking over one's shoulder to Europe. If all goes well, we shall become members of the European Economic Community from January 1, 1973. The regulations in some EEC countries are on the whole more restrictive than ours, and some would argue that they are unprofitably so in some respects.

In the United Kingdom for the present, however, annual accounts ("Summary of Operations" in the United States) must be provided, to-

* Mr. Bourdon, not a member of the Society, is a Fellow of the Institute of Actuaries.

gether with balance sheets including certificates that the assets are at least equal to the amounts stated, with a description of the bases used, and that the liabilities do not exceed the values shown.

Every three years at least, a prescribed form of valuation of liabilities by an actuary is required, with information on a number of aspects concerning the insurer's financial position. This must include a full statement on the method of valuation, that is, whether the valuation is net or gross, together with the interest, mortality, and expense rates assumed. Companies are not required to conform to prescribed valuation bases, or investment regulations, but mention must be made of the matching of assets and liabilities, even if only in a general sense. For example, in the case of my own company, we include a statement to the effect that the rates of interest used have taken account of the nature of the assets and that, if their mean term is less than that of the liabilities, the rates of interest have been adjusted to discount a possible future fall.

To provide the Department of Trade and Industry with the opportunity to obtain an independent actuarial check on the valuation of the liabilities, sufficient details have to be provided at least once every five years of the business in force. Other information on premium rates and surrender values is also required. The Department of Trade and Industry can call for further particulars in the case of new insurers or where doubt may exist, but its jurisdiction lies only in the field of solvency, not equity.

Redington's theorem said, in effect, that a fund is immunized if the mean term of the assets equals the mean term of the liabilities. Future premiums are then the problem for next year or for the next chief actuary/investment manager! If the asset-proceeds equal the liability-outgo for all values of t, that is, for all durations of business in force, then the fund is matched completely and no changes in the rate of interest can affect it. But this is virtually impossible to achieve in practice, because funds are constantly expanding and have to be invested on terms which cannot be known in advance. Immunization, however, is still possible, and this is known as total immunization, considered a good standard for nonprofit business.

For participating policies this is not really appropriate, and the paid-up theory of immunizing each premium in the conditions at the time, as developed by Bayley and Perks, is perhaps more sensible. The mean term is much shorter than for total immunization.

A variant of this approach is designed to support bonuses for existing policies at the same rate as for new policies and also leads to a comparatively short mean term.

Haynes and Kirton presented their important paper to the Faculty of Actuaries in Scotland, just before Redington, echoing many of his thoughts and also stressing the danger of liberal options against the insurer. Mr. Vanderhoof mentioned in his paper their approach of immunizing only the contractual liabilities for with-profit policies, on a gross premium basis and ignoring future bonus. The balance of the fund would be invested on the most favorable terms available.

Options such as alternative redemption dates of assets, cash options on deferred annuity contracts, guaranteed surrender values, and paid-up values must upset the immunization position, and a number of United Kingdom offices have tended to take a rigorous line on guaranteed values, since there are no statutory obligations in this area. If surrender values are not guaranteed, one can increase the valuation rate of interest if interest rates rise, which will offset to a lesser or greater extent, depending on asset terms, the market depreciation of the assets. This is not necessarily the case if surrender values are guaranteed. Mr. Vanderhoof said in his paper that cash payouts in the United States are no larger than death claim disbursements—is the problem then very serious? Unless euthanasia becomes an option open to us all, deaths should remain at much the same level; but can we say the same for surrenders?

We all know that the valuation of equities presents problems. When I remind you that some United Kingdom insurers hold between one-third and one-half of their investments by market values in equities and property, you will appreciate the extent of our problem. Yields are somewhat lower than those on government securities (although this was not true a few years ago), because of the likelihood of expansion in the future. What view does one take on the valuation of equities, given changes in the over-all market rate of interest?

The level of equity share values is influenced by general market rates to some extent, but it is even more vulnerable to economic growth prospects. The political motivation of the government of the day is a powerful factor in influencing equity share values, probably to a greater extent than in influencing other market values.

Few offices, if any, in the United Kingdom are in the position of being immunized against changes in the rate of interest, and I presume that the same could be said of insurers in the United States, if you made the calculations.

If the view is taken that interest rates are likely to rise, then one should be invested short, and vice versa. However, if the mean term of the assets is short vis-à-vis the liabilities, then it may be wise to calculate

reserves on a cautious rate of interest and not necessarily as high as the current asset rate.

Immunization implies restraint on profit as well as on loss, and one would not expect to follow a course of rigid total immunization in a competitive market.

Thus we can say that immunization is one of the tools at our disposal, and there are many others. Given that we are probably not immunized, it is vital to see how the values of assets and liabilities will vary if interest rates rise or fall appreciably. Valuations at certain judged rates of interest will help to guide the actuary in recommending suitable rates of bonus, bearing in mind the likely surplus from other sources. The bonus or dividend earning power of current premium rates is a third and powerful tool in this context.

I would like to finish with two general comments. First, the estate, being the excess of free reserves over and above the contractual liabilities, is important not only as a means of bolstering bonus but also as an indication of the extent to which the office can stand a capital investment loss. Looked at another way, it may help to guide the actuary on the difference between the mean terms of the assets and liabilities that is acceptable.

My second general comment is that we recognize that the traditional United Kingdom valuation bases have deferred the emergence of profits that rightly belong to the current generation of policyholders. The use of a terminal bonus, payable only on policies currently becoming claims, does much to redeem the position. It would be an unwise actuary, however, who did not look ahead to what the cost of maintaining that terminal bonus might be. This will also affect the mean term of the liabilities.

MR. ROBERT L. LINDSAY: My presentation will focus on adjusted earnings and the interest and asset valuation assumptions which will be used in revaluing reserves in accordance with generally accepted accounting principles (GAAP).

In December, 1970, the Committee on Insurance Accounting and Auditing of the American Institute of Certified Public Accountants released an exposure draft of a proposed guide for audits of life insurance companies, which is usually called the "audit guide" or "exposure draft." Its purpose is to give the practicing auditor a guide for determining whether or not a client life insurance company is preparing its financial reports in accordance with GAAP. If the financial statements are in accordance with GAAP, then the auditor can so state in his opinion and can therefore render a "clean" or unqualified opinion. If, in the judgment

of the auditor, the company deviates from GAAP, then he can render a qualified opinion and can indicate the deviations.

The consequences of receiving a qualified opinion can be quite serious for those companies which require Securities and Exchange Commission approval of financial statements for use in prospectuses. Therefore, most stock companies and even some mutual companies are very interested in being sure that they obtain an auditor's opinion that is unqualified. Hence many companies, if not most, will be adjusting statutory financial statements to a GAAP basis for publication to the SEC, the investment community, and other groups.

The objectives of GAAP are to give a fair presentation of the financial position of a company at a specified point and to ascertain the financial result or profit for a given period of time. The audit guide will require a rematching of revenue and costs which is consistent with GAAP. The primary consideration is to properly match costs with revenue. It is not the adjustment of earnings. Earnings are what remain after this matching has been accomplished.

The matching of revenue and costs will be accomplished through the reserving system. Several adjustments need to be made to statutory statements in order to meet the accountants' requirements for matching. A major adjustment, for most companies, will be the substitution of "natural reserves," or "revenue reserves," for statutory reserves. To put us all on a common footing, let me define what is meant by "natural reserves."

The basic concept is relevant to nonparticipating business. The premise is that a nonparticipating premium scale is developed from assumptions with respect to mortality, interest, expenses, withdrawal rates, and values, plus a profit margin. On the basis of these assumptions, a premium can be constructed to provide for mortality, interest, expenses, and withdrawal benefits, but without any specific provision for profit; this is called the "natural reserve" premium. A series of natural reserves can be computed on the basis of this premium, using either a prospective or a retrospective approach.

Presumably the underlying assumptions would be based on the best estimate of future experience, with a margin added for potential fluctuations and catastrophes. If the basic assumptions are exactly realized, then there will be two sources of profit. One is the profit margin which was specifically provided for in the premium; the second source arises from the release of the margins for adversity which were built into the assumptions.

Today's discussion centers on investment of assets. One question which may be raised is, What provision is made in the audit guide for interest assumptions and investment gains or losses? Excerpts from the exposure draft (p. 79, ll. 14 ff.) will help answer this question.

To the extent that the statutory interest assumptions differ significantly from the average rate of earnings that can be expected on the funds invested or to be invested, more realistic assumptions should be considered. The selection of a more realistic interest assumption is a subjective judgment which must be made in light of the long term nature of life insurance, the contractual obligations under life insurance policies and the inherent inability to forecast the future with certainty.

The interest assumption to be used in computing reserves in conformity with generally accepted accounting principles should be the estimate of future interest expected at the time that the policies are issued. Assuming that premium rates are changed frequently, this estimate will be that used at the time the gross premium was determined. In any event, the reserve interest assumption for each block of new issues should not be inconsistent with such factors as actual yields, trends in yields, portfolio mix and maturities and a company's overall investment experience generally.

To the extent that subsequent yields exceed the interest rate assumed in establishing the premium, such excess interest should be reported as income as it is earned. Periodically adjusting the reserve interest assumptions to reflect changed conditions prospectively is not considered desirable. The inherent fluctuations in investment yields make it impracticable to determine the proper timing and the extent to which such adjustments should be made. In addition, the need to measure assets and liabilities in the context of uncertainty make it desirable to follow the convention of conservatism in stating net income and net assets in amounts lower than would otherwise result from applying the pervasive measurement principles.

This says that the interest rates used in determining the pricing structure for particular policies would be applied to compute the natural reserve for those policies. No mention is made of margins for fluctuations or potential asset losses. At the time the exposure draft was released it was apparently the intent of the AICPA committee to require use of the "most realistic" assumptions in determining natural reserves for each block of business with no specific margins for adversity.

The Joint Actuarial Committee on Financial Reporting did not quite see eye to eye with the accountants on this point. In its response it was pointed out that the choice of assumptions has more significance for the reported earnings than the selection of the method used to translate these assumptions into reserves. Also, the more distant factors can have

great impact on reserves for whole life contracts. This is particularly true for the interest assumption. The interest-bearing funds in the early years of a policy are inconsequential; it is only at the later durations that investment earnings have a significant impact.

It was pointed out that the more remote events are by far the hardest to estimate. It is not very difficult to estimate portfolio yields for an established company five years into the future. The real problem is determining an appropriate rate for use twenty or thirty years in the future, when a closed block of whole life business peaks out in terms of funds. Yet the range of possible emerging interest rates is exceedingly wide. The need to maintain policyholder security suggests that a conservative view is most appropriate in estimating the rates to be used in the relatively distant future.

The release from risk reserve system which was developed by Dick Horn recognizes the range of deviations which is likely to occur with respect to an expected value estimate of future experience. In the computing of reserves a factor would be added to the "most realistic" assumption to allow for the risk of adverse deviations. If, in the future, actual experience turns out as expected, these margins would be released and would appear as profit in a GAAP income statement.

It is apparent that the accountants read the Joint Actuarial Committee response quite carefully. Their present view is that reasonably conservative estimates should be required (including provision for adverse deviations from such estimates) for each of the assumptions involved in natural reserve calculations. In the case of the interest factor they would like to place constraints on the range of assumptions that may be used. A proposal which was tentatively adopted at the March, 1972, meeting of the AICPA Committee on Insurance Accounting and Auditing is as follows: The maximum average rate that can be assumed "would be the lower of the average new money rate (i.e., the net investment yield attributable to new investments made each year) or the average portfolio yield rate for the last 20 years."

Companies not having twenty years of experience would substitute the average rate on long-term United States government bonds, or some similar high-quality investment, for the new-money rate and the industry yield for the portfolio rate for each year in which the company did not have any experience during the twenty-year period.

This tentative proposal is to be tested against the results of representative companies to determine whether the method would produce acceptable results and whether a different period should be used for measuring the rate to be used.

Earlier this year the Academy activated a Committee on Financial Reporting Principles. This is a standing committee of the Academy, which would take over from the temporary Joint Actuarial Committee. It is charged with the development and publication of actuarial considerations applicable to the financial reporting of life insurance companies. It should also publish guides to the application of these considerations in practice and the definition of permitted ranges of variation, where appropriate. This may require development of theoretical principles—for example, to determine the basis for margins for adverse fluctuations.

We would like to have inserted in the audit guide itself a statement to the effect that the choice of assumptions and the discipline of assumptions are responsibilities of the actuary and the actuarial profession. The auditor would be responsible for discussing actuarial aspects with the actuary only to the extent necessary for him to form the opinion he must express.

The AICPA committee may not be willing to do this unless a recognized actuarial body has made formal pronouncements on standards to be followed by all qualified actuaries. The Academy committee is focusing its attention on the interest assumption, since this is the one assumption which the accountants feel should be disciplined. It is preferable that an actuarial guideline be included in the audit guide rather than one which is developed by the AICPA committee. A temporary guideline which may be proposed is as follows:

> Maximum allowable pre–federal income tax interest rate (net of investment expense) is to be graded in a reasonable manner over twenty years from an initial rate to an ultimate rate. The initial rate is the company's new-money rate, and the ultimate rate is the average industry portfolio rate. The calendar year preceding the year of issue is to be used in determining both the initial and the ultimate rate.

After completion of the theoretical work, rules would be promulgated in terms of best estimates and provisions for adverse deviations. It would seem appropriate to take into account any aspects of immunization which should enter pricing assumptions.

After reading the audit guide and other material, it seems quite clear that under GAAP invested assets will generally be valued according to National Association of Insurance Commissioners valuation rules. This means that Annual Statement assets will be carried over to the GAAP balance sheet without change. This applies to most assets except marketable securities.

The Joint Actuarial Committee examined asset valuation a bit more

carefully. On page 71 of the committee's response to the exposure draft the following discussion was presented:

1. Assets are acquired at the time of the liability increase which is associated with the receipt of funds invested. Thus liabilities are carried forward at the interest rate earned by those assets on an amortized cost basis.
2. When interest rates are stable the asset-liability relationship is of little significance.
3. If interest rates rise, market values of existing fixed-dollar investments generally will be lower than the amortized values used by companies in their Annual Statements. This is satisfactory as long as liabilities continue to be valued at the old, lower interest rates.
4. Under these conditions if fixed dollar investments were to be revalued at market then liabilities should also be written down to the values produced by the higher interest rates. There seems to be little need or justification for this procedure.
5. When interest rates fall, both amortized bond values and liabilities are less than the higher amounts suggested by current interest rates. If new money cannot be invested at the valuation interest rate, reserves may be inadequate to the extent that income from existing investments is insufficient to cover interest deficiencies on future investments. Strengthening of statutory reserves would be called for.

In short, asset valuation standards must be consistent with the corresponding liability valuation standards. In normal conditions no adjustments should be necessary to reflect changes in interest rates.

Under regulatory accounting practices, investments in common stocks are carried at quoted market values. Any changes in the carrying value of common stock arising from unrealized or realized gains or losses are charged or credited to unassigned surplus or the mandatory security valuation reserve.

The Accounting Principles Board of the AICPA is currently studying the valuation of marketable equity securities and the reporting of gains or losses as part of income for all industries, including property-casualty insurance and life insurance.

I shall briefly summarize some of the methods proposed or now in use, drawing upon an excellent analysis prepared by Jarvis Farley.

1. *Life company method.*—Most bonds are carried at amortized values, preferred stocks at cost and common stocks at market. Both realized and unrealized investment gains and losses are not included with income but go directly to the surplus account. This method's principal faults are, from the companies' viewpoint, that realized gains are not included with income and, from

the accountants' viewpoint, that all changes that occur in shareholders' equity during the year do not appear in the income account.

2. *Casualty company method.*—Assets are valued as in method 1. Realized gains or losses are included with income or are contained in a related statement of investment gains and losses. The accountants find this method faulty, in that unrealized gains or losses, which affect shareholders' equity, are not recorded in the income account. Also, this approach is susceptible to management manipulation because the realization of gains (or losses) is a management decision.

3. *Income method.*—Assets are valued as in method 1. Both realized and unrealized investment gains and losses are reflected in or with income. Under this method income is subject to distortion as a result of short-term market fluctuations. Also, income reflects results which have not been realized (and may not be realizable).

4. *Long-term yield method.*—Assets are valued as in method 1. Realized and unrealized gains and losses would be taken into income on the basis of a moving average of prior years' results. This averaging could be of the actual gains and losses or of the annual percentage changes. The main faults attributable to this method are that income reflects events which have not been realized and also excludes events which have been realized during the period.

5. *Market method.*—Assets are valued at market or other current values, while liabilities are valued on the original issue basis. Both realized and unrealized investment gains and losses are treated as income. This method has a major flaw in that assets and liabilities are not valued on comparable bases. Also, income would be severely distorted by market fluctuations.

6. *Value method.*—This is the same as the market method, except that liabilities are valued on the basis of current assumptions. The main problem with this method is the difficulty of revaluing liabilities on the basis of current assumptions. Also, substantial distortion may still occur as a result of market fluctuations.

7. *Quasi-equity method.*—Under the equity method net earnings per share of stock owned would be taken into income. The carrying amount of each share would equal cost adjusted to reflect earnings and dividends from date of purchase. Gains or losses realized on disposal of investments would be taken into income over a period of years only if there were no intent to reinvest in the same type of investment. If the proceeds are reinvested in the same type of investment, then the value of the new investment would be set equal to the value of the old one. The principal fault of this method is that timely information for the valuation of stock is not readily available.

The Joint Committee on Financial Reporting Principles of the American Life Convention and the Life Insurance Association of America submitted a statement to the Accounting Principles Board of the AICPA on the subject of accounting for marketable equity securities. The com-

mittee had reviewed the seven methods outlined above and concluded that common stocks should be carried at market value and that both realized and unrealized capital gains or losses on them should be treated alike but should not be included in income. If the APB concludes that such capital gains and losses are to be credited or charged to income, the inclusion in income should be on a long-term investment yield basis. They suggested that ten years is an appropriate period for measuring long-term yield and that the method should be one which weighs current experience more heavily. The latter gives recognition to the change in size of portfolio over the period in which yield is determined. A ten-year sum-of-the-years digits method was proposed.

As of this date the APB has not made any pronouncements on the subject. There is still hope that they will promulgate a method which is satisfactory to the life insurance business.

Chicago Regional Meeting

1. Exposition and examples of the theory of immunization.
2. Investment policies for pension funds.
3. Canadian practices on actuarial investment integration.

CHAIRMAN IRWIN T. VANDERHOOF: Traditionally in life insurance we concern ourselves with interest rates, mortality, and expenses and perhaps also, to a lesser extent, morbidity and lapse rates. The actuarial literature and our theoretical development and practical studies are very good from the point of view of mortality, fairly good for morbidity and expenses, and somewhat less reliable, although perhaps theoretically sound, for lapses. Our work on interest rates is a big step down from these previous factors, even though interest rates are at least equally important in the eventual profitability of the line of business. Interest rates are clearly our subject today.

In the next few minutes I would like to discuss briefly several points which were mentioned in my paper but were not discussed in any detail. The first of these is the history of interest rates in this country over the past few years, with an attempt to contrast that history with the variation in interest rates over a longer period. The reason for such emphasis on this subject of the level of interest rates is that it is difficult to keep in perspective how great the changes that have taken place over the past few years have really been. This historical perspective is necessary if we are to judge how much investment of time is warranted on the whole

question of actuarial-investment co-ordination, and immunization in particular. The second point into which I would like to go a little further is the question of the development of the concept of immunization and the mathematics involved. I was disappointed, although not surprised, to hear several comments to the effect that the mathematics required to explain immunization is such that many investment managers would have difficulty in grasping the idea and that much of company management would be unable to understand explanations of the subject. In some cases actuaries have also indicated that they felt a less mathematical development of the subject would be easier to work with.

First, let us try to put into perspective the actual changes in interest rates over the period of the last five years. Let us consider the so-called "Homer series" of AA-rated, call-protected utility bonds. This series was largely based upon individual judgment in its components but is probably more indicative of the actual situation of the marketplace than something like Moody's AA-rated bond averages, which are not adjusted for differences in call protection. Let us start on April 1, 1967. April Fool's Day is an appropriate beginning for a survey of recent changes in interest rates. The yield on this kind of bond, which was readily available in the new issues and secondary market, was 5.5 per cent. Let us follow this over the next few years. Within only three months the rate had gone up to 6.1 per cent. In October, 1967, it was 6.3 per cent, and in January, 1968, it was about 6.75 per cent. By April, 1968, we were at 6.85 per cent, and in July, 1968, it was 7 per cent. In other words, in about fifteen months the yield had gone from 5.5 to 7 per cent. Thereafter there was a three-month decline until October, 1968, to 6.6 per cent. Following that, in January, 1969, the rate was 7.2 per cent. In April of that year it was 7.5 per cent; in July we were at about 7.95 per cent. By October, 1969, the rate was about 8.35 per cent, and by January, 1970, we were at the frightening and unbelievable 9 per cent. There was a reaction again until April, 1970, when the yields dropped to 8.6 per cent. Thereafter, in June, 1970, the yield on this prime obligation of American business reached an impossible 9.5 per cent. Since then there has been a fairly steady drop to 9.2 per cent in July, 1970; then 8.75 per cent in October; 7.85 per cent in January, 1971; about 7.5 per cent in April. There was a rise to 8 per cent in July and a drop to 7.75 per cent in October and to 7.25 per cent in January, 1972. The rates have gone up slightly since that time, but they are now somewhere around 7.4–7.5 per cent.

In brief summary, we went from 5.5 per cent in April, 1967, to 9.5 per cent in June, 1970. I have a bond table that I was using when I first

got involved in investments, and it does not go anywhere near as high as 9.5 per cent. It only goes up to 7 per cent, which tells you something about the way times are changing. Let us consider the plight of an investor who happened to buy a $1,000 bond in April, 1967. Let us say that it was a twenty-year bond, and he was buying on an original yield of 5.5 per cent. How much was his $1,000 worth in June, 1970? Well, if the yield basis had actually been 9.5 per cent—and I will give you some reasons why it would not have been quite that high in a moment—the $1,000 would have dropped in value to about $645. Now, as I said, actually 9.5 per cent would not be a fair yield for the security, because it was not then a new issue but was actually an issue selling at a substantial discount, and such bonds sell at considerably lower yields because of investor expectation of future drops in yield. Therefore, the correct rate on this might more fairly have been 8.5 per cent. At 8.5 per cent the price would be about $714. This means that in an investment of a little over three years you would have lost about one-quarter of your initial investment. This, of course, would be in addition to the loss of the purchasing power on the dollar during the period.

To put this in some kind of historical perspective, I shall try to describe briefly what has happened to interest over the previous five centuries, so that you can compare five years with five centuries of interest rates. In 1966 we had an interest rate on prime obligations of 5.5 per cent. For the period 1961–65 the rate was about 4.5 per cent for the whole period. But 4.5 per cent in 1960–61 was considered a very generous rate. It had developed over a period of fifteen years from rates of 2.5 per cent in 1946. Three per cent rates on corporate bonds were not reached until 1951, and 4 per cent not until 1957.

From a longer-range point of view, we have to go back to the early 1930's before we see rates as high as 4.5 per cent, and the highest rate available on high-grade long-term American bonds in this century was about 5.25 per cent in the fantastic money squeeze of the early 1920's. This, of course, was the one that delivered Will Durant and General Motors into the hands of the Du Ponts the last time. In 1900 the rate on long-term corporate bonds was again down to 3.75 per cent. The remainder of our series will not be high-grade corporate bonds but will be the high-grade obligation generally available during the period. In the 1860's, that is, during our own Civil War, government bonds never reached 7 per cent but were only as high as 6.75 per cent. During the War of 1812 government bonds reached, at the highest, 7.5 per cent. Disastrously high rates existed, it is true, around 1787 in this country, when the

Confederation was defaulting on its obligations and returns of 26–40 per cent existed on government bonds. However, before 1800 the situation was changed, and in fact put in proper perspective, when money was loaned to the United States government in 1783 at the price of about 5 or 6 per cent.

When we talk in terms of 9.5, 9, or 8 per cent on prime obligations, then, we are talking of rates that are as high or higher than ever existed in this country, except during the collapse of the Articles of Confederation and prior to the Constitutional Convention of 1787 and the new nation of 1789.

I promised you five hundred years to contrast with the last five years, and I shall skip rather hurriedly over the earlier centuries of this semi-millennium. In 1661 Massachusetts fixed the legal maximum interest rate at 8 per cent. In 1692 Maryland adopted a 6 per cent maximum, and this was adopted by many other colonies. In Virginia 5 per cent became a maximum. During the second half of the seventeenth century, rates were from 3 to 12 per cent in the Dutch Republic, about 8 per cent in France, and 4–6 per cent in England. In the first half of the seventeenth century they were 5–8 per cent in the Dutch Republic, 8 per cent in France, and 8–10 per cent in England. Earlier than that, we see rates in the sixteenth century running about 4–10 per cent in the Netherlands and the Dutch Republic, rates going up to 8 per cent in Italy and France, and rates up to 14 per cent in England. Back in the fifteenth century it was 8–12 per cent in the Spanish Netherlands and 5–10 per cent in Italy. In the fourteenth century, the last of my five hundred years, rates were 8–10 per cent in the Spanish Netherlands and between 5 and 10 per cent in Italy, with no clear records in any other country.

A bit of fascinating but useless information is the fact that the highest and the lowest interest rates in history occurred during this century. The lowest term rate is 1.93 per cent for one issue of government bonds in 1946 in this country. In addition, for short-term rates there was a negative yield on Treasury Bills issued by the United States in 1939. The other side of the coin is November, 1923, where the call money rate in the Berlin Stock Exchange was 10,950 per cent!

Really, the whole point of this argument is to indicate very clearly that interest rates, which were once presumed to move in the long, slow fluctuations of the Kondratieff cycle, now seem to fluctuate much, much, much more rapidly. This probably is a real change in the nature of our world and not simply a distortion caused by the Vietnam war. There are many other reasons for believing that changes in social behavior and

so on are taking place more rapidly than they did in the past and will in fact take place more rapidly in the future. If this is the case, we do not have the option of taking a relatively long view about bond portfolio investments but must use every means at our disposal to protect ourselves against what will probably be very rapid changes in the near future. The world is changing from one in which growth without limit is possible to one in which boundary conditions exist.

During the entire period of 1966–72 there has been no service—and this statement does not exclude services of the United States government—that has accurately or even reasonably accurately predicted the changes in interest rates that would be taking place. My own feeling is that the Federal Reserve of St. Louis has done as well as anyone, but following any of these people was very little better than throwing darts at a board. Because there are competitive elements involved, unless it becomes possible to predict interest rates only limited prediction can ever be successful, and we are forced to try to protect ourselves against such changes by other techniques.

Now the ultimate criterion of solvency of an insurance company is its ability to pay all claims when they are due on a going-concern basis and also its ability to pay such claims when they fall due in the event that new business should cease. I think that both situations would have to be met for a company to be really considered solvent. This means that we are considering the cash flows from the operation coming in in each future year rather than the conventional form of NAIC statement. If new business is profitable or at least self-supporting, we can confine ourselves to a consideration of business already on the books, in which case there will be some moneys received in each of the next ten, twenty, or thirty years, and thereafter there will be net payments to policyholders and beneficiaries until the entire block of business has run off. Since the present value of the net payments probably exceeds the present value of the receipts, we need a certain amount of assets, which I have been calling a "gross premium valuation reserve," to cover this difference. The present value of the future cash receipts from these assets must equal the present value of the net payments made to the operations.

We can perhaps consider an analogy wherein the present values of the future payments to and from the operation of the insurance company are considered as a stack of weights, each weight representing the present value of the net amount paid out or received in one future year. Similarly, we can consider the gross premium valuation reserve as another set of weights, where each weight represents the present value of the amount

of cash to be received as either interest or maturity in some future year. The basic equation of the life insurance business is that the total of these two weights must be equal. Let us consider these weights spread out along a line. The weight at the end of the first point on the line would represent the amount to be paid or received at the end of year 1, the second weight would represent the amount at the end of the second year, and so on. Now a little thought will indicate that a change in interest rate, a small change, will have twice as great an effect on the weight two years away as it will on the value of the weight one year away from now. Similarly, the weight thirteen years away will be thirteen times as affected. If you then get the average distance out that these weights are positioned, you have at the same time the percentage change in total caused by a small change in the interest rate. This means that if the balance from operations averages thirteen years out, then a 1 per cent change in the interest rate will mean about a 13 per cent change in the total value of these weights. If we presume that the present value of the operation is spread out along the left side of the line, then we can presume that the present values of the maturities of the assets can be spread along the right side of that line. The condition for immunization is that when the present values are spread out along the time line separated by distances proportional to the difference in time of receipt, the two sides are in balance. If you visualize this, you can see that you simply have the balancing of two separate distributions on different sides of a teeter-totter or a lever, and if these two distributions balance and if the total amounts balance, then small changes in interest rates have a very small effect on the relationship between the total values.

When viewed as a percentage change, then, the D_1, or duration, becomes a good measure of the immunization. If the duration of the assets is thirteen years, this means that a 1 per cent change in interest rate would change the present value of those assets by about 13 per cent. If the duration of the liabilities or balance from operations is about twenty-two years, a 1 per cent change in interest rate will change the present value of the balance from operations by 22 per cent. The combination means that, if the values of the assets and balance from operation were equal at a particular interest rate, then a change of 1 per cent in the valuation interest rate would put it off balance one way or the other by 9 per cent. If the assets and balance from operations are equal at 6 per cent but the assets are nine years short, then a drop in future rates to 5 per cent will mean that the assets fall short by about 9 per cent.

In this discussion I have tried to include a historical perspective on

interest rates and the levels of fluctuation. I have also tried to indicate that I believe very strongly that fluctuations in the future are going to be much more violent and rapid than they have been in the past and more than we normally think of in terms of interest rates. I think that the fluctuations in the interest rates are going to resemble more closely what we have had over the last five years. If this is true, it means that we must spend a lot of time and energy protecting ourselves against this kind of fluctuation, even though our actuarial theory has prepared us relatively poorly for working in that kind of an environment. Further, in this discussion I have tried to indicate a nonmathematical explanation for the idea of immunization which may be suitable for investment people or management people who are uncomfortable with the calculus, and I finally indicated that the idea of duration itself constitutes a good measure of the extent of immunization and is actually a quantitative measure of the effects of changing interest rates on the values of insurance companies.

MR. CHRISTOPHER D. CHAPMAN: I shall begin by taking a brief look at Canadian practices on actuarial-investment integration. These practices exhibit more similarities to than differences from the United States situation. This close correspondence can be attributed to several factors:

1. Since many of the large Canadian and American companies operate in both countries, product design tends to be standardized wherever possible. Furthermore, the existence of professional associations operating on a North American basis within the life insurance industry, the Society of Actuaries being an excellent example, tends to contribute to a uniformity of thinking and approaches. The best illustration of this common approach is the fact that most individual insurance contracts issued by Canadian companies contain cash surrender values quite comparable to those which would be required under the United States standard nonforfeiture law. This is true in spite of the fact that, according to the act under which Canadian insurance companies operate, cash surrender values are not required.

2. Valuation standards in Canada are very similar to those in the United States, with minimum reserves for individual policies determined according to the Canadian modified valuation method, which is a variation of the net level premium method similar to the Commissioners Standard Valuation Reserve method.

3. The method of surplus distribution is generally the same in both countries. The three-factor dividend formula is most common in Canada, while the English system of reversionary bonuses is not used.

4. The types of assets available in Canada are also very similar to those in

the United States. In particular, with reference to the concept of immunization, there is no significant supply of perpetual bonds as there is in the United Kingdom. A look at the distribution of assets of Canadian life companies as compared to those in the United States attests to these similarities. Canadian companies do maintain a somewhat higher proportion of their invested assets in mortgages, no doubt because of the fact that capital markets are not as well developed in Canada as in the United States and also because the bonds of certain government authorities do not command the preferred tax treatment in Canada that they do in the United States.

I would be remiss if I failed to mention the approach used to co-ordinate invested assets with product used by one Canadian company, which is, to my knowledge, unique in the industry and hence is properly described as "Canadian practice."

Briefly, this approach involves a separation of the company's general asset portfolio into several separate funds, each one of which is dedicated to a particular line of business such as individual insurance, group insurance, or individual immediate annuities. Although I understand that the motivation for this approach came from the desire to achieve integrated operating responsibility for each major product line, one could cite other possible advantages for this asset segregation, including automatic interest allocation and the ability to undertake an investment strategy for each fund which would recognize the particular investment requirements of each product line.

This separate fund approach to investment would probably achieve a higher degree of "matching" with liabilities than would occur in a single asset pool common to all lines. For example, there is a fairly close correspondence between the income stream on a mortgage and the cash flow under a single premium immediate annuity.

To summarize the Canadian scene, the similarities to the United States in product, valuation standards, surplus distribution methods, and available investments have resulted in an approach toward assets which corresponds very closely with American practice. One might have expected that our closer ties with British companies would have resulted in more concern with the subjects of asset matching and immunization. This is not the case, however. In fact, two American actuaries, Professor Hickman and Mr. Vanderhoof, are mainly responsible for stimulating the current interest in these subjects.

One is then provoked to ask: "Why is it that asset matching and immunization have commanded so little attention in North America?" A possible explanation is that, because of the traditional separation of

the insurance and investment functions in North American companies, actuaries generally have shown a remarkable lack of concern with the investment function. This is in sharp contrast to the British situation, where many investment officers are actuaries. Ignorance of the problem seems unlikely, however. An alternative may be to attribute this lack of concern to the fact that over the last twenty years life companies have experienced large and continuing positive cash flows during a period of increasing interest rates. These are exactly the circumstances in which immunization would produce unfavorable results, and perhaps we should retrospectively impute a particular degree of good judgment to our investment officers. Even if this were the case, as Mr. Vanderhoof indicates in his paper, we seem to have our present asset-liability relationship structured for a further upward movement in new interest rates. Should we not now be giving serious concern to the desirability of immunizing against a possible fall in rates?

I would like to offer two reasons why I believe that we will not see companies actively pursuing immunization programs. The first is the decreasing emphasis on interest guarantees, even in products issued in a company's general portfolio. Where interest guarantees are provided at anything like current rates, the guarantees tend to be of short average duration. This is true for products such as single premium immediate annuities and the new-money interest guarantees included in group deposit administration annuities.

The second reason relates to the asset side of the immunization equation. Immunization requires long-term assets. There are many factors at work in the economy today which have an adverse affect on both the supply of and the demand for long-term debt. The main factor tending to reduce supply is the current apparently high level of interest rates. On the demand side there are two economic phenomena which make lenders reluctant to invest long, even if, as in the case of life insurance companies, they have an obvious need to maintain income at current rates for long periods. First, there is the distorting effect of inflation. Any investor who believes that some degree of continuing inflation is inevitable will be very reluctant to position himself for a prolonged fall in interest rates. The position one takes on inflation directly influences the attitude toward term. An investor may not want to be committed to thirty years, even at today's rates, but rather may want to have another look at his money in the shorter run, as a hedge against inflationary trends.

The other factor is the risk associated with rapid technological change, which makes really long-term investments in almost any corporate debt unattractive. Here again the desire for term is outweighed by the fear

of possible economic obsolescence, so that early repayment of principal becomes a desirable feature rather than a drawback.

If one looks to common stock to get the longer required term, there are again problems. For many companies the failure to adequately and properly measure the rate of return on common stocks has meant that, even if investment managers could be satisfied that stocks will continue, on average, to generate adequate over-all rates of return, they will not effectively be reflected in the company's investment results. Furthermore, common stocks do not have a promised rate of return. Hence we could summarize the current dilemma by saying that with debt we can get rate but no term; with equity we can get term but no rate. At the same time, if some insurance companies want to extend the duration of today's yields, they will probably look to an increasing proportion of assets in equities of one form or another, with real estate perhaps playing a more active part than it has in the past.

Regardless of whether or not companies pursue a program of immunization, efforts should be made to develop a better understanding of the relationship between insurance and investment operations. In the case of products for which the company keeps segregated investment funds, with specific objectives, and where the investment risk is effectively transferred to the policyholder, the problem is reduced to one of the performance of the segregated fund. For the company's general portfolio, however, there remains the problem of relating the portfolio performance, over time, to the commitments in the products. If an attempt is made to impose product requirements on the general portfolio investment operation, then the logical outcome is the separation of the general portfolio into separate funds for each product line, with the insurance line officers dictating investment policy for each fund. To many this is an undesirable arrangement. It can be argued for a company's general portfolio that a single pool of assets which is common to all lines of business allows greater flexibility to the investment operation and hence will result in a better over-all return. While it may be desirable to have the freedom allowed by this flexibility, it is obvious that some guidelines—some over-all operating framework—must exist in order to relate the investment operation to the needs of the insurance process, in the form of guarantees and competitive commitments.

If there is, in fact, a need for better co-ordination of the insurance and investment operations, how can this be accomplished? I would like to identify a couple of approaches which have had only limited exposure at my company but which I feel have real potential.

The first is to develop some common standard of investment per-

formance, established at the time of product commitment, which would act as a link between product and investment. Let me illustrate. In setting rates for single premium immediate annuities, there is a tendency to think of the single premium as being invested in the best available mortgages, often on a marginal basis. Would it not be preferable, in an asset portfolio common to all lines of business, to specify the investment characteristics that should obtain for any new money received during a particular period of time? These characteristics, or common standard of investment performance, would be stated in terms of a rate and an expected duration for that rate. Both the rate and the duration chosen would reflect conditions which prevail in the investment markets at the time for a mix of assets which the company considers typical of its long-run portfolio distribution. These characteristics would be negotiable as between the investment, marketing, and actuarial interests in the company and would then represent the "investment potential" to be attributed to any new insurance money. The advantages of this approach would be the following:

1. The specification of investment potential in terms of rate and duration would provide a common link and a basis of communication between product and investment without placing any specific restraints on the form of either.

2. Accumulative application of such investment potential to all insurance moneys would provide a minimum standard of performance for the investment operation. Since the standard would emerge as an amount of investment income, the investment operation would be free, within certain broad limits of investment policy, to achieve this standard according to the company's own designs.

The second approach to actuarial-investment co-ordination relates to the need to continually monitor a company's long-range investment policy and strategy. Many companies have already made progress in this direction through their attempts at cash-flow forecasting. As the ultimate extension of this process, I see a dynamic form of corporate model developing the expected insurance cash flows from all lines of business, which would then interact with a projected investment portfolio, all according to stated assumptions with respect to both liabilities and assets. Long-term investment strategy could then be established, taking into consideration both the possible cash-flow and yield requirements of the insurance operation and the possible portfolio mix and levels of new-money rates affecting investment performance. The approach taken in Mr. Vanderhoof's paper is somewhat along these lines, although the assets and liabilities are taken independently, the results are looked at in terms of

success of immunization only, and the number of variable parameters is limited.

In conclusion, I would like to thank Mr. Vanderhoof for preparing a stimulating paper which has helped to draw attention at this time to a subject which, in spite of its importance, seems largely to have been neglected by North American actuaries.

MR. LEROY B. PARKS, JR.: Irwin Vanderhoof has given to the Society a most interesting and informative paper on the co-ordination of investment assets with actuarial liabilities. As the title of the paper indicates, the topic that he covers is concerned primarily with the consequences as they affect a life insurance company. Mr. Vanderhoof has asked me to consider the importance of this concept as it applies to the investment policies for pension funds and to discuss the prevailing philosophies and trends in the area of pension fund investments.

At the outset, I must submit to you that the matching of asset maturities with cash disbursements and the immunization of pension funds against future changes in interest rates seem of much less significance for pension plans than is the case for life insurance. There are at least a couple of reasons for this conclusion:

1. The nature of the typical uninsured pension program does not give rise to the benefit guarantees for a given level of contributions. Thus, if future experience indicates that the assets are building at a slower than desirable rate or if yields are less than assumed, the actuary merely recommends to the plan sponsor that the contribution level be adjusted upward. This continued, and often accelerated, flow of cash contributions into a pension fund in itself lessens the importance and need of co-ordinating investment assets with actuarial liabilities.

2. The nature of the pension fund investments also suggests that matching of maturities and immunization are less viable concepts in the pension area than in the life insurance area. With an ever increasing percentage of pension dollars being placed in non–fixed income, nonmaturing instruments (such as common stock) and less money going into bonds, the concept of matching asset maturities to cash disbursement requirements is not a matter of earthshaking consequence. Furthermore, because of the unpredictable behavior of common stock prices and yields, the attempt to immunize against future changes in rates of return strikes me as an exercise in futility, since a reasonable estimate of even next year's over-all earnings on this year's portfolio is impossible to project.

Many members of the actuarial profession who have long since lost their bent for esoteric mathematical exercises of the type presented in

Mr. Vanderhoof's paper will argue that the present investment trend in both pensions and life insurance might lessen the value of the ideas presented in his paper. Certainly the aforementioned increase in the level of investment in common stocks (which has occurred not only in the pension area but in the insurance industry as well) has clouded the issue of the usefulness of immunization and the matching of maturities. In addition, it is not at all unlikely that the variable annuity and variable life insurance products will come into vogue within the near future, thus further increasing the importance of equity investments for both pensions and life insurance and further decreasing the importance of fixed-income securities; this anticipated trend will pose an additional challenge to the feasibility of the concepts of matching maturity dates with cash requirements and immunization against interest rate changes.

Before moving on to the topic of investment policies for pension funds, I should point out in passing two specific types of situations where Mr. Vanderhoof's paper might be of major value to the pension industry. The first situation is that of a terminated pension plan, where it would be of vital importance to provide for the timely maturity of fund assets or, alternatively, to ensure the liquidity of the trust fund holdings, since there will be no further contribution increment to the fund and since the benefit outflow probably will be fairly predictable. It would, of course, be most desirable to accurately project long-range interest earnings in order to value more correctly the liabilities of the closed group of covered employees; this is particularly critical when a termination-of-plan valuation actually determines the level of benefits payable to covered participants. A second situation in which co-ordination of investment assets with actuarial liabilities may be of importance is for plans covering employees in declining industries or in companies where the employee group is diminishing due to automation or industry considerations. There are many situations at present—the coal and steel industries, to cite two specific examples—in which we are starting to see pension plan disbursements exceeding trust fund income, which obviously leads to a diminution of total asset values of the fund. In these instances it might be worthwhile to consider the merits of matching the maturity of assets with the cash requirements of the pension plan.

Now moving on to item 2 of this concurrent session—"investment policies for pension funds"—let us briefly review some of the factors that should be considered in establishing investment policies. I should like to mention six factors that appear to me to be of most importance:

1. The liquidity requirement may be a relevant consideration in certain pension funds. This is of particular importance in the case of terminated plans or for plans where current month-to-month income is less than anticipated outgo.

2. One rather obvious precaution that should not be overlooked in establishing investment policies is to ascertain that selected policies are in compliance with any applicable state or federal laws and also do not violate the terms of the trust agreement. The investments in certain states may be governed by so-called "prudent man" laws or by a "legal list." Sometimes the trust agreement itself overrides these apparent restrictions. Of course, pension funds should not engage in prohibited transactions as defined in section 503 of the Internal Revenue Code; otherwise the trust may be denied tax exemption on unrelated income under section 511 of the Code.

3. Investment policies may depend to a certain extent on considerations of a more actuarial nature, such as the assumed interest rate in valuing the plan's liabilities. Sometimes the plan sponsor and the investment adviser may decide that it is desirable for the fund to earn the assumed rate of yield from interest and dividend income alone. Frequently, however, low actuarial interest assumptions are used as an excuse for relatively poor investment performance. Usually the actuarial assumption as to projected yield on trust fund assets does not in any way cramp the style of money managers or directly affect investment performance.

4. Investment policies for a particular pension fund, for better or for worse, are often a function of the sophistication of the employer and his financial ability and temperament for coping with potential risks associated with certain types of investments.

5. *Accounting Principles Board Opinion No. 8* has also had some effect—but probably a minor one—on investment policies. This *Opinion* has encouraged the recognition of large excesses of market over book value and/or the realizing of such excesses to be applied in reducing pension contributions.

6. Perhaps the single most important factor in setting investment policies for pension funds is (or should be) the answer to the fundamental question, "Whose money is at risk?" Investment philosophy would presumably differ in those instances where an employee's money is directly at risk and/or an employee's benefits are related to the performance of the pension fund. Such situations would occur in the "money purchase" type of plan as well as the variable annuity plan. One would hope and expect that the manager of a pension fund would use more caution and discretion when the employee's money is at risk than when only an employer's money is at risk.

The six items just mentioned represent various factors that might be important in establishing investment policies for pension funds. It is probably of even greater interest to review how these factors and other considerations have shaped the present trend in pension fund investment.

In the remaining time allotted to me, I will discuss just three such trends that are most visible:

1. *Change in pension fund asset mix.*—The investment philosophy for uninsured pension funds has undergone a gradual but noticeable change during the past decade. This fact is obvious when one simply reviews the over-all statistics on the distribution of pension fund assets. About two months ago the Securities and Exchange Commission released statistics relating to the investments of private uninsured pension funds. During the ten-year period considered in that release, from 1961 to 1971, total assets of private uninsured pension funds increased from $37.5 billion to $106.4 billion on a book value basis and from $45.3 billion to $125.0 billion on a market value basis. This represents an increase during the last ten-year period of approximately 180 per cent, or a compounded rate of over 10 per cent per year. Back in 1961 the value of bonds in private uninsured pension funds exceeded that of common stocks when expressed on a book value basis, although the reverse was true on a market value basis. By 1971, on the other hand, there was no question as to which type of security was the most important in uninsured pension fund portfolios. Considering common stocks alone, we find that they constituted 59 per cent of fund assets, at the end of last year, when valued at book and 68 per cent when valued at market. It is interesting to note that common stocks and corporate bonds continue to represent the only major components of pension fund investments. Despite a lot of discussion and talk about the suitability of pension fund participation in mortgages, real estate, real estate investment trusts, and other investment forms, we find that stocks and bonds represent nearly 90 per cent of pension fund assets.

2. *Increased use of multiple money managers.*—A second important trend in pension fund investment policy is the increased utilization of so-called split funding of pension funds, whereby the assets are spread around to two or more money managers. The well-known August, 1971, *Institutional Investor*'s special issue on pension funds presented a so-called splitting sampler, listing in chart form how forty major companies spread their money among banks, insurance companies, and investment counselors. Perhaps the best example of split funding is the Bell System, which now uses over fifty banks and recently added eleven new nonbank advisers. There are many apparent reasons for split funding, including the following: (*a*) to defer to the belief that extremely large amounts of money cannot be effectively invested by one manager; (*b*) to spread the investment risk; (*c*) to allow for easy evaluation of performance of different managers; (*d*) to match the capability and styles of money managers to varying portfolio objectives; and (*e*) to establish a "horse race" between money managers in the hope of maximizing over-all investment return. The trend toward split funding has provided for greater utilization of nonbank investment counselors. The first annual McGraw-Hill Pension Fund Management Survey indicated that, among the respondents to its questionnaire, the percentage of

funds using independent investment counselors (either alone or in combination with other managers) has increased between 1965 and 1970 from 5 to 22 per cent.

3. *Greater monitoring of investment performance results.*—The previously mentioned *Institutional Investor* issue on pension funds devoted an article to the evolution of a whole new mini-industry of service companies that assist plan sponsors in setting investment goals, selecting money managers, and monitoring investment performance. The article contained a tabulation of firms that provide performance-measuring services and indicated that new firms in this mini-industry are apparently being formed at the rate of one or two each month. The first annual McGraw-Hill survey indicated that 40 per cent of the responding companies utilize outside performance-evaluating agents. The 1971 survey of retirement funds, published by the Fiduciary Monitor Group, confirmed the findings of the McGraw-Hill study. This 1971 survey indicated that 38 per cent of the participating companies used an outside performance-measuring service. There is still little agreement as to the ideal way of measuring and comparing investment performance, although most experts feel that a comparison on any reasonable and consistent basis is a worthwhile management tool in evaluating fund performance.

All three of the trends briefly reviewed—change in pension fund asset mix, increased use of multiple money managers, and greater monitoring of investment performance results—represent concrete proof of the growing awareness of the importance of pension funds in the financial structure and operations of a company. Most major corporations now consider that their pension fund represents a potential profit center for the company and that the investment earnings of pension funds represent an important variable in the over-all financial operation, and even the well-being, of the company. Perhaps of greater importance is the growing recognition that proper investment policies are necessary to ensure the growth, and perhaps even the very existence, of the private pension industry.

MR. RICHARD W. ZIOCK: Mr. Chapman's description of separate asset accounts by line of business employed by one Canadian company gave me an idea. Imagine a company which has 50 per cent of its assets from group term and 50 per cent from individual. The interest rate guarantee is only one year for the group term line. The interest rate guarantee for individual can be regarded as D_1.

It may be possible for this company to achieve a type of immunization, in spite of the fact that it is not usually possible to completely match assets and liabilities in the United States because of the lack of long-term securities. Our hypothetical company can invest its group term assets in

long-term obligations when the rate of interest is high and can use any gains thereon during periods of falling rates to offset the lack of complete matching in the individual line.

This situation depends upon having a fairly large group term line with a one-year interest guarantee. Of course, you would want to be pretty sure that rates were going to start dropping next year before you embarked on this program, because, if the rates continued to rise, you would incur losses.

This hypothetical situation points out some of the additional complexities which may be encountered in answering the question, "To what extent are the interest earnings immunized?" when the company has lines of business other than just individual.

ADJUSTED EARNINGS

I. What is the current status of AICPA proposals?
II. What are the positions of the Joint Actuarial Committee and the ALC-LIAA Joint Committee on Financial Reporting Principles?
III. What is the role of the actuary in preparing and certifying adjusted earnings? How does the actuary influence the choice of assumptions and initial level of reported earnings?
IV. How can a company present adjusted earnings in a format that will establish credibility of earnings and identify trends of earnings?

Atlantic City Regional Meeting

MR. RANDOLPH H. WATERFIELD, JR.:* I am presenting a summary of the current status of the American Institute of Certified Public Accountants audit guide for life insurance companies.

I. MUTUAL COMPANIES

The AICPA Committee on Insurance Accounting and Auditing has not reached final conclusions relating to the nature of mutual life insurance company operations as distinguished from the operations of stock life insurance companies, the purpose of mutual life insurance company financial statements and the form thereof, and specific accounting methods related to life insurance reserves, dividends, and acquisition costs. The committee has therefore concluded that mutual life insurance companies should not be made subject to an audit guide applicable to stock companies at this time.

The committee has further concluded that auditors should not qualify their opinions on the financial statements of mutual life insurance companies because the form of presentation and method of accounting for life insurance reserves, dividends, and acquisition costs follow practices prescribed or permitted by regulatory authorities.

The conclusions of the committee are subject to approval by the AICPA Committee on Auditing Procedures.

II. REVENUE RECOGNITION

The committee has concluded that premiums are the principal revenue from life insurance contracts and that income resulting from investment of such premiums is a reduction of cost which is recognized as an assumption in setting the premium.

* Mr. Waterfield, not a member of the Society, is a partner in the firm of Arthur Young and Company, Certified Public Accountants.

The committee considered a variety of alternatives for the timing of recognition of premium revenues and allocation of costs for whole life contracts. It concluded that premiums should be recognized and costs allocated over the life of the contract in proportion to service. Insurance in force was considered a reasonable measure of aggregate protection which also gives recognition to selling and collection functions over the life of the contract; however, for ordinary whole life contracts such a method produces substantially the same result as is produced by the recognition of premiums as revenue when due.

It was proposed that, for limited payment contracts, premium revenue should be recognized and costs should be allocated so as to result in the emergence of all profit over the life of the contract. However, under such contracts, the sale, collection, and most of the investment functions are performed during the shorter premium-paying period. In addition, demands for other services would generally be greater during this period. Accordingly, the committee concluded that consideration should be given to these additional activities during the premium-paying period in the recognition of premium revenue and allocation of costs. The committee concluded that for both whole life and limited payment contracts, with the exception of credit life insurance, a reasonable result would be produced by means of the recognition of premiums as revenue during the premium-paying period, using reasonably conservative estimates (which include a provision for adverse deviation from such estimates) for mortality, interest, withdrawals, and expenses, since such a method will result in two sources of profit: (1) the variation between actual experience and the estimates used and (2) the remaining profit estimated in the premium. Profit from the first source will emerge over the life of the contract, while profit from the second source will emerge over the premium-paying period.

III. DISCIPLINES ON ASSUMPTIONS

The committee has always been concerned with the need for discipline as to the assumptions used, particularly those for interest and withdrawals. It has tentatively agreed to prescribe a limitation on the maximum interest rate which would be the lower of the average new-money rate (the net investment yield attributable to new investments made each year) or the average portfolio yield rate for the last twenty years. Companies not having twenty years' experience would substitute the average rate on long-term United States government bonds or similar high-quality investments for the new-money rate and the industry yield for the portfolio rate for each year for which the company had no experience.

The committee understands that the Academy of Actuaries is working to develop an interest discipline. The committee will consider this and other proposals as they are presented.

The committee also intends to develop some disciplines for the other assumptions and a method for prescribing recommendations on any provisions for adverse deviations from estimates. These recommendations may, of necessity, be arbitrary at the outset but will be subject to refinement as experience is gained.

IV. DEFERRED INCOME TAXES

It appears that the Accounting Principles Board will approve an "Opinion on Accounting for Income Taxes—Special Areas," substantially along the lines proposed in the exposure draft dated January 4, 1972. Such an opinion will generally indicate that deferred income taxes should not be provided on amounts designated as policyholders' surplus unless circumstances indicate that a life insurance company is likely to pay income taxes either currently or in subsequent years, because of known or expected reductions in policyholders' surplus.

The Committee on Insurance Accounting and Auditing has not reached any final conclusions on other areas of deferred income tax accounting applicable to life insurance companies. At this time, however, the committee seems to favor the following:

1. With respect to taxable investment income (Phase 1), timing differences exist only with respect to items that affect taxable investment income in the period in which they enter into determination of pretax accounting income. Such differences would generally be limited to the timing of the inclusion of items of investment income or investment expense—for example, in the cash versus the accrual basis of accounting for dividends and interest or in accelerated methods of depreciating real estate. Other differences between taxable income and pretax accounting income which affect only gain from operations (Phase 2), such as deferral and amortization of acquisition costs or changes in reserve methods, are permanent differences with respect to taxable investment income (Phase 1). Such items affect only total assets or aggregate reserves, and these amounts will, for income tax purposes, always be greater or less than comparable amounts for accounting purposes. Accordingly, the amounts of such differences do not reverse in subsequent periods.
2. Certain special deductions, such as the 85 per cent dividends received deduction and nonparticipating deductions, are permanent differences which will not be offset by corresponding differences in other periods. Even though the amount of such special deductions might have been different had they been computed on the basis of pretax accounting income, such differences will not reverse in a subsequent period.

3. Differences between taxable income and pretax accounting income which affect gain from operations are timing differences which reverse in subsequent periods. Deferred income taxes must be provided for such timing differences even for companies who are taxed in Phase 1 (taxable investment income less $250,000). It has been proposed that differences between taxable income and pretax accounting income are not timing differences for companies that are normally taxed in Phase 1, since any hypothetical Phase 2 tax will not be likely to reverse unless it can be demonstrated that a change in the company status is likely or imminent. However, the committee does not appear to be willing to accept this proposition at the present time.
4. Discounting of deferred income taxes is not permissible under the deferred benefit method prescribed by *APB Opinion No. 11*. Authority for discounting taxes in the life insurance industry would have to be established by the APB or its successor.

V. DISCLOSURE PERFORMANCE

The committee has drafted a separate chapter setting forth the requirements for disclosure peculiar to life insurance company financial statements presented in conformity with generally accepted accounting principles. Such disclosure requirements include the following:

1. The nature of acquisition costs deferred, the method of amortization of such costs, and the amount of amortization charged to income.
2. The reserving methods employed and the assumptions used in calculating the policy reserves.
3. The relative amount of participating business in force, the amount of dividends, and the method of accounting therefor.
4. The amount of retained earnings or total shareholders' equity reported in conformity with generally accepted accounting principles which is restricted by statutory requirements.
5. The details of extraordinary or material reinsurance transactions.

VI. RELIANCE ON ACTUARIES

The language in the guide has been substantially strengthened to indicate the need for auditors to consult with or use actuaries in auditing many aspects of life insurance company financial statements, particularly reserves. The language has also been revised to indicate the manner in which auditors should assume responsibility for the work performed by actuaries.

VII. TIMETABLE

The committee is furnishing revised sections of the audit guide to the Joint Committee on Financial Reporting Principles of the American Life Convention and the Life Insurance Association of America and to the Joint Actuarial Committee as they are completed. It is expected that

a complete revised guide will be reviewed by the committee at its meeting on May 23 and 24. This revised draft will be forwarded to the Committee on Auditing Procedures and to the Accounting Principles Board for approval prior to final exposure. The committee hopes to expose a final draft to the public in June and to approve the final guide for publication by the end of July.

MR. FREDERICK S. TOWNSEND, JR.: First I will present the positions of the Joint Actuarial Committee on the AICPA proposals.

Both the accounting profession and the Joint Actuarial Committee agree that reserves should be restated using realistic assumptions with a margin for adverse deviations. However, the AICPA backs into this position by default and fails to acknowledge the risk element of the life insurance business. The AICPA maintains that the life insurance industry provides a service to the policyholder, and the incidence of earnings should reflect service rendered to the policyholder. The AICPA believes that service is rendered in proportion to premiums paid by the policyholder, and, only because the premium-paying period on whole life insurance matches the duration that insurance is in force, the AICPA states that earnings may be realized during the lifetime of the contract.

What is the true source of profits on a life insurance policy? Profits come from two sources: the profit margin we build into the policy, and favorable deviations from our actuarial assumptions.

What is the relative size of these two elements of profit? A specific profit margin built into any life insurance policy can be of substantial size only if the policy is to be sold in a noncompetitive environment. If a life insurance policy is sold in a competitive environment (i.e., through an agency force), competition forces the company to build a small profit margin into its gross premium prices.

Any potential for significant earnings on a life insurance policy frequently depends upon favorable deviations from actuarial assumptions underlying the company's pricing structure. Therefore, it is proper to measure profits in proportion to the company's release from risk.

Certainly, the largest potential for favorable deviation lies in the interest assumption. Such favorable deviation, if it occurs at all, will occur in the later policy durations (for a closed block of business), where aggregate reserves reach a maximum peak. At the same point in time, annual premium income on the closed block of business may be only 10–20 per cent of the premium income collected in the first policy year. Obviously, under these conditions, it seems appropriate to report earnings

not in relation to premium income but rather in proportion to risk assumed by the life insurance company in any given policy duration.

What are potential adverse deviations? The risk of lapse is incurred at issue. If future lapses are unfavorable, the company may be unable to recover deferred acquisition expenses. The risk of expenses lies in the effect of future inflation upon renewal expense assumptions. The largest element of expense, acquisition expense, has already been incurred. Adverse mortality deviations have not been painful for the industry in recent years, with the exception of some companies specializing in military business and certain years in which influenza or accidental deaths increased industry experience slightly.

The life insurance business is a game of leverage, and there will be either large gains or large losses. A large part of such potential large gains or losses will be related to the interest assumption. I remember my experience as a summer actuarial student in 1957 for a large eastern mutual life insurance company. I spent much of my summer dictating form letters to irate policyholders explaining why the company was unable to pay any current policyholder dividends on American Experience business even though new money was being put into corporate bonds at a rate of 5 per cent (or thereabouts). On the basis of that one experience alone, I would have to give great credence to the argument expressed by the mutual life insurance companies that even statutory reserves may fail to make adequate provision for policyholder benefits where the individual equity of each class of business must be taken into consideration.

In summary, the AICPA views a life insurance company as a service company. When I think of a service company, I think of Electronic Data Systems running my computer facility, Burns International Security Services patrolling the front door of my office after hours, or American Building Maintenance washing the office windows. When I think of a life insurance company, I think of a risk-taking enterprise insuring potential liabilities many times the size of its capital and surplus position.

The Joint Actuarial Committee recommended that the excess of generally accepted accounting surplus over statutory surplus be shown as a liability in the balance sheet (this is a view held by the National Association of Insurance Commissioners and by certain "cash-value floor" advocates who are fearful of the reporting of a large generally accepted accounting surplus). Since a life insurance company is usually regarded as a going concern, investors would probably be more interested in the solvency of the company, which would include any accounting-generated surplus as a liability. Under the accountants' position, the

surplus reported therein will tend to represent the "sale value" of the company rather than its solvency position.

The Joint Actuarial Committee recommended the use of composite reserve factors for benefits and expenses. The AICPA does not permit netting of assets against liabilities. Thus the statement of adjusted reserves as a liability and deferred acquisition expenses as an asset is required.

In establishing a deferred acquisition expense, life insurance companies will presumably capitalize the smaller of actual or actuarially expected expenses and make a recoverability test where necessary. A certain educational process is required in this regard. The December, 1970, exposure draft, and common inference today, suggest that a company's gross premium pricing assumptions are a suitable basis for financial reporting purposes. However, when deferred acquisition expenses are established as an asset, a company must follow this item carefully. For example, the choice of a low interest assumption is conservative for gross premium pricing purposes and is conservative for accounting purposes. The choice of a high acquisition expense assumption may be conservative for gross premium pricing purposes but is liberal for financial reporting purposes. Unless the smaller of actual or assumed expenses is capitalized, the company may capitalize theoretical expenses which are larger than actual expenditures.

A traditional accounting method for amortizing deferred acquisition expenses is the "accountants' worksheet" approach. An amortization schedule is determined at the year of issue of a book of business, based upon expected persistency. If persistency is worse than expected, the company is overstating earnings because it is not amortizing acquisition expenses rapidly enough. On the other hand, if unamortized acquisition expense factors are computed on expected high lapse rates, and if lapse experience is much lower than expected, when these factors are applied to business in force which is three or four years old, the aggregate unamortized acquisition expenses on an aged book of business might exceed the aggregate acquisition expenses initially deferred.

The preceding criticisms may sound unduly harsh upon the accounting profession, and I suggest to the AICPA that they discount my remarks appropriately—that is, I would if the accounting profession believed in "discounting." The Joint Actuarial Committee has published no position paper on deferred federal income taxes yet but leans toward the "liability" method rather than the accountants' "deferred" method, which does not recognize the discounting of deferred federal income tax liabilities.

Aside from the discounting issue, which is substantial in itself, few differences exist. Neither side wishes to restate Phase 1 investment income. Neither side wishes to restate Phase 2 deductions. However, the Joint Actuarial Committee would restate the limit on Phase 2 deductions. Neither side would report a deferred tax for potential Phase 3 taxes; rather, such taxes would be reported as they were actually incurred. Thus everyone seems to be in a mood to use "real world" factors.

An industry argument holds that the excess of accounting earnings over statutory earnings is all underwriting gain, and therefore no deferred taxes should be reported for a Phase 1 company which is likely to remain in Phase 1. Only a Phase 2 tax rate would be applied to earnings adjustments for Phase 2 companies, if such thinking were to prevail.

Within the investment community, a general impression is that deferred federal income taxes understate and misrepresent earnings for a "going concern" with sound underwriting and an expanding book of business. Since the excess of accounting earnings over statutory earnings might be considered "two birds in the bush," the investment community is willing to accept an adjustment for deferred taxes to that portion of a life insurance company's earnings. However, since the excess of tax-basis reserves over statutory reserves is a "bird in the hand," and thus (*a*) is an immediate tax savings, (*b*) is at the discretion of company management, and (*c*) may be deferred for many years into the future, the resulting tax credit from a section 818(c) election should not be tax-affected at all (or, at worst, is shown as an extraordinary credit to earnings after allowing for such deferred tax). Thus, in a backhanded fashion, the investment community may support discounting to some degree.

For all lines of accident and health insurance the Joint Actuarial Committee favors the restatement of reserves and the establishment of deferred acquisition expenses, with appropriate morbidity and lapse assumptions. The AICPA would distinguish between cancelable and noncancelable products, using fire and casualty and life insurance accounting techniques, respectively, for the two types of products.

The "lock-in" of assumptions was one of the more creative proposals to come out of the Joint Actuarial Committee. There may be circumstances under which accounting benefit reserves become inadequate, but appropriate accounting reserves on a revised basis would still be less than statutory reserves. Since the balance sheet would make full provision for statutory reserves (adjusted reserves plus the excess of accounting surplus over statutory surplus), we would not permit "loss recognition" for deficiencies in the accounting reserve. Any increase in

the adjusted reserve in the balance sheet would be offset by a decrease in the reserve for excess of accounting surplus over statutory surplus. In other words, statutory reserves would exceed adjusted reserves on either basis of anticipated experience. Under such circumstances, we would allow losses to be reported in the years in which they actually occur, thus arriving at a proper matching of revenues and costs. Hopefully, this practice would inhibit companies from adopting an optimistic outlook at the time business is issued and then restating an entire book of reserves several years later to atone for prior miscalculations and to ensure a satisfactory future trend of earnings.

Another creative suggestion discussed by the Joint Actuarial Committee, but not acted upon, was to spread capital losses on fixed-income securities over the remaining lifetime of such securities by annual charges to income. A common tactic of companies going to the market with new stock, or companies about to be put up for sale, is to realize losses on discount bonds and place the proceeds in current coupon bonds. The result is a loss charged to surplus and increased investment income credited to earnings.

The Joint Actuarial Committee recommended minimal disclosure requirements. Neither the AICPA nor the industry is likely to enforce any degree of disclosure which would be satisfactory to the investment community. The investment community would like to see limits on interest assumptions and acquisition expenses, if only to establish some degree of comparability among companies within the industry. If there are no limits on assumptions, there can be no degree of comparability among various companies. If there is no comparability in reporting assumptions among companies, then the investment community may hold that any method of financial reporting is satisfactory as long as the assumptions entering into such a method are fully disclosed. Without guideline limits, the investment analyst must make his own appraisal of a company's accounting basis, and that requires disclosure.

Now I would like to discuss how a company can establish credibility and identify trends of earnings. When one thinks of investing, all too often one thinks of the "go-go" mutual fund or the hot stock tip overheard in the barber shop. If life insurance companies want to establish a strong institutional following, and I believe that they should, stock will filter into the hands of banks, pension funds, college endowment funds, and conservative mutual funds and investment advisers.

For many years bank trust departments have had to operate under the "prudent man" rule. With increased federal attention to pension fund regulations, fiduciary responsibilities will probably also be increased

for managers of pension funds. These basic considerations, plus the basic nature of many investment advisers, result in a concentration of interest in companies with strong management teams, strong industry fundamentals, and conservative accounting practices.

Because statutory accounting practices resulted in the reporting of a first-year loss which is recoverable, statutory accounting practices were too conservative and needed adjustment. However, in the rush to adjust earnings for life insurance companies, the life insurance industry should keep control of its senses and introduce a reporting system which retains some degree of comparability among companies, which retains some degree of conservatism in reporting earnings, and which appropriately discloses its accounting basis.

While the use of natural reserves may be satisfactory for presenting management with a realistic picture of present and future operating experience, natural reserves based upon realistic assumptions are neither appropriate nor necessary for financial reporting purposes. The opportunities for manipulation are endless, assumptions can vary widely from company to company, and results can be so liberal in a few companies as to result in a lack of credibility for all companies and, therefore, lower price-earnings multiples for the entire industry.

Do not be so liberal as to produce a fiasco or to lead to widespread questioning of your accounting basis. It is folly to accept a 25–50 per cent decrease in your price-earnings multiple just to squeeze out a 10 or 20 per cent increase in your earnings level.

If the AICPA were to establish guideline limitations for the reserve interest assumption, and for acquisition expenses and methods of amortization, some degree of comparability of reporting bases among companies and some degree of conservatism in financial reporting for the industry as a whole would be retained. However, if no such guidelines are established, the only basis on which investors can appraise the quality of financial reporting for the life insurance industry is through full and adequate disclosure of assumptions used for financial reporting purposes. The investment community has an interest in actuarial assumptions used for financial reporting purposes, not in those used for gross premium pricing purposes. Whether or not the two are identical will depend upon individual company management philosophies.

The disclosure of financial reporting assumptions will enable analysts to establish the credibility of a company's reported earnings and to gauge the effect of such assumptions upon the future trend of earnings. It would also be helpful, in the year in which earnings are first reported on a generally accepted accounting basis, to give a five- or ten-year

history of the company's earnings on that basis. This will give a far better indication of trend than the presentation of just one year's or two years' earnings figures.

While the choice of actuarial assumptions will dictate the initial level of reported earnings, such earnings will be capitalized by price-earnings ratios. Factors which help to establish premium price-earnings multiples include a favorable history of earnings growth, a favorable expected trend in future earnings, stability of earnings (which is almost automatically produced for the life insurance industry by the very nature of the annual premium whole life policy), and a high degree of credibility of earnings (which is produced for the life insurance industry through the laws of probability with respect to mortality and lapse, and through interest trends, all of which tend to show small deviations on a year-to-year basis). Investors do not like to be surprised—unfavorably.

As an investor, I would tend to look for a company with conservative interest assumptions. I would look for a company with a modest capitalization of acquisition expenses and a rapid amortization schedule. I would look for a company grading benefit reserves to statutory reserves over a modest period of time.

I would avoid companies that are constantly going through a cycle of "loss recognition." Such companies report earnings on a favorable set of assumptions and then restate years later by throwing actual and potential losses into a single year's earnings. The "shell game" is also to be avoided, wherein companies sell discount bonds and buy current coupon bonds.

The presentation of earnings for stock companies writing participating life insurance should appropriately recognize any statutory limitations or company resolutions which affect the amount of participating department earnings which can accrue to the benefit of stockholders.

Certain other items should be fully disclosed, such as capital gains and losses, deferred federal income taxes, and amortization of goodwill. Many investors do not consider some or any of these three items to be a legitimate part of the company's income account. By disclosing each of these items separately, the company can present the investor with sufficient information to make his own decision as to which of these items should enter the company's income account.

Although a consolidated income statement and a consolidated balance sheet are musts, in the case of insurance holding companies it may be appropriate also to show the consolidated figures in three parts: life insurance, property and casualty insurance, and noninsurance operations.

Finally, because of the importance of statutory earnings and statutory

surplus, financial statements presented on a generally accepted accounting basis should be reconciled to a statutory basis.

Many investors have made substantial sums of money on life insurance stocks, and many other investors are willing to commit themselves to this industry as soon as generally accepted accounting principles are adopted. It would be foolish to waste this investor enthusiasm by discarding an overly conservative reporting method for an overly liberal method. It remains for the life insurance industry to find an appropriate reporting basis.

MR. GEORGE H. DAVIS: I am appearing on this panel to report on the activities of the Committee on Financial Reporting Principles of the American Academy of Actuaries. This committee was established in January, 1972. Its function, as stated by President Myers in the letter of appointment, is "to develop the actuarial considerations applicable to the financial reporting of life insurance companies, how they should apply in practice, and the permissible ranges of variation, where appropriate." The creation of the committee was recommended by the Joint Actuarial Committee, set up by the Academy, the Society, the Conference of Actuaries in Public Practice, and the Canadian Institute of Actuaries, and grew out of that body's study of the application of accounting principles to life insurance companies in connection with its review of the exposure draft of the audit guide for life insurance companies prepared by the Committee on Insurance Accounting and Auditing of the AICPA.

This function encompasses a very broad area, and the committee decided that, since the immediate concern seemed to be actuarial problems arising in connection with the proposed AICPA audit guide, its first activities should be concerned with these problems and particularly with the actuarial assumptions involved in reserves used in the determination of earnings based on generally accepted accounting principles (sometimes referred to as "GAAP" reserves).

In drafting the portions of the audit guide dealing with the role of the actuary in life insurance accounting, the AICPA committee has experienced some difficulty arising from the fact that the actuarial profession has never developed any formal statements for generally accepted actuarial standards, or whatever the counterparts of generally accepted accounting principles are in the actuarial profession. It is to fill this void, at least to some extent, that the Committee on Financial Reporting Principles has been established.

The committee has been working closely with two other committees,

the ALC-LIAA Joint Committee on Financial Reporting Principles and the Joint Actuarial Committee, previously mentioned. Both of these committees are directly concerned with the proposed AICPA audit guide, the former from the point of view of the life insurance companies and the latter from the point of view of the actuarial profession. The Academy committee is not directly concerned with what the provisions of the audit guide are to be; its responsibility is to develop standards for actuaries to follow in discharging their responsibilities in connection with life insurance accounting. However, the committee's work is substantially affected by what the provisions of the audit guide will be, and in its work it has been following closely the discussions relating to the various unresolved questions in connection with the audit guide.

It is the belief of both the Joint Actuarial Committee and the Academy committee that the actuarial assumptions involved in the calculation of GAAP reserves involve actuarial considerations. The AICPA committee appears to agree generally with this thesis, which implies that the responsibility of the accountant auditing a life insurance financial statement in connection with reserve assumptions can basically be met by the accountant's satisfying himself that the actuary is qualified and by his verifying that generally accepted actuarial standards have been followed. However, this involves the difficulty of determining what generally accepted actuarial standards are, since the profession has not acted formally to define them.

The AICPA committee is apparently particularly concerned about the interest assumption, since it considers this probably the most important actuarial assumption in its effect upon the amount of GAAP reserves and adjusted earnings. The committee has been considering, it is understood, the inclusion in the audit guide of a guideline regarding the interest rate assumption. The Academy committee at one time felt that it should try to fill this particular void by drafting an interest assumption guideline on a stopgap basis and asking the Board of the Academy to endorse it in some way or at least to authorize its publication. The committee, however, was not satisfied with the guideline tentatively drafted, and, after further consideration, it decided that it should not adopt guidelines regarding any of the actuarial assumptions until it had had time to study the matter thoroughly and to develop standards with which it was satisfied. I am not certain how the AICPA committee has resolved the question of the inclusion of an interest guideline in the audit guide.

The Joint Actuarial Committee has recommended that the audit guide endorse the "intermediate form release from risk" reserve method

for use in the determination of GAAP reserves. The guidelines which the Academy committee intends to develop for actuarial assumptions will be applicable to this method. The development of these guidelines will involve the quantification of the risks of adverse deviation by the use of risk theory and is expected to require considerable research and study. The Joint Committee on Risk of the Society and the Casualty Actuarial Society has offered to assist in conducting the necessary research.

While the work on the development of standards is beginning, the committee feels that it is desirable for an Interpretative Opinion setting forth in general terms the actuary's responsibility in the financial reporting of life insurance companies to be added as soon as possible to the Opinions accompanying the Academy's Guides to Professional Conduct. The decision on whether this should be done, and the final decision as to what the Opinion should say, if one is to be drafted, are the responsibility of the Academy's Professional Conduct Committee. The Committee on Financial Reporting Principles has asked this committee to consider the matter and is commencing work to develop the points which should be covered by such an Opinion.

The Committee on Financial Reporting Principles is composed of fifteen members of the Academy, including representatives of different types of life insurance companies and representatives of consulting firms. It includes one Canadian company representative and one actuary of a property insurance company. Since its organization it has held three meetings at monthly intervals.

MR. PHILLIP A. TURBERG: Discussing the role of the actuary in the area of adjusted earnings is nearly as controversial as discussing the role of the United States in Vietnam. On both subjects opinions range from total involvement to total disengagement, and these opinions are firmly established in the minds of the holders. The individual actuary, therefore, is heavily influenced by his activity in the actuarial field and his involvement, or lack of it, in the area of adjusted earnings. Certainly the need to discuss, and hopefully to define, his role is most important in any case.

The role of the actuary in certifying adjusted earnings is probably less important but more complex and unique than his role in preparing adjusted earnings. In the certification process the actuary is clearly not the predominant party. While he has a voice, and apparently an increasingly strong one, in the shaping of the audit guide, he still must defer to the accountants with respect to the rules.

An accountant's view of the actuary's role in certification has certainly mellowed from one that is viewed as a "necessary evil" to one possibly almost approaching that of an adviser and in some areas a junior partner. The accountants properly feel that, since the liability and the responsibility for certification rest with them, this is a fair and proper relationship. The suggested changes which the AICPA committee is considering in the audit guide clearly have strengthened and expanded the role of the actuary in the audit process. Audit procedures in the guide for actuarial items such as policyholders' reserves, dividend liabilities, other reserves, and the deferred and uncollected premium asset advise that the accountants "will need to utilize the services of a qualified actuary." This is a strengthening of the wording "may wish to utilize the services of an actuary," appearing in the original version. The section on "utilization of actuaries" has been extensively expanded, probably as a reflection of the results of the continuing dialogue between the various actuarial committees and the AICPA committee.

The guide will still require accountants not to refer to actuarial assistance in the opinion paragraph if they are to render a "clean opinion" on the financial statements as a whole. Reference to actuarial assistance in the scope paragraph of the auditor's report is frowned upon. The actuary is viewed as a professional who is used to assist and provide expertise in the audit. The opinion must be formed by the accountant, and the responsibility is his.

Opinions that have been rendered in prior years' reports that relied on the actuary for certification to various liabilities will not be required to be retroactively modified where comparative financial statements are prepared. The suggested changes in the guide provide for a definition of a qualified actuary which is quite similar to that now required by several state insurance departments for certification of actuarial items appearing in the Convention Blank. This definition states: "Membership in the American Academy of Actuaries is generally considered to be acceptable evidence of professional qualification."

This definition falls short of what I feel should be required. For large, sophisticated accounting firms this definition is adequate, since they have had extensive experience in dealing with actuaries in the insurance field; but to the smaller firm with only one or two small insurance company clients, who will probably follow the guide as a "Bible," some requirement of experience in life insurance company work should be added to this definition as a precaution. An actuary who has spent his entire career in the employee benefit area may not be qualified to audit a life insurance company. Probably wording to the effect of "demonstrated

experience, either working as an actuary for a life insurance company or certifying reserves," should be added.

The omission of reference to the actuary in the scope paragraph is unfortunate. The defense of the omission suggested is that disclosure of the use of actuaries might imply greater performance by the auditor than by an auditor who does not use such a reference. This seems a rather weak reason for nondisclosure, and it might be interpreted as discouraging the use of actuaries. Experience may prove that some auditors want the comfort of this disclosure.

Some actuaries feel that an independent actuarial opinion should be required with financial statements of life insurance companies, to accompany the accountant's opinion. While this may seem desirable, it is currently not feasible. The great difficulties that we have encountered in obtaining certification do not augur well for such action, since legislation might be required.

It should be recognized that with such an actuary's report and opinion would come substantial liability for any deficiencies arising from the report. Such an opinion would require independence, so that the company's in-house or consulting actuary would be barred from assisting in the audit. Clearly the life insurance industry would not welcome the additional expense or inconvenience. The National Association of Insurance Commissioners and a few financial analysts might provide the only support from outside our profession for such a report. It would take a financial disaster comparable to that of the Penn Central to create a demand by regulators or the public for such a report.

The actuary in the certification process bears a substantial responsibility, particularly in the early years of our adjusted earnings experience. The accountants will be relying on actuarial advice and counsel to a much greater extent than they have in the past and will be vulnerable to and responsible for actuarial miscalculation. This will be particularly true in the area in which the accountant relies on in-house and consulting actuaries' certifications, where the actuary actually prepares statements and statement items for the company.

The role of the actuary in adjusting earnings is well established. The acceptance of the natural reserve technique as the preferred method of adjustment requires actuarial discipline and experience. The actuary is usually the officer or individual in charge of the adjustment process. His responsibility primarily is to do the following:

1. Perform or supervise the necessary studies used to develop the assumptions.
2. Formulate the assumptions.

3. Determine the mechanics of the adjustment process and the blocks of business subject to adjustment.
4. Supervise the calculation of reserve rates.
5. Test the results, using long-range projections to evaluate the effect on earnings of variations in production, product mix, and so on.

The actuary must carefully balance his professional integrity against the demands of corporate management and the financial community for the highest earnings possible. "Creative accounting" is a term that has characterized the device that made the "conglomerate" the ideal earnings-producing corporate structure of the late 1960's. As soon as these stocks tumbled during the "bear market" of 1969–70, these accounting methods became subject to much criticism and modification. Today the earnings of the conglomerates are viewed with much skepticism, even though significant improvements have been made. It is the actuary's responsibility to see that "creative actuarial work" in the adjustment of earnings does not serve as the fuel for a similar happening in life insurance stocks.

The studies required to develop and support the assumptions provide the actuary with an opportunity to analyze his company's operations with his management's support and interest. Many companies have postponed such studies because of the expense. The anticipated benefits arising from the adjustment of earnings, and the expected compulsion from the auditors, have made the expense of such studies more palatable to management. Particularly in the area of acquisition costs, such studies have brought home to some managements the fact that the cost of acquiring business does not justify the continual reduction in rates and profits that the industry has been undergoing. The discovery by some managements that acquisition costs may not be recoverable when actual expense and lapse studies are performed, and that negative adjustments to statutory earnings are a reality, may provoke long-delayed remedial action.

On the other hand, the adjustment of earnings may put the actuary in direct conflict with his management, if the management does not obtain the expected benefits from the adjustment process. Managements that are earnings-conscious may have made assumptions of the initial improvement in earnings resulting from adjustment. The bases for these assumptions are the adjusted earnings of other companies who have had similar statutory earnings and similar amounts and mix of new and inforce business. It is conceivable that these managements would accept

adjusted earnings that were materially different from those of such competitors, particularly if they were lower, but it is not likely.

The tendency of management to want to "front-end" the emergence of profit can frequently be blunted by long-range projections showing the impact of this desire on the rate of growth in earnings. It is, after all, the rate of earnings growth more than the level of earnings that creates high price-earnings ratios. This raises the further point that both the actuary and the accountant, in presenting the assumptions to management, should represent them as factually determined and inviolate. To do otherwise is to invite manipulation of both current and future assumptions.

The adjustment of earnings has added a new dimension to the actuarial profession, with many new challenges, problems, and concepts. Along with this has come the need for additional actuarial talent. (Anything that increases the need for additional actuarial talent can't be all bad!) As a profession we are becoming more involved with other professions in new areas and developing mutual respect. Our relationship with the accounting profession has been substantially broadened, and this progress will continue in the future.

This subject has produced a new and healthy concern on the part of the state insurance departments and the NAIC that proper actuarial principles and competent actuarial personnel be used in any adjustment process. This concern may hopefully extend to the area of statutory earnings. Professionally we will be brought into greater contact with financial analysts and will probably discover that more actuaries are being hired as financial analysts. This, too, is a healthy result, since this area requires actuarial skill and knowledge. Too often, the quest of the financial analyst for "salable earnings" produced adjustment methods tailored to the needs of the stocks his firm was recommending. This greater public involvement of our profession cannot but improve the recognition and significance of the actuary in the business community.

MR. TOWNSEND: Financial reporting opens a new world to the actuary and places a heavy burden of responsibility upon his shoulders. No longer does he report acquisition expenses which have already been incurred; instead he defers them and decides when to report them as spent and in what incidence. No longer does he apply statutory factors to an annual valuation run to compute a reserve liability; now he chooses from a wide range of interest assumptions which could overestimate the company's solvency position. He also determines the incidence of future earnings

because of reserve requirements, and the number of years, if any, over which adjusted reserves are to grade to statutory reserves.

Under these circumstances, it is necessary to recognize the role of the actuary, to accept the role of the actuary, and to appreciate the role of the actuary. The actuarial profession is being confronted with an intellectual challenge which will require the highest code of professional conduct.

If someone wanted to maximize the earnings of a life insurance company in the year it first reported on a generally accepted accounting basis, what assumptions would he make? Since statutory reserves produce the highest renewal earnings, he would say, "Use statutory reserves and interest assumptions for all business more than twenty years old. For business less than twenty years old, but more than five years old, use a low interest assumption. For business currently being issued and issued in recent years use an extremely high interest assumption." Unfortunately, these assumptions describe the 1940–70 era of life insurance. An honest appraisal made in 1972 could "maximize" the initial level of reported earnings.

Will the chairman of the board or the president dictate the initial level of reported earnings? A number of actuarial assumptions would be equally appropriate for financial reporting, and management could choose from several test results that one result which is most appealing.

Management could choose the highest possible initial level of earnings, or management could choose a conservative set of assumptions in order to produce a good trend of future earnings. Although a market price may be determined by the application of a price-earnings ratio to an earnings figure, the benefits of choosing a high earnings assumption may be short term in nature. This is because the price-earnings ratio reflects a company's growth potential. Under these circumstances, a company may be better off to realize a high price-earnings ratio applied to a lower earnings figure than to apply a low price-earnings ratio to a higher earnings figure.

Finally, some managements may feel awkward at having reported earnings in prior years on the formula produced by the Association of Insurance and Financial Analysts in New York City. These managements, instead of reporting GAAP earnings, may report GALE earnings. GALE stands for "generally accepted level of earnings." This would peg initial GAAP earnings at the level of AIFA earnings reported in the past and estimated for 1972. AIFA earnings might be high or low for a given company, and such a management decision would affect the future trend of a company's earnings accordingly.

Chicago Regional Meeting

MR. J. T. ARENBERG, JR.:* [Mr. Arenberg presented a summary of the current status of the AICPA audit guide for life insurance companies. Since his summary was the same as the one presented by Mr. Randolph H. Waterfield, Jr., at the Atlantic City Regional Meeting, the material is not being repeated here.]

MR. STEPHEN R. WILCOX:† The title of this session is "Adjusted Earnings." However, the observations I would like to make will not be oriented toward an examination of the techniques of adjusting earnings, although Conning and Company does hold opinions in this area; rather, I will remark on the developments which I have seen during the last fourteen years and on how things appear at present. I will also mention some items that future stockholder reporting should include.

The role of the actuary in promoting and furthering an understanding of the differences in life company accounting, product pricing and risk, return on advanced surplus, and other areas where there is little or no general public knowledge has been characterized by a mixture of attitudes, a good portion of which has included resistance, aloofness, and complacency. One of the major reasons why the role of the actuary is becoming less and less conspicuous to the investor and those agencies of government concerned with the investor is that the actuary was not willing to assume the leadership which should have been required of him in promoting and furthering an understanding of life accounting and its relationship to other forms of accounting. By default, regulatory bodies, security analysts (individually and collectively), and now the accounting profession have been or are undertaking the responsibility for education and disclosure which the actuary to date has refused to do.

I can recall that in the 1950's a partner of Conning and Company would ask for the nonparticipating statements of some life insurance companies, only to be told that they did not exist. We knew, in fact, that companies had to file these statements with certain insurance departments, and, in pointing this out to the managements, we suggested that having the information available would be much easier and less expensive than flying or driving to some state insurance department. In most

* Mr. Arenberg, not a member of the Society, is a partner in Arthur Andersen and Company, Certified Public Accountants, and is chairman of the AICPA Committee on Insurance Accounting and Auditing.

† Mr. Wilcox, not a member of the Society, is a general partner in Conning and Company.

cases that changed the position of the company, although in one case the management suggested that we drive to the company's home office and copy by hand the information we needed.

As most of you know, stockholder reports twenty years ago often contained only one or two paragraphs mentioning new highs in assets and production figures, a balance sheet, sometimes an income and expense statement, usually a list of investments, and occasionally an auditor's statement. From a rather limited informational base, one would expect a significant improvement, and, in fact, that has occurred.

Interestingly enough, I reviewed the first fifty-eight 1971 stockholder statements to be received by Conning and Company. Fifty of these reports contained statements by certified public accountants to the effect that the examinations were made in accordance with generally accepted auditing standards and so on. In addition, six of the statements also made reference to actuarial certifications. Three other companies had separate actuarial statements as well as auditor's statements, and three companies had actuarial statements but no auditor's statement. Five companies had no auditor's report or actuarial statement. On the method of reporting earnings, eighteen of the fifty-eight companies made reference to adjusted earnings as determined by the so-called New York Analyst Group or Best's method, an additional six companies adjusted earnings on some other basis, and thirty-four reported on a statutory basis. Nearly half of the companies' "Notes to Financial Statements" represented one-third to one-half of the total written text to shareholders. While significant improvement may have occurred, it is not surprising that investors are still shaking their heads over life company earnings.

For many years the unsophisticated, individual stockholder of a life insurance company has found himself in a revolving door in relation to stockholder reports. Every time he is about to enter into the quiet of the lovely lobby, protected from the cold of confusion, someone steps in from the outside—most recently the Securities and Exchange Commission—pushes the door faster than he had expected, and whips him around to the cold side of confusion again.

Institutional stockholders of life insurance companies are a very sophisticated stockholder group. They will not accept as an answer to adjusted earnings a concept which will allow a large variation in the qualitative levels of insurance company earnings or a condition in which a significant degree of noncomparability will result. Should these conditions be created by some GAAP method, these stockholders and their advisers will restate reported earnings to include adjustments for surplus transactions which they will consider to have been more appropriately

expensed during an earlier accounting period and/or they will be required to develop an additional method for reporting adjusted earnings on a formula which is standard. The net effect of this will be continued pressure on that revolving door. In fact, we feel that the potential exists for even greater variation and confusion in adjusting life earnings when conditions exist that would (1) allow for a wider variation in assumptions, (2) minimize disclosure of assumptions, and (3) enable avoidance of specific accountability for these assumptions.

Financial statements at present commonly report such items as balance sheets, statements of income and retained earnings, changes in financial position, and statements of common stock paid in surplus and treasury stock.

A life insurance company report to stockholders should also include a reference to the lines of business which the company issues, mentioning specific policies which represent a significant amount of that company's business. A report of the company's business issued should be broken down between whole life and endowment, term, group, industrial, to include weekly and MDO, and again, where any specific policy is significant, its volume should be shown. This division should also occur within the in-force accounts.

Sources of income should be shown by line of premium, again with major products specifically identified. Ideally, income and expense accounts should be divided between first-year and renewal, and the easiest way to accomplish this would be two gain and loss exhibits—page 5 of the Convention Blank—one for total company business and one for first-year business. Changes in a company's reinsurance agreements should be explained in detail, particularly when a block of business is assumed or ceded, and reference should be made to the effect that this has had on the company's gain or loss. Product development is significant, but it is important to recognize how this relates to the company's markets and distribution systems.

The treatment of capital gains and losses and of deferred federal income tax is also of extreme importance. I would like to paraphrase remarks made by Conning and Company's managing partner in a presentation to the SEC and the APB. Conning and Company is the largest factor in the securities analysis business dealing with institutional clients in insurance securities analysis. Our staff includes eleven analysts, two actuaries, and a certified public accountant. It is also our understanding that we are by far the largest factor dealing in insurance stocks in the European market through our subsidiary, Fox-Pitt, Kelton, Inc.

Excluding our European accounts, we have approximately seven hundred institutions receiving our research material.

In the two or three years in which we have actively discussed the question of capital gains in insurance company earnings, we have yet to find a single individual among the entire group of institutional money managers and institutional insurance analysts who includes capital gains in a company's operating statement. I feel that this investor attitude should not be discarded. Realized and unrealized gains and losses could be shown together as a separate statement or could be shown in the surplus account. Federal income taxes relating to realized and unrealized gains should be identified with those realized or unrealized gains and not mixed in with the operating income statement.

If deferred income tax is required, there should be a division between deferred income tax on operating income and taxes currently payable. Successful tax management should not be penalized by theoretical taxes which, in fact, may never become a real liability during the lifetime of the stockholder.

The core question at this session, however, is: How should adjusted earnings be presented? I begin with a premise that it is the responsibility of management to report at least annually to the stockholders of the company, not only reporting on the position of the financial accounts to which I have already referred but also, most importantly, accounting for the progress of the management in writing and retaining portfolios of business under assumptions made at the time those policies were issued. Management is responsible for approving the issuing of policies, and these policies have specific assumptions which should be, although we have found that this is not always the case, known to management. It is then the responsibility of management to report on how the assumptions compare with the actual experience the company is having. The variation of actual experience from the policy assumptions should be part of the equity consideration on a continuing basis. To allow management the opportunity for loss recognition is to allow the opportunity for deception. The stockholder is entitled to know at least annually whether or not management is meeting its assumptions and, to the extent that it is not, to require re-examination of the policy which led to the original management decision.

I see a stockholder of a life insurance company making an investment in new business much the way I would see a corporation making an investment in a plant. We have always held at Conning and Company that the cost of doing business is maintaining the in-force account or

plant, and that increments to this plant, or in-force account, constitute the investment in new business. Whether or not one subscribes to that concept, one should know what the capacity of the plant is, the equipment that is required to earn a certain rate of return on that plant, and whether or not the plant is meeting the expectations of the original assumptions.

I do not feel that it is or should be the responsibility of the accountant to certify the accuracy of these assumptions. The actuary should be required to stand on the reasonableness of his assumptions, and he should be required to review the accuracy of his assumptions against actual experience annually. A certification to this effect should be a mandatory part of any financial report to stockholders. This would also involve the same exposure to liability presently assumed by accountants. In my mind items requiring actuarial accountability would include annual Convention Blank liability lines 1–12 and possibly lines 16, 20, and 22. Asset items would include lines 5, 6, 11, 17, and 18.

At Conning and Company we start reading the annual stockholder statement from the back. This means that we begin with "Notes to the Financial Statements" and read to the front of the stockholder report. We do this because it is in the financial notes that one can find most quickly an indication of the differences in the qualitative level of the financial statements.

Unless reports of adjusted earnings carry with them a mandatory disclosure of policy assumptions and relate the assumptions to actual experience, the opportunity for misrepresentation by management in my mind not only creates a significant exposure to stockholder distrust but, more importantly, raises a question of credibility for those certifying these results, namely, the accountant and the actuary.

Unless the actuaries are willing to take positive, aggressive action right now on the required role of the actuary in certifying adjusted GAAP earnings, the actuaries will be permanently relegated to the status of laboratory technicians sampling and testing blood types, whose results the accountants, as surgeons, will rightly release as their opinion on whether the patient is going to die or live.

MR. NORMAN E. HILL: How does the actuary influence the choice of assumptions and the intital level of reported earnings?

Under the revised audit guide, no specific mention will be made of natural reserves. However, this approach is still completely acceptable, and I believe that many companies will use it. To review briefly, the use of natural reserves involves the use of a "break-even" premium to generate benefit reserves and deferred acquisition cost, so that the latter is

amortized over the premium-paying period (even if later, paid-up expenses are assumed).

The "lock-in" approach is employed, where, for a given issue block, original assumptions in reserves should be retained, as long as remaining unamortized acquisition expense is still recoverable from future gross premiums. At time of issue, and at various test points, break-even premiums, including all acquisition and maintenance expenses, should be checked against gross premiums for deficiencies.

Actuarial assumptions should be "reasonably conservative." To some this means "realistic," taking into account the long-range nature of the life insurance contract. To others this may mean 75 per cent certainty that assumptions will be realized. One possible test for "reasonably conservative" involves the use of small deltas added to "most likely" assumptions. Another test is to determine whether assumptions such as interest consider historical company and economy interest trends, not just new-money returns in recent years.

Reserve assumptions can generally be the same as those originally used in gross premium calculations, if they were "reasonably conservative." Since life insurance rates are noncancelable, many developed by qualified actuaries should meet this test.

One possible exception to such assumptions is that unit acquisition expenses for a given issue year should correspond to actual acquisition expenses incurred that year. Conceivably, there may be a few instances where high unit expenses are due to temporary inefficiencies which will soon be eliminated.

In developing reserve assumptions, the actuary can rely on actual company experience or, for a newer company, the experience of similar companies under similar plans.

Some consequences of the above include the following:

1. For new issues, reserves should not be calculated until total expenses for the entire year on new business either are known or can be projected reliably.
2. If actuarial factors (expense reserves) are calculated for deferred acquisition cost, they will be applied to actual in-force remaining each year. Therefore, although lapse assumptions should be reasonably conservative, an incorrect assumption here can be self-correcting to some extent.
3. "Reasonably conservative" seems consistent with the use of graded interest assumptions, so that initial interest rates for new business can reflect current high new-money rates but ultimate interest assumptions for long-term policies would probably be lower than this.

For long-term health insurance, the same principles should apply. For some types of health insurance, because of the effects of inflation on

claim costs, "reasonably conservative" morbidity assumptions might differ from guaranteed renewable gross premium assumptions. As a result, for some blocks of health insurance, all acquisition expenses may not be recoverable from gross premiums.

Referring again to the outline question, the question, "How does . . . ?" implies "should." Since it can be argued that long-term projections are the prime function of the actuary, the actuary's role in adjusted earnings should be an active one. He should have a very important role in the choice of assumptions. Management, clients, and auditors will undoubtedly review them, just as they have reviewed actuaries' gross premiums in the past. I believe that, because of actuarial expertise in this area, accountants will rely heavily—very heavily—on actuarial judgment and integrity in making reserve assumptions.

The more liberal the actuarial assumptions on new business, the higher the initial level of earnings for these blocks. Although ultimate total earnings are not affected, the point at which earnings reverse on long-term business may lie many years in the future. Actuaries may be under extreme pressure from clients and employers to choose assumptions to make current earnings as favorable as possible. Some factors which may relieve pressure on the actuary include the following:

1. The audit guide states the requirement that assumptions be "reasonably conservative."
2. Higher current earnings may be offset by a deferred federal income tax expense.
3. It may be pointed out that unrealistically optimistic lapse assumptions can backfire in a short time, as in-force declines, and deferred acquisition cost may be written off in huge chunks.
4. Use of graded interest assumptions on newer issues can incorporate current high new-money rates (which may satisfy clients and employers), grading to lower levels after a certain number of years. I believe that graded interest assumptions on new business would make sense to investment analysts, who would compare disclosed assumptions with actual company experience. It should be noted that, even at early durations, graded interest reserves tend to be closer to those calculated with level ultimate interest rates.

On older business, issued in the late 1940's and 1950's, the use of what would have been "reasonably conservative" assumptions at that time might result in interest gains flowing into income today. On still older business, with much of deferred acquisition cost written off by now, there may not always be much difference between statutory and adjusted earnings.

I believe that when actuaries deal with adjusted financial statements, they should consider the following:

1. For these purposes the effect of reserves on earnings is more important than is evident on balance sheets.
2. Slight differences in several assumptions can combine to make a big difference in reserve factors. Small differences in reserve factors can make large percentage differences in earnings.
3. Since actuarial assumptions can differ greatly between newer and older issues, the actuary should keep in mind how his choices of assumptions for blocks will affect current earnings and future earnings.
4. Unit rates used in reserve assumptions should maintain convertibility into and comparability with actual total company experience.

Since the actuary is in the business of making projections, he should be willing to "stand up and be locked in" to his assumptions. In my opinion, assumptions should be neither unduly optimistic nor conservative for the sake of conservatism. "Reasonably conservative" should represent a professional approach.

In recent weeks several articles have discussed the possibility that the SEC will require forecasting in financial statements, that is, estimates of future earnings. If such a requirement is extended to life insurance financial statements, preparing forecasts will be a natural role for the actuary. I recommend that the profession watch developments in this area closely. At some point actuaries might want to emphasize to the SEC that financial projections are a prime function of the profession.

MR. PETER N. DOWNING: I am very much interested in the challenge which has just been thrown down by Mr. Stephen Wilcox. In order that I may more readily appreciate the depth and nature of that challenge, would Mr. Wilcox kindly tell us whether, in his experience, manufacturing industry generally has to disclose the extent to which it subcontracts, and any change in the nature of its policy of subcontracting? This would correspond to reinsurance in the life insurance industry. Furthermore, does industry generally disclose the breakdown of its turnover by product line, more particularly disclosing the expected volume and other pricing assumptions used to determine its product prices? This could correspond with the premium basis assumptions used by actuaries in the life insurance industry.

In other words, is the extent of disclosure by life insurance companies falling far below the level of disclosure customary in other industries, or

is the problem, as I suspect, merely that we give the security analysts so much information that their appetite is whetted for more?

MR. W. JAMES MACGINNITIE: My presentation today will cover the activities of four major actuarial committees working on adjusted earnings, as well as some thoughts on the role of the actuary. The four committees are the Joint Actuarial Committee, the ALC-LIAA Joint Committee on Financial Reporting Principles, the American Academy of Actuaries Committee on Financial Reporting Principles, and the NAIC A(5) Subcommittee on Life Insurance Reporting and its Industry Advisory Committee.

The Joint Actuarial Committee.—This committee consists of three representatives each from the American Academy of Actuaries, the Canadian Institute of Actuaries, the Conference of Actuaries in Public Practice, and the Society of Actuaries. There is also a liaison representative from the Casualty Actuarial Society. The current chairman is Dick Horn. This committee has been working since December, 1970. Since it produced its monumental response to the initial draft of the audit guide in May, 1971, it has been working with the AICPA committee on specific issues and responding to partial drafts.

The ALC-LIAA committee.—Composed of representatives of the major trade associations, this committee has been operating since the mid-1960's. Its current chairman is Hank Ramsey. It, too, has been working with the AICPA committee on specific issues and responding to partial drafts.

Both of these committees have had their turn at bat with the AICPA committee, and the results are about to issue forth: both committees will respond to the forthcoming exposure draft. Their positions on the major issues are fairly well established and may be summarized as follows:

1. The basic method should be release from risk.
2. Establishment of a separate asset for prepaid acquisition expense should not be mandatory.
3. Auditors should rely on qualified actuaries and should be permitted, or even encouraged, to say so in the opinion letter.
4. Tax liabilities should be accounted for on an expected present value basis, that is, they should be discounted for both interest and the probability of payment. The AICPA has consented to an injunction against price-fixing. If the accountants have agreed to discounted fees, can discounted tax liabilities be far behind?
5. The audit guide should not contain any recipe or formula for the interest rate assumption.

The other two committees are where much of the future action is likely to occur.

The American Academy of Actuaries committee.—The Joint Actuarial Committee recommended that this new committee be set up, in view of the fact that the Joint Actuarial Committee was an ad hoc committee, established specifically to respond to the draft AICPA audit guide. More importantly, the Joint Actuarial Committee felt that there was a need for standards for actuaries working with adjusted earnings, something that might be referred to as "generally accepted actuarial methods." Academy President Myers, in his appointment letter to Chairman George Davis, said that the committee's function was "to develop the actuarial considerations applicable to the financial reporting of life insurance companies, how they should apply in practice, and the permissible ranges of variation, where appropriate."

It seems certain that auditors will rely on actuaries in preparing GAAP statements. The precise language of the audit guide is yet to come, but one suggestion reads: "auditors will need to rely on the advice of a qualified actuary." One difficulty that the accountants have had with such language is the absence of generally accepted and enforced standards in the actuarial profession. If they do adopt strong language on the use of actuaries, we will have to have such standards and the appropriate enforcement mechanisms.

The Academy committee considered the adoption of a stopgap interest assumption guideline but has abandoned the attempt as unworkable. They are concentrating on the guidelines necessary for the intermediate form release from risk reserve method. The intermediate form uses deltas (as in Horn's paper) from best estimates to introduce reasonably conservative assumptions, that is, to provide for adverse deviations. If this produces a valuation premium less than the gross premium, the difference can come through to earnings each year as the premiums are collected.

What guidelines will the actuary follow in establishing both the best estimates and the deltas? The Academy committee has concluded that some risk-theory work is needed on this, since the adverse deviations are not statistically independent. The committee has requested assistance from the Joint Committee on Risk, which is composed of four representatives of the Society of Actuaries and three from the Casualty Actuarial Society.

Also, the Academy committee feels that there is a need for an Interpretative Opinion of the Guides to Professional Conduct in this area of adjusted earnings. They have asked the Academy's Professional Conduct

Committee to consider the question and are working on an enumeration of the points that should be covered.

The NAIC Industry Advisory Committee.—This committee, whose chairman is Dave Scott, is considering the question of how the Convention Blank should handle GAAP earnings and any other nonstatutory financial statements. To avoid the problems that arose in the casualty statement, where the commissioners made the initial proposal, the Industry Advisory Committee was appointed early, so that the initial proposal could come from the industry and the NAIC could react. The thrust of the committee is not to go over the same ground that other committees have covered but to assume that there will be an acceptable audit guide and to provide for a reconciliation between the GAAP statements and the Convention Blank. There are some very difficult questions about the nature and extent of the reconciliation. For instance, should there be a single entry for the difference in policy reserves, or should there be a line-by-line reconciliation of Exhibit 8, with complete and detailed disclosure of the various assumptions? Also, there is the question of who should sign the reconciliation and what that signature means. Is the actuary signing the reconciliation attesting to the recoverability of the deferred acquisition expense?

This committee is also aware of the large number of companies that are not under SEC jurisdiction and do not use independent auditors. These companies are under NAIC jurisdiction on their stockholder relations, and there is the question whether they should be encouraged to prepare or discouraged or even prohibited from preparing nonstatutory statements. If they are permitted to do this, could it be on any basis other than the AICPA audit guide? Who, if anyone, would audit and certify such statements?

It seems virtually certain that auditors will rely on actuaries in the preparation of GAAP statements. References to the reliance on actuaries are at least possible, either by the auditors or by direct publication of the actuary's certification. The NAIC may also require actuarial certification of the reconciliation between GAAP and statutory statements. The result of this reliance on the actuary is a very substantial and significant change in his role. The actuary will now have to exercise professional judgment on the reserve assumptions that have significant, even overwhelming, impact on the earnings of the company. No longer will he be restricted to choosing one from a narrow range of alternatives. This role seems as important as his pricing role. It certainly calls for professional judgment over and above that used in the pricing, since the intermediate form release from risk method clearly permits reserve assumptions that

differ from those used in the rate calculations, and there will be no analogue of the competitors' ratebooks.

Responsible fulfillment of this role in adjusted earnings will require the development of meaningful professional standards and the means of enforcing them. The activities of the Academy and NAIC committees are clearly aimed in this direction. Certification that reserves and the resultant earnings have been calculated in conformity with generally accepted actuarial methods means that actuaries are assuming additional responsibility and the attendant liability. One need only review the recent cases involving accountants, investment bankers, and lawyers to appreciate what liability can mean. Perhaps, however, casualty actuaries will exhibit professional courtesy when pricing errors and omissions coverage.

The adoption of an audit guide with strong references to the role of the actuary will give a substantial boost to efforts toward professional recognition. One draft of the audit guide refers to membership in the Academy as evidence of professional competence. It is interesting to note that, while the Academy was formed primarily to obtain recognition in the pension and welfare areas, it is adjusted earnings that is about to put us on the map.

The independence of the actuary will be increasingly questioned as reliance on his professional judgment grows. Company employees and regular consultants will be less and less acceptable, and there will be pressure to use truly independent outsiders. Pressures from management to present favorable earnings will increase, and actuaries will have to resist. Those who do not may face not Norm Hill's "stand up and be locked in" but rather the prospect of standing in and being locked up.

Ted Arenberg noted that statutory accounting places emphasis on the balance sheet, while investor accounting places emphasis on the income statement. My own conviction is that management accounting should place major emphasis on the cash-flow, and particularly on the discounted cash-flow, return on investment type of accounting which is the actuary's specialty. From my recent experience in holding company management, the real problem of management is the deployment of resources. To make informed decisions about resource deployment, management needs to know what the return on marginal investment is, and this requires discounted cash-flow analysis and the ability to adjust for different levels of risk. GAAP earnings, emphasizing the certainty of current period earnings as they do, fail to provide this required information to management.

One of the ways to perform this analysis is to consider the present value

of future profits on the current book of business—a figure that Bill Halvorson referred to as a "status value" in yesterday's session on "Fulfilling Stockholder Objectives." Such a status value would be calculated on a best-estimate basis, not a reasonably conservative one. Its growth from year to year would be an important part of the information by which management judges its progress. In addition, going-concern values would have to be developed for such assets as agency plant and electronic data processing capabilities. Management should then be concerned with optimizing the growth of the total going-concern value and with obtaining an acceptable return on the stockholders' investment. My fear, however, is that managements will be content to stop with GAAP earnings and not develop the additional information that would enable them to deploy the resources at their command.