## TRANSACTIONS OF SOCIETY OF ACTUARIES

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## GENERAL

A. What variations in policy forms have been established for writing ordinary business for pension or profit sharing plans? Are there special circumstances in which these plans may be offered without requiring individual evidence of health? What modifications are made to cover the uninsurable?
B. Is there any substantial demand for plans of insurance which provide a monthly income to the end of a fixed period from the date of issue (Family Income without basic policy)? For what purposes are such policies sold? How can the cost for the coverage of such plans be kept consistent with the cost on level term plans?
C. Has the plan of insurance issued at juvenile ages in which the amount of protection quintuples at a certain age resulted in increased sales of juvenile insurance? Has this plan caused a shift from plans previously sold? What advantages have been found in the variations which this basic plan has taken?
D. Is varying dividend rates by size of policy a better approach for a participating company in order to reflect expense savings that occur on larger policies than grading the gross premiums by size of policy? What legal and practical problems are involved in grading dividend rates by size of policy?
E. What are the advantages and disadvantages of plans under which a policyholder purchases a policy and borrows part of the premiums, e.g., "Bank Loan Plan" and "Split Dollar Plan"?

MR. E. R. BATHO described the functional Pension Trust policy form which the Berkshire Life recently adopted. Unnecessary duplication of terms and conditions has been eliminated, as there is only one copy for each trust of the standard provisions applying to all employees. All details of each policy are typed on a separate first page, with the nonforfeiture values on the reverse side, and a copy of the application is attached. Policy pages have been made a convenient size, and are filed in a special three ring binder. An efficient accounting system has been designed around the form.

For each $\$ 1,000$ of life insurance, the policies used under this system may provide a monthly pension of either $\$ 2.50, \$ 5.00, \$ 10.00, \$ 20.00$ or $\$ 40.00$. A Retirement Annuity contract is also available. If all employees under the trust are to receive the $\$ 40.00$ plan, Mr . Batho stated that his company did not require individual evidence of insurability. Where the trust is using one of the other insurance plans, evidence of insurability requirements are less stringent than usual, and employees not insurable on any basis are given the $\$ 40.00$ plan where they are not over age 55.

MR. H. S. GARDNER said that the New England Life had a number
of policy forms designed to meet particular problems of employee trusts. For the older employee, there is an annual premium annuity form with premiums payable beyond retirement if it is desired to spread the funding period. For lives ineligible for standard insurance, his company offers graded death benefit contracts with the same premiums, cash values, and. income benefit as for standard policies, but with death benefits and paid-up amounts adjusted to the applicable mortality rating. For combination plans under which a part of the retirement reserves is accumulated in a separate fund, his company issues a special Life Paidup at 85 policy with automatic termination at retirement, and with the right to convert to a specified monthly income at retirement on payment by the trustee of the difference in reserves plus $3 \frac{1}{2} \%$ to $5 \%$. Actuarial calculations are made by his company of the advance deposits needed for future conversions only if the fund is held by the insurer.

MR. C. S. SCHNELLE reviewed the special series of policy forms adopted by the New York Life in 1954 for use under pension and profit sharing plans. There are three basic life insurance plans and three annuity plans in this series. The life insurance group consists of a retirement income insurance policy with slightly higher cash values in early years than those provided in similar policies for individual buyers; a limited payment endowment form maturing for a sum sufficient to pay a retirement income of $\$ 3.00$ a month per $\$ 1,000$ of insurance, and with the right to convert to $\$ 10.00$ per $\$ 1,000$ by payment of an additional sum; and a Life Paid-up at 85 plan also with slightly higher early cash values and with the right to convert to $\$ 10.00$ a month per $\$ 1,000$. All policies allow the trustee to defer the pension date up to five years beyond normal retirement, with an actuarially increased pension, but with no further premium payment. Introductory term insurance for periods up to 5 years may be provided by endorsement.

In addition to a standard Retirement Annuity contract, a special contract for older ages permits retirement immediately, or on any anniversary within ten years of issue which may be designated in the application. Premiums are payable for ten years or until prior death. If death occurs after retirement, annuity payments are continued to the end of the ten year certain period, but reduced from date of death to the same amount that would have been paid on default in premiums at that time. The third plan of this type consists of a single premium immediate annuity.

MR. F. M. BRISTOW, JR., stated that the Connecticut Mutual offers for Pension Trusts a Life Paid-up at 85 policy which terminates at normal retirement, and which may then be converted to a retirement
income policy on the payment of $103 \%$ of the difference in reserves. For profit sharing plans, his company has a somewhat similar policy which gives more flexibility as to the retirement age. Retirement income insurance policies are also available and these, as well as the life form, include graded death benefits for those in impaired health. The latter feature is not too satisfactory, he found, because of technical difficulties.

MR.R.H. GOEBEL in taking up section $B$ stated that agency demand, plus the discovery that a considerable amount of such business was being lost to other insurers, prompted Northwestern National in 1954 to adopt a decreasing term policy. This plan quickly accounted for around $12 \%$ of total new business by volume. He estimated that $70 \%$ of new policies of this kind were being sold by his company for mortgage protection. Next in importance was its use as an "option" on permanent insurance, to be later exercised by conversion, perhaps in stages. Issuance of this policy as income protection was probably of least significance in his company. No conscious effort has been made, he indicated, to keep the gross premiums on a basis consistent with those on his company's level term plans. Premiums are payable for the entire benefit period, so that a decreasing term policy with a death benefit always greater in the first five years in many cases has a lower premium than a five year term policy. However, a low production credit for the decreasing term policy has kept it from being overused.

MR. R. W. BENDER reported on the decreasing term policies of the Prudential Insurance Company of America. In 1943, a "Temporary Income" policy was introduced providing for a monthly income to the end of a fixed period. It was expected that its chief use would be to fill the gap left by Social Security prior to 65 . The policy came to be used mainly for mortgage redemption, but was not too satisfactory because the commuted value of the payments did not equal the typical mortgage balance. In 1955 his company began issuing a second contract with death benefits designed for mortgage redemption; as a result of the popularity of this contract, new issues of the older policy have markedly decreased.

MR. R. E. MUNRO remarked that the London Life was not currently receiving a disproportionate amount of business on its continuous premium, decreasing term policy. He also pointed out that changing the premiums on this policy to a limited payment basis would retain consistency in costs between plans, and would minimize negative reserves.

MR. J. S. HILL said that the Minnesota Mutual recently estimated the minimum insurance needs of the U.S. to be a trillion dollars, of which only a third was in force. Filling the unmet need with Ordinary Life insurance would tax the premium-paying abilities of the insureds and
the investment abilities of the insurers. This is the reason his company became enthusiastic for the sale of term plans. A wide variety of such plans are offered, and a third of total sales are presently on this basis. Still, commissions of the company's agents per sale appear to keep pace with the industry.
MR. H. E. CRANDALL traced the extensive experience of the Occidental Life of California with decreasing term policies. The first such policy was offered in 1941 but was unpopular because of only one period -to age 65-and of the lack of any commutation privilege. In 1948 his company made available all periods from 10 to 50 years, with full commutation, wide choice of settlement privileges, and commissions at the same rate as for Ordinary Life. Results were remarkable. In the last eight years, the company has issued $\$ 1,600,000,000$ on this plan, measured by initial commuted value, and current sales are more than $\$ 300,000,000$ yearly. His company found that the most important use of the policy was for income replacement, especially for the young family man with good prospects and low present income. The cost of the plan was kept consistent ultimately with those under level term plans by setting rates so as to give equal profit on all plans. Factors favoring a low cost on the decreasing term policy are high average size, and decreasing amounts subject to conversion. In any event, it is not possible to keep the initial cost consistent with level term plans and retain the sales appeal of the decreasing term policy.

MR. L. A. CANNON stated, concerning section C , that the Great West "jumping juvenile" plan was an immediate success when introduced in 1947. The policy, known as the "Estate Builder," is issued in units of $\$ 1,000$, each unit increasing automatically at age 21 to $\$ 5,000$ of Endowment at 85 insurance with no change in premium. In the first year, the plan accounted for $39 \%$ of juvenile sales and $12 \%$ of total sales, both by number of policies. Sales of all other juvenile plans decreased, especially Retirement Income forms. Total juvenile sales increased $20 \%$ in the first year after introduction of the Estate Builder, but this increase was not maintained. A recent increase to $\$ 2,000$ in the minimum for juvenile plans caused sales of the Estate Builder to decrease appreciably, due to the relatively high cost of two units of this policy.

MR. HARRY WALKER opened section D by approaching the question from the fundamental principles entering into the determination of the rate structure of a participating company. He maintained that recognition of those elements of expense which are a function of average policy size should affect not only dividends, but also gross premiums and cash values. Gross premiums on policies with high average size may be
reduced to reflect both the lower current expenses per policy, and the lower contingency margin for future increase in expense. Adjustment of gross premiums for the latter factor would actually reduce dividends. Similarly, high average size has a great impact on the first year administrative expense rate per $\$ 1,000$, increasing asset shares in early years and justifying higher cash values.

MR. J. R. GRAY discussed section D from the point of view of a company writing both participating and nonparticipating business, and one already varying its premium rates by size of policy on business in Great Britain. He felt that there was no essential legal difference between altering premiums and altering dividends by size of policy. Theoretically it would seem more proper to do the latter. For any particular premium classification, actual average size of policy and actual renewal expenses will not be known till later. However, the practical points favor making the adjustment in premiums, even for participating rates where one has a choice. There would be less chance of misrepresentation at the time of sale. The prospective policyholder would know just where he will stand. Finally, administrative procedures are likely to be simpler if there is only one dividend scale.

MR. J. A. CAMPBELL pointed out that a company with a substantial number of policies for the minimum amount issued, but with, nevertheless, a high average policy amount, is likely to find that suitable differentials cause the dividends for the lowest amount group to be too greatly reduced. Also, a scale of differentials once adopted carries some obligation in respect to continuance. Even if a participating company would prefer to use the dividend approach, it may find it advisable to adjust premiums, since otherwise its premiums for the larger amounts may appear substantially out of line with those offered by nonparticipating companies.

MR. W. A. JENKINS disclosed that the Teachers Insurance and Annuity Association had recently adopted a dividend scale for individual life insurance policies which varies by size of policy. The company had issued no special policies and adopted graded dividends as a much more satisfactory substitute. The dividend scale is quite simple, consisting of the normal type showing dividend rates by plan, age, and duration, plus a small table of "policy size credits" which, for standard forms, was as follows:

| Amount of Policy | Policy Size Credit Per $\$ 1,000$ of Insurance |
| :---: | :---: |
| Under \$5,000. | None |
| \$ 5,000-\$ 9,999 | \$1.00 |
| \$10,000-\$14,999 | \$1.50 |
| \$15,000 and over. | \$1.75 |

Thus, the normal type of dividend scale applies to policies of less than $\$ 5,000$, the dividend rates being increased for larger policies by adding the proper policy size credit. Irregular policy types such as family income required special treatment.

TIAA decided to grade dividends instead of premiums for two fundamental reasons, he explained. The immediate advantage was that the graded dividend scale could be naturally applied to policies already in force, and not alone to future issues. This was obviously more equitable and practicable. The long run argument in favor of graded dividends was that the differentials between expense rates for policies of various sizes are bound to change, and change substantially, so that sooner or later a participating company with graded premium rates would find that it has not only that, but graded dividends also. Grading only dividends was clearly simpler.

TIAA had not had much experience yet with this new dividend scale, but thus far there had been no legal or practical problem of any moment. A few scattered requests for consolidation of existing policies had been received. Mr. Jenkins pointed out that TIAA operates without agents, and its experience is not typical; still he considered that the complications in preparing dividend manuals should be about equal whether premiums or dividends were graded. Again, his company does business by mail, and is licensed only in New York, but it was his opinion that if grading of costs by size of policy were assumed to be sound, the attitude of state insurance departments should not be different as between grading premiums and grading dividends, and acceptance of graded costs by the various states should not be too far off. Mr. Jenkins thought that cost grading on ordinary insurance is here to stay and is as fundamentally correct as it is for group life insurance, group annuities, casualty insurance and fire insurance.

MR. N. T. FUHLRODT remarked that a large number of companies were already grading expenses by size of policy through the use of minimum size policies on special plans with reduced premium rates or increased dividends or both. He indicated that the Central Life of Iowa found it increasingly burdensome to issue each minimum sized policy on a different plan of insurance and had recently devised a new type of policy to accomplish the desired grading. This policy had been approved by all states in which his company was doing business. The principle of the policy is the attachment of a rider providing insurance on the Life Paid-up at Age 90 plan to the basic amount of $\$ 5,000$ on the Life Paid-up at Age 95 plan. The premium for the basic $\$ 5,000$ contained most of the per policy expense, while the premium on the
rider contained only the additional per policy expense incurred on larger policies. The dividend rates were the same on both policy and rider, he said, and the cash values were identical to age 80 . His company preferred to grade premiums through this combination instead of varying dividend rates because it was believed that the former would hold much more sales appeal and moreover was thought to be simpler.

MR. J. S. HILL announced that the Minnesota Mutual would shortly adopt a new dividend scale which would include the gradation of dividends by size of policy. He sounded a note of caution in setting the annual policy fee or policy charge in calculating the grading structure; an analysis of the cost differences adopted by some companies indicated an assumption of a policy fee up to $\$ 9.00$. If a company assumes a policy fee which is not currently justified, it may find it is in the paradoxical situation of having reduced profit margins on the larger policies.

MR. H. M. SARASON warned against overoptimistic reductions in margins, pointing out that the current financial climate is quite reminiscent of 1929 . He opposed removal of all restraints from rate competition on nonparticipating policies.

MR. C. W. McMAHON said, concerning section E, that the advantages of the Bank Loan Plan may be summed up in one statementwhere a person has a need for insurance it will be to his advantage if someone else pays part of the cost. Unfortunately there are certain contingencies and disadvantages which must be considered in evaluating the Bank Loan Plan. The contingencies are:

1. The interest may not always be deductible from taxable income. There is little doubt that the Treasury Department considers this practice with disfavor. The history of the Bank Loan Plan has been mainly that of keeping ahead of the tax authorities. There appeared to be no way to disallow interest deductions on the type of such plans currently being sold without disallowing deductions on the interest on all life insurance loans.
2. The whole framework of the plan depends upon the insured staying in a high income tax bracket for a long period of years.
3. The financing of the plan assumes that the insured can continue to borrow at a favorable rate for a long period of years.
He then listed some of the disadvantages of the Bank Loan Plan:
4. On early discontinuance, costs may be substantially higher than if the insurance had been on a term basis.
5. Sale of the plan requires detailed illustrations, which gives rise to pressure on the Home Office to prepare them.
6. The amount of insurance protection decreases with time.
7. Considerable negotiation and attention is required from the agent both initially and later.
8. Many proposals involve the use of existing insurance as collateral, thereby imperiling insurance previously on a sound basis.
9. There is pressure on the actuary to provide a special policy with unwarrantedly high cash values.
10. Corrective legislation could be so drastic as to harm the entire insurance industry.

While the Bank Loan Plan could be attractive given the right circumstances, it should be sold only to a person who understands, and can afford to take, the risks involved.

MR. W. F. WARD stated that it is very important from an underwriting viewpoint to be able to identify cases based on a bank loan program when submitted. A company with a significant volume of such business may find that a change in the income tax law or even a minor variation in the bank loan interest rate may lead to heavy termination rates. There is a great difference between a high priced plan application under which the applicant will pay the full premium and the same application under which he intends to pay no more than the difference between the premiums and the bank loan that the increase in cash value will support. As a special control in the identification of these cases, it may be necessary to check all assignments within one or two years after issue on policies for large amounts on high premium plans. His company, the Mutual Benefit, has been doing this for several years, and has called to account any agent who appeared not to have disclosed the true facts at the time of application. Also a brief financial statement from the applicant has been required so that some idea could be given of his ability to carry the business himself if necessary. These procedures have effectively restrained the quantity of such business submitted, Mr. Ward indicated. Issuance of the waiver of premium benefit poses a problem, as the insured never intends to pay a material part of the premium out of his own pocket, and this benefit takes on some of the nature of an income benefit. His company also refuses to accept advance premiums on Bank Loan business as such prepayments merely represent additional borrowing from a bank, and thus may be subject to recall more readily than ordinary prepaid premiums.

MR. C. W. McMAHON also discussed the Split Dollar Plan. He said that in the usual case the employer pays that part of each premium equal to the annual increase in the cash value, and the insured pays the remaining portion of the premium less any dividend. The employer forgoes any interest which might have been earned on the assets so contributed, and the cost of the life insurance is reduced materially to the employee. The employer is not bound by employee-trust tax rulings or by group underwriting requirements, but may rather provide the benefits of this plan only to certain selected employees. The disadvantages are: (1) working capital is tied up; (2) the employee costs are
rather heavy in the first years; (3) costly sales illustrations are required;
(4) the life insurance protection for the employee decreases steadily;
(5) this type of business is probably subject to higher than normal withdrawal rates because of terminations of employment and changes in management. While tax aspects of the plan seemed to be clarified, its best use is probably limited to stable industries with considerable working capital and a strong interest in giving incentives to promising young executives.

MR. J. C. MAYNARD emphasized the fact that in the Split Dollar Plan, the employee's cost is high if averaged over the first years only, but is very low over a long period, perhaps only one-quarter of the cost of an equivalent amount of term insurance. He gave a tabulation (Table 1) to illustrate the operation of the plan, in which he assumed $\$ 10,000$ of Ordinary Life insurance was issued at age 35 at a gross annual premium of $\$ 235.80$.

TABLE 1
\$10,000 ORdinary Life-ANNUAL PremiUm $\$ 235.80$

| Policy Year | Net Premium |  | Death Benefit |  | Surrender Benefit |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Employee | Employer | Employee | Employer | Employee | Employer |
| 1 | \$216.90 | \$ 18.90 | \$9,981.10 | \$ 18.90 | Nil | \$ 18.90 |
| 2 | 33.10 | 181.70 | 9,799.40 | 200.60 | Nil | 200.60 |
| 5 | 17.10 | 189.40 | 9,238.80 | 761.20 | Nil | 761.20 |
| 10. | 0.00 | 188.80 | 8,256.10 | 1,743.90 | Nil | 1,743.90 |
| 15. | . 00 | 167.70 | 7,323.80 | 2,676. 20 | Nil | 2,676. 20 |
| 20. | . 00 | 149.10 | 6,375.60 | 3,624.40 | Ni 1 | 3,624.40 |
| Total for 20 years. | \$336.50 | \$3,389.00 |  |  |  |  |

The divisions between employer and employee can be justified, he went on, only on unusual assumptions as to the allocation of interest, expense and cost of insurance. The main assumption, which is at the root of the plan, is that interest earnings on both sets of contributions are to be used to reduce employee contributions. Partially offsetting this is the fact that first year expenses are assessed against the employee. The question of whether a benefit is conferred really depends on the duration; if the policy terminates after a short time, the employee has paid more than his share of the premiums; if it terminates after a long period, the employee has paid less than his share and has enjoyed a benefit paid for indirectly by the employer. The recent favorable tax ruling on the plan may not be the last word on the matter.

