TRANSACTIONS OF SOCIETY OF ACTUARIES
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DIGEST OF SMALLER COMPANY FORUM

PREMIUMS

A. In preparing rate books and policy forms based on the 1958 CSO Table, what considerations are involved in deciding whether or not to:
   (i) Use nonforfeiture values that are higher than minimum values?
   (ii) Use the CET Table for extended term insurance?
   (iii) Vary premiums by sex?

B. What are the advantages and disadvantages of early adoption of premium rates and values based on the 1958 CSO Table?

C. (i) What considerations are involved in deciding whether or not to adopt the quantity discount concept?
   (ii) What are the relative merits of the band and the fee methods?
   (iii) What has been the experience of companies which have adopted graded premiums?

Toronto Regional Meeting

MR. ELGIN R. BATHO: It is my impression that there has been a trend in recent years to adopt higher than minimum cash values at later durations. The primary influence toward this trend has been competition, and it therefore seems likely that with the introduction of the 1958 CSO Table the trend will continue unabated. For stock companies, the elimination of deficiency reserves will release funds which may be used to improve the scale of nonforfeiture values. The reduction of reserves on the change to the 1958 CSO Table may make it possible for participating companies to consider values higher than the minimum.

It should be remembered that the CET Table was prepared to enable companies to charge a proper rate for extended term coverage. Since the table is based on industry-wide experience under this type of benefit it seems only proper to use this table to safeguard against antiselection. The periods of extended term insurance and amounts of pure endowments based on the CET Table are not, in general, greatly different from those arising from the 1941 CSO Table. A further advantage of using the CET Table is that it is no longer necessary to refer to the basis of extended term as a percentage of the CSO Table, which in the past led to certain questions of equity in the mind of the public. One problem in using the CET Table is that, unless some form of grading is used, there is a rather pronounced break in the values produced for certain limited payment life plans approaching the paid-up date.

The Berkshire Life decided to use the CET Table in its new rate book based on the 1958 CSO Table. It was not felt worth while to attempt to grade the mortality under limited payment life policies.

In the last three years, it would appear that the number of companies using special rates for women has approximately tripled. Before the days of quantity discount, the use of the same premiums for females and males was rationalized by the fact that, although female mortality was lower, the average policy size for females was also lower, so that the increased expenses offset the mortality saving. With the introduction of the concept of quantity discount this argument is no longer valid, and it would seem that equity would require lower premiums or higher dividends for women. In the Berkshire, we introduced a complete system of quantity discount on going over to the 1958 CSO Table and at the same time introduced a three-year age setback for females. Our nonforfeiture values and dividends are set back three years as well.

The Berkshire Life was in the fortunate position of having the 1958 CSO Table authorized for use in all the states in which the company operates. Under these circumstances, and because we needed a new rate book in any event, we felt that it was desirable to adopt the new table at the earliest possible date, and actually changed over as of March 1, 1961. The situation would be different for companies operating in one or more states which have not yet authorized the use of the new table. They would be under the handicap of having to operate two different rate books simultaneously and, in addition, possibly perform a double valuation of their new business. It would probably be desirable for a company planning a new rate book to defer its effective date until the 1958 CSO Table has been authorized for use in all states in which it operates. This would avoid the necessity of two new rate books, one on the old table and another on the new table not later than January 1, 1966.

A recent survey indicates that most companies will have converted to the new table by the end of 1964. A disadvantage of an early changeover to the new table is lack of information as to the probable action of other companies. This problem is rapidly disappearing. A survey which I have seen indicates that, by number of companies replying, the majority plan to use 3% interest, discrete functions, age nearest birthday, and the CET Table for extended insurance.

It would seem desirable to use the quantity discount concept almost universally, even for a company where the average size policy is small. Berkshire Life was the original company to canvass various states as to their attitude on the question of the quantity discount concept. We then intended to use the band system, but were unable to proceed at that time, and we have now changed in favor of the fee system. This system has an advantage in that the grading of premium continues into much larger amounts of insurance than is possible under the band system. A collateral advantage to us was the ability to use for additional loading for fractional premiums a moderate percentage increase to cover loss of interest, together with a flat amount per policy to offset additional costs of collection. This makes it possible for us to grade downward, with increase in policy size, the extra charge per thousand for fractional premiums, as would appear to be theoretically justified.

MR. JAMES G. BRUCE: The question of higher than minimum nonforfeiture values may be examined from the point of view of the agent, the public and the company. Agents normally desire the highest nonforfeiture values that can be devised in order to show the best net cost in their presentation. It seems likely that the public would desire higher than minimum cash values if we consider the savings aspects of life insurance as well as the influence of high early cash value policies. As far as the company is concerned we at the Hartford Life in a recent study have concluded that the lapse rate of the particular company may be a prime consideration in this question.

It seems to me that the trend is to the use of the CET Table as well as to the use of lower premiums for females.

The advantages and disadvantages of an early change to the CSO Table have been discussed very thoroughly. It seems reasonable to me that a little delay in making the change may be a good idea as long as the competitive situation does not become too difficult. It may be reasonable to make the change in two steps if an early revision of rates is necessary. A small company should make many studies before making this move and an early change would not allow sufficient time for this to be done.

MR. CLAYTON L. JACKSON: It is necessary to weigh the merits of low nonforfeiture values together with low premiums as compared with higher nonforfeiture values and premiums which produce a better net cost. In the United Life and Accident we decided to use minimum values on the 3% basis for nonparticipating business and the higher than minimum values on the 2% basis for participating business. We decided to use the CET Table since we use automatic premium loans and our volume of extended term is quite low.

Further advantages of delaying a changeover to the new table are in having the technical amendments passed in all states before the transition. It will then be possible to use the 1959 Accidental Death Benefit Table rather than the 1935 table and to simplify the calculation of the age zero values. Other advantages of the technical amendments are the elimination of values on some level term riders and on children in family plans, as well as the simplification of the relationship between premiums and nonforfeiture values on other level and increasing term riders.

MR. CHARLES J. STAFFORD: In the Monarch Life (Canada), which sells both participating and nonparticipating business, there is an insufficient volume of business on most nonparticipating plans to warrant the cost of calculating the separate nonparticipating values. Our nonforfeiture values therefore had to be set so that they were reasonable for the plans we actually sell. Our nonforfeiture values reach the Canadian Modified Reserve in 20 years, except for a high minimum ordinary life plan where minimum values are used.

We decided that the use of the 1958 CSO Table at the earliest possible moment would provide a psychological lift to our field force. The only disadvantage was that we had to do our own calculations.

We felt that either the band or fee system would be satisfactory, but from the agency point of view the band system was chosen in the hope to improve our average size policy.

MR. CHARLES T. P. GALLOWAY: In the preparation of our 1958 CSO rate manual for our United States business in the National Life of Canada we decided to use higher than minimum values, which had the fortunate result of producing cash values almost identical with those previously used which were minimum values. The use of such values will now allow us to issue certain level term riders which we had previously been unable to do since higher than minimum values were required in certain cases for the basic plan.

Our reasoning on the CET Table is the same as that of Mr. Jackson. Special rates for females were adopted because of the publicity given recently to this point as well as to make our rate manual appear up-to-date.

The chief advantage of adopting the 1958 CSO Table is relief from setting up deficiency reserves or charging artificially high premiums on our U.S. business. It has, however, been necessary to solve certain problems before finding out what everyone else is going to do, as well as to make a number of our own calculations.

It seems almost necessary to adopt the quantity discount concept as it has now gained wide acceptance by the industry, the public and even the State Insurance Departments. The band method may have an advantage in that certain expenses do not vary continuously with increase in size. I doubt that the band system tends to increase the average size of the policy, since the breaking points of the bands have rather generally been set at the usual levels at which sales are made. The fee method avoids this discontinuity and may provide a more rational system of computing premiums more frequent than annual since the fee can be increased by a larger percentage than the rate per thousand. In the National Life of Canada we use a band system for Canadian business, which has arisen rather naturally from our past history of special plans. We are proposing to use the policy fee method in our new United States rate book.

MR. JOHN H. MILLER: At the Monarch Life (Massachusetts) we had studied the margins available for expense and extra mortality under nonforfeiture values based upon the 1941 CSO Table. Because of the higher amounts under extended term than under paid-up, it seemed that there was sufficient extra loading on the extended term as compared to the paid-up. These margins are, however, considerably narrowed in the 1958 CSO Table. In organizing a new company using the 1958 CSO Table we used the device of limiting the additional mortality charge for extended insurance to 4 per thousand. Since most of our extended term insurance will be under attained age 50 we will have the full advantage of the CET Table in a majority of cases while avoiding a large percentage of those where obvious inconsistency might result.

MR. MERRILL E. ROSE: The Security Mutual of Lincoln, Nebraska, will adopt the 1958 CSO Table in early 1962. The basic portfolio will be at $2\frac{1}{2}\%$ interest with two specials at \$25,000 minimum on $2\frac{1}{4}\%$. We will use age last birthday and either continuous functions or provision for immediate payment of claims. Reserves will be Commissioners for first year, grading to net level at fifteenth year. Cash values will be brought to full reserve at fifteenth year. CET will be used for extended insurance. Premiums will be graded by amount and there will be special credits for females. Dividends begin at end of the second year, with a steep scale and with terminal dividends.

In reviewing plans of three other small to medium mutual companies in our area it is interesting to note that each is going its own way except that $2\frac{1}{2}\%$ prevails as the basic interest rate and each is doing a special series at $2\frac{1}{4}\%$. One company used age last birthday with curtate functions; one used age nearest with continuous functions; one used age nearest with curtate: we will use age last with continuous or equivalent. One will use its terminal reserves for cash values after the first year. Dividend scales are steep and terminal dividends are used. I understand that all the new rate books will reflect improved net costs.

Along with the differences evolving among these and other companies it is especially noteworthy that so many are going ahead without knowledge of what the giants of the industry will do.

MR. ROBERT H. WALL: Since the Bankers National is domiciled in the State of New Jersey we have been able to use Table X_{17} for valuation purposes. Since we are not faced with the problem of deficiency reserves we do not propose to change to the new table until January 1, 1964. This will give us ample time to make a proper job of the conversion.

MR. JOHN A. SMITH: For a smaller company it appears essential to adopt the quantity discount concept in order to compete with larger companies which may have a substantially larger policy size. In addition I believe that because of the competition of other savings media a more scientific pricing of our product is essential in order to provide an adequate return for the investment made. In considering which method to use it should be kept in mind that the fee system generally provides for much higher premium rates at the very small amounts of insurance. This may be overcome by the use of a modified fee method using a basic premium for an initial amount and a discount premium for additional amounts. The policy fee system may facilitate commission calculations if no commission is paid on the policy fee. In the Excelsior Life we have graded premiums in bands for certain plans for a number of years. We have noticed an increase in average size of policy and a settling of the average amount in each band toward the lower band limit.

Los Angeles Regional Meeting

MR. CLEMENT B. PENROSE: At the present time, a company would consider the adoption of a 1958 CSO basis if it is planning changes for any reason. If it is a stock company, it might do so primarily to eliminate deficiency reserves. In using such basis, the company might desire higher-than-minimum nonforfeiture values if the minimum values are lower than those in current use. If higher values are considered, asset share tests might indicate a premium increase which could affect the relative attractiveness of the company's product. The CET Table should be used where extra margins are required for extended term, as would be the case if the option is elective or if it is granted to substandard classes. The use of this table could create problems in competition, policy form language, valuation and inconsistencies with paid-up values.

Premium rates should vary by sex if graded rates are used, since lower mortality is not needed to offset the higher expense rate of the smaller average size of female policies. The desired volume of insurance on women would determine the effort to be expended on special rates. The method of providing variation could be a three-year setback for rates and values, a three-year setback for rates only, or special discounts such as those we developed at Pacific Mutual assuming female mortality to be 60% of male mortality.

Currently, quantity discounts are required for competitive reasons. Of the two methods of providing them, the band method gives the discount in the more obvious way and produces competitive premiums at the popular band minimums. The policy fee method provides a continuously decreasing premium rate up to the largest amounts. Pacific Mutual's $6.00 policy fee has been well received in spite of the advantages stated for the band method. In answer to our query, a group of our leading producers favored a modified policy fee method, in which a published rate is used for the first band and a lower rate for the amount in excess of the band maximum.

MR. G. PHILIP STREATFEILD: Beneficial Standard's 1958 CSO 3% rate book came out January 1, 1961. We had contemplated a revision in rates at that time and felt that early adoption of the new bases had publicity value. It also enabled us to reduce the unduly large premiums at the higher ages which were necessary to avoid setting up deficiency reserves.

Previously, we had used the minimum 1941 CSO 2½% cash values. Since the minimum values on the new basis were considerably lower, we decided to use cash values graded from minimum at duration zero to CRV reserves at the end of the 20th year. As most of our policies include automatic premium loan, we do not anticipate any difficulty in the use of the CET Table for extended term.

Rates for females are the male rates with a three-year setback for ages 19 and over. For females under 15, the rates are the same as males, a graded setback being used for ages 16 to 18. This basis entailed considerable calculation for female plans terminating at or with premiums payable to a fixed age.

It appears that stock companies usually use the fee method, while mutual companies are inclined toward the band method. We adopted the fee method (using a $10 fee), because it was simple and enabled us to reduce the number of plans in our rate book.

MR. LEO NORDQUIST: At the West Coast Life, we were anxious to simplify the bases used for extended term insurance. For the 1941 CSO rate book, 100% mortality was used for standard risks, 130% mortality for substandard classes under Table B, and no extended term was allowed for Table B and higher. Other companies typically grant extended term through Table B or with a flat extra of $5.00 per $1,000. The replies to a questionnaire distributed in October 1960 indicated that the CET Table would receive much wider acceptance than the 130% basis on the 1941 CSO. Out of 33 companies answering the questionnaire, 23 indicated that they would use the CET Table, while 10 expected to use 100% of the 1958 CSO Table for extended insurance. Out of 19 companies which are presently using rates based on the 1958 Table, the basis for extended insurance was available in 15 cases. Each one had adopted the CET Table.

MR. ALFRED L. BUCKMAN: At the Beneficial Standard we had to solve only one problem involving a very large ordinary life policy on a female life issued five years ago. Even though the insured is now five years older, the new rates are lower for the same coverage than on the original policy as a result of the change in reserve basis from $2\frac{1}{2}\%$ 1941 CSO to 3% 1958 CSO, the three-year setback in age for female lives, and the introduction of a policy charge for reduction in premium rates on large size policies.

MR. STUART A. ROBERTSON: When premium discounts were adopted five or six years ago the underlying consideration was equitable treatment of policyholders. This is still true, but today the controlling consideration is competition.

In considering the different discount methods, we find some impressive practical advantages of the band method:

1. It is more effective in increasing policy size.
2. It has the appearance of a discount.
3. Discontinuities in rates are justified for amounts near the normal retention limits and, from the practical standpoint, are necessary for very small policies.

One advantage of the fee method might escape notice. Some companies are expressing fractional premium conversion factors in a manner consistent with the fee method. The monthly premium is calculated by increasing one-twelfth of the annual premium by 2% or 3% and adding 50¢. Thus, each premium payment, whether large or small, includes the same handling charge. I have found that three out of 50 large companies are doing this. All three are using the fee method.

Some of the advantages of each method can be obtained by a combination where a certain rate per thousand is used for the first band and a reduced rate for each additional thousand.

MR. HARRY M. SARASON: I have been thinking of recommending to my client companies that they show the actual annual, semiannual, quarterly, and monthly premiums for certain round amounts, the annual rate per thousand being shown for life only. Nonforfeiture values would be printed entirely separate from the premiums. I would also suggest that $5,000 be the minimum amount for everyone except women, children and old people.

MR. EVERETT G. BROWN: It will probably be two or three years before we at Southwestern Life prepare a 1958 CSO rate book. We would like to wait until all states in which we are licensed permit its use. The new basis will eliminate our serious deficiency reserve problem but will incur the difficult task of obtaining approval of changed policy forms in numerous states.

Currently, for competitive reasons, we provide a three-year age setback for females. For various reasons, we use the policy fee method of providing premium discounts on all policies.

For several years our rates had been graded for some of our plans. In the whole life category, we had three plans with different minimum amounts: life paid-up at 85, life paid-up at 90, and ordinary life. The inconsistencies which existed in the cash and paid-up values of the three plans led us to change to a simple premium discount method, in spite of the fact that we would lose the appeal of a policy specifically designed for a certain size.

We felt that the policy fee method was preferable to a base rate from which something is deducted. In making proposals, competitors are apt to use the base rate and neglect the discount.

Our policy fee method as well as our new minimum amounts of $2,000 for permanent plans and $3,000 for term have been well received by the field force. However, we do accept $1,000 amounts on a few plans to satisfy some agents.

MR. ALTON O. GROTH: At the Equitable Life of Iowa, we have been successfully using a policy fee of $8.00. The band method produces a total premium for an amount near the top of a band which is larger than that for the minimum amount of the next higher band. This would be troublesome where the amounts are determined by formula, as in pension trusts. The policy fee method, which eliminates this problem, makes us competitive for the larger amounts and in the top ranges of the band but at a disadvantage at the popular band minimums. It also means that we must prepare sales illustrations for two or three specific amounts.

MR. RALPH E. EDWARDS: Apparently, there need be no concern with inconsistency between extended term based on the CET Table and paid-up values. Companies using the 130% CSO experienced no problems.