

$t$	Theoretical value	Observed ratio	
		After 5 years	After $t$ years
1	1·70	1·64	1·94
2	1·83	1·88	1·84
3	1·97	1·72	1·82
4	2·10	1·65	1·68
5	2·25	1·90	1·90

Another feature of interest is derived by noting from Table 6 that the number of claims in the first year is 85, giving a claim ratio of ·310 for the 274 policies exposed. The claim ratio for all years after the first may be calculated from Table 4 as ·139. Having regard to the numbers involved, the difference must be statistically significant. Clearly a reason exists for this divergence and without establishing it, the formulation of mathematical models is a hazardous pursuit.

Yours faithfully,

R. E. BEARD

*Pearl Assurance Company Limited,*  
*High Holborn,*  
*London, W.C. 1*  
 27 January 1958

DEAR SIRS,

We have read Mr Beard's letter with interest, though we regard it as being only very mildly 'in a critical vein', since it draws attention to points which we have mentioned in our paper, though not always, perhaps, with sufficient emphasis.

In particular, we pointed out—in Section IV and again on p. 286—that the data give information on the proneness of *policies* to *claims* rather than of *drivers* to *accidents*.

Mr Beard's table of the ratio of expected future claim rates for claim-free and non-claim-free policies is useful, and demonstrates departure from the consequences of assuming a type III distribution for  $\lambda$  (in a clearer way than does our Table 6).

Since the publication of our paper more extensive data from the same source have been analysed, and it is hoped to publish the results in due course. These appear to confirm Mr Beard's point in his last paragraph, namely, that the claim rate in the first year is higher, and it is evident that the mathematical model of a distribution of  $\lambda$ , independent of policy duration, is, in itself, inadequate in this respect.

Yours faithfully,

F. GARWOOD  
 N. L. JOHNSON

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 10 February 1958