

**TRANSACTIONS OF SOCIETY OF ACTUARIES
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ANNUITIES

- A. How well are the life insurance companies carrying out their responsibilities for providing income to the aged?
- B. If a life insurance company elects to offer a contract under which dollar benefits payments vary with the market values of assets of a fund invested primarily in common stocks:
 - 1. What are the principal features desirable to be incorporated in individual and group contracts of this kind?
 - 2. What special regulatory safeguards should there be?
 - 3. To what extent and how should the company assume responsibility for the purchasers of such contracts having an appropriate balance between fixed dollar contracts and such variable contracts?
 - 4. What advantages and disadvantages are there to (a) the issuance of such contracts by a separate but associated company, as compared to (b) issuance by the life company as an additional line of business?
- C. Is there any theoretical basis for determining the maximum annuity which should be underwritten on one life? How are such limits fixed?

MR. L. E. COWARD questioned whether or not companies had any responsibilities for the provision of incomes to the aged. He said that the various savings media, the Government, and trustee plans, all provided income during old age and that the insurance companies' responsibilities were only to provide dollars of income for dollars of premium.

MR. H. F. ROOD said that, on the basis of annual income in force, the various types of annuities offered by life companies have increased, in the last ten years, 18% for individual annuities, 289% for group annuities and 150% for supplementary contracts. The modest growth of individual annuities is largely accounted for by the lack of emphasis placed on the selling of these contracts. On the other hand the growing demand for employee retirement plans has resulted in a marked increase in insured pension plans. As of the end of 1954, 65% of the 26,753 pension and profit sharing plans in effect and qualified by the Internal Revenue Department were insured plans. At the same time, estimates would indicate that, roughly, only a third of the 12 million individuals covered by pension plans are covered by insured plans. Mr. Rood felt, however, that the life companies had done an outstanding job in making pension plans available to smaller groups. Premium and income taxes as well as investment regu-

lations made it difficult for the life companies to compete in the field of pensions for larger groups.

Commenting on section B, Mr. Rood said that the policy provisions of a variable annuity contract might be considered under six headings: face, consideration and accumulation provisions, annuity provisions, beneficiary provisions, nonforfeiture provisions and miscellaneous provisions. The face of the policy, besides containing the usual schedule, should specify the nonguaranteed nature of the annuity payments. The consideration and accumulation provisions would cover premium payments, reinstatement, etc., as well as a definition and description of the method of determining the value of accumulation units. The annuity provisions would specify the options available and the formula used for converting accumulation units into annuity units. The beneficiary provisions would include the nature and amount of any death benefits payable. The nonforfeiture provisions should specify their nature. Paid-up annuities may be preferable to cash values. Loans should not be permitted because of the inability to state the dollar amount required on repayment. Finally the miscellaneous provisions would cover the usual clauses dealing with age, assignments, incontestability, etc.

It is possible in some jurisdictions to set up a corporation to sell variable annuities such as has been done in New York and in the District of Columbia, but Mr. Rood suggested that it would be desirable to provide broad enabling legislation so that any life company qualifying could offer this type of contract rather than have to create a separate corporation by special legislative act. New Jersey currently has such legislation under consideration and the Joint Legislative Committee of the A.L.C. and L.I.A.A. is drafting a model bill.

Mr. Rood said that the points which should be included in any model bill were:

- (1) The enabling legislation should be part of the insurance code. This would result in supervision by the Insurance Departments and might obviate the necessity for supervision by the Securities and Exchange Commission.
- (2) The law should provide for the segregation of assets allocable to the variable annuities.
- (3) The laws should allow the contracts to be sold through subsidiary corporations set up for the purpose. Both stock and mutual life insurance companies should be able to offer variable annuities. In the case of stock companies, regulations regarding the amounts of profit available for distribution to shareholders should be provided unless some of the factors involved in the variable annuities are guaranteed.
- (4) Licensing and regulations of agents should be provided for. Because of the

nonguaranteed basis of the annuity they must be sold conservatively and regulations similar to those in effect in connection with life insurance policy dividends should be promulgated.

- (5) The various standard policy provisions should be spelled out and there should be a requirement that the formula for determining the amount of the annuity should be specified in detail in the policy. A fair and equitable valuation standard should be provided for.
- (6) The types of investments permitted should be covered.

While a balanced program of fixed and variable annuities was desirable, Mr. Rood questioned whether such a program could be enforced. Some companies might be set up to write only one type and purchases from such a company would upset a planned program. Two methods of providing for a balanced program are, first, to require a specified portion of all contributions to be placed in a fixed annuity fund and, second, to require that the assets of a mixed fund be invested in equities and debt on a fixed ratio.

One advantage in a life company issuing variable annuities as an additional line of business is that it will be subject to the authority of the Insurance Department and there is less likelihood of requiring registration under the S.E.C. On the other hand this might bring all life insurance operations under S.E.C. A second advantage lies in the prestige which life companies have built up.

A separate subsidiary corporation would be more expensive to operate. However, the segregation of assets would be facilitated through this means. The dissimilarities between fixed dollar contracts and variable annuities are so great that setting up a group of agents in a separate corporation might facilitate training problems. It might also result in less criticism leveled at the life company should the stock market decline and the value of annuity units fall.

MR. R. M. DUNCAN agreed with the previous speaker in the necessity of stressing the nature of the variable annuity on the face of the contract and of spelling out in the policy the method of determining the unit values. As far as this latter point is concerned he said that there were advantages in including a statement in the contract to the effect that the amount of benefits would be determined in accordance with rules laid down by the fund subject to amendment and approval by the Insurance Department. A copy of the rules can then be furnished to each policyholder. This was the method followed by the College Retirement Equities Fund.

Mr. Duncan pointed out that while the long-term market had tended

to move in the same direction as the cost of living, its fluctuations tended to be of greater magnitude and for this reason a better correlation of annuities and cost of living could be achieved with a combined fixed dollar and variable annuity combination. Since participation of an individual in a variable annuity could not be made compulsory, some flexibility is required. CREF allows participation in the variable annuity only up to 50% of the total premiums.

As far as individual contracts are concerned, Mr. Duncan felt that the proper relationship between fixed dollar and variable annuities was a matter of underwriting. No company should offer a variable annuity without making inquiries as to the amount of conventional coverage carried by the applicant. Considering groups, it might be proper to refuse to write a variable annuity pension plan unless a balancing fixed dollar plan is in effect.

Mr. Duncan commented on the treatment of Social Security benefits under such a balancing program. OASI benefits are unlikely to decrease except in an extreme deflation, but might increase during the later stages of inflation. For this reason Social Security is likely to be both a fixed dollar and a variable annuity and so the balance between conventional and fixed dollar annuities should probably be maintained without regard to Social Security.

MR. MEYER MELNIKOFF, in reply to Mr. Coward's comments on section A, said that, in his opinion, the responsibilities of the insurance industry arise from the fact that the fundamental purpose of a life insurance company, at least of a mutual company, is to serve as well as possible all the needs of the public that fall within the special field of life contingencies. Accordingly, when a public need for a form of coverage involving life contingencies becomes apparent, it is incumbent on the industry to give serious consideration to the suitability of offering such coverage.

Mr. Melnikoff went on to cover the approach of the Prudential to the problems outlined in section B. He agreed with the importance of making the contract clear as to the nature of the coverage provided as well as the method of determining the dollar amount of benefit payable. The Prudential has planned that its contracts would guarantee that mortality and expense results would not affect the contractual variations in benefits, which would reflect only investment results. The only surrender provision to be allowed would be a variable monthly annuity payable for at least 36 months.

With regard to the balance between fixed dollar and variable contracts Mr. Melnikoff said that his Company believed the only practical approach was to consider "balance" as a matter for underwriting at issue,

taking into account all aspects of the applicant's other coverage. This would not then be subject to subsequent reconsideration.

Mr. Melnikoff preferred the approach where variable annuities were offered as another line by an existing company. The greater security afforded by a diversification of risk and the greater objectivity of the agency force, as well as the greater flexibility in related contract provisions, and administrative considerations, all supported this preference.

MR. J. R. GRAY remarked on a small Canadian company which embarked on a program of selling annuities where the basis of accumulation was controlled entirely by company investment experience. The expense provision was guaranteed. No margin was available from investment experience to apply on the expenses. When the expenses increased and exceeded the expense provision, the company could not carry out its guarantees and it was taken over by another company.

MR. ARTHUR PEDOE said that, in Canada, only about 3% of the individuals aged 65 and over owned insurance company annuities. He questioned whether life companies could ever take over this field universally. The presence of various social insurance schemes in the United States, Canada and Britain supported this doubt. Mr. Pedoe stressed that the high turnover of labor with the consequent cashing in of pension policies and the withdrawal of the cash by the employee was one of the weaknesses of the pension business. He recommended the setting up of a central bureau which would take over the paid-up annuities on termination of employment and so preserve the worker's interest until pension age or prior death.

Regarding variable annuities, Mr. Pedoe suggested that the main idea was to enable life insurance companies to invest in common stocks. He stated that he had always been in favor of a broader investment policy by life insurance companies, as was general in the United Kingdom, but he expressed doubts as to the degree of improvement which had taken place, since common stocks were practically ruled out as suitable investments by life insurance company legislation. Mr. Pedoe expressed the hope that this matter so fundamental to the foundations on which the present edifice of life insurance had been created would be given further study before action was taken.

MR. M. A. ELLIS reported that in 1955 well over three million individuals were covered under group annuity contracts with a total amount of annual income payable of over one billion dollars. Other insured plans covered another million persons, while individual annuities covered an additional one and a quarter million persons. He felt that on the basis of these figures the life insurance business was meeting its responsibilities

Mr. Ellis and MR. E. G. FASSEL separately commented on a number of serious problems associated with the variable annuities. They criticized the terminology used in some variable annuity contracts for its complexity. The use of common insurance terms in these contracts was, they felt, likely to lead to misunderstanding and might even reflect adversely on the entire life insurance business.

Mr. Ellis pointed out that in none of the proposals presented had there been proper provision for supervision of the variable annuity business, and yet these contracts would require greater regulation and supervision than regular annuities and insurance. He pointed out that if the companies invested heavily in common stocks, they might become subject to Federal control if they exercised their stock voting rights. On the other hand, if they did not exercise this management control they might not be protecting their policyowners' interests.

Mr. Ellis commented on the desirability of balancing fixed dollar and variable income contracts because the extremely volatile values of common stocks require the firm base of a fixed income annuity. Not only had no such balancing requirement been included in any of the legislative proposals put forward, but it was difficult to visualize how such a requirement could be made effective.

Mr. Fassel, Mr. Ellis and MR. H. R. LAWSON all questioned the desirability of entering the variable annuity field. They felt that these contracts might very well impair the high reputation of the industry in always fulfilling its obligation as guaranteed in its contracts. Further they said that it should be the concern of all in the life insurance business to encourage sound fiscal policy with a stable price level. Success in this regard should mean an end to inflationary pressures and a curtailment of speculative activities.

Mr. Lawson pointed out that while one or two organizations might be able to offer variable annuities soundly, the entry of many other organizations into the field and the resulting competition for the business would inevitably cause the safeguards to be weakened.

MR. E. H. WELLS and Mr. Lawson said that if a substantial part of the reserves under private pension plans were diverted to investment in common stocks, the effect would be most inflationary and the prices of those stocks would be pushed beyond the value of the underlying equities.

Mr. Wells went on to say that the resulting thinness of the market might result in the simultaneous liquidation of vast stock holdings at the first sign of any lack of confidence in the economic structure. In addition, the situation might also arise that the price and return on stocks would be unattractive in relation to debt investment. As long as capital gains

were expected this might not matter, but any sign of market shakiness might repopularize investment in fixed obligations.

MR. K. P. GIBSON stated that, in the years immediately following World War II, organizations with private pension plans became aware of the need to protect the purchasing power of former employees then on pension. So far as he was aware, the first pension plan that attempted to allocate a portion of the employer's earnings to the prefunding of benefits that would not lose purchasing power during an inflation adopted the principle of merely replacing dollars by a currency expressed in terms of the U.S. Bureau of Labor Statistics Cost of Living Index, relating pension benefits to earnings during active employment, with both earnings and pensions expressed in the new currency. Otherwise it was a typical final pay pension plan involving no actuarial or other concepts that were not commonly known. This plan failed of being a complete solution of the problem because no suitable investment medium, where the capital value of the assets had a good correlation with the value of the new currency expressed in dollars, was known. The very great risk of capital loss, as expressed in the new currency, was a serious problem for an organization trying to provide pensions by a funding procedure.

A continued search was made for an investment medium which might show reasonable correlation with a cost of living index. Certain unpublished investigations and the published TIAA Study indicated that the market value of a fund invested partly in equities and partly in debt obligations might vary somewhat as the cost of living varied. This led to the development for pension plan purposes of still another currency, one which varied in direct proportion to the market values of a fund where some or all of the fund was invested in equities.

Among the new plans was one that defines benefits in the form of this new currency, making the annuities fully participating from the investment point of view, but fully nonparticipating in regard to mortality and expense, and assuming a relatively low interest return. Excess interest earnings are utilized to purchase paid-up deferred annuities for active employees and paid-up immediate annuities for retired employees. The development of this plan introduced a budgeting problem caused by rapid temporary decreases in purchasing power of the basic currency. Studies during the development of the plan indicated that undue financial hazard would not be involved if the plan guaranteed, in regard to immediate annuities only, that currency devaluation in any one year would not exceed 20% when expressed in terms of dollars. As this equity plan was installed in conjunction with an ordinary retirement plan, this guarantee meant that the dollar income to annuitants in any one year would never

be less than approximately 90% of the dollar income in the preceding year.

About the same time as this equity annuity plan was being developed, other equity annuity plans were being developed by the TIAA and other consultants. So far as Mr. Gibson knew, all of these plans involved the concept of "automatic solvency." He said that, in essence, this concept is a method for surplus (deficit) distribution which is just as applicable to the issuance of ordinary insurance and ordinary annuities by the insurance industry. This "automatic solvency" concept transfers all the financial consequences of mismanagement from management to the policyholder. He believed that the door should be closed to undesirable elements who might use the good name of the life insurance industry to defraud policyholders through this concept. While it might be true that the final financial consequence of mismanagement, insolvency, must always be borne in part by the policyholders, it would seem to be very desirable to have the basic benefit formula defined in terms of a pure currency that involves only fluctuations in market value of investments, so that experience in regard to expense, mortality and interest would be reflected only through the dividend provisions of the policy.

MR. LOWELL DORN said that guaranteeing the bases of mortality and expense in a variable annuity contract had a number of advantages. Such guarantees would also suggest the need for surplus margins and possibly for dividends. The variation in the annuity solely as a result of investment experience would be more understandable, while the guarantees of mortality and expense would be more in keeping with life company traditions and would serve to distinguish such contracts clearly from mutual funds.

MR. W. A. JENKINS pointed out that Teachers Insurance and Annuity Association and its affiliate, College Retirement Equities Fund, had found that in their special situation two associated companies had resulted in several strong advantages and one rather unimportant disadvantage. TIAA writes only fixed dollar annuities and CREF only variable annuities. The special situation of these companies is that they do not utilize soliciting agents and they operate within a restricted eligibility field, *i.e.*, colleges, universities, etc.

Mr. Jenkins stressed that his companies had had no experience with alternative (b), nor with companies doing business with the general public. Consequently, he had no reason to rule out this alternative as practical and acceptable for a typical life insurance company.

He said that, in the TIAA-CREF situation, separate companies had the important advantage of helping policyholders to understand and dis-

tinguish between their two contracts—the fixed dollar and variable annuities. To emphasize this distinction, CREF selected a name quite different from TIAA's, separate policies are issued, and also the annual reports and benefit checks are separate. A second advantage realized by TIAA-CREF is a rigorous separation between the financial accounts of the two lines of business, and more especially the assurance given policyholders that this will be the case. Thirdly, the boards of directors can be different, permitting specialists in one line on the appropriate board and not on the other.

The only clear disadvantage TIAA-CREF discovered was the necessary minimum duplication of corporate records and corporate operations, *i.e.*, two boards, two executive committees, two sets of authorizing resolutions, etc. Mr. Jenkins reported, however, that this had not been found to be serious or expensive.

Also mentioned were four other arguments which some people consider advantages and others disadvantages of the two-corporation setup. The first of these is that policyholders determine the division of premium money between the two funds; under no circumstances can the companies do this. The second related item is that, in the two-company setup, transfers of money between the funds cannot be made without the consent of the policyholder. Thirdly, with two corporations any support or subsidy of the new corporation is brought out into the open. Fourthly, if there is any kind of dollar guarantee under the variable annuity, the sum of the surpluses of the two companies should probably be somewhat larger than if there were only one company. Mr. Jenkins pointed out that this was not true of TIAA-CREF because CREF makes no dollar guarantees.

MR. J. M. BOERMEESTER, in discussing section C, said that the maximum annuity that could be underwritten on any one life could be set only by a review of many factors, including amount of surplus, premium, plan, age and sex distribution, chance fluctuation of mortality rates and trend of change in mortality and interest rates.

Mr. Boermeester then outlined a method of determining the contingency reserve to provide for any degree of chance fluctuation in the mortality experience of a specific class of annuitants, and then the amount of the increase in this reserve required by any given increase in the maximum annuity limit.

The method employed by Mr. Boermeester for a particular example was to determine a distribution of theoretical costs for the class of annuitants, assuming a specific array of ages at issue, each life having a specific income. An electronic data processing machine was used to carry out the

extensive calculations. From this distribution of costs a confidence limit of any degree, say 95%, was ascertained.

A second distribution was also determined, assuming the same conditions except that the annuities of 10% of the lives were increased tenfold. The new confidence limit of the same degree was obtained for this second distribution. A comparison of the two confidence limits allowed a calculation of the increase in contingency reserve required by the increase in the annuity limit as assumed in this example.

MR. W. J. D. LEWIS, discussing C, said that while a theoretical basis probably did exist most companies set their maximum limits according to practical considerations. Competitive pressures and the current investment situation were both factors which had an important effect on the annuity limits.