

*Guaranteed Insurability*

- A. What are the important considerations in the development of benefit structures, premium levels and underwriting rules?
- B. What are the problems in connection with reserves?

*Atlanta Regional Meeting*

MR. H. CAREY HANLIN, JR. described the guaranteed insurability rider issued by the Provident Life and Accident as providing four option dates at ages 25, 30, 35 and 40. When issued at ages 36 to 39 the option date is five years after issue, rather than at age 40. On each option date the rider permits purchase of an additional policy not exceeding the face amount of the base policy, with the proviso that if the rider is issued under age 35 the amount available on the first option date is twice the face amount. The maximum policy to which this rider can be attached is \$25,000, so that it is possible for an insured under age 25 to purchase \$125,000 of additional insurance. The rather large maximum policy to which this rider may be attached was decided upon so that the rider would be available on their Preferred Risk Whole Life policy.

A number of safeguards have been built into the rider to protect the insurance company against antiselection. One of these is that the largest amount of insurance is available at a young age, or soon after the policy has been issued, so that the probability of an insured's being substandard is small. Another factor is that the insured must exercise the option within a short period of time surrounding the option dates. The rider is issued only to standard risks, and disability and accidental death benefits will not be included in the policies purchased on the option dates. Mr. Hanlin felt that a number of individuals who become substandard will not select against the company because they will not be aware of their lack of insurability.

The premium rates for this rider were calculated by using the excess of the ultimate mortality rates over the select mortality rates. A withdrawal rate was introduced into the calculation based on their present persistency. Mr. Hanlin stated that a marked improvement in persistency could make the premium rates for the option inadequate, but he felt that such an improvement was extremely unlikely. The net premiums were then loaded for expenses, commissions, taxes and contingencies.

MR. JAMES C. H. ANDERSON felt that an objection to the guaranteed insurability rider is that the standard lives may buy insurance in other companies on the option dates if rates are more favorable. One way to avoid this is to charge a somewhat larger premium for the benefit and

allow a credit towards the first premium for the policy purchased under the option. Since it is anticipated that the first commission on the new policy would be paid only on the premium less the premium credit, the amount of the credit can be quite attractive. He generally agreed with the method of calculating premiums described by Mr. Hanlin, but emphasized the importance of the expense savings on the new policy issued on the option date. Mr. Anderson felt that a withdrawal rate must be used in calculating tabular reserves for this benefit, since the terminations would be almost entirely standard lives and no real reserve would be released. He also mentioned the problems encountered in New Jersey, and to a lesser extent in the District of Columbia and Florida, where the insurance departments feel that this rider must be considered in determining non-forfeiture values. This could present a serious problem to a company with minimum or near minimum values, because nonforfeiture values would be required on the rider itself.

#### *San Francisco Regional Meeting*

MR. STUART E. TINKER felt that premiums for this type of benefit should be low, both in absolute amount and in relation to the cost of immediate protection. This goal of low premiums played an important part in the design of the benefit structure adopted by the Bankers Life Company, particularly in those aspects relating to the control of antiselection and of expenses.

In calculating premiums the cost of the expected extra mortality, less certain expense savings, was taken into account. The calculations were based on assumed rates of option election, mortality, persistency, and interest. It was considered that the "maximum" mortality cost is measured by the difference between select mortality and that corresponding to the duration from issue to the option date. This "maximum" mortality cost is due to those lives who become substandard after issue, and may be reduced because not all such lives will exercise the option and because certain expenses will be saved on all lives who exercise the option, regardless of whether they are standard or substandard. The length of the select period used has an important bearing on the cost obtained and a rather long select period seems desirable. The difference between select and ultimate mortality may not produce the maximum cost if the mortality among those *not* exercising the option is better than that of newly issued business as shown by the select table used. This would mean that there is selection against the company from the "select" group as well as from the substandard. Such antiselection is possible under this type of benefit but its effect may be rather small.

In view of the relatively small amounts involved, it seems that reason-

able approximations are justified in calculating reserves in order to keep expenses low. Reserves may be considered in two parts—those relating to the option rider itself and those relating to the new insurance purchased under the option. For the rider reserves the net premiums are accumulated on the same basic assumptions used in their calculation and the accumulation charged with the cost of the option benefits on the option dates. The resulting reserve factors are then applied to a distribution of business by amount, plan, age at issue, and duration. Considerable grouping by plan and by age is possible. For the extra reserves on insurance purchased under the option the same single premium cost used in the premium calculation may be used. As a practical solution to keep expenses low, this reserve is set up in the year of issue and written off over a 15 year period without regard to terminations by death or lapse.

In the second part of the Gain and Loss Exhibit the reserves at the beginning and end of the year are determined as indicated above; tabular interest and cost are calculated directly; and the difference is forced into "Reserves Released by Other Terminations."

To date the experience of the Bankers Life Company has been that about one-third of those policies eligible by reason of age, plan, and amount have taken the guaranteed insurability rider. Of those individuals who have reached an option age, about 10% have purchased new insurance.

MR. FREDERICK W. CLARK said that in the Lincoln National the guaranteed insurability rider is being included in approximately 20 percent of the policies eligible for the rider, with the heaviest concentration at ages 10 to 25.

There are many questions of a practical nature requiring common-sense conclusions which had to be considered in the development of the guaranteed insurability rider. At what ages should the rider be offered? When and how often should the options be granted? What about the potential military hazard at the younger ages? What should be done about the relatively high proportion of impaired lives in an aggregate population at the middle and higher ages? How can a company keep "deathbed" applications within reasonable limits? How can a company offer a worth-while benefit and still hold the premium at a nominal level? The widespread adoption of the Bankers Life Company's benefit structure constitutes an endorsement of that company's answers to these and other questions, and is a high compliment to the people responsible for the development of the benefit. The Lincoln National included as an integral part of its insurability rider a decreasing amount of supplemental term insurance because they wanted something a little bit unique.

Most actuaries might prefer to compute the premiums for the guaran-

teed insurability rider on the basis of (1) mortality rates actually experienced under policies purchased pursuant to the rider, and (2) the election rates at which such policies are purchased. Unfortunately, since this type of rider is still quite new, for some time to come no company will have the benefit of actual experience rates for developing a premium structure. Faced with this situation, it appears that a number of companies have chosen to determine their rates by methods which make use of the theory of Select and Ultimate Mortality Tables. For a review of this theory, see Fassel's paper, "Term Conversion Option" (*TSA I*, 177). Since this approach produces results which are approximate at best, a great amount of refinement in the formulas would hardly appear to be warranted.

The benefit structure itself contains implicit underwriting safeguards. Some of the other underwriting problems to be considered are these: What maximum limits should be placed on the amount of the rider benefit that will be offered to any one person? Should the rider be offered to borderline risks? On business insurance? To definitely substandard risks? What non-medical underwriting limits should be established?

Mr. Clark thought that moderation should be the keynote in establishing underwriting rules. This coverage is written principally on the lives of children and young people whose economic future cannot be foreseen and we should be sure we are providing options to buy protection, not speculation.

The Lincoln National is not offering the term insurability rider to certain types of risks to which special underwriting rules apply, such as military and potential military risks or classes for which medical examination is required in all cases, even though standard insurance is otherwise available. The rider would not be allowed if residence abroad is likely or if there are speculative aspects about the case, such as a parent being in a racket-type of occupation, or in the case of an industrial type of risk where the current amount applied for appears unusual, considering the social and economic status of the family. Another specific type of situation in which they might offer standard insurance without the rider is that of an applicant with a borderline blood pressure history.

As a general practice they do not issue the rider in business insurance cases. Business insurance is normally issued to cover a specific current need. There will very seldom be any reason to feel assured of an insurable interest increasing in amount with the passage of time. This means that the rider normally may be expected to lead to a certain amount of future speculation on business insurance cases.

Some companies may wish to experiment in the substandard area. Caution would suggest limiting any such experiment to the lowest sub-

standard classes initially. The premium needed for the rider on highly substandard lives would be large enough so that the nature of the purchase would no longer be that of an "incidental" benefit. As long as the maximum option age is limited to 40 the proportion of substandard applicants will be small so that companies will not have any strong incentive to move rapidly in this direction.

In considering nonmedical limits, consideration should be given to the company's regular nonmedical limits, to the ultimate potential of several times the original amount of insurance under the basic policy and to the probable high cost of the benefit when issued to an undetected borderline or substandard risk. Especially important to keep in mind is the practical value of a simple rule.

Reserve problems divide themselves naturally into two parts. First, we have the problem of developing reserves for the guaranteed insurability rider itself, and next we have the problem of devising an appropriate reserve basis for the policies issued under the options elected. The absence of actual experience with these riders necessitates assumptions that cannot be verified for many years. It seems reasonable to expect that the reserves a company decides upon should be related to the assumptions used in its premium structure. The probable margin of error in the assumptions and the very small unit premium involved justify the use of approximate methods.

It is suggested that a satisfactory approximation to the aggregate reserve for the riders may be obtained by periodically computing a single factor for each duration to be multiplied by the total gross premium on business in force on the valuation date at the respective durations. It would be necessary that these duration factors be so weighted as to reflect the distribution of business in force by age at issue.

Consistency with the method used by the Lincoln National in developing its structure of premiums and pure endowments would imply the establishment of an extra reserve for its option policies. The initial extra reserve for the option policies issued in each accounting period would equal the amount accumulated for that purpose from the premiums paid for the riders. Some method would then have to be devised by which a part of this extra reserve would be withdrawn each year to cover the anticipated extra deaths in the mortality experienced under the option policies. Another approach might be to establish independently, and without regard for consistency, what appear to be adequate reserves for the anticipated extra mortality by methods similar to those used in connection with group life insurance conversions. Alternatively, it might be concluded that there are sufficient practical reasons to justify the main-

tenance of the regular standard reserves. This latter arrangement assumes implicitly that the amount released from the accumulated rider premium in each accounting period will be just sufficient to cover the extra deaths during the period.

MR. JAMES C. H. ANDERSON pointed out that New Jersey has taken the position that the adjusted premium ratio of the standard nonforfeiture law must take into account the extra premium for the insurability benefit. On the other hand, no amount of insurance is taken into account because of the insurability benefit. Consequently, it is impossible for a company with minimum values to offer an insurability benefit in New Jersey. Mr. Anderson felt strongly that the granting of nonforfeiture benefits with this kind of an option is basically unsound from all points of view.

MR. HERBERT C. DUNKLEY said that in bringing out their insurability option in the North American Life and Casualty Company they felt that they had to have some way of getting the insurable to act as well as the uninsurable. Their rider provides option dates every five years, and if the insured takes advantage of the option he gets a credit on his new policy of the entire amount of premiums paid on his rider for the previous five years.