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DIGEST OF INFORMAL DISCUSSION

PREMIUM RATES

A. To what extent have recent revisions been made in the mortality, interest and expense assumptions upon which participating and nonparticipating life insurance premium rates are based? Have the same interest and mortality assumptions been made for all plans of insurance?

B. To what extent have larger average insurance amounts offset increased expense rates in recent years?

C. What factors have been considered in recent revisions of premium rates for substandard risks?

D. To what extent have deficiency reserves been required as a result of recent decreases in nonparticipating premium rates?

E. What recent changes have been made in disability premium rates for women? What factors were involved?

MR. J. E. HOSKINS reported that, in a recent revision of premiums at The Travelers, higher mortality was assumed on some term plans. Recent experience indicated that mortality under term plans was normal during the first five years except at the higher ages on the cheapest term plan, but averaged about 10% above nonterm plans for the aggregate of higher durations, indicating a tendency toward antiselection at renewal.

Special attention was given to mortality on term conversions which is especially important on the 5 Year Nonrenewable Term convertible at any time up to expiry. Mortality on term conversions, during the first ten years after conversion, averaged about 30% higher than on original nonterm plans issued at the same time as the term policies which were converted, but approached standard for the average of later durations.

MR. WALTER KLEM stated that on January 1, 1954 the Equitable Society's gross premiums for new insurance on permanent plans were reduced about 5% over-all, thus removing the company from a historically high premium to a more median premium position in the industry.

The motivating factors for a change in premium structure included the sales advantages of somewhat lower gross premiums, but the principal factors were the desire to recognize new developments in mortality and the desire to adjust rates of commission. In connection with the recognition of improved mortality, Mr. Klem pointed out that the use of their new ELAS Life Income Mortality Table would have raised retirement endowment premiums beyond a competitive level unless other elements in the premium formula were changed.

Improvement in interest earnings and mortality since the last revision in 1947 enabled a reduction in gross premiums with retention of approximately the same margins as were in effect previously.

MR. J. T. PHILLIPS commented on the New York Life's 1954 gross premium revision which had, as an objective, the lowering of gross premium rates so as to attain a level at about the median of competing companies. Even further reductions were made on certain plans because of high average size assumptions. Change from high to medium position reflects increased importance of initial cost as a competitive factor.

New gross life premiums were based on the CSO Table and $2\frac{1}{2}\%$ interest. New waiver disability rates were derived from Intercompany study findings, CSO mortality and $2\frac{1}{2}\%$ interest with expense loadings based on recent expense analyses. Test Double Indemnity premiums based on New York Life experience loaded for contingencies were fairly closely reproduced by 1926–33 Intercompany Double Indemnity mortality combined with the CSO Table and $2\frac{1}{2}\%$ interest, with graded loading.

MR. ARTHUR PEDOE commented on the use of the median of competitors' rates as a suitable gross rate and referred to actuarial work as an art rather than a science. He referred to the increase in rates and cash values consequent on the introduction of the Guertin laws and stated that in his opinion the increase in guaranteed values then made by some leading companies was a step in the wrong direction. In this connection he inquired whether the two previous companies with their reduced rates had reduced their cash values.

In connection with section B, Mr. Pedoe referred to the movement of expenses among Canadian companies. Although 1953 showed no definite trend from 1952, several companies showing decreases, yet the trend in the last few years had been definitely upwards.

MR. KLEM replied that the Equitable's premium reduction did not affect nonforfeiture values, which were already on a $2\frac{1}{2}\%$ basis, but involved only a reduction in the amount of loading.

MR. PHILLIPS stated that the New York Life was free to adopt a middle-of-the-road level for its new premium scale in accordance with their objective, inasmuch as such premiums are expected to produce substantial margins over test premiums based on adequate and realistic assumptions as to interest and expenses.

MR. A. O. GROTH stated in reference to section B that, for total business of Equitable of Iowa, first year and renewal overhead expense per policy increased 65% and 30% respectively from 1946 to 1953. During the same period, the average size new policy and average size policy in force increased 49% and 23% respectively. Two years ago minimum issue limits were increased from $1,000 to $2,500 for most participating and reduced from $2,000 to $1,000 for permanent nonparticipating plans. Since then, volume of new participating business had increased substantially while nonparticipating volume had remained almost stationary. The increase in average size for new participating policies resulted in a reduction in overhead expense per thousand for new participating business compared with 1946.

MR. C. M. STERNHELL, in discussing section C, said New York Life had recently discontinued the advance in age method of rating formerly used for certain occupations. Mortality studies had indicated relatively few occupational groups where extra deaths increased significantly with age. Such studies also justified a general reduction in occupational ratings, all of which are now of the flat extra premium type. Six flat extra premiums, namely $2, $3, $5, $7, $10 and $15, are used. For simplicity, no modification of these flat extra premiums is made for variations in plan. About one-third of formerly rated occupational classifications are now issued standard.

For risks rated because of medical factors, New York Life is continuing use of temporary and permanent flat extra premiums, but has replaced the advance in age rating method by a multiple table method. It was decided to adopt six broad rating classes to cover substandard ratings from 130 through 500 percent. Considerations were substantial equity and opportunity for savings in initial underwriting and subsequent rerating expense. The distribution of ratings on current business was used to determine weighted average ratings for each of the six rating classes. These were used as multiples of current standard mortality rates at ages under 65. Over age 65, standard mortality rates were increased by the difference at age 65 between the standard and substandard rates.

Expense rates were determined by adjusting current expense rates for standard business to allow for extra underwriting and rerating expenses and higher not-taken rates than for standard business. Premium formulas were then determined after asset share calculations based on the estimated mortality and expense rates, suitable interest and withdrawal rates, and appropriate contributions to surplus from each rating class. It was decided to use standard cash values for all rating classes and to include standard extended term insurance in the first two rating classes. It is contemplated that the same dividends will be payable on substandard as on corresponding standard policies.

MR. S. P. ADAMS outlined the factors considered and methods employed by Lincoln National in arriving recently at reduced substandard extra premiums. A single schedule for both participating and nonparticipating plans seemed desirable.

Mortality investigations indicated good results would be obtained by assuming for each rating class a percentage, uniform at all ages, of his Company's graduated standard experience table. Somewhat higher percentages were used in early policy years, producing roughly the effect of percentages decreasing with age.

In the expense factors, particular note was taken of higher non-taken rates for substandard issues, and higher average medical and inspection fees. He found in the highest rating class that overhead expenses per policy issued ran $14 higher than for standard, and that not-taken rates were about 5 times standard. The combined result of higher expense and not-taken rates in this class was a first year overhead expense rate per policy paid for of over twice that on standard policies. Renewal expense rates for substandard were also higher than for standard, because of applications for rerating.

He found lapse rates on substandard higher than on standard at longer durations. Significant differences were no longer apparent in the early policy years.

Based on his studies and assumptions, nonparticipating "experience" premiums were computed for standard and substandard, to determine indicated extras. It was then found that these extras could be reproduced satisfactorily by loading net extras based on standard and multiple CSO tables.

MR. LEIGH CRUESS summarized Mutual Life's favorable experience with substandard business, which led in 1951 to reduction in the level of extra premiums for this class of business. The experience by substandard classes did not seem to justify narrow widths of 25% and 50% used formerly, and consequently the number of substandard classes was reduced to six ranging up to 500%. This also diminished underwriting problems and lessened the number of requests for reduced ratings on existing policies.

MR. D. G. SCOTT, speaking on section D, stated that improvement in mortality and force of competition have again resulted in problems of deficiency reserves due to gross nonparticipating premiums less than renewal net premiums under the Standard Valuation Law, in a relatively short time since adoption of the law. He believed a company should be able to choose reasonable premiums without having those premiums affect its valuation basis or cause deficiency reserves. He felt the requirement of deficiency reserves may result in distortion of surplus earnings, and may prevent reductions in Ordinary Life premiums below present levels even if future mortality improvement might justify them.

He also stated the deficiency reserve requirement has its effect on nonforfeiture values, since Texas law still requires nonforfeiture values not less than the reserve minus $2\frac{1}{2}\%$ of the amount insured.

He suggested the time may have arrived for study of the need for a newer mortality table for valuation or elimination of the deficiency reserve requirement.

MR. C. H. TOOKEY said that Occidental had not yet had the reserve deficiency problem on business written in the United States, but is required by Texas to set up deficiency reserves on Canadian term business based on a mortality table lower than CSO.

He stated that a reserve basis with a higher interest rate avoids the deficiency reserve problem but produces noncompetitive cash values. He questioned whether guaranteed rates below the $2\frac{1}{2}\%$ CSO net premiums were sound for policies other than term.

He suggested the possibility of a mortality table lower than CSO but with a requirement that interest guaranteed be reduced to $2\frac{1}{2}\%$, to permit lower nonparticipating rates while maintaining existing safety margins for higher cost insurance with a substantial savings element.

MR. H. G. ALLEN, discussing section E, reported that the Bankers Life of Iowa had recently reduced gross waiver premiums on male lives approximately 40% for ages up to 45, and a decreasing amount thereafter.

According to the Intercompany study, a female rate somewhere between 100% and 150% of the male rate seemed indicated, but the administrative economy of one rate for both sexes led to the adoption of a female rate equal to 100% of the male rate (versus 200% before the recent change) with somewhat stricter underwriting for females. Income disability is not available to women.

Mr. Allen also pointed out that the same insurance premiums are usually charged both sexes in spite of lower female mortality, which practice may offset the discrepancy in equal waiver rates to some extent, particularly where waiver is automatic.

MR. GUY AMERMAN favored setting female waiver rates at 150% of the corresponding male rates, pointing out a trend since 1951 toward both the 150% and 100% rates at the expense of the 200% rate. Mr. Amerman did not believe that lower female mortality rates can offset excess female disability costs when the small average size of female policies is taken into account, and pointed out, in addition, that this small average size accentuates the already excessive costs of adjusting female disability claims.

MR. R. T. SCHWARTZ outlined a number of reasons leading to the adoption of female waiver rates equal to 100% of the corresponding male rates in the New York Life in January of this year. Net annual waiver premiums based on 108% of the Intercompany Period 2 claim rates and 80% of Intercompany termination rates indicated a female waiver premium rate approximately 30% higher than the male rate. Mr. Schwartz pointed out that the major part of this 30% was due to the termination rate assumed, which was based on a relatively small proportion of data from the female waiver benefit alone, and that, in both the part of the Intercompany study concerned with the combined income and waiver benefit and in the New York Life's waiver experience, male and female termination rates were approximately equal. The increasing female proportion of the labor force and the relatively small monetary value of the waiver benefit alone (as compared with income) were thought to support the reasoning that future claim termination rates would be related between sexes about as they have been in the past. Recent New York Life experience also indicated approximately equal rates of disablement and of termination between the sexes.

These conclusions, together with the economy of administration resulting from a uniform waiver rate for both sexes and the fact that no distinction is made between the sexes in the calculation of life premiums, led to this decision.

MR. M. A. LAIRD reported that the National Life of Vermont had recently adopted new waiver rates based on the graduated Benefit 5 experience of the report of the Committee on Disability and, in addition, had reduced female rates from two times to one and one-half times the male rates. Furthermore, the waiver benefit, which previously terminated on marriage of female risks, is now continued after marriage.

Although Benefit 5 experience is based on male and female lives combined and it might appear that, assuming the same sex distribution as in the Intercompany study, the same rates should be charged for females as for males, Mr. Laird pointed out that the study clearly indicated both a higher rate of claim and a lower rate of claim termination for women than the expected result based on combined experience.

In order not to encourage an atypical sex distribution, it was decided to charge a somewhat higher rate for females, but the variance between actual and expected results did not seem to justify two times male rates.