

The Discounted Cash Flow Approach

Stephen P. D'Arcy

Insurance Profitability

Charles L. McClenahan

Review by Mark W. Littman

As mathematicians move from the halls of academia to become professional actuaries in the insurance industry, it becomes quickly apparent that neither carefully crafted textbook problems nor right answers exist. In the case of appropriate standards for property casualty insurance profit margins, I would suggest that the lack of a single answer is directly dependent on the lack of a single definition of the problem.

As McClenahan succinctly described in the opening paragraph of his paper, it is "in the eye of the beholder." Persons seeking an unconditioned, authoritative response to the question, "How much profit should an insurance company earn?" can only be disappointed when the response begins with, "It depends...."

I turn my remarks now to specific comments on the approaches advocated by the authors.

DISCOUNTED CASH FLOW

In his advocacy of the discounted cash flow approach, D'Arcy suggests that an insurer (investor) would not write a policy (invest in the business) if the underwriting profit margin were below the level at which the net present value of the policy cash flow were zero. To challenge this statement would be to challenge "motherhood and apple pie." In fact, I concur with virtually all of D'Arcy's remarks. I would like only to spell out a few underlying assumptions and identify two considerations.

The approach would appear to suggest an underwriting decision horizon of one year or less. It would also implicitly assume that a company is free to write or not to write (including to non-renew) policies for a particular coverage, line of insurance, or geographic area. Among the many considerations that should be made in evaluating the "to-commit or not-to-commit" decision are these two:

- Marginal versus average expenses

Microeconomics makes an important distinction between marginal and average costs in the context of the business owner's decision to continue

operating, even in the face of a lack of profits. To the extent that variable costs are being covered and fixed costs only partially covered, it may still be prudent for the business to be continued.

- Scope of business decision

D'Arcy appears silent on the definition of the "insurance policy" upon which an investment decision is being made. I would suggest that it will probably encompass:

- more than one product line, considering the total account sales orientation of most companies, and
- more than one year, considering the fortuitous nature of one year's results and the longer-term focus of insurance decision making.

RETURN ON SALES APPROACH

McClenahan presents a thoughtful discussion of the relative strengths and weaknesses of evaluating a profit margin in the context of rate-of-return regulation. In his conclusion, he advocates a return-on-sales approach, where results would be independent of the relationship between premium and equity.

McClenahan says, "It can be as simple as the 1921 NAIC Profit Formula which allowed 5% of premium for underwriting profit (and an additional 3% for conflagrations) or it can be as complicated as the use of benchmark writings-to-surplus ratios applied to permitted return-on-equity provisions." These, however, do not appear very satisfactory in terms of generating unanimous support. The results from the first way would be fully dependent on the "beholder," and those from the second would be subject to the pitfalls of asking the questions, "How much surplus?" and "What rate of return?"

In my opinion, the most striking concept that McClenahan raises is a reminder that, "it is the *rates* which are being regulated, not the rates-of-return." It appears that, in practice, rate regulation has become rate-of-return regulation (which asks unsolvable questions). And, as noted above, even the substitution of sales for equity in the formula does not eliminate the difficult issues.

Rather than asking, "What is an appropriate profit margin for rates?," I would suggest asking a different question, "How do we know if the market is competitive?" McClenahan, in fact, raises this alternate view on the profit issue in his Profitability Standards section: "The proper benchmark for excessiveness for a regulator is that which will produce the desired market characteristics."

What are the desired market characteristics? A short list of desirable and measurable attributes would include:

- a large number of companies competing
- a small proportion of the market insured through involuntary market mechanisms
- a small concentration of market shares of leading companies
- a reasonable number of new companies
- a reasonably small number of retiring companies.

If these characteristics sound like those of the textbook world of perfect competition (even without perfect information), so be it. If ever in the “real world” such a market could exist, the property casualty insurance market would be a likely place.

In such a competitive market, self-interest and greed will tend to force the entire market to the so-called equilibrium “right” price. These same forces will encourage product innovation, improved customer service, and other desirable behaviors. The efficient companies will thrive and the inefficient companies will struggle and perhaps not survive. The “right” answer for the profit margin in rates will emerge by itself, unassisted by the hand of regulation.

What would be left for the rate regulator to do? Resources could be directed toward assisting in gathering and publishing competitive rating information, evaluating the competitiveness of the market, and guiding corrective action as necessary. Could “less” really be “more”?

CONCLUDING REMARKS

There is no single right answer to the profit question. All of the various stakeholders must decide for themselves. I applaud D’Arcy and McClenahan for their contributions, presenting views on the subject from the perspectives of an investor and a rate regulator.

The academic discussion of the “right answer” has gone on for a long time and will probably continue. I would suggest that McClenahan’s remarks regarding the relationship between rate excessiveness (and inadequacy) and the desired market characteristics is a relatively new vein of research that should be further explored for practical application.