

# RECORD OF SOCIETY OF ACTUARIES 1975 VOL. 1 NO. 2

## 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 of premiums and cash value plans
  - d) Effect of minimum loss ratio regulations
3. Reserving (active and disabled lives) assumptions and variations by:
  - a) Sex, occupation class, definition of disability including residual benefits
  - b) Supplementary disability benefits
  - c) Return of premiums and cash value plans
  - d) GAAP and statutory
  - e) Comments on adequacy or shortcomings of the 1964 Commissioners Disability Table (CDT) as a standard
4. Recent marketing and underwriting trends brought about by:
  - a) Other coverages
  - b) Morbidity trends
  - c) The economy
5. Trends in claims practices and the effects of:
  - a) Public mores
  - b) Policy language
  - c) Company concern for larger amounts
  - d) State regulations

CHAIRMAN W. DUANE KIDWELL: The Disability Income business is a lively, competitive, rapidly-changing field. It has always been a dynamic area, hyper-sensitive to socioeconomic changes and field influence.

During the early 1970's, rising economic prosperity and greed for sales led to aggressive competition and a flurry of activity, with companies rushing into new definitions of disability and with greater emphasis on higher and higher amounts of insurance.

The consumer-minded public has gradually become more aware of the benefits provided by the disability income product and how and when to use them, and is becoming more willing to accept such benefits in lieu of hastening back to work.

Social Security has accelerated its expansion into the areas of basic coverage and beyond. The industry is having to accustom itself to the use of a prescribed new valuation table.

GAAP accounting has been introduced, causing actuaries to be concerned that management may be lulled to sleep with paper riches.

There is increased activity among state regulatory authorities who are having difficulty keeping up with the public's demands, particularly as expressed through federal antidiscrimination legislation, and with the numerous resulting changes in types of product.

Insurance companies are concerned with rising loss ratios and management is asking logical, searching questions regarding premium structures, underwriting

rules, and claims handling.

Members of this panel will offer their thoughts on these developments.

MR. JOHN H. MILLER: Data published by the Society on individual loss-of-time experience and on group long-term disability show a distinct rise in the claim frequency from the 1970 incurral year. The former experience also reveals an increase in average claim duration, which contributed to the higher annual costs more than did the increase in claim frequency. A sharp rise in the number of claims going into the second year indicates a higher continuance rate on all long-term disabilities. Aggregate loss ratios on noncancellable disability insurance began to increase significantly even earlier and have risen by at least 10% in each of the last two years.

Data on Social Security Disability Insurance show a rise in disability rates commencing in 1969 and accelerated in 1971 and later years. From 1970 to 1974, the yearly rate of increase has averaged 9%. Although we do not have specific data, it is mentioned in the report on the Social Security Disability Insurance Program prepared by the staff of the Ways and Means Committee that there has been a substantial increase in the duration of disability. It is indicated in this report that the crude recovery rate which was 2.5% in 1968 had dropped to 1.9% in 1972. The actual number of recoveries was less in 1972 than in 1970 by  $3\frac{1}{2}\%$ .

These trends are illustrated in the next schedule.

TRENDS IN DISABILITY EXPERIENCE  
INDEX NUMBERS, 1968=100

| Year | Noncancellable<br>Loss<br>Ratios | Rate of Disability |                         |                    | Unemployment<br>Rate |
|------|----------------------------------|--------------------|-------------------------|--------------------|----------------------|
|      |                                  | Total              | Group LTD*<br>Non-Jumbo | Social<br>Security |                      |
| 1968 | 100                              | 100                | 100                     | 100                | 100                  |
| 1969 | 105                              | 100                | 97                      | 105                | 97                   |
| 1970 | 110                              | 120                | 113                     | 104                | 136                  |
| 1971 | 112                              | 124                | 125                     | 121                | 164                  |
| 1972 | 115                              |                    |                         | 130                | 156                  |
| 1973 | 125                              |                    |                         | 138                | 136                  |
| 1974 | 140                              |                    |                         | 147                | 156                  |

\*With 6-month Deferment Period

It has been brought out very clearly in Paul Barnhart's 1971 tables that the 1964 CDT values can produce some very inadequate claim reserves if applied without modification. This is not a criticism of the table as a standard for active life reserves but it does indicate the necessity of recognizing the effect on claim reserves of deferment or elimination period selection. If we draw a family of continuance curves for various elimination periods, we will find that the one representing the shortest elimination period is the steepest, while the flattest of the curves is that for the longest elimination period. It is clear from this that, in the fraction representing the claim annuity, there is a greater relative reduction in the denominator as the deferment period is lengthened than there is in the numerator. Thus a single continuance table cannot produce accurate loss reserves for a variety of deferment periods.

MR. JOHN B. CUMMING: This is an era of rapid change for our business. With National Health Insurance just down the road, more and more companies are turning to Disability Income as a way to keep some individual health dollars coming their way. This movement toward increased competition has been accompanied by

expanded public interest in health insurance. Thus we have minimum loss ratio regulations, sex discrimination regulations, advertising regulations, and minimum standards regulations. It's a tough time to be in the business. We have to stay alert.

Reserve practices are an integral part of the whole. They directly enter into the calculation of loss ratios and, thus, affect the extent to which minimum loss ratio standards are met. More and more states are putting teeth into their minimum loss ratio requirements by monitoring the emerging experience for each policy form shown in the Accident and Health policy experience exhibit. Some of you may have encountered problems of this type with Kansas and Michigan. Within the last two months, Pennsylvania has proposed a regulation that would require us to calculate loss ratios by policy duration. Obviously, such a requirement will be onerous, with not the least difficult part being the calculation of reserves permitting a valid interpretation of the data which this regulation will require. For many cells, data will be insufficient to have any statistical validity. This problem will be particularly acute for the smaller companies. In order to make any use at all of the data assembled, the department will need a large, highly qualified technical staff.

Reserves can be critical to the continued solvency of a company. In one recent instance, a company very active in the disability income market came under the control of the state insurance department after the latter ruled its reserves inadequate. Obviously, it is of critical importance to actuaries to determine reserves which are adequate and valid under the specific circumstances faced by their companies. Recently there has been some evidence that claim reserves computed according to the 1964 Commissioners Disability Table may not be adequate under all circumstances.

One of the biggest problems confronting us in determining reserves is the absence of current morbidity data. We are not going to solve this problem today. That task we leave to the Committee on Health Insurance. The New York Insurance Department plans to assemble data from the twenty largest writers in an attempt to get a better statistical basis for premium differences between men and women.

Data for claims continuing for more than one year are very sparse. The 1964 CDT table, the basis for most current calculations, had to look to the 1952 study of disability benefits under life insurance policies in order to determine continuance rates beyond one year. The latter data were accumulated during the thirties and forties. Paul Barnhart's recent paper provides a useful analysis of recent experience during the first year of disability.

Even if there were sufficient data readily available in the form of a recognized table, actuaries would still be faced with difficult questions in establishing reserves for a particular company. Company practices differ widely. They sell in different markets. Underwriting and claim payment practices vary widely.

As just one example, the definition of disability obviously is of great importance in estimating both the probable number of claims and the run-out of claims after disability starts. Within the last year or two, the introduction of residual type definitions of disability has been a dramatic innovation. One major company even pays partial disability benefits without requiring a prior period of total disability. Partial benefits are available from the end of the elimination period even though the insured has not missed a day of work. With developments like this, the experience of the past, even if available, would provide an imperfect guide to the future.

Under current regulations, there is no variation in the calculation of reserves to recognize the mix of business by sex, occupation class, or definition of disability. Thus, the adequacy of reserves for any given company depends on the extent to which that company's mix of business mirrors the mix implicit in

the CDT reserve factors. Some companies may do a more refined reserve calculation for GAAP statements or for management information purposes.

Some latitude is permitted in calculating claim reserves. Here companies can use a Schedule O type run-out basis for claims within the first two years. However, tax regulations operate to discourage companies from taking advantage of this permitted departure from the prescribed 1964 CDT basis. In order to be recognized for tax purposes, reserves must be calculated according to a "generally recognized table." The safe table to use is the 1964 CDT.

Although reserves are of critical importance to the financial position of companies writing disability income business, they are often evaluated on a basis which gives little recognition to the company's business practices. A great deal of work is needed to develop reserve bases more in line with contemporary practices. If this task is to succeed, the industry will have to cooperate more closely with the regulators than we have in recent years. The regulators, for their part, will have to be more sensitive to the logic of the business and less swayed by public pressure for dramatic actions.

It is commonplace that our society now is more permissive than it has been in the past. How this has affected our business, however, is difficult to say. The economy has certainly had an effect. It is easier to get off disability if you are sure you have a job to return to. A more important factor than public mores in recent high claim levels may be overinsurance among blue-collar workers and others with smaller earnings. Companies have been slow to adjust their underwriting limits to reflect the full extent to which Social Security has preempted the market for Disability Income sales. For some disabled workers, tax-free Social Security benefits exceed their predisability gross earnings.

We have not yet encountered major problems due to large amounts, but it is only a short time since we introduced large-size Disability Income policies. When a large amount of benefit is at issue, the company can afford more investigation; consequently a greater proportion of large amount claims are probably legitimate.

We ought not to leave the subject of claims without some mention of punitive damages. Those of us doing business in California are certainly more cautious as a result of the recent litigation involving Mutual of Omaha.

**MR. PETER F. CHAPMAN:** When Mutual Benefit decided to enter the noncancellable disability income field in 1973, we had no prior experience on which to base premiums, dividends, and reserves. We did have, in addition to published intercompany data, our own accumulated experience under the disability waiver of premium benefit, some forty years of experience with disability monthly income in small amounts issued as an optional additional coverage and attached to life insurance policies, and the results of a substantial volume of group LTD.

Our immediate marketing problem was to recapture the significant disability income premium volume that our agents were writing with other carriers. This forced us into the most popular current definition of disability, along with everything associated with such a definition. Our agency force's established market place is almost entirely the business, professional and executive market. This means large amounts of coverage, longer benefit periods, and longer elimination periods.

Having realized this, it became apparent that none of the available data would, without substantial modification, anticipate our financial experience. The published intercompany data reflecting earlier, less liberal definitions of disability, were compiled among occupation classes which were not distributed in the exposure in the way we expected our exposure to be weighted. The amounts were lower, the elimination periods shorter, the underwriting more conservative, and there was comparatively limited duplication from other forms of coverage such as social insurance, Workmen's Compensation, no-fault, associ-

ation group, group LTD.

Our disability waiver experience, while based on a four-month elimination period which might not have been qualitatively different from our expected disability income distribution, lacked, except for the sizable borrowing power generated by waiver of premium in jumbo policies, the financial incentive to select against the company. Our Disability Monthly Income insurance provided a monthly income of up to \$400, which hardly anticipated the type of experience we could expect with maximum long-term issue and participation limits of \$3,000 per month. Finally, our group LTD did not have statistically mature experience, contained lower amount limits, featured a less liberal definition of disability, was offset directly with Social Security, and was more sensitive to short-term economic vicissitudes than were executive and professional groups. In sum, then, we were on our own with no historical experience to guide us.

We had also determined that our series would differentiate between male and female risks only in premiums. We planned to provide the same maximum benefits, subject to the same underwriting rules, with no exclusions or limitations of benefits except for the obviously-needed pregnancy exclusion. Certainly, no data accumulated or published anywhere reflected female experience with underwriting and benefit provisions comparable to our contemplated approach. The publication of Paul Barnhart's 1971 Experience Tables was timely, to say the least. These tables seemed to make statistically valid statements about the relationship between female and male claim costs. Although they indicated that claim costs were higher at the younger issue ages, and lower at the higher issue ages, than the conventional wisdom dictated, we accepted the conclusion and incorporated them into our rate structure.

Agents' compensation and Regulation 62 of the New York Insurance Department simplified considerably our decision making concerning rates. We were reminded with numbing regularity by our marketing people that our compensation scale would, at the very least, have to equal the best brokerage commission rates paid by those companies currently receiving appreciable amounts of our agent's production. By the same process, we were periodically reminded that our five New York City general agencies write 15% of our individual life insurance volume. Being in New York means compliance with Regulation 62. The combination of compensation and mandatory loss ratio produced a narrow range of acceptable premiums.

We elected to offer our product line in two series: the "Professional" Series for Occupational classes 4A and 3A, featuring an "own occupation" definition of Total Disability for the length of the benefit period, even when that benefit period extends beyond age 65; and the "Disability" Series for classes 2A, A, and B with an "own occupation" period of one year followed, for the remainder of the benefit period, by "any occupation for which reasonably suited, etc., etc." Both "own occupation" definitions provide an alternative total disability qualification test: the reduction of the insured's income by 75% or more as a result of injury or illness. Since the company had been using this so-called "dual definition" for many years, we felt we had the necessary experience data to adjust for it.

We used as our rate base for class 2A, substantially the 1964 Commissioners Disability Table with modifications reflecting to some degree Barnhart's 1971 Experience Modification and, to a lesser degree, company experience in the related areas previously mentioned. These rates were loaded by approximately 20% and 30% for classes 3A and 4A, respectively. The terms "substantially" and "approximately" are intended to mean just exactly that.

Having settled on a net cost basis, rightly or wrongly, we began to test our tentative assumptions with asset share analysis. We quickly became acutely aware of some of the more negative implications from the lack of prior experience, implications which, up to that point, had not worried us excessively. To

begin with, we had no idea of the relationship between select and ultimate claim costs. What little information was available was compiled substantially among the higher rate occupational classes with short elimination periods for accidents. Much of this data tended to indicate that, while the process of selection was reasonably effective for sickness, the actual claim costs tended to be well over 100% of expected for accidents (assuming--a big assumption--an accurate allocation between expected accident and expected sickness claims). We decided that these ratios were not too applicable to our anticipated experience. We felt that longer elimination periods, more 4A and 3A risks, and higher benefit amounts with the resultant more intensive underwriting, would both accentuate the impact of sickness select period and minimize the frequency of early duration accident claims.

We assumed 75% of ultimate claim costs during the first policy year, 85% during the second year, and 100% thereafter. These were probably conservative (they appear to be so on the basis of experience during 1974, our first full year in the business). We aimed for conservatism because, although our policy series is participating, we view the present dividend scale as representing the most serious type of commitment by the company, to be abandoned only in case of the direst emergency. We wondered then, however--and still wonder now--about the 100% rate in the third policy year when the policy becomes incontestable and when the time limit on certain defenses (e.g., exclusion of preexisting conditions) has expired.

Lapse rates were another problem accentuated by the absence of prior company experience. Asset share analyses indicate the extreme sensitivity of product profitability to persistency variations. Because of the lack of prior experience, we were forced to rely on a series of multiples of our life insurance lapse experience.

Administrative expenses and average policy size were two more sensitive areas where we flew blind. We did not find out just how sensitive they were until we developed our asset shares. Fortunately, most of our guesses seem to have worked out quite well except that our forecasts of product development costs have been exceeded by a wide margin. We continue to be optimistic that our acquisition and administrative expenses per policy and per \$100 of monthly benefit will be validated as the increasing volume of business translates our anticipated level of overhead expenses into lower unit costs.

The incurred-but-not-reported claims liability is another area where we feel handicapped by our lack of prior experience, although conventional statistical techniques may be somewhat inappropriate for our book of business, since we will undoubtedly experience fewer but more costly claims. Disabled life reserves on long-duration claims are long on extrapolations and short on actual experience. Over the next several years, we will experiment with a variety of statistical approaches while leaning heavily on the Miller/Courant studies on the relationship between the elimination period and claims frequency and claims length. We hope that they will provide us with guidance in establishing standards against which we will assess the credibility of our own experience.

MR. DAVID S. COX: Provident Life and Accident's disability income market is principally noncancellable policies sold in the professional market. Approximately two-thirds of our sales are to class 1 and 2 males, the remaining one-third being distributed equally among class 1 and 2 women and class 3 and 4 men. (Classes 1, 2, 3 and 4 are comparable to alphabetical system classes AAA, AA, A, and B, respectively.) During the past 12 to 18 months, Provident has completed the development of morbidity assumptions for GAAP valuation of our disability products, the pricing of a residual disability income provision, the pricing of a disability product for moderate- and low-income applicants, and a soon-to-be-introduced revision of our female disability income premium rates.

In each of these computations we used our own company persistency rates since we have what we consider to be credible data. We compile a study each year of our termination rates on a policy year basis. The most recent data available include an analysis of termination rates for policies exposed between anniversaries in 1973 and 1974. To assure stable data, we combine the results of the five most recent studies. The combined results of persistency studies for policy anniversaries in 1969 through 1974 were based on an exposure of 340,000 policies and \$200,000,000 of monthly income of noncancellable and guaranteed renewable insurance.

Termination rates are calculated separately by occupational class, issue age, premium mode, policy size, benefit period, elimination period, type of renewability provision, marketing method, and sex. Results are shown in the tables on the next two pages.

We find that the greatest variations in termination rates occur by issue age. The first and second year lapse rates for insureds in the under 30 issue age grouping are usually two to three times higher than the termination rates for insureds in the 50 and greater issue age grouping. There is a significant improvement in the first year lapse rate once the issue age exceeds 30. The study covering the study period for policy anniversaries beginning in 1969 and ending in 1974 reveals that for individually-placed noncancellable disability products the first year termination rate is approximately 20% for issue ages below 30. It drops to 12.7% for issue ages 30-39, 11.1% for issue ages 49-49, and 10.5% for issue ages 50 and greater. This disparity is even more noticeable for salary allotment type noncancellable disability business; the corresponding figures are 30.1%, 13.3%, 10.0%, and 8.6%.

A similar trend is observed for second year termination rates. At least two-thirds of our noncancellable business is still in force at the end of the fifth policy year if the issue age is 50 or greater, but if the issue age is under 30, only about 44% persists to the end of the fifth policy year for the individually sold noncancellable disability products and 29% for salary allotment noncancellable products. These variations are not as great if comparable sexes or occupational classes are compared.

Variation in termination rates among occupational classes occurs primarily during the initial policy years. The first year termination rates for class 3 and 4 risks are easily over twice as great as the first year termination rates for class 1 and 2 occupational classes. However, after the first two or three policy years, the termination rates for the various occupational classes tend to converge to similar levels.

As would be anticipated, our annual premium business exhibits a much better persistency pattern than other premium modes. Since most of our monthly individual noncancellable business is on a preauthorized check basis, our monthly and annual premium termination rates are similar. A significant variation, however, can be observed between annual and monthly billed salary allotment type business since the latter does not include preauthorized check billings.

Persistency data are compiled separately by policy size. The groupings are: \$1,000 or less, \$1,001 to \$1,500, and \$1,501 and greater of monthly income. The first year lapse rate for policies in the \$1,000 or less monthly income category are 50% higher than for the other two categories. First year lapse rate for individually placed noncancellable business issued for \$1,000 or less is 15.0% while the other two categories show a 9.8% rate. There is even greater variation for salary allotment noncancellable business. Our experience indicates that longer sickness benefit periods result in more persistent business. The first year lapse rate for business with a two-year sickness benefit is nearly twice that of business with sickness benefit to age 65. A similar relationship continues into the later policy years. Approximately 60% of our business issued with a to-age-65 sickness benefit persists to the end of the fifth policy

## DISCUSSION—CONCURRENT SESSIONS

PERSISTENCY STUDY BEGINNING ON 1969 POLICY ANNIVERSARIES  
AND ENDING ON 1974 POLICY ANNIVERSARIES

|  | <u>Individual Noncancellable</u>   |                                    |  | <u>Salary Allotment Noncancellable</u> |                                    |  |
|--|------------------------------------|------------------------------------|--|--|------------------------------------|--|
|  | <u>1st Year<br/>Lapse<br/>Rate</u> | <u>2nd Year<br/>Lapse<br/>Rate</u> | <u>5th Year<br/>Accumulative<br/>Persistency</u> | <u>1st Year<br/>Lapse<br/>Rate</u>     | <u>2nd Year<br/>Lapse<br/>Rate</u> | <u>5th Year<br/>Accumulative<br/>Persistency</u> |
| <u>By Issue Age</u>                                  |                                    |                                    |  |  |                                    |  |
| Under 30   | 19.8%                              | 18.5%                              | 43.7%  | 30.1%                                  | 25.0%                              | 28.8%  |
| 30-39  | 12.7                               | 11.5                               | 56.1   | 13.3                                   | 12.5                               | 52.7   |
| 40-49  | 11.1                               | 9.0                                | 64.5   | 10.0                                   | 8.9                                | 63.6   |
| 50 & up  | 10.5                               | 7.5                                | 68.3   | 8.6                                    | 8.4                                | 66.3   |
| <u>By Premium Payment Mode</u>                       |                                    |                                    |  |  |                                    |  |
| Annual   | 11.1%                              | 9.7%                               | 62.4%  | 8.2%                                   | 7.7%                               | 68.9%  |
| Semi-Annual  | 13.3                               | 10.3                               | 58.4   | 7.4                                    | 7.7                                | 61.3   |
| Quarterly  | 18.2                               | 14.7                               | 49.1   | 10.6                                   | 10.0                               | 59.0   |
| Monthly  | 10.7                               | 11.4                               | 59.1   | 16.8                                   | 14.3                               | 49.1   |
| <u>By Monthly Indemnity Amount</u>                   |                                    |                                    |  |  |                                    |  |
| \$1000 or less                                       | 15.0%                              | 12.6%                              | 55.1%  | 18.5%                                  | 15.3%                              | 47.1%  |
| \$1001 - \$1500                                      | 9.8                                | 10.0                               | 61.4   | 10.6                                   | 10.7                               | 62.6   |
| \$1501 & up  | 9.8                                | 9.1                                | 62.6   | 6.9                                    | 6.1                                | 69.7   |
| <u>By Occupation Class</u>                           |                                    |                                    |  |  |                                    |  |
| Classes 1&2  | 12.4%                              | 11.2%                              | 58.2%  | 13.4%                                  | 11.9%                              | 55.5%  |
| Classes 3&4  | 28.4                               | 18.7                               | 39.1   | 31.2                                   | 20.9                               | 31.7   |
| <u>By Sex</u>  |                                    |                                    |  |  |                                    |  |
| Male   | 12.5%                              | 10.5%                              | 57.8%  | 12.6%                                  | 12.3%                              | 52.0%  |
| Female   | 21.4                               | 18.3                               | 43.6   | 29.0                                   | 23.8                               | 32.0   |
| <u>By Sickness Benefit Period</u>                    |                                    |                                    |  |  |                                    |  |
| (Lifetime Accident--0,7,15,30<br>Elimination Period) |                                    |                                    |  |  |                                    |  |
| 2 Years  | 23.0%                              | 16.3%                              | 44.9%  | 26.4%                                  | 20.6%                              | 34.9%  |
| 5 Years  | 17.5                               | 13.9                               | 50.8   | 23.7                                   | 19.3                               | 39.1   |
| To Age 65  | 12.0                               | 10.7                               | 60.6   | 12.7                                   | 12.0                               | 58.4   |
| <u>By Elimination Period</u>                         |                                    |                                    |  |  |                                    |  |
| (Lifetime Accident--To Age 65 Sickness)              |                                    |                                    |  |  |                                    |  |
| 0,7,15,30  | 12.0%                              | 10.7%                              | 60.6%  | 12.7%                                  | 12.0%                              | 58.4%  |
| 60,90  | 10.1                               | 9.4                                | 63.6   | 9.9                                    | 9.2                                | 64.3   |
| 180,365  | 10.0                               | 9.6                                | 63.4   | 7.2                                    | 7.9                                | 67.2   |



PERSISTENCY STUDY BEGINNING ON 1969 POLICY ANNIVERSARIES  
AND ENDING ON 1974 POLICY ANNIVERSARIES

|  | <u>Individual</u>                  |                 |                     | <u>Guaranteed Renewable</u> |                 |                     |
|--|------------------------------------|-----------------|---------------------|-----------------------------|-----------------|---------------------|
|  | <u>1st Year</u>                    | <u>2nd Year</u> | <u>5th Year</u>     | <u>1st Year</u>             | <u>2nd Year</u> | <u>5th Year</u>     |
|  | <u>Lapse</u>                       | <u>Lapse</u>    | <u>Accumulative</u> | <u>Lapse</u>                | <u>Lapse</u>    | <u>Accumulative</u> |
|  | <u>Rate</u>                        | <u>Rate</u>     | <u>Persistency</u>  | <u>Rate</u>                 | <u>Rate</u>     | <u>Persistency</u>  |
|  | <u>Salary Allotment</u>            |                 |                     |                             |                 |                     |
|  | <u>Guaranteed</u>                  |                 |                     | <u>Renewable</u>            |                 |                     |
|  | <u>By Issue Age</u>                |                 |                     |                             |                 |                     |
| Under 30   | 25.3%                              | 23.8%           | 32.3%               | 45.5%                       | 38.4%           | 15.0%               |
| 30-39  | 16.0                               | 15.9            | 48.3                | 14.7                        | 27.4            | 41.0                |
| 40-49  | 13.2                               | 9.7             | 57.9                | 9.6                         | 24.5            | 42.0                |
| 50 & up  | 11.2                               | 10.9            | 60.4                | 11.8                        | 11.1            | 49.8                |
|  | <u>By Premium Payment Mode</u>     |                 |                     |                             |                 |                     |
| Annual   | 19.7%                              | 13.9%           | 48.6%               | 4.8%                        | 10.8%           | 65.2%               |
| Semi-Annual  | 18.9                               | 18.9            | 43.2                | 7.3                         | 13.8            | 55.1                |
| Quarterly  | 28.7                               | 17.6            | 38.1                | 10.7                        | 19.0            | 33.3                |
| Monthly  | 8.7                                | 14.5            | 55.0                | 32.2                        | 28.2            | 28.0                |
|  | <u>By Monthly Indemnity Amount</u> |                 |                     |                             |                 |                     |
| \$1000 or less                                       | 21.0%                              | 15.3%           | 43.8%               | 28.0%                       | 25.0%           | 31.5%               |
| \$1001 - \$1500                                      | 10.4                               | 21.2            | 54.0                | 3.5                         | 25.4            | 61.0                |
| \$1501 & up  | -                                  | 16.2            | 67.2                | 6.5                         | 45.5            | 33.6                |
|  | <u>By Occupation Class</u>         |                 |                     |                             |                 |                     |
| Classes 1&2  | 16.4%                              | 16.0%           | 48.1%               | 13.2%                       | 23.3%           | 41.3%               |
| Classes 3&4  | 31.1                               | 14.7            | 37.1                | 41.5                        | 35.3            | 19.7                |
|  | <u>By Sickness Benefit Period</u>  |                 |                     |                             |                 |                     |
| (Lifetime Accident--0,7,15,30<br>Elimination Period) |                                    |                 |                     |                             |                 |                     |
| 2 Years  | 16.6%                              | 13.9%           | 52.0%               | 18.5%                       | 14.5%           | 40.1%               |
| 5 Years  | 13.2                               | 12.6            | 55.9                | 14.8                        | 16.2            | 50.5                |
| To Age 65  | 10.1                               | 9.4             | 63.6                | 9.9                         | 9.2             | 64.3                |

year, while business issued with a two-year benefit period has only 35% to 45% persisting to the end of the fifth policy year.

Our experience also reveals that business with elimination periods longer than 30 days is more persistent than business with elimination periods of 30 days or less. However, the variance in termination rates is not nearly as sensitive to elimination periods as it is to benefit periods. Furthermore, there appears to be little variation once the elimination period exceeds 30 days. Many of the results just reported concerning the effect of policy size, length of benefit period, and length of elimination period, obviously reflect the influence of occupational class.

Termination rates for guaranteed renewable disability business have been, until recently, considerably higher than those for noncancellable disability business. Prior to 1973, our termination rates for guaranteed renewable type busi-

ness were 25% to 50% higher than those for noncancellable business. This situation has changed during the recent past as a result of our introduction of a guaranteed renewable Business Buy-Sell Disability Income form which has experienced very good persistency.

We also have a sizable block of disability business, sold through various associations, on an optionally renewable basis. The persistency is very unsatisfactory. A large portion of this business is on lower income and occupational class risks which produce poorer persistency results because of the transient nature of the class of people insured. However, our experience on teacher association disability coverage has been very acceptable, paralleling that of our class 1 and 2 noncancellable disability business.

My company does not offer either a cash value or return of premium type policy. I am sure many of you are aware that companies offering such coverage contend that persistency on cash value or return of premium type policies is significantly better than on their regular business.

Overall, our persistency results had shown an improving trend for the period through 1972, but with a slight deterioration between anniversaries in 1973 and 1974. Perhaps this situation is a result of the economic situation during that period.

Before leaving the subject of persistency, I should mention that our lapse rates after the fifth policy year level off at between 4% and 7%.

Claim cost assumptions are the most uncertain area in the pricing of disability products. Provident uses its own computer system to develop loss ratios and claim costs by policy duration. The claim cost data is further broken down by cause of disability, benefit period, elimination period, sex, occupational class, and issue age. When our claim cost data is broken down into this many subdivisions, the results are sometimes less than meaningful because of the sparsity of data in an experience cell. The latest study, however, included over 370,000 policies and 11,000 claims for our noncancellable line of business.

The following comments concerning claim cost assumptions will be based primarily on analyses covering the periods between anniversaries in 1970 and 1973. In addition to our own experience, we frequently utilize the data reported in the Transactions and special studies such as Mr. Barnhart's "1971 Experience Modification of the 1964 Commissioners Disability Table" (TSA, XXV,119).

The only category in which our earned and incurred loss ratios exhibited an alarming upward trend during 1974 was on those policy forms issued primarily to males, class 3 and 4. There was also an upward trend in earned and incurred loss ratios for policy forms issued to females in classes 1 and 2. Loss ratios on our own class 1 and 2 males and professional-type females (even though the data base for women is small) have not shown an upward trend.

In pricing our disability products, we customarily have modified the claim costs as presented in the 1964 Commissioners Disability Table separately by sex, occupational class, cause of disability, and age. It has been our experience that the 1964 CDT understates both the accident and sickness morbidity level for the younger attained ages.

For the accident portion of the claim costs, we utilize in excess of 100% of the 1964 CDT for issue ages below 30, even for occupation class 1 males. Within this class, however, only 50% of the 1964 CDT is used for issue ages over 50. The accident portion of the claim costs increases significantly for the lower occupational classes. At the younger issue ages, the accident claim costs for class 4 males is approximately twice that of class 1. This differential increases with advancing attained age, but subsequently declines, and ultimately levels off at 200% of that of class 1. Female accident claim costs vary similarly by occupational class.

At the younger issue ages, Provident assumes accident claim costs for females which are considerably below those for males. Within class 1, accident

claim costs for females start to exceed those for males at ages in the 40's, but they quickly return to an equal level at the older attained ages.

As stated earlier, Provident employs sickness claim costs for males exceeding those of the 1964 CDT at the younger attained ages in all occupational classes. This situation quickly reverses itself for occupational class 1 males, dropping below those of the 1964 CDT on the way to leveling off at approximately two-thirds of the 1964 CDT for attained ages 50 and higher. Sickness claim costs are higher for lower occupational classes but not nearly to the same extent as the accident claim costs. In many instances, we utilize sickness claim costs for class 4 male risks which exceed those of class 1 males by 50%.

Sickness claim costs for females are higher than those for males. At the younger ages they are usually twice as high. This relationship holds true until attained ages in the 40's. Our assumptions are that sickness claim costs for females will converge to approximately the male level as the attained age approaches the mid-60's.

Our revised female premium structure, which will be introduced in the near future, will exhibit premium rates which are approximately 30% higher than those of males at the very young issue ages, grading upward to a maximum differential of 45% to 55% for issue ages in the late 30's, and then grading downward sharply thereafter until they are approximately 5% to 10% higher at the older issue ages.

The differential between the female and male premiums will decrease with longer elimination periods and shorter benefit periods.

Our claim cost studies reveal evidence of selection for sickness-related disabilities; our accident claim cost experience, on the other hand, suggests no selection during the first few policy years. This is especially true for class 3 and 4 risks.

Expense assumptions are integral to any discussion of pricing. Although inflation may have helped to stimulate sales of additional disability income coverage, these sales have not completely offset the increase in expenses. Our first-year per-policy cost increased approximately 13% between 1971 and 1973. This increase results primarily from the additional cost of such selection expenses as medical reports, MIB, retail credit, etc. Our renewal-year per-policy cost has increased between 3% and 5% during the last few years. In pricing disability income products, it would be a mistake not to be aware of this inflationary trend in policy expenses.

The concept of including an inflationary factor in expense assumptions brings us to another subject which is causing many companies concern--minimum loss ratio requirements. We have encountered some difficulty satisfying, in some states, minimum loss ratio requirements for specialty-type products which have low claim costs associated with them, such as step-rated products, short benefit periods with extremely long elimination periods, etc. Also, we have encountered some difficulty in satisfying Michigan's 55% minimum anticipated loss ratio requirement for guaranteed renewable type products. For the majority of our business, which is issued with long benefit and elimination periods to our class 1 and 2 type risks, we have had little difficulty in satisfying these requirements. Undoubtedly, in our case, the high average size policy assumption helps in complying with the loss ratio requirements.

What about the future? Will the current consumer/political environment force companies to modify or abandon their traditional marketing techniques? Will continued liberalization in the Social Security programs and other government and state programs further erode the available markets for disability products? Will the industry be required to use the fallacious unisex table? Will inflation continue at its unprecedented rate of the past few years? If it does, will it be a stimulus or deterrent to the disability insurance business? Un-

fortunately, there are no simple answers to these questions. However, in closing, allow me to leave you with an important, perhaps the most important, thought.

In many ways, the events which occur in the pricing of accident and health disability income products are analogous to the events one encounters in attempting to conquer the game of golf. In both situations, the individual is initially perplexed and seemingly disoriented from the rest of the participants. In striving to attain his objective, the participant diligently searches for useful information to assist him in resolving his own particular set of problems. Usually, after much time and effort has been expended, sometimes in utter frustration, everything miraculously falls into place and the objective is achieved; either a perfectly coordinated golf swing which results in the full momentum of the golf club head being imparted to the golf ball or a set of gross premiums for an A&H disability product which is equitable, adequate, and reasonable. Those of you who have had the responsibility of developing premium rates for disability products can appreciate the preceding analogy. For, as you know, because of the many variations that occur in the marketing, designing, underwriting, and administration of disability products, any available data to be used for pricing assumptions has to be scrutinized extensively and then adapted for your own particular operational environment.

MR. CHAPMAN: The most newsworthy development in marketing and underwriting is not what is happening, but what is not happening. I am referring to the industry's failure to adapt its marketing and underwriting to current Social Security developments. In only four years, from 1971 to 1975, the FICA wage limit has risen by 81%, from \$7,800 to \$14,100. In addition, the statutes have built in an automatic escalator by tying benefits to the Consumer Price Index. The FICA wage limit is adjusted upward following each benefit increase in an attempt to increase the income sufficiently to balance the higher disbursements. The elimination period has been reduced by one month. At this time, in the second quarter of 1975, it is possible to have an earned income at a rate as high as \$14,100 included in the base for calculating disability income.

In preparing my remarks, I looked at a random sample of six companies, five medium or large mutuals, the sixth a stock company considered rightly to be one of the leaders in noncancellable disability income. I reviewed the extent, if any, to which they had changed their underwriting rules to reflect the current realities. One of the companies ignored the problem completely, four of them made changes that can most charitably be described as token, the use of a Band-aid where major surgery is required. The sixth took the realistic step of making the Social Security debit towards their total participation limit vary according to broad ranges of years of birth. The principle is sound; the amount of offset, is, in my opinion, inadequate.

Let us imagine three men, born in 1930, 1940, and 1950, respectively. Each enters the full-time labor market on the January 1 preceding his 21st birthday. Each earns exactly the FICA limit each year; no more, no less. As of April 1 of this year, their average earnings, after the five-year dropout provision for the two older lives, are \$550, \$729, and \$869, respectively.

If all three men are single, the percentages of their earnings at the time of disability that would be replaced by Social Security are 27%, 33%, and 36%, respectively. Give them wives and the percentages increase to 41%, 50%, and 54%. Add two or more children to the family module and the percentages become 49%, 58%, and 63%.

Let's go further. Let's assume that each takes the optional tax deduction, pays state income tax equal to 10% of the federal level, and is subject to the employee's, rather than the self-employed, FICA rate. The percentages of net income replacement become 61%, 72%, and 78%, respectively. Add the marginal

economic value of leisure time; a job that may, at times, be monotonous or disagreeable, or worse, no job at all, stir gently, and you have an explosive mixture.

Remember also that we dealt from the top of the deck. We assumed earnings at the FICA limit. The Social Security benefit formula is, as you know, strongly regressive. Based on the lower average earnings, the income replacement is even more comprehensive. The gentleman who was born in 1950 and had FICA average monthly earnings of \$369 is eligible to receive a maximum benefit of 85% of his FICA average. His counterpart, born twenty years earlier, could receive a maximum benefit of 105% of his FICA average earnings. As we posited our scenario, however, his FICA average earnings were only 47% of his current earnings rate, so, even with a maximum family benefit, he only replaces 49% of his current income through congressional benevolence.

Let's take another look at our friend who was born in 1940, entered the labor market in 1961, and begins counting his earnings with the first quarter of 1966. Let's assume that his FICA average earnings are the same as his gross average earnings for the 36 calendar quarters included in the benefit computation; he has had a relatively flat rate of growth of earnings with a \$650 average salary and a \$750 current salary. His maximum family benefit will be 85.7% of his current gross income; 120% of his net income (assuming standard deductions).

An actuary of one of the leading noncancellable disability income writers was kind enough to share with me a chart that had been prepared in his company showing, for disabilities of six months or longer, the ratio of total insurance, i.e., his own company's issue and participation limit plus Social Security, to net income. It was based on the current issue year for individuals aged 30, 40, and 50. For annual earned incomes of \$20,000 or less, these ratios ranged from 102% to 145%. Even for an annual earned income as high as \$28,000, the ratio goes from 91% at age 50 to 103% at age 30.

What can we do about the fact that the government has preempted the long-term disability income market up to income levels of at least \$15,000? After all, most of us have agency forces that are heavily dependent on continuing to write this business. Withdrawal from this market could have far reaching repercussions on our company's operations. So, on the other hand, could continuation.

Yesterday, like most of you, I had the disturbing privilege of hearing Dr. Friedman deliver his long-range assessment of inflation and its impact on our economy and, indeed, our society. A rather precise set of analogies between inflation and overinsurance immediately occurred to me. Dr. Friedman pointed out quite persuasively that we will never overcome inflation if we treat it as a transient phenomenon, part of a cycle which will eventually reverse itself without the need for painful corrective measures. The same can be said of overinsurance.

He went on to say that inflation can only be conquered by an all-out attack on its roots by every segment of society--government, business, consumers, and the general public. Similarly, overinsurance will only be conquered when all decision-makers within the industry--actuaries, underwriters, claims administrators, marketing executives, and top management alike--fully understand its potential ravages and are prepared to take strong measures to cope with it.

Last, and most disturbing, Dr. Friedman pointed out that society could, in the short term, go on paying the price of inflation if society is unwilling or unable to take the necessary direct action. That price, however, becomes higher and higher each year until, ultimately, many prized social institutions become undermined and are destroyed. Once again the analogy holds. In the short term, we can go on writing in the preempted market as if nothing has happened. We can increase premiums and claim reserves. We can call upon our other policyholders,

or our stockholders, to subsidize this class of business. But, in the long run, something has to give.

MR. MILLER: We all know how important the language of the policy contract is and how great is its effect on the insurer's liability. For this reason many are concerned about new developments in policy language, particularly the "his occupation to 65" definition without any requirement of economic loss, and the residual clause. The concern arises from the fact that there is no domestic experience available and there will be none until it develops from the policies actually incorporating such language. Furthermore, a progressive income tax schedule and a regressive scale of Social Security benefits combine to reduce any monetary incentive to terminate a disability claim or increase one's work activity. Moreover, we know from history that the meaning of the language of any policy is not necessarily static. Court interpretations, pressure from insurance departments, from agents and the public, as well as competitive influences, often result in the broadening of a policy's coverage even though the language is fixed and not subject to amendment.

The report on Disability Insurance by the Ways and Means staff, referred to above, gives abundant evidence of the elasticity of the disability risk. In addition to rising unemployment, the liberalization of the definition of disability, both by legislation and adjudication, has contributed to the sharp increase in the duration as well as the frequency of claims. The combination of legislative liberalizations, including the very substantial increase in the earnings base, changes in administrative policy and procedures, and a great deal of litigation, have raised the estimated cost of the Social Security disability benefits from .56% of taxable payrolls in 1960 to 1.92% in 1974, an overall increase nearly 3.5-fold without allowance for the trend in disability rates or the recent indications of declining recovery rates. To the extent that this alarming increase has resulted from changes in claim administration and the consequences of the litigation of thousands of cases, the effect is bound to be felt in the private sector of disability insurance. The record of litigation of Social Security determinations is a complex one to follow but to cite a single statistic it is indicated in the report mentioned that the Administrative Law Judges in 1960 reversed 3,470 cases where benefits had been denied by the administrators of the plan. In 1973 the corresponding number was 33,906, nearly 10 times as great and equal to almost 8% of the cases approved in that year at the administrative level.

The developments of the past decade have considerable similarity to those of the 1920's. During that period, the life insurance companies entered into the total and permanent disability business with a disability definition that required a presumption of permanence. After some time, this was generally abandoned and companies adopted a 90-day deferment or elimination period in lieu of any requirement that the disability be long-lasting and expected to end in death.

The cost of this liberalization proved to be much greater than had been provided for by the rates, but, even before a credible volume of experience could be collected, some companies made a further liberalization in the clause by providing that if disability did continue through the deferment or waiting period, as it was then called, benefits would be paid retroactively to the commencement of disability. Again, the cost of this was underestimated, as can be seen from a comparison of the experience under Benefit 3 with that under Benefit 2 of the 1930-50 Disability Study.

Another form of liberalization was a provision for increasing the benefit after disability had lasted five years. Not to be outdone, at least one competitor copied the five-year increase and added a further increase after ten years of continuous disability.

It is well known that this syndrome of liberalizations in response to competition led to disastrous results during the Great Depression. What perhaps is not so well known is that the seams began to show some years before the depression reached its depth. Dr. Arthur Hunter, in his paper presented to the Actuarial Society in October, 1929, mentioned that current premium rates were too low. In 1930, the 90-day clause was replaced by the 120-day clause, which in turn was abandoned early in 1932. At that time, Benefit 5, waiver of premiums only with a six months deferment period, was introduced. Many companies discontinued entirely the writing of disability income benefits and others cut the benefit back to \$5.00 per thousand of face amount with six months deferment and with termination of coverage at 55 for men, 50 for women. It is interesting to note that, after having been a popular subject for papers and a frequent topic for discussion in the 1920's and early 1930's, there were only two references to disability in the Transactions between 1934 and 1949 inclusive, a period of sixteen years.

During these sixteen years, only a handful of companies wrote noncancellable disability insurance and a few companies offered a disability clause in their life insurance policies, generally on a very restrictive basis. This was all the disability protection available on a guaranteed renewable basis. Since the need for disability insurance was as great during those years as ever before and even greater than today - with Social Security cash disability benefits introduced in 1956 - it is clear that the public was the loser in having few sources for this important protection. Also, companies and agents missed the opportunity of expanding their business in this area.

If recent trends in the liberalization of coverage and expansion in limits of issue should lead to another period of retrenchment, the sequel might be quite different. Today, we have universal Social Security coverage with benefit amounts undreamed of twenty years ago, higher levels of Workmen's Compensation, cash sickness benefits in five states, and a great deal of group disability coverage. The market for individual disability insurance has thus been considerably circumscribed. Even so, if insurers were to withdraw or greatly curtail their activities in this field, we can expect that government would move to fill the vacuum. This places an added obligation on private insurers to assure, through conservative underwriting policy, the continued availability of disability insurance to complement the Social Security benefits, and to avoid creating a situation which might encourage further governmental incursion into the area of personal insurance protection.

Since the first noncancellable disability income policy was issued in this country some 60 years ago, tremendous changes have taken place. Except for the first six months of disablement, Social Security has virtually preempted the market up to an income level approaching \$15,000 and provides a very deep foundation of coverage at higher levels of earnings. While the Social Security disability program has succeeded in paying out tremendous sums of money to people, most of whom doubtless needed the benefits, it has failed rather dismally in the realization of its initial hope of encouraging and implementing rehabilitation. Under Workmen's Compensation, private carriers have taken the lead in developing rehabilitation programs. Is there not an even greater opportunity for the insurers of disability coverage to intensify their efforts in this area?

What is the future? If the intense competition for what appears to be the best segment of the disability market keeps the rounds of successive liberalizations and increasing issue limits going, while high unemployment results in further escalation of costs among other sectors of the insured population, and if the industry's response is only to adopt ad hoc solutions to every new problem or competitive challenge, the prospects are not very encouraging.

However, if the industry will pause for reflection, realistically appraise those protection needs which are not fully covered by Social Security, Workmen's

Compensation, state cash sickness and other programs, and seek the best means of meeting the remaining needs, a new period of constructive achievement in the public interest can be initiated. Such an approach may result in completely new concepts of the purposes and methods of disability insurance. Certainly primacy should be placed on restoring the insured or ill person to the fullest possible physical, mental, and economic recovery. Elimination of overinsurance or any possibility of overinsurance should also rank high among the objectives.

If these objectives require legislative changes, appropriate bills should be drafted and sponsored. Pending the adoption of such legislation as may be urgently needed, a much higher degree of self-discipline in the formulation and administration of underwriting rules and standards will be necessary. This may all sound visionary and unrealistic. Perhaps it is, but, may I urge you, before rejecting it as such, to consider carefully the alternatives.

CHAIRMAN KIDWELL: In summary, we have heard:

That morbidity costs are steadily rising at rates that vary widely by company, but are definitely rising with a steady and now accelerating upward trend.

A serious word of caution on the continued liberalization of insuring clauses and the unsoundness of the availability of large benefits.

A call for closer observance and significant action in the area of overinsurance, particularly in the blue-collar market.

An implication that we need to exercise better judgment and more common sense in marketing.

That claim practices must change and, in fact, are changing to cope more effectively with today's products and with changing public attitudes towards work and insurance benefits.

That rate making is becoming much more sophisticated on a prospective basis. Tables being used require a lot of judgment to modify existing tables because of the scarcity of applicable data for the as-yet-untested policies.

That rates of disability correlate positively with rates of unemployment, and indicate the extent to which economic conditions must be predicted and reflected in rate structures and product design.

That regulatory authorities are being swamped, as usual, with the pressure for more and more rapid changes in laws and control procedures.

That valuation methods and tables must be modernized to reflect more accurately significant characteristics policy by policy and company by company lest we be led astray by inadequate policy reserves and lest we fail to acknowledge the full true value of the benefits incurred.