TRANSACTIONS OF SOCIETY OF ACTUARIES
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SEGREGATED FUNDS

A. To what extent and for what lines of business have contracts using segregated funds been made available and issued by insurance companies in the United States and Canada? Is there likely to be an interest in the use of such funds for individual annuities?

B. What approaches are being used with respect to investment structure of segregated funds, *i.e.*, types of investments and combinations thereof and the right of the insurance company to make changes? Are contract-holders permitted to select different combinations of investments and to change their selections from time to time? To what extent are separate accounts available for individual groups?

C. What problems of an actuarial nature have been encountered with respect to contracts using segregated funds and how have these problems been met—*e.g.*, structure of guarantees, provision for expenses and contingencies, methods for reporting the income and the assets and liabilities of the segregated funds in the insurance company's annual statement, federal income tax treatment?

Philadelphia Regional Meeting

MR. ANDREW C. WEBSTER: The recently passed separate accounts legislation in New York permits New York life insurance companies to establish one or more separate accounts for their annuities business. Income gains and losses (whether or not realized) from assets allocated to these separate accounts are directly reflected against such accounts without regard to other investment results of the company. This legislation is far more restrictive than similar laws adopted in other states; here are some of the major restrictions:

1. It applies only to qualified pension, profit-sharing or annuity plans underwritten by group contract covering at least twenty-five persons.
2. Power to invest in common stocks is limited to those presently permitted by the Insurance Law.
3. The insurance company may not guarantee the value of assets allocated to a separate account or its investment results in income.
4. An insurance company cannot discriminate unfairly between separate accounts and other accounts in connection with the allocation of investments or expenses.
5. Separate account assets must be valued at their market value and the insurance company must establish a special contingent reserve fund, which shall not be less in value than the sum of minimum capital and surplus required upon organization of a domestic life insurance company.

MR. MORGAN H. ALVORD: In June 1959, Connecticut life insurance companies were given authority to establish separate accounting for certain amounts paid by employers in connection with pension, retirement, and profit-sharing plans. In July 1961 the Connecticut General agreed to issue a contract of this nature to the Plax Corporation. I believe this was the first contract of this type in the United States.

Probably less than a dozen contracts of this type have been issued, primarily because of three problems: difficulties in various states, possible requirement of S.E.C. registration if this contract is publicly offered, and the Life Insurance Company Income Tax Act of 1959. I feel these problems will soon be solved and many corporations, particularly the larger ones, will be interested in this type of pension funding.

I have not seen much interest in separate accounts for individual annuities as yet and do not expect to see much during the next few years. Separate accounts and variable annuities are basically entirely different products. Under the former, employees' pensions are not affected by equity investments, while under the latter an employee's pension varies as the value of his share in the pension fund fluctuates.

Our group pension contract for this new type of pension funding is composed of two portions—contributions in a separate account (invested in equities) and other contributions which are pooled with the rest of our Company's funds. The employer has latitude, within broad limits, both in the timing of his investments in equities and in the percentage of his total contributions which will be so invested.

We are starting with a common separate account. As our business increases, a separate account would probably be available for an individual group of substantial size.

MR. A. CHARLES HOWELL: Establishment of one or more separate investment accounts for qualified pension plans was authorized in Massachusetts in 1960. The John Hancock has amended an existing immediate participation guarantee contract to provide for supplementary coverage in a pooled common stock account. We plan to establish bond and mortgage accounts when there is a sufficient demand. The contract-holder would allocate each contribution among the accounts, but our Company would control investment policy within each account and would generally expect advance notification of changes in investment direction. Permitting transfers among accounts would increase the need for liquidity and thus decrease the yield or appreciation; transfer problems would be especially difficult for accounts whose investments do not have a ready market.

The following actuarial problems are encountered:

1. In annual statement accounting, liabilities in the separate accounts will be measured by market value, but assets other than common stocks are not generally valued at market under existing rules. A Mandatory Security Valuation Reserve would also have to be held under existing rules even though the Company's obligation is measured by the current value of the account; however, the N.A.I.C. exempts variable annuity accounts from this rule, so similar treatment can probably be extended to separate accounts.
2. Purchase rate guarantees ranging from ones related to contributions made during a specified period of time to ones related to purchases made during a limited number of years may be appropriate, depending on the circumstances. The extent of the guarantee will naturally affect the rate level.
3. Some risk remains for the Company during the accumulation period, so a contingency fund should be established.
4. Expense allocation between the general account and the separate account involves rather artificial subseparations within an existing line of business. The answer to questions such as allocation of charges for commissions and taxes will depend upon whether contributions to the separate account are taken into the premium account upon initial receipt or upon application to purchase annuities. Investment expenses incurred during the initial stages of developing a new separate account pose particularly acute problems.
5. The allocation of taxes on realized capital gains in uniform proportion to the market values of individual accounts would assess new participants with a tax on appreciation in which they had no part, so instead we propose to charge taxes on realized capital gains in proportion to the unrealized appreciation in each individual account. Many contract-holders value their pension plans at cost for Internal Revenue Service reporting purposes, so it is desirable to be able to show a contract-holder the amount of appreciation in his account.
6. Investment antiselection can occur in a rising market if contributions received during a month are treated as if received at the beginning of the month; instead they may be treated as if received at the end of the month, or valuations of accounts may be made on a weekly or even daily basis. The transfer of funds from the general account to a separate account may result in substantial antiselection against the general account unless sufficient transfer charges are made. Generally these transfer requests should be treated in the same manner as requests to transfer general account reserves to another funding medium.

MR. CARL W. BUCKNAM: Nebraska's segregated fund law contemplates the use of a segregated fund for both individual annuities and pension or profit-sharing plans.

The United Benefit Life has developed an individual annuity contract which has been approved in Nebraska. Net premiums are credited to the fund. Expense loadings are retained in our general funds to cover commissions, premium taxes and general operating expenses. A monthly charge against the fund, aggregating 1% of the fund per year, covers investment management and expense, contingencies and profit.

The market value of the fund assets at the end of the month is adjusted for premium income and policy disbursements during the month, and is reduced by the reserve for any income taxes relating to the fund and by the monthly charge. The ratio of the resulting amount to the market value of the assets at the beginning of the month represents the interest accumulation rate for the month.

At maturity the accumulation is transferred to a fixed dollar life annuity under one of several options, according to our current settlement option tables, at a rate guaranteed in the policy. Our program is not a variable annuity.

We feel strongly that any retirement program should not be funded entirely by equities. TIAA and CREF control this by requiring that at least half of the purchase money go into a conventionally funded fixed dollar plan. The United Benefit program offers somewhat similar protection against excessive loss on account of a drop in the stock market, by putting guaranteed minimum values in the policy. After ten years, a minimum value not less than the sum of the net premiums is guaranteed. During the first ten years, the guarantee is a graded percentage of net premiums.

Similarly, the death benefit is the accumulated value at date of death, but we guarantee that it will be not less than the sum of the gross premiums paid.

Because of our cash value and death benefit guarantees, the company will maintain a balanced fund with more stability but less growth potential than a 100% stock fund. The composition of the fund and the mix between debt and equity investments is subject to the judgment of the company investment officers, and may be changed at any time as circumstances warrant.

We are waiting to see what the Insurance Department may require for Annual Statement reporting. We anticipate merging the assets and liabilities of the segregated fund in the over-all financial statement, and expect to attach a separate statement of the items relating to the fund.

MR. DONALD M. ELLIS: The 1961 amendments to Canadian insurance regulations permit contracts to be issued under which the policyholder shares completely in the investment experience of a specified group of assets. Under such contracts the insurance companies give no guarantee as to the investment results or day-to-day values, so the investment might be in common stocks completely without risk to the Company.

This legislation permits the issue of a typical variable annuity, where the monthly annuity payments vary upwards or downwards according to the market values of the segregated assets. We feel that such contracts sold even to the intelligent individual purchaser might bring considerable chance for dissatisfaction and claims of misunderstanding when payments were reduced. Pension payments of this type to retired employees might produce still greater dissatisfaction, as the employees would have had no voice in selecting this type of annuity. Hence Canada Life is not issuing any variable annuities or other contracts where the annuity payments vary with investment results.

We also decided against money purchase group annuities in segregated funds where the amount of pension provided for the employee would depend on the investment results and market values at time of retirement; this might easily produce results which would be difficult to explain to the employee.

A segregated fund invested at least partially in equities does appear suitable for funding a pension plan set up by an employer providing for a definite dollar amount of income. The employee still obtains a fixed amount of pension in accordance with the plan, but we provide the employer with the facility for accumulating the required funds for this purpose under a deposit administration type of contract. We have available contracts worked out on these lines which are similar in many respects to facilities offered in Canada by the trust companies, but we also guarantee the basis of conversion of funds into annuities at a retirement date. We are prepared to issue such contracts for cases of a substantial size without any front-end loading. Our expenses and provision for the conversion guarantees are covered by a rather modest charge against the amount of the fund. This charge was kept low to parallel the type of operation employed by trust companies where the employer would administer his own records and use the services of a consulting actuary.

We also offer a similar type of contract for smaller group cases where we perform the actuarial and administrative services, but impose a front-end loading in addition to the charge against the assets. This type of contract we feel is suitable for the middle size group, but we do not permit its use for the really small case. We are quite convinced that the small employer should use a fully guaranteed contract.

We propose to maintain our segregated fund in a bonds and mortgages division and a common stock division. The employer will be able to select the proportion of his premium going into each division, but we will expect at least the full amount of the employees' contributions to go into the bonds and mortgages division. We are also prepared to set up an individual segregated fund for a very large group.

Our conversion options were originally calculated on a $3\frac{1}{2}\%$ interest basis. Such a guarantee involved some significant risk to the Company, so we included a small additional factor in our monthly administration charge. In discussing these contracts with prospective purchasers, we found that their consultants placed little or no value on a $3\frac{1}{2}\%$ conversion guarantee. Now we sometimes remove this additional charge and stiffen the conversion basis to one we think will involve no material risk of loss.

MR. F. EUGENE SMITH: All of the major Canadian group-writing insurance companies now have products designed for the variable accumulation of monies under employer pension plans, but I know of none which have yet offered comparable individual annuities. Despite the sound arguments of a great number of the senior executives in the Canadian life insurance industry, I feel that individual policies will be offered by some companies when more experience has been gained in handling these group products. So far, relatively few group policies utilizing segregated funds have been issued. This appears to be due partly to the normal time lag in concluding pension negotiations, partly to the difficulties in making proper comparative analyses of the various forms of product being offered and partly to uncertainty as to the future of governmental old age security action in Canada.

In addition to a common stock fund, most of the Canadian companies are offering a bond fund, mortgage fund, or fixed income fund combining bonds and mortgages. Many companies require that all employee contributions be held in deferred annuity or deposit administration form, but otherwise the employer is generally given full freedom of allocation of monies. Separate accounts are available for plans producing as little as $100,000 of annual premium; the employer is consulted on general investment policy, but the implementation of policy is controlled by the insurance company.

North American Life Assurance Company has developed a single policy form which provides for deposits in both a deposit administration account and an equity account. Guarantees of general expense factors extend to deposits of the first five years, and guarantees of the investment expense factors are made for charges of the first five years. We felt that annuity purchase rate guarantees tied strictly to the segregated account should be restricted to a limited number of years to avoid having blocks of guarantees outstanding indefinitely. This approach might necessitate either the regular purchase of annuities at inopportune times from the segregated account or a forfeiture of some guarantee. To avoid this situation, we have designed annuity purchase guarantees which are applied on a first-in, first-out basis to the combined policy. The guarantee is applied to all deposits made during the first five years, accumulated at the rates of interest credited from time to time to deposit administration funds held by the company.

MR. ALEXANDER C. McCALLUM: By the end of 1961 Sun Life's annual deposit volume in segregated fund group annuity policies amounted to $1½ million, and we anticipate that this will increase to about $2½ million by the end of 1962.

We offer only minimum guarantees and consequently are able to use very low loadings, including practically no allowance for contingencies. We do not charge single premiums for annuities at the time employees retire. Rather we charge the annuity instalments to the employers' funds as they are paid.

We have a common stock fund, a bond fund and a mortgage fund. Employers can distribute their deposits among these funds in proportions of their choice. They can request transfers between funds, which we would make in monthly instalments over three months for transfers from the stock or bond fund, or over twenty-four months for transfers from the mortgage fund. We do, however, make a reservation that affords protection against the possibility of disruptions caused by very large forced sales.

The most interesting actuarial problem encountered was designing our mortality guarantee. The policy provides for reimbursing the employer for any mortality losses on retired employees incurred in a policy year, and conversely for removing from the employer's funds any mortality gains incurred in the year. The process for determining these gains and losses is spelled out in the policy.

The policy is participating and it is anticipated that if mortality gains predominate dividends will be paid to compensate.

MR. MELVIN C. PRYCE: London Life's approach is much the same as many of the other Canadian companies, but I think we have a little more variety in the kinds of contracts we offer.

Furthermore, to get our pooled funds started we had the Company transfer as an investment $100,000 from nonparticipating surplus through the shareholders' fund into the fixed income fund (a bond and mortgage fund) and another $100,000 into the equity fund. This has caused us a little difficulty in filling out the supplementary Government statement which does not in its present form provide for such an investment.

MR. WALLACE R. JOYCE: Imperial Life also used a small portion of staff pension funds to start a segregated fund. One existing pension plan transferred to the segregated fund but no others have been issued. I think we invariably recommend against using it, but the fact that we have it available frees our adverse recommendation from a charge of "sour grapes."

Kansas City Regional Meeting

MR. EARL S. MAGNUSON reviewed a discussion on section A presented by Mr. Carl W. Bucknam at the Philadelphia regional meeting.

MR. GEORGE R. DINNEY: Most major Canadian life insurers who write group pension contracts now offer segregated fund contracts under authority granted by 1961 amendments to the Canadian Insurance Act. At the moment most interest is in segregated funding of group pensions and there is no significant interest in individual variable annuities. One prominent actuary has suggested that within five years fifty percent of all new pension contracts issued in Canada will employ segregated funding.

A typical Canadian company will have one or more segregated and pooled funds. I know of one company that has three pooled funds: an equities fund, a mortgage fund and a bond fund. A contract-holder will be permitted to select the part of the funds placed in each pooled fund.

In the Great-West Life we have a single pooled fund that is invested solely in equities. A contract-holder may elect to have deposits placed in the equities fund or placed in the usual manner with the other assets of the company. However, large policyholders may have special funds established for their contracts. The Great-West Life is prepared to establish a separate equities fund under any contract where the contract-holder is prepared to place at least $100,000 a year in the equities fund.

We encounter only minor actuarial problems, since our use of segregated funds is limited to preretirement funding. The actuarial principles of variable annuities and variable insurance have been fully treated in the *Proceedings* of the Conference of Actuaries in Public Practice. Since our equities fund is used only for preretirement funding, it is really an auxiliary fund for the accumulation of premiums. Guarantees under deferred group annuities and deposit administration plans apply at the time withdrawals are made from the equities fund. Therefore our segregated funds supplement but do not supplant the guarantees of the group contract.

I understand most Canadian companies do not pay commission at the time funds are placed on deposit in segregated fund accounts. The usual practice is to base commissions on the amounts withdrawn from these accounts for the purchase of benefits. Our practice will be to pay commissions at the time of receipt of deposits on a scale that is lower than the regular pension scale.