

A STUDY OF THE SIZE OF AN ASSIGNED RISK PLAN

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Assigned Risk Plans are thought to expand or contract in volume according to whether or not a prospect of profitable insurance operation is lacking. In order to develop a quantitative first estimate of an Assigned Risk Plan volume, it will be assumed that underwriters relate this prospect of profitable insurance operation to expected claims occurrence, and such expectation is sufficient to reject the request for voluntary coverage. It is also assumed that property damage liability claims will not be separately considered because many of such occurrences are already reflected in bodily injury liability claims¹ and others reflect environmental factors rather than the individual's susceptibility to accidents.

The foregoing approach leaves only the bodily injury liability claims records of individuals for the purposes of underwriters' acceptance or rejection of a particular risk. At the risk of oversimplifying, it is assumed that the reported bodily injury liability claims reflect the situation before fault has been completely determined. If underwriters will prospectively accept or reject individual risks with claims records according to some doctrine of fault, it is fair to remove from consideration half of the individuals with claims records as not being at fault. Therefore, 50% of the observed claim frequency would involve fault. Assuming that underwriters consider the accident records over three years (the length of time used in the Assigned Risk Plan) the voluntarily insurable population which would be free of liability for a three-year period could be estimated. For example, the accident year 1958 bodily injury liability claim frequency on Class 2A in the three boroughs of Manhattan, Bronx and Brooklyn was .193. Discounting this by 50% gives a net annual frequency for liability of .10. Over a three-year span, there would be approximately 74% of the total free of liability². Such a figure could be used as an approximate measure of the theoretical voluntary insurance market under observed average claim frequency conditions.

Actually, during 1959 the voluntary Class 2A business in the three boroughs was 66% of the total available Class 2A business. The ratio of 66% to 73% can be used to estimate whether or not the Assigned Risk Plan on this account is unduly saturated with Class 2A business in the three boroughs. Such a ratio would not be very sensitive, certainly not beyond one

¹ For example, the reported claim frequencies for accident year 1958 are:

	<u>Bodily Injury</u>	<u>Property Damage</u>
Man., Bronx and Brooklyn	12.4%	12.4%
Other N. Y. territories	5.1	9.9

² For purposes of a first approximation, it is assumed that the three year frequency is three times the net annual frequency and is distributed approximately according to the Poisson distribution. If a negative binomial or compound Poisson distribution had been used with a variance equal to 1.2 times the mean, the comparable figure would have been slightly higher, namely 76%.

decimal accuracy. A ratio below 1.0 indicates assigned risks are more than expected, while a ratio higher than 1.0 indicates assigned risks are less than expected. Sheets 1 and 2 of the attached Table A give such ratios based on the accident year 1958 private passenger bodily injury liability experience of the National Bureau and the Mutual Bureau members and subscribers, compared with their reported risks written voluntarily during the first half of 1959. It is interesting to note that the ratios for the three boroughs and the balance of New York State separately, produce indices of 1.0 signifying that the size of the Assigned Risk Plan is not overly large in relation to the claim frequency in New York State. On the other hand, in the three boroughs of New York City, there appears to be an over-concentration of assigned risks in Classes 1A and 2A with a ratio, of .9; Class 2C with a ratio of .6; and there appears to be a lack of concentration in Class 3 with a ratio of 1.1. These same ratios hold in the balance of the State for Classes 2A and 3; for Class 2C the ratio drops to .5 and, in addition, there appears to be a concentration in the Assigned Risk Plan of Class 2CF (farmers) with a ratio of .7.

From this first estimate it appears that the newly adopted Assigned Risk Plan which would afford credit against Assigned Risk Plan quotas for voluntary acceptance of Class 2 business, should in large measure correct the present relative saturation of the Assigned Risk Plan with young driver business. On the other hand, it may not be necessary to provide incentive credits for the placing of assigned risk business in the voluntary market. Rather, it would seem more profitable to work toward a general reduction of claim frequency in the State. This would benefit the general population through lower rates and would also provide a more permanent solution to a reduction of the volume of business in the Assigned Risk Plan by enhancing the prospect of profitable insurance operation.

It is realized that the technique outlined for review of the size of the Assigned Risk Plan in New York State is only a rough first estimate and subject to criticism on various scores; nevertheless, it is believed to be the first attempt to deal with the problem of how large an Assigned Risk Plan may be considered to be "normal". Constructive criticism could result in welcome refinement. The technique might be adapted to similar reviews elsewhere; undoubtedly the results of such studies should prove interesting and useful.

TABLE A (SHEET 1)
 Manhattan, Bronx and Brooklyn
 Comparison of Private Passenger Voluntary Business
 With Estimated Business Free of Liability for Three Years

<i>Experience of National and Mutual Bureaus Members and Subscribers</i>				<i>By Rate Classification</i>	
(1) <i>Classi- fication</i>	(2) <i>B.I. Claim Frequency</i>	(3) <i>50% of Prev. Col.</i>	(4) <i>Est. % Free of Liab. for 3 Years^a</i>	(5) <i>Vol. Bus. as % of Total</i>	(6) <i>Ratio (5) ÷ (4)</i>
1A	.116	.06	84%	79%	.9
1B	.120	.06	84	87	1.0
1C	.131	.07	81	81	1.0
2A	.193	.10	74	66	.9
2C	.269	.14	66	38	.6
3	.124	.06	84	94	1.1
1AF	.....	.....	.....	.....	.....
2AF	.....	.....	.....	.....	.....
2CF	.....	.....	.....	.....	.....
Total	<u>.124</u>	<u>.06</u>	<u>84%</u>	<u>80%</u>	<u>1.0</u>

Note: Based on Voluntary Business Written January through June 1959 and Accident Year 1958 Private Passenger Bodily Injury Claim Frequencies.

^a Based on the Poisson distribution with three year mean equal to three times column (3).

TABLE A (SHEET 2)
Balance of State
Comparison of Private Passenger Voluntary Business
With Estimated Business Free of Liability for Three Years

<i>Experience of National and Mutual Bureaus Members and Subscribers</i>				<i>By Rate Classification</i>	
(1)	(2)	(3)	(4)	(5)	(6)
<i>Classi- fication</i>	<i>B.I. Claim Frequency</i>	<i>50% of Prev. Col.</i>	<i>Est. % Free of Liab. for 3 Years^a</i>	<i>Vol. Bus. as % of Total</i>	<i>Ratio (5) ÷ (4)</i>
1A	.048	.02	94%	93%	1.0
1B	.046	.02	94	94	1.0
1C	.062	.03	91	91	1.0
2A	.084	.04	89	82	.9
2C	.135	.07	81	44	.5
3	.065	.03	91	97	1.1
1AF	.019	.01	97	97	1.0
2AF	.046	.02	94	93	1.0
2CF	.082	.04	89	61	.7
Total	.051	.03	91%	92%	1.0

Note: Based on Voluntary Business Written January through June 1959 and Accident Year 1958 Private Passenger Bodily Injury Claim Frequencies.

^a Based on the Poisson distribution with three year mean equal to three times column (3).