that rates are calculated for today's circumstance and sold to cover tomorrow's exposure. It is recognized that this is no new opinion, but perhaps it should be said more often. That ratemaking is ideally prospective is something that *should* be accepted for *"shouldness"* sake. In burglary insurance, the need for prospective rating considerations is compound. In addition to the effects of inflation, there is an increasing frequency in the underlying crime events which generate the losses. In other industries contracts may be entered into based on current costs and the ultimate costs may generate a loss, but this is a result due to an inadvertent cost estimate. This is not the "expected" basis for doing business as it is so often in the insurance industry.

What has been said so far was stimulated by Mr. Newman's paper, but does not constitute a review. The subject in this paper was well delineated, placed in perspective, and very well described. To state it simply, in my opinion, the author did his job and did it exceedingly well.

AUTHOR'S REVIEW OF DISCUSSIONS

As mentioned in the presentation of this paper to the Casualty Actuarial Society in November, 1966, its purpose is simply to describe current ratemaking procedures for burglary insurance, and to provide the casualty actuarial student with some insight into the reasons underlying these procedures and why they may differ from those common to other lines of business. In the following discussion, I have tried to clarify certain areas in which interest has been expressed—particularly the development of the Master Rate Table and the use of trend factors.

MASTER RATE TABLE

Background

Prior to August, 1964, the burglary rates applicable to a particular class of risk were determined by reference to a series of rate schedules which were published for each buglary subline. Each territory within a state was rated in accordance with the schedule closest in line with its experience indications. For example, if we assume that for the Money & Securities Broad Form—Inside Premises Coverage, past experience indicated that Territory 3 in State X should use the Money & Securities rate schedule 5, and if we further assume that each rate schedule reflects a 5% increase in rate level over the last numerically lower schedule, then a 12% increase in rate level in Territory 3 for this subline would be translated

into the rating structure by assigning Territory 3 to rate schedule 7. Thus only a 10% rate increase would be realized when a 12% increase was indicated. Similarly, an indicated increase in rate level of 13% would result in use of rate schedule 8 for an actual increase of 15%.

It is clear from these examples that this rating procedure was burdensome to handle as well as lacking in precision. The Master Rate Tables, effective in August, 1964, were developed to increase the precision of the rating procedure and to simplify the burglary manual by publishing only one schedule of rates for each subline. The rate relativities underlying the various rate schedules for each subline were retained and are reflected in the applicable Master Rate Table. Territory multipliers were calculated to assure that the rate for each class of risk in each territory would not change as a result of conversion from rating schedules to a Master Rate Table.

Under current ratemaking procedures, rate level changes only affect the territory multipliers of the sublines and have no effect on the Master Rate Tables. Revision of the Master Rate Tables may periodically take place in connection with reviews of classification differentials within each subline. The National Bureau is currently in the process of conducting such a review.

Review of Classification Differentials

Reviews of classification differentials for each subline are based on the countrywide experience of the latest available three years of data, tabulated separately for each class of risk. Earned premiums are adjusted to the level of the base classification by applying the rate differentials underlying the present Master Rate Table. Loss ratios are computed to determine the indicated classification relativities. Set forth below is a simplified hypothetical example to demonstrate this procedure:

Subline Y — Countrywide

(1) Classification	(2) Current Differential	(3) Incurred Losses (000)	(4) Earned Prems. (000)	(5) E.P. on Class 1 Level, (4)/(2) (000)	(6) Loss Ratio at Class 1 Rates (3)/(5)	(7) Indicated Differential
1	1.00	$7,265	$13,576	$13,576	.535	1.00
2	.80	1,726	3,075	3,844	.449	.84
3	.65	443	827	1,272	.348	.65
4	1.25	896	1,745	1,396	.642	1.20

When revised differentials are determined for use in the Master Tables, care is exercised to remove any off-balance that might result.

Graded Rates

For each class of risk under the various burglary sublines, the Master Rate Table sets forth one rate per $1,000 of insurance, with the exception of the Mercantile Open Stock and Residence Theft sublines, for which graded rates are published. The gradations in the rates for these sublines are established by periodic reviews of experience tabulated separately by amount of insurance carried. An illustration of how gradations would be reviewed is set forth below:

(1) Policy Limit	(2) Incurred Losses	(3) Earned Premiums	(4) Loss Ratio	(5) Loss Ratio Index
$ 5,000 or under	$17,600,000	$32,000,000	.550	1.000
$ 5,001 to $10,000	6,267,500	11,500,000	.545	0.991
$10,001 to $15,000	1,769,000	3,200,000	.553	1.005
$15,001 to $20,000	1,493,500	2,900,000	.515	0.936
$20,001 or more	3,948,000	7,000,000	.564	1.025
Total	$31,078,000	$56,600,000	.549	0.998

By comparing the actual loss ratios of the experience summarized by limits carried, the effect of the current rate gradations is automatically included. Therefore, the indices calculated in column 5 indicate the degree of success or failure of the currrent gradations in equalizing loss ratios. Wide variations in loss ratios would indicate the need for revised gradations, whereas uniform loss ratios by amount of insurance would suggest retention of the current gradations.

Graded rates have not been developed for use in the burglary sublines where the primary exposure is money and securities, because under these coverages there is a relatively high probability that total loss to the insured will be the result of each claim. In recognition of this fact the insured usually purchases insurance to value.

In contrast, past experience under Mercantile Open Stock and Residence coverages has shown that when the primary exposure is merchandise, the bulkiness of these items precludes a total loss from theft in most instances. Partial lossses are more common under these coverages, and so

experience compiled under these sublines indicates that insureds purchasing policy limits sufficient to cover their maximum possible loss deserve discounts on the rates per $1,000 of insurance in excess of the amount of the most probable loss.

TREND

Rates are based upon the experience of the past, but are to be applied to policies providing coverage in the future. It is therefore necessary to adjust losses incurred in the experience period to the level of costs expected to prevail during the period for which the revised rates will be in effect. For this reason the trend factors computed for application to losses incurred under burglary coverages reflect cost levels anticipated at the average effective date of policies written under the revised rates.

The rationale for the application of trend factors to the lossses incurred under burglary insurance coverages is that a crime committed in the future would be expected to result in greater financial loss to the insured than if the same crime is committed in the present, primarily because of the effects of inflation. As an example, we may select the case of a luggage and leather goods retail store. The actual cash value of merchandise stolen in 1970 would probably be greater than that of similar items stolen in 1965; the cost of labor and materials to repair or replace any damaged goods, furniture, or fixtures would also reflect general inflationary trends.

It has been said that it is improper to reflect trends in loss costs in burglar insurance ratemaking, because inflation will have the same effect on premiums as on losses. This may be true to some extent, but even where premiums *do* increase, they can be expected to lag behind the greater amount of losses and claims paid. In addition, an important factor to consider is that most crimes cause only partial losses to the insured. In our example of the luggage shop, there is a natural limit to the amount of merchandise that may be stolen, because of its bulkiness and the relatively short amount of time available for the theft. If a storeowner buys $3,000 of insurance to cover his estimate of his maximum possible loss, at a time when his most probable loss would be approximately $1,800, he will rarely bother to purchase additional insurance when inflationary trends cause him to revise his estimate of the most probable loss of stock to $1,900. In most cases he would not even be aware of such a change.

In their reviews, both Mr. Bondy and Mr. Oien acknowledge the

fact that the trend procedures currently in use fail to reflect the increase in the number of crimes committed in the United States in recent years. Mr. Bondy suggests the use of loss ratios at present rates, rather than the present method of computing trends based on average paid claim cost data, since he believes that the former system "automatically takes all pertinent factors into account."

The National Bureau recognizes the limitations in its current ratemaking procedure, and is constantly studying alternate means of developing rates that will be adequate without becoming excessive or unfairly discriminatory. In particular, the Bureau is presently studying the relative merits of trend factors (for use in ratemaking) based on each of these types of data: average paid claim costs, pure premiums, claim frequencies, and loss ratios at present rates.

With specific regard to burglary insurance, two of the drawbacks of a ratemaking procedure involving trend factors based on either claim frequencies or loss ratios at present rates are discussed below:

1. Claim frequencies are computed by means of a comparison of claims and exposures. However, while burglary insurance is sold using $1,000 of coverage as an exposure basis, no provision is made in the present National Bureau Statistical Plan for recording this figure (only total premium is reported). Even if provision were made in the Statistical Plan to report amounts of insurance purchased, claim frequencies based on these data might not yield a reliable measure of trend for ratemaking purposes, because of credibility considerations.

   The *Uniform Crime Reports* of the Federal Bureau of Investigation, which list total offenses by type, are not based on insurance statistics and therefore do not bear a direct relationship to insurance data, or to the number of claims incurred by insurers under burglary coverages. For this reason trends based on these data are not properly applicable to burglary insurance ratemaking procedures.

2. The trend of average paid claim costs, which measures the effect of inflation on loss costs, is currently computed on a countrywide basis because premium volume is too small and the number of claims too low to permit analysis by state or by subline. The use of countrywide data to compute trends in loss costs does not affect the validity of an individual state rate filing, because the forces of inflation are present throughout all sections of the country. On the other hand, it is widely accepted that the incidence of crime varies in proportion to

a region's degree of urbanization. Small but densely populated areas can be expected to show a much higher incidence of crime than larger but more rural sections of the country.

Although trends should be based on countrywide experience to achieve proper credibility, it must be recognized that burglary rates are computed and filed separately for each state. If countrywide trend factors were to be based on, or reflect in some way, the incidence of crimes, it is clear that the data from cities and urbanized areas would have a disproportionate weight in the indications, since it is these areas that develop more premiums, claims, and losses. It would be unfair to penalize the residents of states with a primarily rural population by having the trends in the incidence of crime in more urban areas reflected in the overall rate level of these less urbanized states.

CONCLUSION

It is most difficult to evaluate fairly the performance of the burglary ratemaking system described in this paper. The underwriting losses of past years do not by themselves tell the whole story, and cannot be completely blamed on the underlying ratemaking system.

In recent years approximately one-half of the statutory underwriting losses developed by the burglary line of insurance resulted from the fact that many companies have overspent the production cost allowance included in the manual rates. Another factor (discussed in the last section of my original paper) which has contributed to poor underwriting results, has been the increasing popularity of multiple-line package policies that include crime insurance coverages. Also of concern to the industry are the rate regulatory practices in some jurisdictions that have an inhibitory effect on justifiable rate increases. At times the industry is not permitted to secure prompt rate relief and is often required to cut back on the level of rates indicated as necessary by the experience in order to secure approval for a needed increase.

Thus the underwriting climate for the burglary insurance business has not been a very favorable one, but we have reason to expect that it will improve in the near future. The industry is becoming increasingly expense-conscious in the face of prolonged underwriting losses, and rate regulatory laws are being reviewed in some states to provide an atmosphere in which necessary rate level changes may be more easily secured.