

DISCUSSION BY RICHARD NORGAARD AND GEORGE SCHICK*

Robert A. Bailey, in his article, "A Review of the Little Report on Rates of Return in the Property and Liability Insurance Industry," has examined the basic A. D. Little (ADL) equation.^{1,2} The equation:

$$\text{Return} = \frac{\text{net income}}{\text{net worth} + \text{loss and premium reserves}} \quad (1)$$

is the basis for their conclusion that the insurance industry is unprofitable. Bailey gives cogent, logical arguments why the profit equation used by ADL has serious shortcomings, and why it substantially understates the actual rate of return.

Although the ADL report is a study of risk and return, risk is a function of return so the return equation is all important. Its importance is enhanced when ADL uses it in the absolute sense for evaluation. For example, ADL compares their return for insurance companies with the return earned on savings deposits, stock market, and among industries. In focusing entirely on return, Bailey has done us a service since other critics have given primary attention to the techniques for measuring risk and sampling.

In examining equation (1), Bailey has forcibly demonstrated the weakness of the ADL conclusions by showing how weak the basic equation is. Many of us have noticed this problem. When we were originally attempting to find an acceptable method for determining a rate of return, the first thing we examined was the return on investment or ROI.³ This is the best known

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¹ Arthur D. Little, Inc., *Prices and Profits in the Property and Liability Insurance Industry*, Report to the American Insurance Association, dated November 1967, but available June 1968.

² Arthur D. Little, Inc., *Rates of Return in the Property and Liability Insurance Industry: 1955-1967*, Report to The National Association of Independent Insurers, dated June 1969.

³ Richard L. Norgaard & G. J. Schick, "Profitability in the Property and Liability Insurance Industry," and "Analysis of Profit Trends in the Property and Liability Insurance Industry," *The Insurance Industry*, Hearings before the Subcommittee on Antitrust & Monopoly, Vol. 14, Washington, U.S. Government Printing Office, July 1968.

profit ratio where:

$$\text{Return} = \text{ROI} = \frac{\text{net income} + \text{fixed charges}}{\text{net worth} + \text{fixed debt}} \quad (2)$$

This is the basis for equation (1). As commonly used ROI is based on book values. We rejected this for, when used in an inter-corporate study, substantial distortion is created because of the different techniques used in accounting by insurance companies compared to other companies. Our solution to the problem was to use market values. The ADL solution as Bailey noticed was to ignore the problem.

Nevertheless, the use of book values in the ROI equation can be an acceptable technique for comparison, if the differences between insurance and non-insurance companies are carefully considered. ADL in their equation have decided to include the loss and premium reserves in their denominator but no imputed earnings. The results, as we know, give insurance companies ridiculously low earnings. This technique so distorts actual results that stocks prove least unprofitable, mutuals more unprofitable, and reciprocals the most unprofitable. Bailey notices these inconsistencies and shows why they come about. The reason is that both loss and premium reserves have implicit income. If the implicit income is ignored, and Bailey thinks it should be because it is unmeasurable, then the reserves themselves should also be ignored. The resulting equation for insurance companies is:

$$\text{Return} = \text{net income}/\text{net worth}. \quad (3)$$

When Bailey readjusts the ADL figures to reflect equation (3), he finds mutuals slightly more profitable than stocks and the overall profit rate slightly less than the average for all industries. In effect Bailey finds that the correct value for the ADL report is approximately the value we have given it in our report.

While we have no criticism of Bailey's approach and conclusions we regret that he has not included three important points:

- (1) He has failed to mention the work of others dealing with this problem. For example, both Hofflander and Mason,⁴ and Hammond

⁴ A. E. Hofflander & R. H. Mason, "Prices and Profits in the Property and Liability Insurance Industry," Review, *Journal of Risk and Insurance*, June 1968.

and Shilling⁵ have discussed this problem. Bailey also ignores our discussion of this problem.

- (2) While Bailey's approach may be an improvement over ADL's in that it tends to correct some of the ADL understatement of profits, he gives us no ideas whether his adjustments also distort the actual comparison.
- (3) Bailey gives no hint as to why ADL has been able to sell its understated income concept so easily to the insurance industry. While we would like Bailey's opinion on this point we can readily understand his reluctance to give it.

DISCUSSION BY J. ROBERT FERRARI

In his paper reviewing the most recent Arthur D. Little (ADL) Report commissioned by the N.A.I.I., Bailey seems to have as his basic objective the development of a rationale for calculating return for property and liability insurance companies as

$$\frac{\text{Net income}}{\text{Net worth}}$$

rather than ADL's preferred approach, which is

$$\frac{\text{Net income}}{\text{Net worth and reserves}}$$

The two ratios produce significantly different returns; the ADL Report shows a return of 8.34% for stock companies with the first formula and only 3.79% with the second formula. Bailey's primary justification for preferring the former ratio and its result is based on certain "returns" to policyholders (discounts on premiums and the time value of deferred loss payments) which he claims exist and which ADL ignored. While I tend to agree with Bailey's choice of a return measure, I have to admit that I did not find his arguments about imputed returns particularly convincing. Furthermore, he failed to discuss the possible relationship of his position with

⁵ J. D. Hammond & N. Shilling, "A Review Article: The Little Report on Prices and Profits in the Property and Profits in the Property and Liability Insurance Industry," *Journal of Risk and Insurance*, March 1969.