DISCUSSION BY JOSEPH A. PLUNKETT

Mr. Ferguson has written an excellent discourse on the use of increased limits factors as a method of excess of loss ratemaking for private passenger automobile bodily injury liability. It must be remembered, as is pointed out in the paper, that this method produces a gross premium which has to be modified to leave the reinsurer with the pure premium plus a margin for profit and contingencies plus a pro-rata portion of the loss adjustment expense for those claims paid by the reinsurer. This modification is accomplished by the use of a commission on the gross increased limits premium.

The manual excess approach to excess of loss reinsurance has a certain appeal in that an equitable premium is being paid for the exposures being assumed, *i.e.* the actual premium collected by the insurer. Calculation of the reinsurance premium written, in force, and unearned can be readily accomplished by tabulating equipment or computer. If the experience is better than anticipated, a share of the excess profit can be returned via contingent commission.

Obviously, it is assumed that the increase limits premium is the correct premium for the exposures covered. Perhaps this is valid over low retentions (10,000/20,000; 15,000/30,000; or 20,000/20,000) but I question the use of this approach to excess of loss rating over higher retentions. The relativities between policy limits related to higher retentions are not the same as with lower ones.

To illustrate this point, let us examine certain relationships which develop from a comparison of the private passenger increased limits tables in effect before and after January 1, 1970. Table I sets forth the percentage increase of increased limits premium for various retentions which will be collected using the new factors which went into effect in most states on January 1, 1970. The column headed "Percentage Increase" reflects the additional premium collected for the increased limits because of the change in factors. The overall increase from the basic limits was 19%. Table II compares the old percentage with the new percentage of premium collected over retentions of $25,000/25,000 and $50,000/50,000. The percentages in the columns headed "Old" and "New" are the percentage relationships between the premium retained by the ceding company and that given to the reinsurer. For example, in Part A, policy limits $50,000/50,000 the

"Old" percentage shown of 10.71% was derived as follows from Table I: $\frac{50/50 - 25/25}{25/25} = \frac{1.24 - 1.12}{1.12} = 10.71\%$. The reinsurance premium is thus related to the total limits premium. The "Increase" column is the change in percentage of reinsurance premium collected related to premium retained by ceding company. Table II reveals that the change in increased limits factors, which produced an overall increase of 19% from basic limits, does not produce a comparable result for a reinsurer over retentions of $25,000/25,000 or $50,000/50,000.

TABLE I

Policy Limits	*Increased Limits Factors*		*Percentage Increase*
	Prior to 1/1/70	*Subsequent 1/1/70*	
$ 10,000/$ 20,000	1.00	1.00	—
$ 25,000/$ 25,000	1.12	1.16	33.33%
$ 50,000/$ 50,000	1.24	1.29	20.83%
$ 50,000/$100,000	1.30	1.35	16.67%
$100,000/$100,000	1.32	1.37	15.62%
$100,000/$300,000	1.41	1.49	19.51%
$250,000/$500,000	1.50	1.59	18.00%

TABLE II

A. Reinsurance Layer $225,000/475,000 Xs $25,000/25,000

Policy Limits	*Old*	*New*	*Increase*
$ 50,000/$ 50,000	10.71%	11.21%	4.67%
$ 50,000/$100,000	16.07%	16.38%	1.93%
$100,000/$100,000	17.86%	18.10%	1.34%
$100,000/$300,000	25.89%	28.45%	9.89%
$250,000/$500,000	33.93%	37.07%	9.25%

B. Reinsurance Layer $200,000/450,000 Xs $50,000/50,000

Policy Limits	*Old*	*New*	*Increase*
$ 50,000/$100,000	4.84%	4.65%	−3.93%
$100,000/$100,000	6.45%	6.20%	−3.88%
$100,000/$300,000	13.71%	15.50%	13.06%
$250,000/$500,000	20.97%	23.6%	10.92%

There are many other valuable studies pertaining to manual increased limits which can be developed using the techniques described in Mr. Ferguson's paper.