ciate Mr. Gill's predicament, since he had no tool available to test his method for states other than those where a territory distribution is available.

In the area of loss development and trend factors, Mr. Gill had a similar problem. Lacking data reflecting the characteristics of NAII experience, he apparently used Bureau factors. Assuming that such factors are available in the ranks outside the Bureau companies, there is a question of whether they are appropriate for NAII data. The influence of these factors on rate level is considerable.

Mr. Gill did not suggest that his method is suitable for ratemaking or rate review, and rightly so. Although it does not produce as close an approximation by territory as the data presented in the paper for the states of Louisiana, New Jersey, North Carolina and Virginia seem to indicate, the suggested method might be useable to establish guideposts that, along with other considerations that motivate independent companies' pricing, could be used for the testing of rates. Since the price differential between the rates of the Bureau and Non-Bureau companies is generally predicated upon loss as well as expense experience, there is more latitude in the degree of required loss level approximation for Mr. Gill's "testing of rates" than is required in ratemaking.

DISCUSSION BY DAVID A. TAPLEY

In the words of the author, the purpose of this paper is to explore the possibility of developing a method of testing private passenger liability territorial rate levels by substituting the statewide distribution of classification data for the actual distribution by rating territory. Also, in his introductory remarks, Mr. Gill gives emphasis to the potential value of such a method to small independent companies and company actuaries as the basis for estimating the adequacy of their rate levels.

In the judgment of this reviewer, Mr. Gill's paper will indeed be of interest to a very large audience. Under current practices, a huge proportion of the total experience of all insured automobiles is accumulated under the statistical plans of the official statistical agents. However, there is a considerable variation from one state to another in the percentage of total business written by members of the Mutual Bureau, members of the National Bureau, members of other local State Bureaus and by independent companies. It seems reasonable to believe that this, or any other, method that will enhance the evaluation of rate levels by territory based on the experience of all companies will find favor in every quarter of our industry.

Mr. Gill's paper will unquestionably be of particular interest to a great many independent companies. In that period in which the all-industry bills were passed, almost 20 years ago, the art and science of automobile insurance ratemaking was practiced by a relatively small number of rating bureaus and large independent companies. Most, if not all, of the medium and small independent companies borrowed heavily from the available rate schedules of the larger organizations. In the years that have elapsed since the mid-nineteen forties, the exposures and premium volumes of the companies have become much larger and the interest of the independent companies in sound ratemaking practices have increased in even larger proportion. Mr. Gill's paper may very well point up a very real opportunity for our Society to capture the interest of even the small independents and to encourage the participation of their personnel in our programs.

The title of this paper properly recognizes that this is a method of approximation. This acknowledgment perhaps relieves in some degree what would otherwise be a necessity for examining the consistency and comparability of both the statistical plans of the N.A.I.I. and the National Bureau, and also the practices of the companies reporting to these organizations. Nevertheless, it should be noted that within the N.A.I.I. some companies follow the definition of a bodily injury claim employed by the National Bureau for all practicable purposes while others count claims only on a per accident basis. This difference alone could have a material effect upon the determination of the credibility factors employed by the author. It is also noted that the scope of testing set forth in this paper is fairly limited, as the author explains.

It may be of interest that in recent years quite a few companies have attempted, in one way or another, to make use of the N.A.I.I. experience accumulations for purposes that are quite similar to those stated by the author. In a panel presentation at one of the Workshop Meetings, some four or five years ago, one of the larger N.A.I.I. companies' personnel presented a rather detailed and somewhat complex method for making a similar kind of evaluation. Mr. Gill has, for many years, been uniquely placed to observe the interest and desire of the independent companies in the sound usage and the proper interpretations of not only the N.A.I.I. statistical accumulations but also those of the entire industry. Throughout his years of service to the many independent companies of every description and employing many varying practices, he has consistently sought to maintain standards of excellence that are in keeping with the object of our Society. It is the sincere hope of this reviewer that this paper will become only the forerunner of additional efforts to make full usage of all the statistical tools of our industry to the mutual benefit of all the companies. This is a thoughtful and stimulating paper devoted, I believe, to a larger purpose than that expressed by the author. Mr. Gill is deserving of our commendation.

DISCUSSION BY PETER B. ZORY

As a representative of a ratemaking organization, I found Mr Gill's paper of particular interest. The essential idea of the paper concerns the calculation of premium at present rates by utilizing a statewide distribution of classification exposures instead of the actual distribution within each rating territory. The standard method of computing premium at present rates, as described in Mr. Stern's paper,[1] requires the use of the actual class exposures within each rating territory. Except for six states, the National Association of Independent Insurers collects automobile experience by territory for all classes combined and only statewide for each classification. Thus, the N.A.I.I.'s compilation of experience does not include the actual classification exposures within each rating territory. Mr. Gill believes an estimate of the exposure by class within each territory, based upon the statewide distribution, would enable small independent companies to use the N.A.I.I.'s compilation of experience to (1) test their rate levels or (2) determine approximate rate levels for a state they are entering for the first time.

In order to demonstrate that his method can closely approximate the actual premium at present rates, Mr. Gill has calculated two rate level changes, for each of four states in which the actual class distributions by territory were available. He calculated one rate level change on the basis of the actual class distribution within each territory and a second based upon the statewide class distribution. The resulting rate level changes were practically identical.

To illustrate further the feasibility of using the statewide class distribution, Mr. Gill performed another test involving six other states. Two sets of premiums at present rates were calculated for each of the six states, using the same exposures but different rates. Both sets of premiums were based upon the N.A.I.I.'s 1961 statewide class exposures, which were distributed by territory using Mr. Gill's approximation method. One set of premiums were calculated at the 1961 N.B.C.U. rates and the second set at the 1960 N.B.C.U. rates, adjusted to reflect the 1958-1959 N.A.I.I.

[1] Current Rate Making Procedures for Automobile Liability Insurance, *PCAS* XLIII.