

DIGEST OF INFORMAL DISCUSSION

UNDERWRITING

- A. What considerations are involved in establishing the larger amounts of issue for individual life insurance currently being offered by many companies at all ages of issue? To what extent are limits for premium waiver benefits and accidental death benefits being similarly changed?
- B. How satisfactory have the larger nonmedical limits been that have been introduced, particularly above age 35?
- C. What problems arise in the underwriting of major impairments accompanied by impairments which by themselves would not be rated?
- D. In the underwriting of substandard lives, is it practical to recognize the lower mortality experience at the younger ages by a broader classification at the same premium rate than for higher ages at issue?
- E. What developments prompted the changes recently announced by many companies in the underwriting of aviation risks?

MR. E. A. DOUGHERTY pointed out that it was important to bear in mind the fact that question A refers to amounts of issue rather than limits of retention. Limits of issue assume that there is some amount beyond which it is unwise to issue insurance on a single life, regardless of reinsurance. To answer why limits of issue have been extended, if they have, we must ask why we have them at all, if we do, and why they were originally lower, if they were. In the paper "Ordinary Life Insurance Limits" *TSA V*, 125, it was suggested that limits of issue are derived from underwriting considerations, that a limit of issue is basically a limit of the confidence we are willing to place in our underwriting techniques. If this be true, then when we extend our limits of issue we are simply showing greater confidence in our selection of risks.

Some of this increase in confidence arises from the fact that large amounts are today relatively smaller than they used to be. Companies have grown, new issues have increased, the giant application is not quite the rarity it used to be, the whole economy is inflated. Since the background is larger, the \$1,000,000 application is relatively smaller. We are not contemptuous of such amounts, but we are not quite so awed by them either.

As far as the financial elements are concerned, by which is meant considerations of insurable interest, ability to pay the premium, and the over-all financial desirability of the case to the purchaser, we are

often in a much more confident mood today than we used to be. Income taxes, estate and inheritance taxes, capital gains taxes all contribute to our confidence by giving us some very valid insurable interests of gargantuan amounts. Tax advantages may tend to make the insurance appear very desirable to the purchaser, where, through tax deduction, the government is paying part of the cost. Moreover, the general high level of earnings convinces us that in many cases the ability to pay the premium is not lacking. The general financial environment that exists today thus helps us to have more confidence in all the financial aspects of the case. The likelihood of financial antiselection at issue seems reduced.

Another area where we have increased confidence in our underwriting procedures is in medical selection. The more experience we develop, the more we know about different impairments. We are backed now by years of good mortality experience on large policies. This happy result has gone a long way to remove a feeling that the greater the amount the worse the mortality. We might indeed get worse mortality on large cases if we had not adopted stricter underwriting standards for large amounts, but experience demonstrates that we can and do sufficiently stiffen our requirements on big cases to offset any such tendency.

Still another element that has bolstered our confidence in underwriting great big policies is the "herd" instinct at work. We have much more confidence in what we are doing when we know a lot of other people are doing the same thing.

The vital question is, of course, "Whither are we drifting?" If we should encounter a major business slump, a lot of this business could go bad. We could experience high lapses, with their concomitant anti-selection, both medical and financial. The lapses would result from the fact that financial considerations govern, in many cases, the need for the insurance, the ability to pay premiums and the attractiveness of the arrangement; in the event of change in the financial atmosphere, any or all of these elements might worsen and lapses eventuate.

Many of the great big policies issued today are paid for, all or part, by corporations, and in a number of cases the cash values are carried as assets on the corporations' books. Probably most such policies are more in the luxury class than the smaller policies purchased by individuals for their own family needs, and if the corporations become a little strapped for money and begin to do a little pruning, these great big policies will be among the first branches to be snipped. The persistency of such cases will, to a large degree, depend upon continuing corporate prosperity.

Mr. Dougherty warned that life insurance companies should be careful not to get too large a proportion of jumbo policies on their books, and

should certainly not look to reinsurance as an escape from ultimate financial consequences of issuing such policies.

MR. C. A. ORMSBY reasoned that in part the larger issue limits prevalent today are merely a reflection of the larger size of our companies. The changes in both retention and issue limits over the past few years represent also the increased needs of policyholders stemming from inflation and a wide variety of new uses for life insurance in a changed economy as well as notable changes in management policies. Competitive pressures all too often provide the motivation for a change in management policy.

One of the most important considerations is the greater confidence in underwriting the larger amounts, which to some extent is attributable to the perfection of underwriting techniques over the past two decades, particularly those applicable to jumbo risks. The confidence which underlies our current underwriting for the larger issue limits is also derived from the results of the *1951 Impairment Study* and the recent studies of mortality on large policies published by the Society. Then, too, there seems to have been created in some quarters the view that the improvement in mortality which has been in evidence for many years now constitutes an additional reason for greater liberality in setting maximum issue limits because of the belief that there will be a continuation of this favorable trend.

A second consideration contributing to higher issue limits is the greater realization that the cost to reinsure is now nominal in many instances. Two other features of reinsurance which encourage the adoption of issue limits appreciably in excess of retention limits are the liberal recapture privileges available under both of the basic plans of reinsurance and the practice, now widespread among the reinsurance companies, of sharing annually with clients the earnings arising from favorable experience.

A further factor contributing to the relatively higher issue limits operative in at least some companies is the present influence of the sales point of view in life insurance management. A marked increase in issue limits is regarded by some, especially those in the smaller companies, as a desirable and readily available means of accelerating growth.

Surpluses depleted in the early '30's have in many cases been restored to reasonably satisfactory levels, thus providing greater cushions for mortality fluctuations. It may be that the increased limits which are with us today are the result of a belated recognition that previous issue limits were not as high as they could have been.

It is said that the principal reason a company adopts issue limits in

excess of its retention limits is to accommodate its agents, general agents, and managers. A schedule of maximum issue limits, where one is used, might be looked upon as a guide to which exceptions can be made where circumstances warrant them. Mr. Ormsby said that the trend toward "no set" issue limits or flexible issue limits has considerable merit, for there are a number of good arguments that issue limits should to some extent reflect, in individual cases, considerations pertaining to underwriting soundness, costs and sales.

MR. W. A. MERRIAM stated that his company had no specified limit of issue and the amount offered on an individual is determined by financial underwriting considerations. Amounts in excess of their retention limits are reinsured. Mr. Merriam believes the reasons for establishing larger amounts of issue should be attributed to competition for new business and to changes in the economic environment.

MR. R. T. JACKSON stated the primary reasons the Phoenix Mutual increased their limits were:

1. They had recently entered the brokerage field which produced a number of applications exceeding their former limits.
2. A \$500,000 loss would represent no greater surplus strain now, than a loss of half that amount 10 years ago.
3. Recent experience under policies for large amounts as reflected in the Committee Reports of the Society have been excellent.
4. They anticipated substantial expense savings and good persistency on large amount policies.

Having decided to increase their total limits, they were faced with the question of grading by age. They reasoned that the underwriting limit should equal the limit of retention at all ages, if the premiums included adequate margins to cover any additional risk arising from antiselection or difficulty in classification.

To aid in their decision, they made some rough asset share calculations. Even after allowing for substantially greater issue expense at the higher ages, these calculations indicated much greater margins on a large policy with their premium and dividend structure at the higher ages than at age 45—margins which are normally required because of small average size of policies at high ages.

On substandard business for large amounts there are always strong competitive pressures to assign the lowest possible rating. Their substandard premiums have been forced downward through competition. In view of the uncertainty of classification these premiums do not contain sufficient margins to justify deliberate acceptance of such risks beyond the amounts required to keep their agency force satisfied. For

that reason they graded their limits for substandard business quite sharply though they will write, and retain, \$100,000 on a 500% risk.

Their waiver limit was changed at the same time so that they will issue waiver on the full \$500,000 at all ages 55 and under. Concurrent with an increase in insurance limits, they announced an increase in their double indemnity limits from \$50,000 to \$100,000. Mr. Jackson said that any misgivings they had about the higher frequency of claims resulting from the very fact that large amounts of money were at stake were outweighed by their excellent experience under double indemnity.

MR. G. W. WILSON suggested that the basic consideration in determining a company's maximum limit of retention is the relationship between this limit and the expected gain from mortality. Expressed in another way, the effects on surplus and surplus earnings are the important factors. For the larger companies the limits appear to vary between about $\frac{1}{2}$ of 1% and 2% of expected mortality gains but for medium and smaller companies the percentage is usually somewhat higher.

A development which is becoming more common and has considerable merit is to have a limit of issue within a 12-month period and an over-all limit somewhat higher. This method has the important advantage from an underwriting standpoint of providing a second complete and independent check on all of the factors entering into insurability after a waiting period of at least 12 months.

Another aspect of this problem which should be taken into account is the settlement option liability incurred. Under the economic conditions of the past few years this item may not seem to be important but conditions at some future time may make the election of settlement options on death claims and maturing endowments more attractive and more popular than they are at present. With the trend toward improving annuitant mortality and the uncertainty of future interest rates the liability inherent in guaranteed settlement should not be ignored. Whereas reinsurance may be used to cover excess life insurance risk it would not normally provide any protection to the ceding company as regards the settlement options.

MR. S. L. EISNER of the Prudential of America mentioned that the increased expense differential between nonmedical and medical business since they had last set their nonmedical limits would seem to justify somewhat higher nonmedical limits. Furthermore, the great bulk of their policies with initial amounts at risk from \$10,001 to \$15,000 were either decreasing term policies or basic policies with decreasing term riders issued on young married males. They believed that they could afford to be more liberal on such decreasing policies than on level amount policies.

They were also not unmindful of the intangible advantages of issuing business nonmedically, such as less inconvenience to the applicant and faster service. Before making these changes, they analyzed the intercompany experience to determine the excess of nonmedical over medical mortality. The extra mortality was discounted to date of issue to get a one-sum value. The results are shown in Table 1.

They believe that ignoring persistency in computing discounted values approximately offsets probable residual extra mortality after the 15th policy year.

TABLE 1

EXCESS OF NONMEDICAL OVER MEDICAL MORTALITY PER \$1,000
INTERCOMPANY EXPERIENCE BETWEEN 1950 AND 1953 POLICY
ANNIVERSARIES DISCOUNTED TO DATE OF ISSUE AT CSO 3%
EXCLUDING WAR DEATHS

ISSUE AGE	POLICY YEARS			
	1-5	6-10	11-15	1-15
10-14	\$ 0.48	\$-0.29	\$-0.09	\$ 0.10
15-19	-0.22	-0.30	0.03	-0.49
20-24	-0.05	-0.15	0.45	0.25
25-29	0.18	0.22	0.75	1.15
30-34	0.63	0.28	0.60	1.51
35-39	0.51	1.10	1.23	2.84

The figures are subject to the usual shortcomings of comparison between nonmedical and medical mortality. For example, the higher porportion of females in nonmedical business makes nonmedical business look better than it actually is. Similarly, throwing into the medical classification an application submitted nonmedically on which the underwriter requires a medical examination tends to make the medical business look worse than it should be.

They then compared the issue costs of medical and nonmedical business per paid-for policy, taking into account the somewhat higher "not taken" rate for medical business. The differential was approximately \$15 per policy. Weighing this figure against the discounted cost of the extra nonmedical mortality, Mr. Eisner's company determined the maximum amount of insurance for which they could afford to forego the protective value of a medical examination.

MR. J. E. HOSKINS emphasized the fact that most of the published discussions of nonmedical underwriting have assumed, either tacitly or explicitly, that the extra mortality of nonmedical business is confined to a period of five, ten, or fifteen years from issue.

The published nonmedical experiences which have indicated eventual standard mortality in the nonmedical class have not extended more than ten durations from issue; and the studies of the Committee on Mortality under Ordinary Insurances and Annuities, beginning with the 1952 REPORTS, are the first published experiences in which nonmedical business is observed for durations as late as the fifteenth.

The latest study, covering experience between 1950 and 1954 anniversaries, in 1955 REPORTS, page 8, Table 7, shows that for all ages combined, the nonmedical experience was 6% worse than the medical experience. The same table shows that in durations 11 to 15 the nonmedical experience was 8% worse than the medical. Rather than indicating that the extra nonmedical mortality disappears in a relatively few years, these figures suggest that the extra mortality may continue indefinitely. Obviously 6% extra mortality for the life of a policy is much less likely to be covered by the saving of an examination fee than is 6% mortality for only fifteen years.

On the assumptions used in The Travelers' premiums, they find that on a \$10,000 Ordinary Life policy at age 25 the present value of 5% extra mortality to age 65 is about \$17.50. This is much more than they could save by foregoing examination on such a policy.

It is reasonable to expect a small amount of permanent extra mortality on nonmedical business, since one effect of medical examination is to reveal a certain number of ratable impairments, on which we ordinarily expect the extra mortality to run for most of life. The Travelers studied its medical issues of 1935-1938, taking these years because their experience has been compiled beyond the fifteenth policy year and because substantially their present nonmedical underwriting rules were in force during those years of issue. They found that, relative to the corresponding medical business, the nonmedical experience of durations 16-19 was about 30% worse than that of durations 6-15.

Mr. Hoskins pointed out that if the claims plus expenses on nonmedical business do not exceed the claims and expenses that would have been incurred if a medical examination had been secured, the procedure is generally considered satisfactory. The results he quoted from the intercompany experience indicate that that criterion for satisfactory results is not being met as regards some of the higher limits in current use. If this be the case, then satisfaction in such limits must be derived from the feeling that competition is being met, even at the expense of lower profit or higher net cost.

The changes which MR. D. J. VAN KEUREN's company has made in limiting the amount of insurance which will be accepted without

medical examination have been occasioned by the rising costs of medical examinations, the favorable mortality at the younger ages and somewhat unfavorable nonmedical experience at ages over 40.

In 1953, The Metropolitan's limit for nonmedical insurance was \$10,000 at ages 10 to 35, with lower limits at ages younger and older than this range. While the experience among policies issued nonmedically was satisfactory at the younger ages, they were not satisfied with the experience at ages over 40. At these older ages the differential between medical and nonmedical mortality experience would support only very small amounts of nonmedical insurance. Furthermore, about one in every four applications falling within the nonmedical limits had to be returned for a medical examination. The delay and inconvenience occasioned by the return of applications was a source of annoyance to the field force and to their applicants. Continued favorable nonmedical mortality experience at ages under 30 has justified the acceptance of larger amounts of insurance without medical examination. Accordingly in March of this year, they increased the nonmedical limit at ages 15 to 30 from \$10,000 to \$15,000. At the same time, the limits for married women were made the same as for males in keeping with favorable female mortality experience.

Mr. van Keuren observed that the excess of nonmedical over medical mortality increases after age 30 and the period over which it persists grows longer. Consequently, after 30 the excess deaths per 1,000 increase and the increase is rather sharp after age 40. Thus their action has been to establish relatively large nonmedical limits at ages under 30, lower limits in the 31 to 40 age range and eliminate nonmedical business at higher ages.

MR. N. F. BUCK pointed out that the rules that a company establishes for its nonmedical business immediately make it different in character from its medically examined business. If a company will accept nonmedical applications only from its experienced agents, then all of its business from its inexperienced agents will fall into the medical category. When a company establishes its maximum amounts for non-medical, it places all of the larger policies in the medical group and puts most of the smaller ones into the nonmedical. In neither of these respects is the distinction related to the physical or moral insurability of the applicant. Accordingly we must use with great care the results of any comparison of mortality between medical and nonmedical policies.

With these limitations in mind his company recently made a study on a sample of its standard direct Ordinary business covering policies issued from 1933 to 1952 carried to terminations or policy anniversaries

in 1953. The mortality rates used in calculating the expected mortality were derived from intercompany standard experience by amount of insurance as published in the *Transactions*. The ratios of actual to expected mortality for the entire sample were 103% by number and 98% by amount; for unimpaired males they were 120% by amount on nonmedical and 91% on medical business.

A calculation was made to determine the amount of savings per \$1,000 as of date of issue which would cover a certain level percentage of extra mortality for 20 years. The results showed that each 1% of level extra mortality used up \$0.13 of initial saving per \$1,000 at issue age 20, \$0.21 at age 30, and \$0.47 at age 40. Mr. Buck said a saving of \$7.50 per policy seemed the most that they could reasonably assume for nonmedical business. These results indicate that for issue ages 30 and over the extra mortality on nonmedical business is too great to be offset by initial expense savings on policies of substantial size and is too great to be absorbed for the sake of agents' convenience or because of a shortage of medical examiners. However, for issue ages under 30 the extra mortality is small enough to be offset almost entirely by initial expense savings.

MR. H. M. SARASON pointed out that there is a lot more to this question of statistically and actuarially analyzing nonmedical than has been touched on. We talk about agents' convenience, but he wonders if anyone actually sat down and figured out the amount of agent's time that is actually spent in getting a medical examination arranged. An agent can quite well enlarge on the amount of convenience he would be favored with if we had nonmedical rules that were more generous. Some of the agents might even enlarge on it greatly because it would reduce their "not taken" rate and their rejection rate.

You just wouldn't think about anything except the use of age groups in making a mortality investigation, but it may be entirely wrong when we are comparing medical and nonmedical. In the age group thirty to thirty-four the age of nonmedical may be thirty-one and a half and the medical thirty-three and a half, and when we are talking about six or eight percent mortality, that makes a big difference.

It may well be that persistency is affected by medical examination, probably favorably. Persistency is a bigger problem at one stage of the game than mortality is. Lumping policies of ten thousand with policies of two thousand when there is a big possibility of antiselection is another source of statistical error. And then, in our public relations and our feeling as a mutual company, Mr. Sarason wondered how much time the client has to spend getting medically examined.

MR. E. A. LEW said that there is considerable evidence that minor

impairments—that is, impairments which by themselves would not be rated—are frequently of greater consequence than has generally been supposed. This is particularly true when both types of impairments involve the same system or structure of the body.

In the 1939 Blood Pressure Study the mortality ratios for abnormal blood pressures with minor impairments of the circulatory or genito-urinary system (reported within five years of application) were about 20 points higher than for similar blood pressures without minor impairment—for all ages combined. Where two or more minor impairments were involved, one being of the circulatory system, the excess mortality was 25 points. Even more significant was the finding for markedly elevated blood pressures with minor impairments, where the excess mortality sometimes ran to 60 or 70 points for all ages combined.

Further evidence along the same lines was developed in the 1951 Impairment Study. In the case of rapid pulse 90-100 and in the case of intermittent or irregular pulse, the associated minor circulatory impairments apparently had a significant effect on the mortality experienced. The most striking findings were on family history of cardiovascular-renal disease (two or more cases at ages under 60)—recently analyzed in detail in a paper by Mr. A. P. Morton (*TSA VII*, 391), which showed that the mortality was within normal limits on cases free of minor impairments but was close to 200% of standard when accompanied by other minor impairments of the cardiovascular-renal system or by overweight.

The fact that minor impairments may add substantially to the over-all mortality experienced was also brought out in the studies by Messrs. Marshall and Murphy of the mortality under policies for large amounts (*TASA XXXVII*, 19 and *TASA XXXVIII*, 489).

The important question to be investigated is *which* combinations of impairments materially affect the over-all mortality experienced. It was clearly shown in the 1951 Impairment Study that a history of tonsillitis or other streptococcic infections had the same effect in raising the mortality experienced as had a history of rheumatism or cholera. On the other hand, the effect of moderate underweight on the mortality of persons with a personal history of tuberculosis was found to be negligible.

Certain combinations of major and minor impairments, such as those of the cardiovascular-renal system (*e.g.*, blood pressure and overweight or blood pressure and albumin) apparently carry much higher mortality than would be indicated by the sum of the extra mortalities associated with the respective impairments. On the other hand, the situation with regard to the findings of albumin with casts, hematuria, and pyuria is

by no means as clear. There is obviously a wide field for further study of the mortality resulting from combinations of impairments. Until such time as adequate statistics on this point become available from insurance studies, we will need to depend largely on medical judgment and evidence from clinical studies in our underwriting.

A number of clinical and surgical follow-up studies, even though they deal for the most part with relatively serious disorders, provide some pertinent information. For example, the studies of hypertension among army officers by Levy, Hillman, Stroud and White showed that the ratio of deaths from cardiovascular-renal diseases was twice as high among officers with transient hypertension as among those without this finding, about one-third higher among those with transient tachycardia, but two and a half times as high among those with both impairments. In a follow-up study of patients with glycosuria, Joslin and his associates observed that the proportion subsequently developing diabetes was three to four times as high among patients with borderline fasting blood sugar levels as in those with clearly normal fasting blood sugar. An even larger differential was found when patients with borderline blood sugar readings, both fasting and two hours after a glucose tolerance test, were compared with those patients whose corresponding readings were both clearly normal.

MR. C. D. SILLETTO reported that in recent investigations of Lincoln National experience on four impairments, they compared the mortality on insureds with normal blood pressure at issue with the mortality on those with borderline (but not ratable) blood pressure. Where the primary impairment was unoperated kidney stone, they found no significant difference in mortality between the two blood pressure groups. However on diabetes, peptic ulcer and albuminuria the mortality was substantially higher with borderline than with normal blood pressure. The experience in these three instances was too bad to be ignored in their future underwriting.

MR. W. H. SCHMIDT has been doing some studying of the problem of the incidence of extra mortality, but has reached no conclusions as yet. He expressed the feeling that it might be practical, as a stopgap measure, to recognize the lower mortality experience at the younger ages by broader classification at the same premium rate than for higher ages at issue. He said it would help a little because the use of one set of classifications at all ages based upon the same extra percentages of standard mortality is obviously unsatisfactory. He believes that, as actuaries, we should now re-examine the incidence of extra mortality. Certain types of extra mortality, namely those that have been satis-

factorily covered by temporary or permanent flat extras in the past, can continue to be so covered. For other types of impairment, particularly those with medical findings as opposed to medical history, the extra mortality usually decreases with duration. The pattern for the more important impairments of this type suggests that we might try to express the extra mortality not as a percentage of the standard mortality but as a percentage of the extra mortality table. One form this extra mortality table might take would be that of a flattened *S*, constant for the younger ages, grading into the standard table at around age 40, and flattening out again at the upper ages.

Mr. Schmidt was interested in the effect on the extra premiums of such an approach, and compiled a few figures testing the net extra premiums on three bases, (1) a percentage of the CSO, (2) a percentage of the CSO with the mortality held constant at ages below 40 and above 60, and (3) a similar modification of the 1946-1949 Basic Select and Ultimate Table. The extra premiums on bases (1) and (2) above are quite comparable for the lower ages on the whole life and limited payment life plans, even though considerable additional mortality is provided for at the young ages. On the Endowment and Term plans, the extra premiums at the lower ages are higher.

MR. N. F. BUCK observed that many companies have at least one separate table rating for every 25% of extra mortality up to 150% extra; however, a few companies classify their risks into broader groups and have successfully done so for many years. A study by the Lincoln National a few years ago indicated that they could have covered all of the extra mortality on their substandard business by providing for an average extra mortality of 75%. Perhaps it would have been possible, but would it have been proper? It hardly seems equitable to charge the same premium to a 500% mortality risk as to a 125% risk. It does not seem any more proper to charge the same extra premium to a 125% risk as to a 150% risk, provided we are able to distinguish between the two groups in our underwriting.

Theoretically there seems to be no reason for recognition of the lower mortality experience at the younger ages by a broader classification at the same premium rate than for higher ages at issue. From an individual company's standpoint, there might be a small saving in handling costs in having fewer substandard classifications on the books. But wouldn't such a company tend to get the 150% risks (at a mortality provision of, say, only 135%) while its more precise competitors tended to get the 125% risks? The automobile insurers who used broad groups in their underwriting received quite a shock recently when a large and aggressive

competitor divided the risks into finer classifications and quickly began to get the best risks out of each broad group.

Their mortality investigations on substandard business have repeatedly shown higher ratios of actual to standard expected mortality at the young issue ages than at the older issue ages. To this extent, except where we vary the ratings by age, we already indirectly employ broader groupings at the young ages.

MR. G. W. YOUNG outlined some of the reasons which have been given for elimination of the extra premiums for aviation risks as follows. (It should be pointed out that this discussion primarily concerns commercial transport pilots, but some of the comments are equally applicable to other aviation risks.)

1. Although there is still an additional hazard, as is clearly shown in the statistics presented by the Aviation Committee, there has been a definite and constant trend toward improvement in recent years.
2. The fact that the pilot is a superselect risk in other respects is some compensation for the flying hazard—he is, or should be, better than average medically, morally and financially.
3. Generally speaking, pilots, both private and commercial, can and do buy relatively large sized policies with good persistency.
4. Because of their relatively high salary bracket, short working life, and early retirement, commercial pilots often purchase the higher priced plans with rapidly decreasing net amounts at risk.
5. Elimination of extra premiums would do away with the cost of accounting for and collecting these premiums and making changes as pilots go on and off flying duty. Now that extras have become as low as \$2 or even less, this point has become increasingly pertinent.
6. We might also mention the possible public relations aspects and advertising value of treating pilots as standard risks.

All of these reasons make some sense, but the real reason, in his opinion, is competition. In group insurance on airline groups, commercial pilots are usually charged the same rates as nonflying personnel; and the pilot thinks, or would like to think, this means he should be treated as a standard risk for individual coverage. This is especially true when a few other companies have already announced that they will cover airline pilots on individual policies without an extra premium.

MR. J. C. SIBIGTROTH confined his remarks to the developments that influenced the New York Life to follow the trend of the industry in the underwriting of civilian private pilots.

The changes which they made in private pilot ratings were of most importance because of the relatively large volume of business written by the New York Life on these risks. About 75% of their total civilian

aviation issue is on private pilots so that the financial results for this group set the pattern for their entire civilian aviation program.

Their aviation studies indicated that fatality rates for private pilots improved substantially in the last few years. In analyzing their experience, they split their data into two periods, the first covering calendar years 1946-1951 and the second 1952-1954. For the former period, private pilots with 100 or more solo hours experience had an over-all fatality rate of 3 deaths per thousand of exposure. For the more recent period this rate had dropped to about $1\frac{1}{2}$ deaths per thousand. This low level of extra mortality, coupled with the substantial improvement from one period to another, indicated to them that the mortality of selected groups of private pilots had been moving rapidly toward the standard range. In fact, there was a strong possibility that by the time they next developed their experience it would have proven to have warranted a move toward taking such pilots on the standard basis.

They also analyzed the characteristics of newly issued business on private pilots. Except for the aviation hazard, private pilot issues appear to be of better than average quality. The average size policy issued to private pilots in their company is about \$18,000 which is over twice as high as the average size for all issues. The average age at issue was higher than the company average with almost 90% of policies being issued at ages 30 and over and about 40% at ages 40 and over. They felt that these two characteristics of the business would give them better persistency and would reduce the cost per thousand of writing and maintaining the business. These favorable factors should tend to offset the slightly higher mortality anticipated because of the aviation hazard.

In accepting certain private pilots at standard rates they were influenced to a considerable extent by the fact that they do not consider it desirable to use annual extra premiums of less than \$2 per thousand of insurance. For the most favorable private pilot groups, they felt that extra premiums should be less than \$2 per thousand. Hence, they preferred to absorb small amounts of excess mortality rather than to charge small extra premiums, a large part of which would be needed to cover the extra substandard expenses.

A final consideration was the pronounced trend in the industry toward liberalizing private pilot ratings. Since it appeared that practically all companies were following this trend they had some assurance that their distribution of future civilian aviation business would not be distorted by an abnormal proportion of aviation risks accepted at standard rates. In view of the serious disadvantages of being out of step with the industry, whether a company is more liberal or less liberal than other

companies, they felt that in this instance it was appropriate to take a reasonably optimistic viewpoint in evaluating the civilian aviation experience.

MR. J. E. HOSKINS reiterated a comment he made at the Eastern Spring Meeting referring to the allegation that pilots are entitled to some consideration by reason of their being select risks. His point was that in ordinary insurance, unlike group insurance, you are on a risk as long as the policy runs. When the pilot ceases to be a pilot by reason of no longer being able to pass the periodical physical examination, you still cover him for life insurance. The facts that he was select at the outset and that a decreasing part of the original body of pilots (those who continue to be pilots) continues to be select have no bearing on the mortality of the original group that you insured.

Turning to another phase of the subject Mr. Hoskins quoted an underwriter as saying that since some companies began giving standard insurance to pilots who fly less than one hundred hours a year, there had been a noticeable disappearance of pilots who fly one hundred fifteen and one hundred thirty hours a year. Mr. Hoskins, in closing, hoped that the labors of the Aviation Committee over the years have not been without some influence in reference to the recent liberalization of aviation ratings.