

MERIT RATING IN PRIVATE PASSENGER AUTOMOBILE
LIABILITY INSURANCE AND THE CALIFORNIA
DRIVER RECORD STUDY

BY

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DISCUSSION BY J. H. MUETTERTIES

Mr. Harwayne has given us a good brief summary of the Private Passenger Merit Rating history along with an excellent and precise statement summarizing the "con" to merit rating and then the "pro" to merit rating.

After the history and the initial statements about Merit Rating, the author refers to the California type plan as ". . . being in answer to the need for recognition of the driving performance of individuals" and that the cornerstone of this plan is the California Driver Record Study.

In this discussion this writer would like to raise the question as to whether the California type plan "answers the need for recognition" and this writer is also somewhat dubious that the California study is the cornerstone of the plan. The need for recognition of the driving performance of individuals, first and foremost, is in the motor vehicle departments where more enforcement is needed, and second, when a driver with a poor record or near-poor record (four or more accidents and/or abstracts—7.4% of drivers in California; five or more, 4.4%) is given a license, he should be treated as a substandard risk and surcharges should be permitted.

As to the cornerstone comment, a somewhat different concept could be set forth for discussion—the detailed records of the California Motor Vehicle Department and the desire of certain companies to get at the clean risk are probably the fundamental underlying concepts in laying the foundation of the California Merit Rating Plan.

The author states, and most everybody will agree, that the California study is meaningful. He then goes on to give us another good and precise summary of the study. This writer is in full agreement with the summary but there are two questions which although minor are troublesome—there is a consistent tendency toward an increase in the number of accidents with an increase in the number of abstracts. Question: How much does the accident which results in an abstract affect the shown tendency? Should this accident abstract be viewed as equal to one accident, one abstract, or one accident and one separate abstract? Second, should a rating system be tied into a system which probably has a variable enforcement pattern?

Besides the good summaries of the history of merit rating and of the California study, the author has done excellent research in fitting the negative binomial distribution to the California data. This, we understand, is being discussed in another paper and with a more scientific approach than this writer could take. However, comments on the importance of finding a distribution which fits the California data are in order.

It is not denied that individual risk rate adjustments can be made from the California study and that expected distributions can be formed (and by territory) but are all these approaches practical and economical? It is not too difficult to set up theoretical yardsticks, but it is very difficult to collect the actual experience in such a form for a comparison to these theoretical yardsticks.

In fact, this writer will go even so far as to say that it will be very difficult to collect reliable experience by the debit-credit classes for the many merit plans.

Speaking of costs and not being in the position to price the additional costs of handling merit rating, this writer wonders what problems the companies are running into in the way of increased underwriting and handling costs when some policies must be rated twice—first when the application is received, and second after the MVR. (Motor Vehicle Report)

In addition to Mr. Harwayne's proposed uses of the California driver data, a pricing of a merit rating plan can be attempted. Referring to the study, we find that 54.1% of all drivers had no accidents or abstracts; 18.0% had one abstract and 4.2% one accident; and combined 22.2% had one accident or one abstract. Thus, the weights can be obtained for a simple merit rating plan and set-up as follows:

Accidents or Abstracts	Weight	Percent of Manual	
		Plan I	Plan II
0	54.1%	80%	80%
1	22.2	100	90
2	10.8	125	100
3	5.5	150	125
4	3.0	175	150
5	1.6	200	175
6 or more	2.8	250	200
Rate Level	100.0%	103%	94%

The above shows that Plan I will probably produce a 3% increase in the manual level and Plan II a 6% decrease. These two plans do not represent any particular plan and are only presented as examples. Much additional work should be done on the weights as shown because, first of all, the California study is on a per driver basis and private passenger rating is per car. There are about 8,000,000 drivers in California and about 6,500,000 automobiles (excluding trucks and motorcycles). Therefore, the 54.1% for no accident and no abstracts would be a lesser figure. Also, if the merit rating plan charged higher points for more severe abstracts (about 5% of abstracts are severe) and no points for non-fault accidents, additional adjustments must be made. In any case, the California study can be used as a basis for pricing out a merit rating plan.

The next question is: When is a merit rating plan in balance?

1. When the expected distribution times the debit or credit rated risks equals the manual level, or

2. a. When a lower than manual level is produced but the losses are lower to the same degree, and
- b. When a higher than manual level is produced but the losses are higher to the same degree.

Someone more learned than the writer will have to answer this question.

If the general belief of those using merit rating is that it adjusts the premium commensurate with the hazard for the class—maybe it should be added that other measurable characteristics should also be included in rating; such as occupation, environment, and then the age-old symbols of recklessness, of booties hanging from the sun visor or an extra tail pipe.

Even though this discussion takes the form that the writer is not sold on merit rating—deep down within me there is a yearning for merit rating because of being lucky enough to be without accidents or convictions. (Probably will regret the day this was written). But to get back to my point—the yearning in my case is not so much for merit rating but for a lower cost of insurance—and thereby tells the tale of the real want—lower cost.

AUTHOR'S REVIEW OF DISCUSSION

Mr. Muetterties' discussion of my paper is indeed welcome, for such exchange helps to sharpen the tools of the ratemaker and tailor the price paid by insureds more appropriately to the hazards which they present.

Mr. Muetterties' view that the need for recognition of driving performance is along the lines of more enforcement in the motor vehicle departments is more of a social comment rather than an actuarial or insurance comment. I like to believe that the insurance industry is concerned with objective evaluation of potential risk more than merely finding a plausible but erroneous basis for risk evaluation.

Regarding the inter-relationship of accidents and abstracts, 37.1% of the individuals exhibited a greater number of accidents than abstracts. The following summary of average number of abstracts by number of accidents derived from the California data is noteworthy:

TABLE A

Number of Accidents	Average Number of Abstracts	Increment from Preceding Line	
		Number of Accidents	Average Number of Abstracts
0	0.7	—	—
1	1.6	1	0.9
2	2.5	1	0.9
3	3.2	1	0.7
4	3.8	1	0.6

It should be noted that on the average, those with no accidents during the three-year experience period have 0.7 abstracts; thereafter, an increment