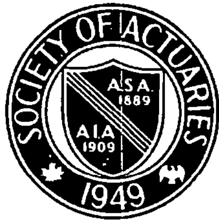

The Actuary

The Newsletter of the Society of Actuaries

VOLUME 5, No. 7 SEPTEMBER, 1971

LOMA IN ACTUARIAL HAUNTS

Financial Planning and Control Report No. 17. *Creating a Corporate Plan for a Life Insurance Company*, 83 pp., July 1970.

Financial Planning and Control Report No. 19. *An Approach to Measuring Profitability of Field Office Operations of a Life Insurance Company*, 23 pp., February 1971, Life Office Management Association.

by E. J. Moorhead

Actuaries ought to become familiar with the content of each of these Reports. Each makes recommendations on subjects that normally come within actuarial purview.

Report No. 17 describes an imaginary series of conferences in a hypothetical mutual life insurance company that has undertaken to formulate a financial plan embracing a 5-year period. The text shows rather clearly how difficult it is to arrive at an objective that will be logical, realistic, and exciting. The reader may doubt that the measure chosen would be the best one for his own company.

A considerable portion of the text offers working papers purportedly used by the actuary in setting forth the annual net gain from operations found to be consistent with the company's expected ability and its desires. This portion does not portray actuarial craftsmanship at a level of quality that conforms to the teachings of the Society. This reviewer hopes that LOMA will produce a revised Report No. 17 that will illustrate the techniques of forecasting in a more satisfying fashion.

Report No. 19, produced with the aid of LIAMA, is much more a pioneering venture. It offers two concepts, each of which cries out for thorough actuarial exploration.

The first is described as "gross asset share profitability." This means the value at the policy issue date of the profit expected to emerge from a block of

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MEDICAL MATTERS

R.D.C. Brackenridge, Editor; *Life Assurance Medicine Proceedings of the 10th International Conference of Life Assurance Medicine held in London 8th—11th June* 1970. London Pitman Medical and Scientific Publishing Co. Ltd., pp. 250.

*by A. L. Larson, M.D.**

More than 400 delegates from 31 countries attended the Tenth International Conference of Life Assurance Medicine in London, England. There was a heat wave in London at this time and, fortunately, the meeting was held in Church House close to Westminster Abbey, probably the coolest spot in London. This gave many of us an opportunity to review England's past during the luncheon break. The papers presented at this congress have now been published in the *Proceedings*, very ably edited by Dr. R.D.C. Brackenridge.

An extensive range of subjects was covered and able clinicians from many countries discussed the clinical aspects of various impairments and reported on various mortality studies. At the end of each session a panel of Medical Directors, Actuaries, and Underwriters related the clinical aspects to underwriting.

While international statistics reveal differences in mortality rates among countries for many causes of death, the reader will notice that the underwriting problems, particularly in the group of circulatory impairments, seem to be

**Vice President and Chief Medical Director of The Travelers*

(Continued on page 2)

THE VIABLE VARIABLE

Proceedings of the National Conference on Variable Life Insurance. Edited by Douglas G. Olson and Howard E. Winklevoss, Insurance Department, University of Pennsylvania, 131 pp., $5.00.

by Anna M. Rappaport

In March 1971, the Wharton School of Finance and Commerce sponsored the National Conference on Variable Life Insurance. The proceedings of the conference have now been published, and they constitute a valuable summary of much of the variable life insurance research recently done in the United States. Anyone doing research on variable life insurance should carefully read this book. In this article, the proceedings are briefly reviewed, and some issues about variable life insurance are discussed.

The Proceedings review the regulatory situation from three different points of view—the status of the ALC-LIAA filings with the SEC is explained; the potential federal tax aspects are explored; and a state regulator talks about variable life from a state insurance department viewpoint.

Four products are described — three have varying death benefits based on the experience of a separate account, and one is a whole life policy linked to the cost of living index. Although the technical aspects of these products have been explored in papers presented to the Society, speakers provided new information about probable policy provisions, particularly in the area of substitutes for policy loan provisions.

The salesman's viewpoint was presented, and two economists discussed the impact of variable life and institutional investments on the market for equities. In these areas, the Conference presentations were only a beginning, and I hope that more work will be done.

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The Actuary

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EDITORIAL

THE current ninety-day freeze in the United States does not, we are sure, apply to new proposals for national health insurance or to discussions, informed and uninformed, of the various proposals for such insurance. Before the present Congress there are at least 12 suggested solutions to the problem of providing health care for the nation. The office of the Chief Actuary of the Social Security Administration has analyzed these proposals and has published financial estimates of the the cost of the different plans. Legislators and indeed all interested citizens should welcome the study, but so far there has been more abuse than praise. Cries of "Foul" and suggestions that the study was fudged have come from proponents of those plans on which the study placed a high price tag. This has confused the public and perhaps shaken confidence in the office of the Chief Actuary.

Should not the Society be concerned? Is not the estimating of financial cost of health care plans (to quote Article X of the Society's constitution) "within the special professional competence of actuaries"? Do not the importance and complexity of health care plans give special value to the informed judgment which the actuary can bring to bear upon their costs?

From a public viewpoint does it not behoove the Society in some manner to comment upon this financial study so that the public may be better informed as to the financial costs of the alternative plans? This would not involve the Society in approval or disapproval of any plan—only in an objective and helpful judgment as to what that plan will cost.

From our own viewpoint, would not such an action help to make the Society better known. Judging from recent happenings in the discussion of Adjusted Earnings, the Society could profit by being better known.

> There is a tide in the affairs of men,
> Which, taken at the flood, leads on to fortune;
> Omitted, all the voyage of their life
> Is bound in shallows and in miseries.

A.C.W.

Medical Matters

(*Continued from page 1*)

about the same in all countries. E. A. Lew's presentation of the follow-up studies of myocardial infarction is a classic, and I recommend all review this carefully, for I believe from it we can arrive at a reasonable rate for our own protection and also to the satisfaction of the client and agent.

The second leading cause of death, malignancy, was also thoroughly discussed from a worldwide standpoint, and here again I recommend a thorough review by Medical Directors and Actuaries. An important point was brought out in this session, and that is to be wary of the 5-year and 10-year so-called "cures," for this is a clinical and a compassionate approach from the patient's standpoint rather than from an insurance standpoint. We have all seen certain cancers recurring after as many as 20 years and producing death.

Other papers and discussions dealt with liver disease, diabetes, and ulcerative colitis. A paper on *The Mortality of Epileptics* by a group of doctors from Denmark showed surprisingly high mortality among individuals with this impairment. Despite the titles, papers on *Depression* and *Attempted Suicide* produced a lively discussion and warnings to underwrite these medical histories very carefully. The reported experience of underwriting non-cancellable disability insurance should be extremely valuable as we seem to be again entering a period of kaleidoscopic underwriting, forgetting the lessons of the past.

The exponents of the Numerical Rating system will be pleased to find similar systems developed as a Prognostic Index for histories of myocardial infarction and as a chart for the assessment of the risk of suicide in individuals.

This is the second Congress that I have attended, going away from the first impressed, and after the second, feeling (and this was agreed upon by other members from the United States) that we had attended an outstanding gathering. There is so much to be learned through international contacts and discussions that I would recommend attending at least one meeting. The next will be held in Mexico in 1973.

Meantime this volume should be required reading for Medical Directors, Actuaries, and Underwriters. □

HOW IT WORKS

Canada Pension Plan Actuarial Report as at December 31, 1969, Department of Insurance, Ottawa 8, Canada, 60 pp.

by Cecil G. White

This is the first actuarial report prepared by the Chief Actuary of the Department of Insurance in accordance with the requirements of the statute setting up the Canada Pension Plan. The report was prepared partly to develop projections that would make allowances for actual experience and significant trends that had become apparent during the past few years. This was desirable because experience under the Plan reveals that, because of unexpectedly high increases in general levels of renumeration, high participation rates and other less significant factors, the Canada Pension Plan account is increasing at a substantially greater rate than had been anticipated when the Plan was being developed. Another reason for undertaking this actuarial examination of the Canada Pension Plan was the intention of the government to propose certain amendments, which have been published in a White Paper, *Income Security for Canadians.*

The report contains financial estimates and projections based on two sets of economic assumptions described as "reasonable stability" and "moderate inflation."

Projections are shown for each year from 1970 to 1980 and for every fifth year thereafter up to the year 2000. There are three types of projections: (1) amounts of benefits and expenses, (2) benefits and expenses expressed as percentages of contributory earnings, and (3) fund projections (including amounts of contributions and expenditures).

The report indicates that a temporary levelling out of costs expressed as percentages of contributory earnings may be expected about the beginning of the twenty-first century. This is the result of low fertility rates in the depression of the 1930's. Earlier studies indicate that the percentage rates may be expected to continue their gradual ascent during the first half of the twenty-first century.

The gradually increasing rates exhibited in the projections of costs expressed as percentages of contributory earnings suggest that the most orderly way of maintaining the Canada Pension Plan investment fund at an agreed level would be to raise contribution rates gradually in a series of steps. Even for the plan proposed in the White Paper with a continuation of current contribution rates, the fund appears unlikely to begin to decline for another 15 to 20 years. Therefore, it may be somewhat premature to enact a definite schedule of increasing contribution rates that might have to be adjusted several times in the light of actual experience before being put into effect. The report shows that in order to maintain the fund at a certain level under "reasonable stability" conditions, *increases in contributions would have to* come sooner or be greater, or both, than would be the case under "moderate inflation" conditions.

The proposals relating to the Canada Pension Plan in the White Paper *Income Security for Canadians* include a dramatic acceleration in the increases in the year's maximum pensionable earnings to bring this figure to $7,800 by 1975. After 1975, the provision for increases in accordance with the earnings index is to be retained. Effective Jan. 1, 1973, it is proposed to increase substantially the amounts of disability and widow's pensions, and to add a new benefit in the form of a pension for the wife of a disabled contributor. The flat rate portion of these pensions is to become $80 a month (instead of $28.15 under the existing plan) and the earnings-related portions are to become 100% and 75% of the contributor's earnings-related pension for disability and widow's pensions, respectively.

If the plan were to be amended along the lines of the White Paper proposals, it would be desirable to obtain tentative agreement with the Provinces within five years on the approximate level at which the ultimate fund is intended to be maintained, so that the terms to maturity of obligations to be issued by the Provinces might not be shortened unnecessarily. Any decision regarding the level of the ultimate fund is, of course, interrelated with the decision regarding increases in contribution rates and, in the matter of contribution rates, it would seem particularly important to reach agreement with Quebec, so that the terms of the Canada Plan and those of the Quebec Plan would remain essentially identical.

In discussing the concept of an "ultimate fund," the report does not intend to convey the impression that this ought to be an absolute amount. Unless other means of financing temporary fluctuations are instituted, the fund will eventually have to be maintained at least in some reasonable minimum relationship to annual expenditures. Since expenditures may be expected to increase slowly in absolute amount as a result of increasing levels of earnings (even after the system will have reached a "stationary condition" and even if there were no increases in prices and the Pension Index), it seems reasonable to assume that the "ultimate fund" would be maintained as a slowly increasing amount, even though the fund could be allowed to decline from the relatively high level it may reach during the first twenty years or so of its operation. □

Actuarial Recycling

". . . interest rates have always cycled back up from their bottoms."

Committee on Financial Reporting Response of the Joint Actuarial

Better than a Random Walk?

LOMA

(*Continued from page* 1)

business when no deduction is made for any field expense. The reason for desiring this figure is that the procedure contemplates measuring the profitability of each agency by subtracting the actual expenses of the agency from the value of profits determined without allowance for such expenses. The mathematical logic of this fragmented approach merits study.

The other concept is that of "capitalized value of an agency force." This is obtained by calculating the present value of the profit margins on all future new business expected to be written by the corps of existing agents, with allowance for anticipated agent survival and productivity experience.

It is hoped that this review contains enough information to prompt some readers of *The Actuary* to obtain copies of these Reports and read them thoughtfully. Perhaps this would be a good workshop topic for those interested.

Copies may be obtained from the Association. For non-members the prices are No. 17, $10.00, *No.* 19, $6.00. □

More Part 4

Sir:

For those fortunate enough to have passed the Part 4 Examination of the Society the first time around, the following plea can never be fully appreciated. Those who have not been as fortunate (and we number many strong—Part 4 was considered the toughest exam in a recent survey of actuaries) will, we hope, support our plea to the Examination Committee to consider offering the Part 4 Examination twice a year, as is the practice currently for Parts 1, 2 and 3.

Many actuarial students who have seriously studied for the May Exam, only to discover in July that they "just missed" passing, have wished that they could get another crack at the exam quickly, before whatever knowledge they had retained completely dissipates within the next few months. Offering the Part 4 Examination in November as well as in May is the only solution.

We believe this system would produce actuaries sooner and with a better knowledge of life contingencies, because uninterrupted study would enable borderline students to cover more deeply the exam material that very recently was *presumably* fairly well learned. The student would have more time to solve many more problems and have the opportunity to expand his knowledge with the extra time rather than "waste time," so to speak, relearning once again all that he forgot, as is so often the situation under the current exam system. This is especially true if the student decides to sit for the Part 5 Examination in November rather than wait and waste six months before resuming serious study for the May Part 4 Exam.

The administrative problems involved do not seem so large as to justify continuation of this system. The Exam. Committee probably has a vast pool of problems available and the multiple choice problems are easily scored by computer. Moreover, the essay answers, though sometimes lengthy, are yet relatively easy to grade in comparison to later exams, because they are not quite as vulnerable to opinion and subjectivism as in later exams.

We strongly urge the Society of Actuaries to adopt this proposal and act quickly in initiating a new exam system so as to avoid even more frustrated actuarial students.

Frank L. Bilello
Edward I. Farb

Black Actuarial Recruitment

Sir:

There has recently been considerable discussion in *The Actuary* and in local actuarial clubs regarding "Black Actuarial Recruitment." I am concerned about the use of local (or national) actuarial club time and expense on this subject for the reasons cited below:

(1) It is discriminatory in that it singles out one group on the basis of race for preferential treatment.

(2) It assumes that it can overcome the obstacle created by the substandard educational processes available to blacks in the United States.

(3) If the above is true, it will turn the actuarial educational process into a remedial program for a select few (if the above is not true, then there should be no need for preferential recruiting).

(4) It ignores the tremendous motivation required of a candidate for Fellowship. This motivation is best identified by allowing the potential student to find his own way into the field.

(5) It detracts from the more important work that the Society membership is capable of undertaking and achieving.

Rather than get on the bandwagon of groups and persons intent on relieving their collective ancestral guilt, I would recommend that the Society clubs be patient, and permit the educational systems in the country to turn out candidates who qualify for recruiting without special credits because of skin color.

Howard H. Kayton

* * * *

Editor's Note: Robert J. Randall, who wrote the article on "Black Actuarial Recruitment" in the January issue, comments as follows on the points raised by Mr. Kayton.

Sir:

(1) Of course the black recruitment program singles out one group for preferential treatment. The questions are, or should be, are there any justifications for this, and will this treatment accomplish worthwhile goals? Millions of words by profound scholars have been written on this, and it is very difficult to treat these questions briefly. Blacks have been, and still are, subjected to *adverse* treatment on the basis of race. They were held in slavery for more than two hundred years; after the brief spasm of Reconstruction, they were to all practical purposes put back into a condition of slavery in 1876, a condition from which they are now beginning to emerge; they have been denied opportunities of all sorts, the right to vote and hold elective office, to serve on juries, and to take the actuarial examinations, and to attend conventions of the Society.

The result of all this is that blacks constitute a tremendously under-privileged, disadvantaged group. The black recruitment program tries to deal with one small phase of this, but a phase which should be of great concern to our profession—namely, the very small number of blacks now in the profession. These are the justifications for the program: moral justification in that it tries to rectify moral wrongs of the past and the present; practical justification in that it seeks to improve conditions injurious to both blacks and whites.

Will the program produce anythi[ng] worthwhile? I have high hopes that [it] will and I place my faith mainly on the Actuarial Summer Institute. If one-third of each year's class of 15 go on to successful actuarial careers (which does not seem an unreasonable hope, based on experience to date), then two years of this program will produce black members of the Society in equal numbers to those produced to date by the slow workings of history.

This type of result can be produced where there is a will, and I would like to refer to the similar but much more ambitious and expensive program of the accounting profession, sponsored by the American Institute of Certified Public Accountants. This program is reviewed in the April issue of *The Journal of Accountancy*, and the first sentence of the article states: "The accounting profession hired more black staff assistants (450) during 1969 and 1970 than in the three-quarters of a century of its previous history."

Our Committee, by the way, intend[s] to re-examine critically and repeate[dly] both the effectiveness of the program and the continued need for it. If there is a real, continuing need but the pro-

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the Editor

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gram is ineffective, our members should be able to devise more effective approaches.

(2) Yes, we do believe we can work successfully with black math students produced by the educational institutions of the country and, in particular, the black colleges. Our program attempts to supplement the education being received by black math majors; it also brings to their attention and that of their teachers the existence of opportunities in our profession. We hope this will motivate them to work a little harder and that there will be some good "side" results, such as more interest in the insurance industry on black campuses, and improved mathematics teaching and curriculum. However, I am convinced from our experience to date that many of the black students we have met are good actuarial prospects and that our program is being helpful in overcoming some of the deficiences in their mathematical training to date. The Committee is well aware that anything it does will have little or no effect on the basic problems of American education for blacks or whites and that our program must be adopted to the existing educational system. After all, our present Society members come from schools of varying levels of excellence and reputation.

(3) I don't understand this comment. Our program will have practically no effect on the actuarial educational process. If there is any effect at all beyond increasing the number of blacks in the Society, it will be to point out more effective techniques of college recruiting that might be used more generally.

(4) I agree that tremendous motivation is required of a candidate for Fellowship, but I do not agree that helping a potential candidate destroys his motivation. We have tried to emphasize the need for dedication to students at the Institute, and have conducted the program so as to emphasize achievement through self-study and discipline.

(5) What is the more important work? Is the Society membership, for example, making an actuarial study of drug addiction and/or alcoholism that will identify causes and successful methods of prevention and treatment? If so, I don't believe our program will interfere in any way, and I would like to participate in this more important work.

Robert J. Randall

* * * *

Adjusted Earnings

Sir:

Over the past several years and particularly over the past six months much attention has been directed at the concept of adjusting the earnings of life insurance companies. I have no qualms about the fundamental concept of adjusting earnings, inasmuch as I feel that there is a definite need as regards the stock-buying public and even the policyholders. However, I am quite amazed at the relative rapidity with which the natural reserve approach has been accepted.

Natural reserves can perhaps reflect a reasonably accurate earnings picture in an insurance company which has utilized sound actuarial techniques throughout the years. The earnings picture depicted by the natural reserve approach may well have some management advantages. However, it seems to me that the stockholder is not being considered when the natural reserve approach is being espoused.

The stockholder views corporate earnings in two separate phases. The first is the dividend income which he can expect to receive from the corporation and in the life insurance industry this is necessarily represented by the current statutory blank. The second entity which the stockholder considers is the net worth of the corporation and any changes in that net worth. The change in net worth, of course, represents retained earnings.

The most powerful tool to develop the net worth of an insurance corporation is that of the gross premium valuation. The natural reserve approach has the effect of artifically leveling the earnings of the insurance corporation. Although most actuaries would like to think that the profits progress evenly, it certainly is not an accurate portrayal of the financial position of the company.

My concern from the regulatory viewpoint is for the companies operating in Illinois who do not have the services of the actuary and accountant. These companies total at least one-third of the companies operating in Illinois and, although they represent only a small proportion of the policyholders in the state, they represent a very significant percentage of the stockholders in the state.

The natural reserve approach, in my opinion, will give these promoter-run companies a false sense of legitimacy in the inflation of their stock prices. At the present time these companies are assumed to operate in the red for eight years. The natural reserve approach will give these companies four or five years of operating time. The gross premium approach should be able to detect the futile operations of these companies almost instantaneously.

The real advantage to the state insurance departments utilizing a gross premium valuation is that we will be able to review and compare the actuarial assumptions used. Using current-day assumptions, companies cannot be too far off on a comparative basis. When we have to review the assumptions made many years ago, it introduces a much largér degree of difficulty in making any meaningful comparison.

I urge all actuaries to exercise their professional responsibility and closely review this entire subject before they blindly endorse a method of earnings adjustment. This is a subject that deserves the close scrutiny of the professionally actuary, not only from his own company's viewpoint but from the viewpoint of the life insurance industry in general.

Robert L. Pawelko

* * * *

Pensions

Sir:

In recent years there has been considerable activity in the Congress for the imposition of controls on private pension plans. Some studies of these plans have revealed that only a very small percentage of the covered employees ever receive a pension—hence the legislative concern for "portability" and "vesting" of the benefits. A great majority of the employers, plan administrators, and actuaries are opposed to Federal control over these private pension plans.

In the opinion of the writer, the objectives of the proposed legislation can be achieved far more effectively if we

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approach the problem in a simple and logical manner. The gap between the "wages" earned by the blue collar workers and the "salaries" earned by the white collar workers has been narrowing in recent years and the trend for the future indicates that the "wages" may even exceed the "salaries" (see *U.S. News and World Report* March 22, 1971, page 87)! The blue collar workers are represented by their respective unions, whereas the white collar workers have very few. *Why, therefore, continue to distinguish between these two collars?* This provides the key to the solution.

Taking the cue from Taft-Hartley multi-employer plans, the writer proposes that each employer be required to set aside each year a certain percentage of the salary of the employee and deposit this sum in a National Trust Fund operated on a quasi-governmental basis. The employee should also be required to contribute a certain percentage of his salary to this Fund. The employer and employee contributions are to be tax deductible. On the retirement of the employee, the Trustees will purchase an annuity or a similar benefit for the employee and on the death prior to retirement, the amount standing to the credit of the employee will be refunded to his beneficiary. The fact that the employee may move from job to job, or the employer may go bankrupt or be swallowed up by a larger corporation through a merger, will have no bearing on the pension and death benefit rights of the employee.

In a note of this nature it is not possible to go into the details of the proposed plan—these can be worked out after considerable deliberation. Only a brief outline of the plan is given above. However, the advantages of such a plan can be summarized as follows:

(1) The employer will meet the cost of the plan on a current basis (just as he does for the blue collar workers) and this will be allowed for in the costing of his products.

(2) The employer is still free to provide a second or even a third "layer" in his pension plans for the top executives, if he so desires. These additional plans can operate on conditions similar to the existing private plans with very little governmental interference.

(3) There will be no tax problems, no requirements to meet for integration with Social Security benefits and no annual actuarial valuations.

(4) There will be 100% vesting and portability of pension and death benefit rights.

(5) The pressure on Social Security and other benefits will be eased in years to come, as the existing system is getting out of hand due to the increasing rates of contributions by the employer and the employee.

(6) The National Trustees will be free to invest the Funds as they deem fit including in private enterprises and thereby they will contribute to the National Growth.

(7) The proposed plan is not foreign to the existing legal liabilities of the employer. He is already required to contribute to the Social Security, Unemployment, Workmen's Compensation, Pension Plans for blue collar workers and other benefits.

G. B. Saksena

* * * *

Sir:

The editorial in the April, 1971 issue of *The Actuary*, suggested that a final salary pension is unrealistic. Perhaps it is to the extent that one's living costs should go down after retirement, and there are benefits from social security, and improved tax treatment. Nevertheless, a pension that would allow the preservation of living standards after retirement should be available to the average man at his mandatory retirement age.

The problem of funding remains. If there were no inflation, then a company could decide first how much it could increase its outlay for an employee's services and then set the salary increase so that it, with pension costs added, would equal the budgeted amount. With this type of pension, people could not expect large salary increases in their later working years.

The inflation problem remains. Two possibilities suggest themselves. One is to place pension funds partly or wholly into equities with the purchase at retirement of a variable annuity. The other is to build an assumed rate of inflation into the funding.

It should be (but isn't always) obvious that all pension costs are alternatives to other forms of compensation. Nevertheless, they should be set at levels to allow a standard of living after retirement equivalent to that before retirement.

I agree that the public needs a better understanding of the issue including the costs. Perhaps it is still not generally recognized that you can't have your cake and eat it too.

Harlow B. Staley

* * * *

Pensions and Environment

Sir:

In the June 1971 issue of *The Actuary*, Richard E. Ullman suggested that pension funds be diverted from industrial investments that foul the landscape, and be put to work cleaning up the environment, rebuilding our cities, and stabilizing the population. Mr. Ullman would do this at a sacrifice in investment yield if necessary and he proposed special tax deductions for insurance or pension premiums ultimately invested in the environment.

As a member of *The Wilderness Society*, I share Mr. Ullman's desire for more efforts to preserve and reclaim the earth and our environment. I am in favor of stabilizing the population, being struck by a recent observation that man is the only animal without zero population growth. (I am not certain how any investment of pension reserves will accomplish population stabilization). But, as an actuary, I am quite troubled by a proposal that could either reduce pension benefits because of the lowered interest earnings under the Ullman investment policy, or require increased current pension contributions to cover what in effect would be a tax on pension contributions.

Under the first alternative, the environmental costs are put on pensioners; under the second, one sees a tax on any employer who chooses to provide pensions—a tax that would raise the economic cost of pensions and give greater competitive advantage to the firm that chose not to provide pensions.

As for tax deductibility of premiums, direct contributions to any number of qualified organizations interested in improving our environment are tax-deductible. There is no advantage in attempting to get tax credits for ecological insurance premiums.

There is no evidence that money alone will solve our environmental problems.

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Letters

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For instance, much river pollution can be traced to municipal sewage disposal systems; seemingly the cities themselves should be forced to end this source of pollution. A one-time investment to clean up rivers or lakes is futile if sewer effluents continue to pour in. As to polluters in the private sector, economists seem to agree that a permanent solution can be found by determining the social cost of dirt, noise, sound or traffic-density pollution, and assessing the entire cost on those directly responsible, probably by appropriate tax levies.

A high priority for economic growth has been literally the law of the United States since enactment of the Full Employment Act of 1945. While one sees little likelihood of repeal of this Act, some concern for our environment is visible in Washington. A careful reading of the 1971 Annual Report of the President's Council of Economic Advisers is recommended to anyone wishing a better understanding of the economic issues to be faced in improving our environment.

The President's Council finds change long overdue in those governmental regulatory policies that set an unnecessarily low economic price on the use or destruction of natural resources. They also suggest establishing court-enforceable property rights for society as a whole in clean air and in clean water and, finally, they point out that we need national standards, charges, and licenses to deal with polluting, emissions, dumping, and resource destruction.

The need for environmental protection standards is a theme of Dr. René Dubos, Professor of Environmental Medicine of The Rockefeller University. Writing as *The Despairing Optimist* in the Spring 1971 issue of *The American Scholar*, Dr. Dubos uses Great Britain to illustrate the great recuperative power of nature once standards are enacted which result in removal of all sources of pollution:

"London has been grossly polluted for several centuries, yet dramatic changes for the better followed shortly after implementation of the amendments to the Rivers Act in 1951 and the Clean Air Act of 1956. The amount of sunshine reaching the city has almost doubled; the song birds of Shakespeare's time are once more heard in the parks and in 1969 fish were caught in the Thames."

But beyond differing with Mr. Ullman about how best to clean up our environment, there remains my great concern over the wisdom of diverting insurance or pension funds to meet perceived social needs. This is not a theoretical or academic matter, but an issue which has confronted insurers throughout this century.

The late J. B. Maclean, author of *Life Insurance* and for many years Vice President and Actuary of Mutual Of New York, unreservedly condemned legislative attempts to direct the investment of life insurance funds. In particular, he wrote how ill-advised it was for the Texas Legislature to pass the Robertson Law, because investment policy should not be dictated by a state government that had no responsibility to policyholders. He wrote:

"If the available investments are suitable for the investment of life insurance funds, there is very little doubt that the companies will themselves seek them out. If they are not suitable, the companies should not be compelled to invest in them."

Since Mr. Maclean wrote his classic, the center of power has shifted from the states to the national government in the United States. Only a year ago we got some sense of this power. At that time there was political concern because housing starts had fallen by half, though this was a predictable consequence of federal anti-inflationary measures. In mid-spring 1970, the Secretary of Treasury summoned a group of life-insurance company presidents to Washington to insist that insurers along with pension funds *voluntarily* earmark additional funds for housing loans or see a new federal law requiring such investments.

The experience appalled one company president, Daniel J. Lyons, who later said this was only one of a number of instances of Government pressure on insurers to use policyholder funds to solve perceived social problems.* Mr. Lyons stated his view that it would be a "tragic mistake" for Trustees to make such use of funds counter to the best interest of policyholders or pensioners. He then summed up the matter:

"If we start using trust funds for other than the purposes intended, which causes will be selected—those which appeal to you and me, or those which appeal to others and of which you and I may disapprove?"

In late June 1970, the House of Representatives defeated by 214-113 a proposal by Representative Wright Patman to amend the Home Finance Act of 1970. The Patman amendment would have mandated that 2½% of all pension fund assets be put into low-interest-rate housing loans. The amendment had been vigorously opposed by the ALC and LIAA, who said they were opposed to all types of compulsory investment laws. Such compulsory investment laws were described as inconsistent with a free market for insurance, pensions, and savings, as unworkable, and as placing a discriminatory burden on individuals whose retirement funds were so used.

John C. Angle

**National Underwriter*, June 6, 1970, p. 2.

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What's In A Word?

Sir:

A problem arises in converting policy year studies to the calendar year basis in that no concise terminology exists to describe the portions of the policy year as they are spread over the calendar year. Claim costs and expenses are usually stated on a policy year basis, along with other variables, each of which must be properly allocated.

A solution seems to lie in the similarity of the policy year to the academic or school year, where we have the semester basis. Each school year overlaps two calendar years. The analogy suggests that the policy year could be divided into two semesters, the first beginning at the anniversary and continuing to the year end, the second beginning with the new calendar year and ending at the anniversary.

Economy of expression and ease of understanding are the chief advantages of this terminology. A description like "deaths occurring in calendar year *Y* prior to the policy anniversary date" could be condensed to "second semester deaths in calendar year *Y*," as an example. In regard to interim valuations, policies would be classed as in their first or second semester as of the valuation date, a possible gain in clarity.

It would be helpful to hear comments on this proposal, including opinions on whether there is any real need in this area.

Charles Habeck

Viable Variable

(Continued from page 1)

This book is good as a summary of what has been done to date, but is, in my opinion, even more significant because of the issues and questions which some of the speakers raised. Attempts to enter the variable life insurance business pose many questions and numerous problems which must be resolved.

The keynote speaker stated that variable life has the potential to change our distribution system. He asked the question, "How much complexity can we stand?" He asked questions about consumer needs, and which of them these products would serve. The industry must carefully consider these questions.

In the overview of the Conference, the speaker called for an entirely new law—one built of a new framework of *legal concepts* which accommodates rather than restrains innovations on the one hand, and which fosters real consumer protection on the other hand. Clearly new and innovative law is needed. However, in practice, we often try to maintain the structure of current law because that is an easy way out.

I would like to add to the issues raised at the Conference some issues which I feel the reader should also consider:

(1) The kind of information provided to buyers of life insurance—particularly participating insurance—is totally different from that provided to buyers of securities. What kind of information should be provided to a buyer of a variable life product so that he can intelligently choose among products? How can it be worked out with the regulators, whoever they turn out to be, that such information be provided to the buyer?

(2) It appears that cash values will be required and that these cash values must be least minimum standard nonforfeiture value cash values if the earned rate equals the assumed rate. I believe that the structure of the standard nonforfeiture value law and of any simple modifications of that law will prevent many desirable approaches from being tried.

(3) The U.S. approaches to variable life insurance essentially tie cash values to traditional cash values, based on the standard non-forfeiture value approach, and face amounts are determined as a result thereof. Therefore, we have cash values which are determined by investment performance, and death benefits which become the balancing item in an actuarial formula. In a whole life contract, the death benefits ought to be the most important element, and cash values secondary. The design of the policy should provide logical death benefits, and cash values should be the balancing items in the actuarial formula.

I recognize that on this basis, either the insurer assumes some additional risk, or it may not be possible to guarantee a level premium for life. The insurer should be able to sell a contract with a better benefit pattern for the buyer, but with the possibility of an increase at some time in the future cost.

An actuarial approach suited to providing any desired pattern of death benefits is the Flexible Plan, as developed by M. H. LeVita. This plan is described in a paper by him published in the *Proceedings of the Conference of Actuaries in Public Practice*, Vol XV, p. 58.

(4) Some of the most successful forms of variable life insurance in the United Kingdom and Canada are endowment contracts. I believe that these contracts are impossible under the Standard Non-Forfeiture Law. Furthermore, by the definition which the Industry Association Committee has used in its filings with the SEC, they have excluded these contracts completely. Should the SEC exempt any variable life insurance contracts from regulation, then it will be virtually impossible to issue any other types of variable insurance, and the forms of variable insurance most popular throughout the world will be unavailable here.

(5) I believe that the most logical type of variable contract for the buyer is one which combines death benefits which increase with the cost of living with the long-term benefit of having policy funds invested in equities.

(6) I also point out a companion issue: if guaranteed cash values were substantially lower, or if cash values were not guaranteed, and if the assets supporting the reserves on a contract could be invested in equities, the price for traditional fixed-benefit permanent insurance could be reduced substantially. I believe that, at present, surrendering policyholders often get more than their fair share, and that this drives up the price of life insurance. This is certainly a related question, as there are really several reasons for the interest in variable life insurance, including:

- Inflation.
- The desire to get a better investment return on reserves dollars, and to pass that return to the policyholder.
- The fact that over the long term the return on equities is greater than the return on fixed-dollar investments.

The economists talked about relati[ve] yields on different types of investments. One of the Conference speakers raised the issue of a 4½% or 5% interest rate for non-forfeiture values.

I pose the following question: if the spread between yields on bonds and equities narrows, and if the maximum non-forfeiture interest rate is increased, cannot guaranteed cost of living life insurance handle many consumer needs better than variable life insurance?

I have attended a number of meetings at which variable life insurance has been discussed. The reactions to variable life insurance range from extreme enthusiasm to extreme opposition. In the middle are many actuaries who want to give the policyholder the benefit of the best possible investment return and who recognize the problems of inflation, but who, when faced with the various proposals for variable life product, question whether or not variable life insurance will meet the needs of the consumer.

I encourage you to consider the issues. I believe the industry will move, but t[he] direction which this movement will take is not yet determined. It is up to each actuary to consider the issues, and to move in the direction he feels is best. □

Actuarial Meetings

Oct. 6, Annual Meeting of Actuaries Club of Indiana, Kentucky & Ohio, Carousel Inn, Cincinnati

Oct. 11-12, Conference of Actuaries in Public Practice, New Orleans

Oct. 14-15, Canadian Institute of Actuaries, Montreal

Oct. 19, Seattle Actuarial Club

Nov. 17, Seattle Actuarial Club

Secretaries are reminded that notices of actuarial meetings, should be in the hands of the editor at least two months prior to the date of the meeting.