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# INDIVIDUAL HEALTH—LOSS-OF-TIME

1. Recent morbidity trends

2. Pricing assumptions and variations by:
   a) Sex, occupation class, definition of disability including residual benefits
   b) Supplementary disability benefits
   c) Return premiums and cash value plans
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3. Reserving (active and disabled lives) assumptions and variations by:
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4. Recent marketing and underwriting trends brought about by:
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   a) Public mores
   b) Policy language
   c) Company concern for larger amounts
   d) State regulations

MR. BEN J. HELPHAND: Disability insurance is the most unpredictable and volatile of any of the coverages written by life insurance companies. Those involved in disability income product development and pricing are certainly aware of that.

The disability line was blessed with some 25 years of favorable experience but the situation has changed during the past few years. Loss ratios are up and many companies are posting underwriting losses.

Experience in recent years of the Social Security disability insurance program is of interest. Tables 1 and 2 show the number of workers who were awarded disability benefits each year from 1965 through 1974, claim rates, and actual to expected claims. In Table 3, note that the female rate is less than the male rate at all ages. This can probably be explained in part by the fact that females are primarily in white-collar jobs. The claim rate at ages 55-59 is higher than at ages 60-64, but I do not know the reason for the reduction.

TABLE 1

GROSS DISABLED-WORKER BENEFIT INCIDENCE RATE 1/

| Calendar Year | Millions of Workers Insured 2/ | Thousands of Awards Actual | Thousands of Awards Adjusted 3/ | Gross Rate 1/ | Index 4/ |
|---|---|---|---|---|---|
| 1965 | 62.74 | 254 | 266 | 4.24 | .97 |
| 1966 | 64.69 | 278 | 292 | 4.51 | 1.03 |
| 1967 | 66.74 | 301 | 316 | 4.73 | 1.08 |
| 1968 | 69.04 | 323 | 325 | 4.71 | 1.08 |
| 1969 | 71.24 | 345 | 345 | 4.84 | 1.10 |
| 1970 | 73.42 | 350 | 350 | 4.77 | 1.09 |
| 1971 | 75.28 | 416 | 416 | 5.53 | 1.26 |
| 1972 | 77.09 | 457 | 457 | 5.93 | 1.35 |
| 1973 5/ | 78.78 | 492 | 492 | 6.25 | 1.43 |
| 1974 | 80.77 5/ | 536 | 536 | 6.64 | 1.52 |

1/ The "gross incidence rate" is defined here as the adjusted number of awards per thousand workers insured.

2/ Computed as the average number of workers insured for disability at the beginning and end of the year.

3/ Computed as the actual number of awards plus an adjustment to include the additional awards that would have been made if the 1967 amendments had been in effect.

4/ Computed on the basis of an average "Gross incidence rate" of 4.38 for the period 1965-66.

5/ Estimated values.

TABLE 2

COMPARISON OF DISABLED-WORKER AWARDS
EXPERIENCE AND EXPECTED AWARDS 1/
(in thousands)

| Calendar Year | Disabled-Worker Awards | | | Ratio Adjusted to Expected |
|---|---|---|---|---|
| | Actual | Adjusted 2/ | Expected 1/ | |
| (1) | (2) | (3) | (4) | (5) |
| 1965 | 254 | 266 | 272 | .98 |
| 1966 | 278 | 292 | 285 | 1.02 |
| 1967 | 301 | 316 | 291 | 1.09 |
| 1968 | 323 | 325 | 298 | 1.09 |
| 1969 | 345 | 345 | 303 | 1.14 |
| 1970 | 350 | 350 | 310 | 1.13 |
| 1971 | 416 | 416 | 315 | 1.32 |
| 1972 | 457 | 457 | 322 | 1.42 |
| 1973 3/ | 492 | 492 | 328 | 1.50 |
| 1974 | 536 | 536 | 335 | 1.60 |

1/ The expected awards are based on the estimated ultimate rates experienced by age and sex in calendar year 1965, and on the insured population estimated as if the 1967 amendments were in effect throughout the entire period.

2/ Computed as the actual awards plus an adjustment to include the additional awards that would have been made if the 1967 Act had been in effect.

3/ Extrapolation based on the awards made in the first 11 months of the year.

TABLE 3

DISABILITY INCIDENCE RATES 1/ BY AGE AND SEX ADJUSTED TO REFLECT AWARDS THROUGH 1974

| Age at Onset 2/ | Rate per 1,000 MALES | FEMALES |
|---|---|---|
| Under 25 | 1.171 | .547 |
| 25-29 | 1.586 | 1.019 |
| 30-34 | 2.234 | 1.994 |
| 35-39 | 3.312 | 3.168 |
| 40-44 | 5.002 | 4.610 |
| 45-49 | 8.232 | 7.275 |
| 50-54 | 14.446 | 11.992 |
| 55-59 | 26.465 | 20.746 |
| 60-64 | 25.800 | 14.944 |

1/ The disability incidence rate for a given year is defined as the number of disability awards per 1,000 persons who possess the required insured status.

2/ Age at onset refers to age attained in the calendar year of onset.

Last year I made a compilation of noncancellable disability income premiums earned and losses incurred for 33 life insurance companies. These are companies which write the conventional type of disability income coverage and had more than $1 million of noncancellable premiums during 1973. The figures were derived from Schedule H of the Annual Statement. Here are the results:

| | Premium Income ($ millions) | Claims Incurred | Incurred Loss Ratio |
|---|---|---|---|
| 1973 | $281 | $140 | 50% |
| 1972 | 255 | 117 | 46 |
| 1971 | 232 | 105 | 45 |
| 1970 | 210 | 92 | 44 |
| 1969 | 191 | 80 | 42 |
| 1968 | 175 | 70 | 40 |

I do not have the 1974 figures but John Miller had made a similar compilation which has been brought up to date. His covers the 25 largest companies in my compilation. Here are his results:

| | Premium Income ($ millions) | Claims Incurred | Incurred Loss Ratio |
|---|---|---|---|
| 1974 | $304 | $177 | 58% |
| 1973 | 271 | 134 | 49 |
| 1972 | 246 | 110 | 45 |

A significant point to note is that, during the period covered by these compilations, there was a considerable increase in premium income resulting from a large volume of new business. The loss ratio on this new business

should be low because of the selection process. If so, the loss ratio on seasoned business must be moving up at a steeper rate than indicated by the above figures.

One of the largest writers of disability insurance that is not of the "noncancellable" type was kind enough to furnish us with some recent experience on these policies, as follows:

| | Premium Income ($ millions) | Claims Incurred | Incurred Loss Ratio |
|---|---|---|---|
| 1974 | $ 93 | $ 79 | 85% |
| 1973 | 91 | 73 | 80 |
| 1972 | 85 | 61 | 72 |

It is my understanding that a large percentage of this business is on what most companies would classify as AA, A, and B occupation classes--those working in other than professional or white-collar jobs.

I wrote to 20 of the largest writers of noncancellable policies a few weeks ago and asked for recent experience. I have digested the responses received below.

1. Large mutual company with sizeable volume of noncancellable disability insurance:

   Overall loss ratio has continued to worsen, averaging about 45% in years 1969-71 and reaching 62% in 1974. The increase is even more significant as premiums on new policy editions were reduced over the years.

   It is quite evident that their morbidity experience is particularly bad for blue-collar occupations.

   Now finds that loss ratios are much higher at the earlier policy durations than was formerly the case.

   The loss ratio on California business is about 150% of other states. It is also concerned with possibility that states with low loss ratios may follow Vermont's lead by demanding lower premiums.

   For disabled life reserves, they use average factors during the first 2 years of disability based on previous experience. These factors have been increasing very rapidly. After the first 2 years of disability, they use 1964 Commissioners Disability Table. Recent tests of termination rates during 1974 indicated that disabled life reserves based on 1964 CDT are adequate.

   In regard to marketing and underwriting: Problem in lower-income groups appears to be weighted heavily during first 6 months of disability. Did not previously take into account state cash sickness benefits but are attempting to do this now.

2. Large mutual company with considerable volume of disability premiums:

   1974 disability loss ratio was over 70%, considerably higher than in re-

cent years. Suspect economic conditions as principal cause. Do not know if situation is temporary.

Loss ratios are fairly constant by occupation class and sex, indicating that loadings are consistent.

3. Large mutual company with considerable volume of noncancellable business:

Loss ratio was about 64% in 1971 and 1972, 53% in 1973 and 58% in 1974. Took steps in the past which helped to improve 1973 results.

On most recent policy series for which they have valid experience, actual to expected morbidity is worse in high-risk classes than for professional classes.

Marketing and underwriting trends: Now studying effects of state cash sickness benefits with possibility of altering maximum limits in those states.

4. Mutual company with medium-size noncancellable volume:

Results of 1973 Morbidity Study showing actual to expected claim cost ratios by broad categories. All attained ages combined, accident and sickness claims combined, expected claims based on 1964 CDT:

| Category | | % Ratio |
|---|---|---|
| A. | Male Insureds | 58% |
| | Female Insureds | 132 |
| B. | Occupational Classes 4A and 3A | 45 |
| | Occupational Class 2A | 106 |
| | Occupational Class A | 131 |
| | Occupational Class B (Closed Block) | 206 |

Morbidity and underwriting trends: Recently withdrew 14-day elimination due to extremely poor experience, now offering only 30 days or longer. Withdrew one-year indemnity plan due to very poor experience. Withdrew from Class B occupation class since they felt they could no longer offer noncancellable coverage to this blue-collar class.

5. Nonparticipating company with medium-size noncancellable volume:

Premium volume of $2 million in 1965 increasing to $4 million in 1974. Loss ratio was under 30% from 1965-68, averaged about 43% in years 1969-71, was 48% in 1972, 45% in 1973, and 67% in 1974.

For business written March, 1970 to April, 1973, the loss ratio was 23% on males in first two occupation classes, 74% on next two occupation classes.

Based on results of recent study, suspect that 1964 CDT Life reserves are inadequate.

6. Nonparticipating company with medium-size noncancellable volume:

Approximately 10% of business issued to lower two occupation classes, 10% to 15% to women who are primarily professional type and rest of business to professional-type males.

Loss ratio relatively stable for past several years, under 40%. Loss ratios tend to commence at around 15-20% at duration one grading upward to a high of around 55-70% after the first 5 or 6 policy years.

During 1974, only segments which showed an alarming increase in loss ratio were males in lower two occupation classes and females.

Based on a rather thorough study of claims reserves during past few years, feels that 1964 CDT reserves are adequate.

7. Nonparticipating company with medium volume:

For the 5-year period 1969-73, loss ratios were flat in the aggregate, with modest decrease in claim costs for professional-executive types and modest increase for trade and laboring occupations. For 1974, loss ratio is up 5-8% in the aggregate.

Tests of 1964 CDT disabled life reserves for period for 1969-73 indicate a modest though continuous tendency toward insufficiency for both long and short indemnity periods.

Marketing and underwriting trends: Is taking action on percentage of income insurable and issue limits in view of increasing benefits available under government programs.

8. Nonparticipating company with large volume:

Actual to expected loss ratios for years 1971-74 show deterioration of morbidity in 4A and 3A classes (select risks) for males and females combined. Trend is not so clear for classes 2A, A, and B, but have not yet calculated 1974 loss ratios for those classes.

9. Nonparticipating company with large volume:

Has been experiencing increasing loss ratios for past several years. Some indication that experience has been worse on policies with high benefit amounts and longer benefit periods.

Recently followed 245 noncancellable claims, where insured had been disabled for at least one year, from December 31, 1972 to December 31, 1974. The ratio of actual to expected (based on 1964 CDT) survival rates was 79.4% during 1973 and 95.4% during 1974.

Marketing and underwriting trends: Has included state cash sickness benefits up to $200 ($300 in California) in determining issue limit. Is considering increasing those amounts. Is also considering eliminating long-term benefits if earned income less than $10,000 per year.

In view of recent morbidity experience, is considering increasing premiums for new policies and possibly eliminating any discount (policy fee) for larger amounts of benefits. Because of expense problem is considering changes in the minimum amount of benefits issued.

10. Nonparticipating company with very little noncancellable but large amount of other disability coverages:

    Study made several months ago indicated paid loss ratios favorable for professional people and very poor for blue-collar workers. Little difference between male and female paid loss ratios. Recent experience on association cases written on realtors and building contractors shows adverse experience.

11. Nonparticipating company with large volume:

    Loss ratios have increased sharply in last 2 years, particularly on policies with benefit periods of 5 years or less. Loss ratios in 1st and 2nd policy years are considerably higher than expected.

    Disabled life continuance rates have been moving up. Strengthened disabled life reserves in 1974.

    Marketing and underwriting trends: Considering revising limits of issue downward on those earning less than $15,000 per year.

John Miller just completed a test of reserve adequacy for the 25 largest writers of noncancellable disability. This was taken from Part 3 of Schedule H. His test indicates that the disabled life reserves of these companies at the end of 1972 were 5% short in the aggregate and at the end of 1973 were 10% short.

One of the largest writers of disability insurance which is not noncancellable furnished us with the results of studies of their disabled life continuance rates during the past 5 years. They took the number of claims at the beginning of each calendar year and calculated the actual number still continuing at the end of the year and compared this with the number expected according to the 1964 CDT.

For claims in their nth year of disability at the beginning of each calendar year, the actual to expected continuance rate during that calendar year was as follows:

ACTUAL TO EXPECTED CONTINUANCE RATE

| Claims in force at beginning of | Duration of disability at beginning of year | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1969 | 52% | 74% | 86% | 92% | 91% | 95% |
| 1970 | 55 | 75 | 87 | 90 | 93 | 96 |
| 1971 | 65 | 79 | 92 | 92 | 92 | 95 |
| 1972 | 68 | 83 | 94 | 97 | 97 | 97 |
| 1973 | 69 | 85 | 100 | 100 | 101 | 97 |
| 1974 | 74 | 84 | 97 | 100 | 96 | 102 |

(There were 9,731 claimants on 1/1/74, indicating the large number of exposures involved.)

The results clearly point out that the continuance rates have increased steadily from 1971 on, and that the CDT reserves appear to be adequate from the 3rd year on.

I have reviewed experience on noncancellable policies. Let me add Pacific Mutual's experience on our guaranteed renewable disability policies (we do not issue noncancellable). We have roughly $6.0 million of premiums in force. Our

loss ratio has increased from around 47% in the late 1960's to 66% in 1974. The increase has occurred in the white-collar market as well as the blue-collar market, but is definitely more pronounced in the latter. The loss ratio on California business is running at about 35% higher than the rest of the country. Our disabled life reserves have been inadequate in the first 2 years of disability but are holding up fairly well after the second year.

In summary, disability income loss ratios have increased in recent years and are now reaching a critical point. The questions facing us are: To what extent is the increase due to economic conditions? How long will the current recession continue and will the picture get worse? To what extent is the increase in loss ratios due to changes which have occurred in the risk we are insuring?

Consider the following, each of which has changed the risk we are insuring, keeping in mind the subjective nature of disability:

1. The longer benefit periods now being written.
2. The higher amounts of indemnity being issued.
3. Liberalizations in the definition of disability and other policy provisions in recent years.
4. Consumerism, and the increasing claims consciousness of the public.
5. The impact of court decisions.
6. The ever-expanding role of government-sponsored disability programs resulting in overinsured policyholders.
7. The influence of liberal claim settlement practices of social insurance.

One of the disturbing facts, when one ponders this last question, is that a large volume of new disability premiums has been written in recent years. The bulk of this business has been written at younger ages. The rate of disability is not significant until people approach age 50. If the above changes in the risk insured do have an impact on loss ratios, the industry may not feel the full brunt for ten to fifteen years.

The one positive factor has been inflation. The person insured ten years or more ago for $200-300 per month is no longer overinsured, if that is all he has.

MR. DONALD R. SELSER: We have noticed a steady deterioration of loss ratios since 1968. Data on our most popular plan for 1968 through 1973 has been as follows:

2-YEAR BENEFIT PERIOD PLANS, MALE LIVES
EXPERIENCE FOR 1968-1973, ALL OCCUPATION CLASSES COMBINED
OCCIDENTAL LIFE INSURANCE COMPANY OF CALIFORNIA

| Year | Earned Premium | Incurred Claims | Loss Ratio |
|---|---|---|---|
| 1968 | $ 1,545,588 | $ 697,378 | 45.1% |
| 1969 | 1,701,653 | 906,520 | 53.3 |
| 1970 | 2,034,822 | 1,132,449 | 55.7 |
| 1971 | 2,265,665 | 1,380,217 | 60.9 |
| 1972 | 2,487,627 | 1,737,873 | 69.9 |
| 1973 | 2,313,945 | 1,607,305 | 69.5 |
| Total | $12,349,300 | $7,461,742 | 60.4% |

We introduced a new rate book in August, 1972. We recently looked at the paid experience through year-end 1974 and compared it with the first 29 months

of paid experience in the rate book we introduced in 1968. I should point out that the business was written on identical policy forms and only the rates have changed. Effectively, the 1972 rate levels on our 2-year benefit plan are 20% higher than the 1968 rate levels, in the aggregate. Most of the increases were in the blue-collar classes.

In spite of this, our paid loss ratio on this plan is 44% cumulative under our current rate book compared to 26% at a comparable point in time after introducing the 1968 rate book. We do not really know the exact cause or causes. We doubt that there is only one cause operating. I believe that this deterioration is due partially to the change in the economic climate, part to the escalation of government benefits over this period of time and part to the fact that we have recruited very heavily in the past 3 years. In other words, I believe our field underwriting has deteriorated with the influx of inexperienced agents.

Our loss ratios are definitely running higher on blue-collar workers than on select occupations as the following table indicates:

2-YEAR BENEFIT PERIOD PLANS, MALE LIVES
EXPERIENCE BY OCCUPATION CLASS, 1968-1973*
OCCIDENTAL LIFE INSURANCE COMPANY OF CALIFORNIA

| Class | Earned Premium | Incurred Claims | Loss Ratio |
|---|---|---|---|
| 1 | $ 4,921,904 | $2,080,071 | 42.3% |
| 2 | 2,517,423 | 1,691,824 | 67.2 |
| 3 | 4,235,342 | 3,060,771 | 72.3 |
| 4 | 674,631 | 629,076 | 93.2 |
| Total | $12,349,300 | $7,461,742 | 60.4% |

*On business written between April 1, 1960 and August 1, 1972

We have made substantial changes in both our marketing and underwriting philosophy due to other coverages such as Social Security, state cash sickness benefits and Workmen's Compensation coverage. Our new rate book will, for the first time, take into account Workmen's Compensation Benefits and Social Security Benefits directly. For several years we have counted cash sickness benefits, but not as heavily as we will now be doing. Very briefly, we are counting cash sickness benefits at their actual value in our limits. We are counting Social Security and Workmen's Compensation at $400 per month, regardless of age, family status or income level. However, we do not count the overlap between Social Security and Workmen's Compensation.

Under our new rules, we will issue an amount which, when combined with other coverage, will not exceed 80% of the first $1,000 of monthly earned income. Undoubtedly, 80% sounds extremely high to many of you and we agree. However, this will result in our having lower issue limits than most companies currently marketing disability income. For example, an applicant earning $1,000 per month can qualify for only $400 per month of 24-months' coverage. If he has no other coverage in the first 6 months, we will offer a $400 per month nonoccupational disability income rider to fill the gap before Social Security benefits commence.

In the State of California, which has the richest cash sickness plan, we will issue only $290 per month to an applicant earning $1,000 per month. As circumstances dictate, we will increase the value assigned to both Social Security and Workmen's Compensation Benefits, thereby reducing our limits. We will

also consider dropping the percentage of income which we will insure to 75% or 70%, if necessary, including the government-mandated benefits.

There are many more variables involved in disability pricing than there are in life insurance pricing. We recently completed a repricing of all of our disability income products. About five years ago, Occidental put on line a health policy accounting system, which is really a variation of the ALIS system applied to health insurance. As a result of this system, we had fairly sophisticated and detailed data. For example, we found that we were experiencing tremendous variations in voluntary lapse rates by occupation class, amount of monthly benefit purchased, age at issue, mode of premium payment, and the length of the sickness benefit period. These variations were a major input to our repricing. We also found much more variability in claim rates by occupation class than we had previously thought to exist. When all was said and done, we found that our new rates were quite comparable to our existing rates in the two least hazardous occupation classes on a five class system, but the rates for the lower three classes were substantially increased. These new rates will become effective within the next 30 days. While initially we do not expect to find ourselves competitive with many of you in the three most hazardous classes, we feel that it is only a matter of time before most companies will be bringing their rates into line with ours.

Let me share with you some of the details which went into our premium assumptions. The first thing I will discuss is lapse rates. In health insurance, they have a tremendous impact on the premium levels. The following Table I provides Occidental's experience.

Our first-year lapse rate on guaranteed renewable business for all sizes combined was 32.8%. For policies issued with monthly indemnities of $100 through $150, the lapse rate was 45.1%. For policies issued for $601 or more of monthly benefit, the lapse rate was 21.9%. Even in the second year, the lapse rate for policies issued for $100 through $150 per month was 1 1/2 times the lapse rate for policies for $601 or more. Occidental, unlike many companies, offers both a guaranteed renewable and a noncancellable product portfolio. We found substantial differences in persistency between these two blocks of business. For example, the first year lapse rate for noncancellable products was 23.5% compared to 32.8% for guaranteed renewable plans.

By occupational class, there were also substantial variations. In our class A group, which consists mainly of professionals and high-income executives, the lapse rate was less than 11% compared with over 45% for our most hazardous occupation class. For occupation class 1 risks, the first year lapse rate was 27%.

By mode of premium payment, we found that our first year lapse rate on guaranteed renewable business was 22% on annual cases, 34% on quarterly, and over 44% on monthly business. Our preauthorized check business gave persistency about the same as the annual mode.

By age at issue, we also found substantial variations. The first-year lapse rate for ages at issue 20 through 29 was nearly 41% but was less than 20% for issue ages 50 through 59.

We also found that the longer the benefit period purchased, the better the first-year persistency. I might add that we found substantial variations for different elimination periods. As you might suspect, the longer the elimination period, the better the persistency. Our worst results were experienced on 7-day elimination period plans. Partly as a result of these findings, we will no longer offer 7-day elimination period plans in the new rate book. Our results are consistent with (but worse than) those which have been reported at various times by Mr. Charles Soule of Paul Revere Life Insurance Company.

The following Table II presents a comparison of first-year lapse rates between regular disability income plans and plans which provide for cash values.

TABLE I

Variations in Voluntary Lapse Rates

A. By Monthly Benefit Amount Purchased

| Monthly Benefit Amount | Guaranteed Renewable Lapse Rate in Policy Year 1 | 2 | 3 | Noncancellable Lapse Rate in Policy Year 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $100 - $150 | 45.1% | 23.2% | 17.6% | 35.9% | 13.6% | 6.9% |
| $151 - $250 | 41.1 | 24.0 | 14.9 | 25.9 | 22.0 | 13.5 |
| $251 - $400 | 36.8 | 20.9 | 15.4 | 22.4 | 14.5 | 9.4 |
| $401 - $600 | 29.4 | 18.0 | 16.3 | 22.8 | 11.8 | 10.4 |
| $601 and over | 21.9 | 16.4 | 14.1 | 23.4 | 23.5 | 13.7 |
| Average | 32.8% | 19.7% | 15.3% | 23.5% | 17.1% | 11.2% |

B. By Occupation Class

| Occupation Class | Guaranteed Renewable Lapse Rate in Policy Year 1 | 2 | 3 | Noncancellable Lapse Rate in Policy Year 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| A | 10.7% | 17.4%* | 13.8%* | 23.6% | 18.1%* | 10.9%* |
| 1 | 27.0 | 17.4 * | 13.8 * | 20.6 | 18.1 * | 10.9 * |
| 2 | 35.0 | 22.1 | 16.0 | 26.3 | 15.0 | 11.0 |
| 3 | 39.9 | 22.4 | 18.7 | 28.8 | 16.0 | 12.1 |
| 4 | 45.5 | 24.0 | 17.1 | 16.8 | 19.8 | 9.6 |
| Average | 32.8% | 19.7% | 15.3% | 23.5% | 17.1% | 11.2% |

*Class A and 1 combined in Years 2 and 3

TABLE I

(CONT.)

C. By Mode of Premium Payment

| Mode of Payment | Guaranteed Renewable Lapse Rate in Policy Year 1 | 2 | 3 | Noncancellable Lapse Rate in Policy Year 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| Annual | 22.0% | 17.5% | 13.4% | 21.5% | 11.9% | 14.1% |
| Semiannual | 27.2 | 18.6 | 16.1 | 20.6 | 12.7 | 11.0 |
| Quarterly | 34.0 | 21.2 | 15.5 | 23.5 | 17.2 | 8.9 |
| Monthly | 44.5 | 21.8 | 17.2 | 33.3 | 26.8 | 6.3 |
| PAC | 23.3 | 16.2 | 12.5 | 12.6 | 14.5 | 17.4 |
| SD | 45.5 | 33.7 | 22.8 | 34.4 | 14.9 | 18.9 |
| Average | 32.8% | 19.7% | 15.3% | 23.5% | 17.1% | 11.2% |

D. By Age at Issue

| Age at Issue | Guaranteed Renewable Lapse Rate in Policy Year 1 | 2 | 3 | Noncancellable Lapse Rate in Policy Year 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| 20-29 | 40.8% | 25.3% | 19.0% | 28.7% | 19.0% | 13.7% |
| 30-39 | 31.3 | 18.7 | 14.9 | 24.8 | 18.3 | 10.7 |
| 40-49 | 27.1 | 16.2 | 11.5 | 17.4 | 14.9 | 11.3 |
| 50-59 | 19.7 | 13.9 | 18.1 | 15.1 | 9.2 | 2.2 |
| Average | 32.8% | 19.7% | 15.3% | 23.5% | 17.1% | 11.2% |

TABLE I

(CONT.)

E. By Length of Sickness Benefit Period (Male Only)

| Benefit Period | Guaranteed Renewable Lapse Rate in Policy Year 1 | 2 | 3 | Noncancellable Lapse Rate in Policy Year 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| 2 Years | 36.4% | 21.6% | 16.4% | 24.5% | 15.6% | 10.1% |
| 5 Years | 25.6 | 16.3 | 12.5 | 26.7 | 14.9 | 10.6 |
| To 65 | 19.3 | 14.2 | 12.1 | 19.1 | 23.7 | 16.6 |

F. First Year Lapse Rate by Elimination Period within Occupation Class
2 Year Benefit Period Guaranteed Renewable, Male Only

| Elimination Period | | Occupation Class | | | | |
|---|---|---|---|---|---|---|
| Accident | Sickness | A | 1 | 2 | 3 | 4 |
| 0 | All | 0% | 37.2% | 45.7% | 44.4% | 41.6% |
| 7 | 7 | n/a | 38.9 | 45.6 | 51.3 | 50.0 |
| 14 | 14 | 21.3 | 41.0 | 31.4 | 40.2 | 49.4 |
| 30 | 30 | 21.9 | 21.2 | 30.8 | 33.2 | 44.2 |
| All other* | | 23.2 | 19.4 | 34.0 | 32.2 | 22.6 |
| Average | | 20.8% | 29.1% | 37.1% | 41.3% | 45.9% |

*90-90, 120-120, 180-180

TABLE II

Variations in First Year Lapse Rates
*Cash Value vs. Regular Disability Income*

A. By Mode of Premium Payment

| Mode | Cash Value | No Cash Value |
|---|---|---|
| Annual | 2.2% | 21.5% |
| Semiannual | 9.7 | 20.6 |
| Quarterly | 5.2 | 23.5 |
| Monthly | 25.3 | 33.3 |
| PAC | 24.9 | 12.6 |
| Average | 16.4% | 23.5% |

B. By Monthly Benefit Amount Purchased

| Monthly Benefit | Cash Value | No Cash Value |
|---|---|---|
| $251 - $400 | 24.5% | 22.4% |
| $401 - $600 | 18.1 | 22.8 |
| $601 and over | 2.7 | 23.4 |
| Average | 16.4% | 23.5% |

We are relatively new in offering cash value plans and have not had a great deal of sales. The first-year lapse rate on policies with cash values amounted to 16.4% compared with 23.5% for plans without cash values. Policies issued for more than $600 of monthly benefit had 97% persistency on cash value business. Persistency on the annual premium mode was nearly 98%. This indicates to me that the people who are buying these plans for tax reasons are the ones who are accounting for the differences in the persistency.

I would like to discuss claim costs. For pricing, we determined our male claim costs in the first year of the benefit period, using a 14-day elimination period as the base.

TABLE III

Basic Male Claim Costs for One-Year Benefit Period Plan

For Each $100 of Monthly Disability Income
14-14 Elimination Period

| | Occupation Class | | | | |
|---|---|---|---|---|---|
| | A | 1 | 2 | 3 | 4 |
| 25 | $ 5.05 | $ 5.41 | $13.50 | $19.90 | $30.80 |
| 35 | 7.32 | 7.78 | 15.80 | 21.20 | 33.90 |
| 45 | 9.64 | 10.29 | 20.30 | 26.20 | 39.70 |
| 55 | 15.46 | 16.42 | 29.90 | 34.50 | 51.80 |

These claim costs were based on claims incurred in 1971 and 1972. Variations in the claim costs by age and occupation class surprised us some and may be of general interest. As you know, intercompany experience under individual

disability income policies is summarized in the TSA Reports in two occupational groupings. Most life companies use a minimum of four occupational classifications and many use five or even more. Occupational Group I in the intercompany data is composed of our occupational classes A, 1 and 2. The most surprising feature of our claim cost data was that occupation class 2 exhibited claim costs about double those of our occupation class 1. For intercompany Group II risks, our experience shows that the heavy manual labor class 4 risks have a 50% higher claim cost than our class 3 risks. Illustrative claim costs based on our own experience for a one-year benefit period with a 14-day elimination period used in our pricing are shown in Table III.

To derive 30-day elimination period claim costs, we used the relationships by age and elimination period for Group I and Group II as developed by Mr. E. Paul Barnhart and published under the title: "1971 Experience Modification of the 1964 Commissioners Disability Table." For 90-day elimination period plans, we took 60% of the 30-day claim costs. For 180 days, we took 48% of the 30-day elimination claim costs. This left us with basic claim costs for a one-year benefit period plan. We called this our "Part A" claim cost. We used this to develop hypothetical rates for a one-year benefit period plan. We called this our "Part A" premium. To develop the additional premium for the plans we are actually offering, we had to develop a "Part B" premium. This was determined as the product of the following three factors: (1) the difference in the valuation net premium for the benefit period and that for a one-year benefit period, both for 14-day elimination period coverage; (2) a class - age loading factor which converted net premiums to gross premiums by loading for marginal expenses, taking into account the variation in lapse rates by issue age and the ratio of the claim costs by occupational class; and (3) an elimination period adjustment factor to adjust for the fact that claim costs in the second and subsequent years are slightly lower when the elimination period is longer than 14 days. The actual premium rates were ground out by Hoskins' method.

Since our new rates are based on these claim costs as well as our persistency data by age and occupation class, our new rates are much higher, at least for classes 2 and 4. The rates for classes A and 1 are about the same as in our current rate book. Class 3 rates are also being increased, but not nearly so much as for classes 2 and 4.

We did not have a great deal of female experience on which to base our rates. First-year claim costs for females were derived from Barnhart's modification of the 1964 Commissioners Disability Table. Since we had little to go on with regard to female experience beyond the first year of disability, we arbitrarily assumed that these relationships would hold regardless of benefit period. Female lapse assumptions were slightly higher than comparable male lapse assumptions based primarily on our own experience, while female average sizes were assumed to be somewhat lower than comparable male policies, again based on our own experience. I must confess that the final female rates were not the same as the theoretical rates developed. As is often the case in this business, "armchair methods" were used to some extent. By this I mean we did not like the female rates compared with our current rates and those of competition so we arbitrarily cut them, particularly at the older ages.

Our new noncancellable policy contains a residual disability benefit. We will continue benefits under this policy as long as the insured is unable to engage in his occupation and is not actually engaged in another. In effect, we have a "to age 65" definition of disability in his occupation. If the insured engages in another occupation, we will continue full benefits until the end of the first year of disability. Thereafter, benefits will be reduced in proportion to his loss of income. Our policy does not provide for a residual benefit if the insured is partially disabled in his occupation. Instead, we offer a traditional six-month partial disability benefit. To allow for the addition-

al cost of the guarantee against rate increases, the residual benefit and the long-term his-occupation clause, first-year claim costs were loaded by 20% over the expected claim costs on guaranteed renewable products. The "Part B" premium, which covers the cost in excess of a one-year benefit period plan, was loaded 10%. This resulted in rates about 10% higher than comparable rates for guaranteed renewable coverage.

Our new portfolio will contain a one-year nonoccupational disability policy. It has been designed as a complement to Workmen's Compensation since we will be counting Workmen's Compensation benefits against our participation limits. Fortunately, for several years we have been keeping track of our claims by cause of disability in broad categories. All of our claims are coded either sickness, occupational accident, or nonoccupational accident. We eliminated from consideration all policies having first-day accident benefits and those having less than a 14-day elimination period. For our select risks and our best class combined, occupational accidents accounted for 7% of claims; for class 2, 16%; for class 3, 26%; and for class 4, 38%. At the younger ages, the percentages were higher than those just mentioned. In their paper entitled, "A Mathematical Model of the Incidence of Disability," John H. Miller and Simon Courant have stated: "For the younger ages, there is some evidence that the experience in the early policy years may actually be higher than the ultimate at the same attained age. Only above age 50 is there any clear indication that the amount of disability claimed in the early policy durations is significantly lower than the corresponding ultimate experience." This data is consistent with our own experience data by policy duration. However, we do find some evidence of selection in our top 2 occupation classes. In the two most hazardous classes, there is no selection evident and experience appears to be ultimate. In my opinion, the high percentage of accident claims in the more hazardous occupation classes accounts for most of this result. There is simply no way the underwriter can effectively underwrite against the risk of accident.

Before proceeding, I would like to mention that I am deeply indebted to Harry Young, F.S.A., who was ably assisted by Darrel Yuen in developing both the approach which was used and doing the actual work.

One of the subtopics under item 2 is the effect of minimum loss ratio requirements. I have heard comments from some companies that the minimum loss ratio regulations have had no impact on them. I have also heard comments from others that the requirements of at least the state of Michigan have been found to be a problem. I suppose the answer to this question does vary from company to company. I can only say that, for us, the Michigan loss ratio requirements do pose a problem on guaranteed renewable policies. As many of you know, Michigan requires a 55% anticipated loss ratio over the lifetime of the contracts. Knowing we would be faced with these requirements when we began our repricing, we made certain underwriting changes to improve the percentage of premium return to the policyholder. For example, our new rate book will contain a minimum monthly benefit of $200.00. We simply know that it is impossible to return 50% of premium for policies issued for less than this amount. I have already quoted persistency data on the monthly premium mode. We came very close to eliminating this mode but finally compromised under agency pressure and instead will impose a minimum monthly premium of $20.00, which will enable us to continue business-type sales on a monthly premium basis but virtually eliminate this mode of payment from the general market. We have also imposed a minimum earned income requirement of $750 per month to qualify for our regular disability income plans. Actually, the minimum earned income requirement in states having cash sickness laws is higher.

The minimum loss ratio requirement is, in effect, a maximum expense ratio law. Centering on the 55% loss ratio requirement for guaranteed renewable pol-

icies in Michigan, what we are really faced with is a 45% maximum limit on the present value of future commissions, taxes, expenses, and profit. The ultimate result will be virtual abandonment of sales to individuals in lower income categories, particularly in the blue-collar markets. In order to offer coverage in these markets, companies will have to find a cheaper distribution system than regular individual sales on a face-to-face basis. The minimum loss ratio requirements will also have another impact on companies. In order to justify rates and particularly rate increases, companies are going to have to develop much more sophisticated data on their lapse and morbidity experience. This may put quite a burden on the smaller companies since the cost of developing a sophisticated statistical system can be quite high.

I would like to make one further observation. We see the impact of the economy on disability income experience. What period do we take as being a normal period? The experience through the 1960's was particularly favorable. In 1970, the experience began to deteriorate because of the economic situation. All indications I have are that the experience was at the 1970-1971 levels for the years 1972 through 1974. Now we are in the midst of an economic mess which is even worse than the recession of 1970-1971. In my opinion, the experience of the 1950's and 1960's is not representative of what we can expect in the future. I believe the experience for the years 1970 through 1974 are more representative of what we can expect in the future. I might add that I expect claim rates in 1975 will be substantially higher even than these levels. I doubt that many companies have assumed anywhere near current claim cost levels in their premium assumptions. We have already begun to see some companies adjusting rates upward, and I expect to see a great deal more of this in the very near future.

CHAIRMAN ROBERT B. SHAPLAND: Would poor persistency cause higher or lower premium rates?

MR. SELSER: It depends on where you are getting the poor persistency, but, in general, I would say it would lower rates.

CHAIRMAN SHAPLAND: You are talking about increasing claim experience after year of issue. We have made detailed studies and find for accident insurance the worst experience is in the first year and it gets better every single year thereafter, but sickness is just the other way around. This is true of accident-medical policies, as well.

Did you give any consideration to a higher rate in California?

MR. SELSER: Our loss ratios were 50% higher in California and we have, in the past, attributed this to the UCD situation. However, Prudential has not had the same results in New York or New Jersey which also have State benefits, and has had 50% higher claim costs in California. Perhaps there are other causes.

We did give serious consideration to a variation in rates, but we did not do it because of agency objections. I anticipate that we will do it in the next rate book revision, although not until we can analyze the problem and solve it. we are concerned about Vermont's requiring lower rates based on State experience.

CHAIRMAN SHAPLAND: We raised the same questions in Mutual of Omaha, with the same result.

MR. ANTHONY J. HOUGHTON: There may be the same danger in correcting for unfavorable factors if you do not know the cause. For example, consider claim costs for a 30-day elimination versus 7 days. There is a theory that the dis-

proportionate high claim cost for the 7-day benefit is due to a tendency for people who are disabled to remain disabled longer if they are receiving payments. There is another theory that poorer disability risks will tend to buy the 7-day plan rather than the 30-day plan. If the company eliminates the 7-day plan, those poorer risks may then be forced to buy the 30-day plan, and past experience on 30-day plans may not be valid any longer. Claim costs or persistency by policy size may be affected by similar distributions of risks and raising minimum size may not solve the problem. Elimination of monthly mode business may also not be the answer to poor claim experience on such business if these people change to quarterly and reduce their premium by buying a longer elimination period. You may find margins revised on the longer elimination periods.

MR. SELSER: I agree, but we are hopeful these risks will go to another company still selling in these areas.

MR. DONALD E. KREIDER: How long are you going to be able to keep separate rates or underwriting distinctions for females, particularly in Oregon?

MR. SELSER: I am a member of the subcommittee on sex discrimination of the Health Insurance Association of America (HIA). At the present time, we do not feel that rates will need to be the same for males and females; however, some of the logic expressed in recent court decisions is frightening. They ignore averages and consider the individual only, for example, requiring that a man who lives 20 years should receive the same annuity income as a woman who lives 20 years. This type of analysis could lead to no rate differentials by age. Why have different rates for a person aged 60 and aged 65? The person aged 60 may die first.

CHAIRMAN SHAPLAND: How do you substantiate rate differences? One of the Carolinas has a rule which says young males must not be charged more on auto insurance.

MR. WILLIAM L. HEZZELWOOD: Are loss ratios by agent used and are they valid?

CHAIRMAN SHAPLAND: We calculate loss ratios by agent and take action.

MR. HELPHAND: We will take action, but we must have at least three years' experience and individual claims must be analyzed.

MR. SELSER: If you are going to justify action based on loss ratios, you need two or three years' experience. We have found a definite correlation between poor persistency and poor claim ratio. So we are also considering the quality of business submitted as to persistency, and we get after the agent right away.

MR. HOUGHTON: This topic deals with the reserving practice for active and disabled lives on both a statutory and GAAP basis.

Let me comment on Active-Life Statutory Reserves. Most companies do not differentiate between male and female lives except as they are covered under policy forms with different benefits. This is true for some companies even though a female risk may have a special limitation on benefits, such as a reduction for disability occurring when not employed away from home. Most companies do not vary their Active-Life Reserves by occupational class, and this is justified by the construction of the 1964 CDT which used a mixture of nonhazardous and hazardous occupations.

The definition of disability which is intrinsic to the 1964 CDT table after

two years is probably any reasonable occupation for which the insured is suited because of training, education, and experience, since the termination rates after the first year were based on the 1930-50 termination rates for Benefits 2 and 3 under disability riders attached to life policies. Therefore, for policies which have a more liberal "his occupation" definition or a more restrictive "house confinement" definition, it might be reasonable to modify the 1964 CDT. However, in practice this is seldom done.

The reserves for supplementary disability benefits, such as partial accident, waiver of premium, minimum periods for specific injuries and full maximum period coverage for loss of sight, hearing, speech, or two limbs, are valued with varying degrees of precision by different companies. For some benefits where the cost is quite low, the benefit reserve is ignored. Some companies relate the premium cost to the premium cost of the total disability benefit and prorate the total disability reserve upward in proportion. In the case of waiver of premium, a common approach is to calculate the monthly gross premium and add this amount to the monthly indemnity amount and reserve the total for the same plan benefits as the basic plan benefits. Of course, this is not exactly correct since the basic plan benefits might be a 30-day elimination period and a 5-year maximum benefit period, while waiver might be a 90-day elimination period and a to-age-65 maximum benefit period.

Some companies extract the supplementary benefits and value them independently using assumptions consistent with their gross premium assumptions.

The return-of-premium rider which provides, as an example, for a return of 80% of the premiums paid at the end of a ten year period if the policyholder's claims during this period are less than 20%; and for a rollover when the 20% limit is exceeded or upon payment of the ROP benefit at the end of ten years, has been handled in several ways for statutory reserves. One method which is very objectionable is to accumulate the assumed net premiums. Another is to make an actuarial calculation using death rates, disqualifying disability rates, and voluntary termination rates to produce a net premium and reserve values for the rider. Some of the questions about this method involve full net level or 1-year or 2-year preliminary term reserves; whether any voluntary lapse rates should be allowed; whether rollovers can reuse the same factors which were developed for use during the first ten years. In reviewing some calculations, our office has found substantial errors in methods used, and use of very unlikely assumptions. The most likely source of error is in the lapse assumptions made in the calculation and this is especially true for a rollover or subsequent "return period." Because of the problems associated with a lapse assumption and dubious legitimacy of using lapses for a statutory reserve, our office calculates the reserves for such riders using an assumption of no voluntary lapses and on a net level premium basis, based on the attained age at the inception of the refund period. For disqualifying terminations, we grade down from the 5th year to the 10th, using a lower assumed claim rate than we get from the 1964 CDT table, on the basis that small claims which would cause disqualification will not be submitted.

The cash value rider is typically one that returns 100% of gross premiums at age 65 less claims paid to the insured, with a lesser percentage for a termination before age 65.

The cash value type of premium reserve is a little more straight-forward to calculate, since, the insurance period and actual gross premium paid during this period is known and there is no reason for an insured not to submit all his claims.

There are several techniques for valuing this type of rider or plan. We have reviewed one company which sets up a life insurance type of calculation using an Endowment at 65 reserve for the premiums paid less disability claims paid. Our favored technique is to project the probable refund at age 65 and to

accumulate to this amount using an interest-only calculation on a 1-year preliminary term basis. For many years, the reserve is greater than the largest possible cash value; however, when the policy is quite close to 65 it would be possible for the reserve on the policy to be under the cash value. In order to cover that situation, we set up a procedure for valuing the policies by maturity years to insure that the aggregate reserves for all policies are greater than the cash values.

Leaving the statutory active-life reserves for the present, I would now like to discuss the statutory disabled-life reserves and the variations in technique that we find in the industry.

First, we find that most companies use the 1964 CDT as a standard for claims that are over 2 years old. That is true because it is a statutory requirement for companies in most jurisdictions. The reserves do not usually vary by sex or occupational class. However, we are finding a very significant problem with proper reserving of claims based on the definition of disability, where a "his occupation" or a "house confinement" definition is involved. For example, suppose a policy provides a sickness benefit to age 65 with a 5 years "his occupation" clause and the insured is disabled under the "his occupation" definition and has been for 2 years. The impairment which disqualified him from practicing his profession might not prevent him from working at another career which is a reasonable one for his training; for example, a doctor with arthritis who is now the hospital administrator earning $30,000 instead of the $60,000 he earned as a surgeon, or an airplane pilot with high blood pressure who is now working on scheduling for $18,000 instead of for the $60,000 he earned as a pilot. In these cases, some companies want to value the claim reserve for the balance of the 5-year period rather than to age 65. They argue the man is not disabled now and is in fact working so that the current payments are being made only because of the "his occupation" definition. The same line of argument applies to the "house confinement" situation. The company may have a 2-year nonconfining benefit and is paying a claim to an insured who is not now house-confined so that at the end of the nonconfining period the disability payments would cease. The counter argument is that the insured's condition may deteriorate and after the nonconfining period he will actually begin qualifying for a benefit on the basis of "house confinement."

Our position has been to accept the shorter benefit period on those cases where the facts fully support the assertion that the insured is not now disabled under the long-term definition, and that his condition is unlikely to deteriorate to enable him to qualify after the initial benefit period. We feel the burden of proof is on the company to document this, and only to assume it if overwhelming evidence is not available to the contrary.

The reserving of claims for short-duration disabilities has allowed companies to use either a morbidity table such as the 1964 CDT, or their own experience if they had a method or factor which had proven effective in setting up a sound value for the liabilities.

Many companies have special situations where their short-term factors are legitimately different from others in the industry, and a "house confinement" provision after 1 year or 4 months is an example of the type of contract provision which can affect very early claim reserves.

For many companies, a mathematical follow-up system using the results of the previous 2 or 3 years applied against an insurance variable, such as annualized premium income or monthly indemnity in force is used for both pending and unreported claims. Others use such a method only for unreported claims and their own table for short-term open and pending claims. For many the short-term table is a percentage of the 1964 CDT. In prior years, this table was often substantially less than the 1964 CDT, perhaps as low as 50%; however, emerging experience and cautionary articles by health actuaries have caused many com-

panies to increase the percentage. For example, one large writer who conducts a continuous follow-up study strengthens reserves on claims under 1 year old from 70% of the 1964 CDT to 86% of the 1964 CDT. In general, we feel that a value lower than the 1964 CDT must be justified by substantial actual experience and, for a company without such experience, it is not appropriate to use a lower value because another company does so. The other company might be justified by reason of special conditions which do not exist for the copying company.

We do have 2 or 3 clients who reserve for long-term claims (over 2 years) on a stronger basis than the 1964 CDT by either taking a percentage, such as 125%, or going to an ultimate value sooner. Some have condensed the number of select tables in a conservative manner.

Now, I will discuss the handling of the active-life reserves on a GAAP basis. Let me say first that my remarks are basically about the benefit reserve and not the acquisition expense asset which is often handled outside the benefit calculation, although it should be consistent with the benefit calculation or more conservative.

Many companies with small volumes have adopted the statutory reserves on a net level premium reserve basis for their GAAP benefit reserve. This is obviously not the most elegant approach since it disregards occupational class, lapses, and select morbidity, and uses a low interest rate. However, when there are so very many reserve factors which have to be produced and few policies in each cell, the practicality of the decision overcomes the technical objections. We have reviewed a model of one client where we had computed the original gross premium scale and, therefore, could compare the GAAP factors using the realistic assumptions with the reserves on a statutory net level premium reserve basis. In the aggregate, the reserve amounts and increases each year for the period in question were not too dissimilar. That would not always be the case, however, and we feel that, when the block of business is large enough to be material, some special factors should be developed even if a fair amount of grouping by age, occupational class and benefits is done.

Companies with large blocks have used various degrees of sophistication in producing GAAP factors. One of our audit clients went back to 3 basic continuance tables based on their own experience for professional, white-collar and blue-collar to develop factors which used realistic lapse rates which varied by occupational class, and interest rates that varied by issue dates. They did not, however, incorporate into the basic continuance tables the varying definitions of disability which have evolved in the last 10 years or so. Actually, for many companies, there has been very little experience with the longer-term effect of a "his occupation" clause which is over 2 years or over 5 years. In many cases, when the latest gross premiums were introduced the liberalization in this area was not priced but was added without any specific margin.

The smaller supplementary benefits are often valued for GAAP using the statutory values, since their aggregate reserves are relatively small.

On the return-of-premium riders which are valued on a GAAP basis, those companies that used a lapse rate in their statutory value often adjusted by using a net level premium reserve instead of a preliminary term reserve. In the case of the reserves our office has calculated, we modified our statutory calculation, which used a 3-1/2% interest rate and no lapses and a 1964 CDT level of disqualifying claims, to use a 5% interest rate, a relatively low lapse rate such as 10% after the first year grading down to zero after the 9th year and a level of disability terminations that reduced to 5% for the last 5 years reflecting the nonsubmission of small claims.

The calculation of the cash surrender value return premium on a GAAP basis for some companies has been accomplished by using their statutory factors on a net level premium reserve basis as opposed to preliminary term. Our office has

used a direct approach, using realistic assumptions for lapses, claims, surrender values and interest.

The GAAP approach to disabled-life reserves has been to use statutory values, or a statutory table combined with a realistic interest assumption such as 5%.

MR. ROBERT C. TOOKEY: Latitude has been given to the company which does not wish to use the 1964 CDT tabular factors for claims of less than two years duration and statistical approaches can be used when appropriate. Where a very small volume of data is available because the company has a very small amount of disability insurance on its books, the "case basis" approach is often used for claims of early duration, where each claim is analyzed on its own merits.

We made a calculation in the course of our GAAP studies to determine the degree of redundancy in statutory tabular disability reserves assuming a 5 1/2% interest instead of the tabular 3% interest.

In the first case, we employed the same termination table that was used in the development of the CDT reserves, and, in the second case, we assumed termination rates equal to 150% of CDT termination rates. The results are tabulated below for the "to age 65" plan and the "lifetime" plan. It is interesting to note where a company has a higher termination rate and uses the realistic interest assumption the reserves derived from those assumptions are as low as 52% of the tabular CDT reserves. In the case of simply modifying the CDT reserves to recognize a higher interest rate, the reserves are from 15 to 18% below those derived from the CDT tables. The table below relates only to the claims of more than one year but less than two years duration. Similar percentages were derived for later durations and, as would be expected, the ratios of GAAP to tabular increase with the increasing duration, converging to 100% at the end of the table.

| Age at Disablement | GAAP to Tabular Ratio (Assuming 5.5% Interest & 150% Termination Rate) To Age 65 | Lifetime | GAAP to Tabular Ratio (Assuming 5.5% Interest & 100% Termination Rate) To Age 65 | Lifetime |
|---|---|---|---|---|
| 22 | 52.0% | 51.4% | 83.0% | 82.2% |
| 27 | 53.6 | 52.6 | 81.5 | 81.5 |
| 32 | 55.6 | 54.0 | 82.9 | 81.1 |
| 37 | 58.1 | 55.7 | 83.7 | 81.1 |
| 42 | 61.3 | 57.6 | 85.2 | 81.6 |
| 47 | 65.4 | 59.6 | 87.5 | 82.6 |
| 52 | 69.7 | 61.5 | 88.3 | 83.7 |
| 57 | 76.2 | 63.5 | 89.2 | 85.1 |
| 62 | 66.4 | 65.1 | 68.4 | 86.7 |

From the foregoing it would appear that companies are well advised to make their own studies and determine the lag patterns that prevail in their own experiences, since in general the early claims employing reserves based on 1964 CDT table will give rise to redundant results. In converting to GAAP, the higher interest rate should be assumed along with any appropriate adjustments for a higher or lower termination rate that can be authenticated by company experience.

MR. ERNIE FRANKOVICH: Today the need is for quality statistical data in abundance. As a consulting actuary to small and medium-size life insurance companies, I have been troubled by the lack of good statistical data.

I believe that the best statistical system for a small life insurance com-

pany must meet the following criteria:

1. It must be accurate.
2. It must have sufficient detail in order to answer questions not yet asked because the problem area is yet unforeseen.
3. It must involve little development expense and it must add very little to the cost of handling claims and other administrative expenses.
4. The questions posed by the actuary must be answered by statistical output within a short time, such as one week.

Many insurance executives, including actuaries, believe that the development and maintenance of such a statistical system will be expensive, and that the data is insufficient and will be meaningless. My feeling is that any data developed through statistics is better than that currently available.

The following areas show promise in creating a system that will meet the criteria stated.

1. The use of conditional probabilities to obtain data on the supplemental benefits such as partial disability, accidental death and dismemberment, residual disability, medical reimbursement for nondisabling injuries, etc.
2. A more complete integration of the claim statistical file into the claims processing procedures by increasing the data entered on the claim payment card.
3. A return to simplified programs and/or old-time tabulating equipment.

I also have three items concerning the Return-of-Premium Rider of the "Ten Year Rollover" variety:

1. The feeling has been that a low lapse rate is a conservative assumption when calculating reserves for the Return-of-Premium Rider. The premium needed to fund the ROP benefit will be higher if the first-year lapse rate is low. However, the reserve factors, and actual reserves, will be higher if high early lapse rates are assumed. The following table illustrates this point.

TERMINAL RESERVE FACTORS
PER $100 ANNUAL PREMIUM IN FORCE

| Duration | Level 5% Lapse Rate | 15% First Year Graded to 5% | 30% First Year Graded to 5% |
|---|---|---|---|
| 1 | $ 38.97 | $ 39.42 | $ 43.24 |
| 3 | 134.31 | 137.83 | 142.94 |
| 5 | 258.50 | 267.90 | 272.76 |
| 8 | 526.96 | 532.94 | 538.58 |
| 10 | 740.00 | 740.00 | 740.00 |
| Net Premium | $34.42 | $31.16 | $28.14 |

2. I have encountered circumstances where the reserve for the Return-of-Premium Rider was calculated by accumulating the amount of premium earned during the ten year cycle and then multiplying this value by the expected percentage of the policies that will be in force at the end of the current ten year cycle and by the expected average claim expressed as a percentage of the ten years' premium. The result is then discount-

ed for interest. This is similar to the unit credit formula for reserves on an employee's pension benefit. For the ROP benefit, this method does not match benefit costs to the related premium and it generates a significantly lower reserve than that obtained by the Net Level Reserve approach.

3. For a client, we have run a lapse study on a group of policies that have the Return-of-Premium Rider attached to them. The first year lapse rate on one block of these policies was 9% and on the remainder of the group it was 20%. We have not analyzed the data to determine why there is a difference in lapse rates but we do know that the former group was on a block of policies issued primarily to farmers. The latter group of policies was issued almost entirely to non-farmers in Occupational Classes AA and A. At the other extreme, another client had a first-year lapse rate of 40% on a block of policies with the Return-of-Premium Rider. We do not have information on why they had a lapse rate this high.

MR. SELSER: On the question of trends in claim practices, my comments will be more impressions than facts. We have all heard frequently that public mores have been deteriorating. We cannot substantiate this in our claims area. Certainly, public mores are more of a problem during bad economic times than during good times. But we feel this has always been the case. We do feel that the public is more sophisticated today and knows better how to take full advantage of marginal claim situations. What we may ascribe to a deterioration of morals in the insurance area may be more a function of the increased hazard of overinsurance. The overinsurance problem is one that we have created for ourselves, with help from government. We cannot blame the public for our own mistakes in this area. Evidence of the impact of overinsurance is not new. Mr. John H. Miller in his Disability Newsletter comments on this quite thoroughly.

The courts have gradually been taking a more liberal attitude in interpreting the actual language of the policy. The courts seem to be determining whether disability exists more on the criterion of prior economic status than on whether the insured is able to engage in any occupation. This is definitely resulting in our paying more claims than previously. It is also resulting in an increase in claim expense to prove that a company is acting in good faith in order for it to avoid the threat of punitive damage. In our opinion, the more liberal interpretations of policy language by the courts have led to a situation where there is really very little difference between a two-year his-occupation or, for that matter, a to-age-65 his-occupation definition of disability. If a claimant gets his back up, there is very little chance that after two or five years of disability payments, a company can get that individual off claim on the grounds that he can engage in another occupation. This is particularly the situation on larger size policies and among the self-employed. With regard to larger amounts, the maximum amount we will issue or participate in is $2,500 of monthly indemnity. We feel that the more money involved in a claim, the more likely we are to find an attorney acting on behalf of the claimant. Also, when the individual is self-employed, he is much more likely to return to work on the next Monday instead of on Friday where the amount of disability income is high. Except for the professionals, there can be serious problems with self-employed individuals who are insured for large amounts during bad economic times.

In the area of state regulations, we have all been exposed to the fact that our hands are tied when it comes to the risk of overinsurance at time of claim. The standard provisions are simply inadequate to cope with the overinsurance hazard. We also periodically see legislation proposed and sometimes passed

which prohibits coordination of benefits in medical expense coverage. A recent example of legislation which weakens our ability to cope with questionable claims is the state of Pennsylvania. Regulations which are presumably enacted to protect the consumer may, in the long run, be the consumer's worst enemy.

The best defense we have against all of these claim problems is avoidance of overinsurance. Most of our problem claims are with individuals who suffer little or no loss of income on account of disability. Where there is no financial incentive to return to work, or where there is actually a financial disincentive to return to work, we are going to have claim problems. However, these are problems which we in the business create for ourselves. Where an insured gets disability income from all sources which is substantially less than his net take-home pay, we see very few questionable claims.

Possibly the biggest problem we are all faced with today in the claims area is the threat of punitive damage. This is the most critical new factor with which the claims man has to deal. It adds to the cost of investigation, the legal fees incurred, the number of independent medical examinations which must be ordered, and attending physician reports. A company must be very careful to give the claimant the benefit of any doubt in marginal cases. Today, the claims examiner is more likely to continue payment rather than to cut off a questionable claimant than he would have been a few years ago. Also, we find ourselves in positions where we are more likely to try to settle a claim by compromise than we have been in the past, in order to avoid a suit. I believe this has already had an impact on our claim cost and will have an even greater impact in the future. Again, this is a factor which I do not believe has been recognized in our claim cost assumptions industrywide. I believe these costs must be anticipated in our future pricing or we will find ourselves with underpriced products.

MR. HOUGHTON: Regarding the future, I believe that there is a lot of room to increase rates. Rates today are considerably lower than they were ten to fifteen years ago. I believe that today's poor experience is a little worse than we can expect on the average. We will all be a little more careful about underwriting rules. I think we need to do a better job on the things we have all known about all along.

MR. HELPHAND: I am convinced that the risk has changed considerably and that loss ratios will remain high after this recession. Any actuary responsible for his company's disability line who is not concerned, does not understand the problem.