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ECONOMIES OF SCALE IN FINANCIAL INSTITUTIONS: A STUDY IN LIFE INSURANCE

BY DAVID B. HOUSTON AND RICHARD M. SIMON[1]

Average cost functions for the life insurance industry, all of which show increasing and then constant returns, are estimated from cross section data for 237 companies. The special problems of measuring output, controlling for product mix, and accounting for the effect of rate of growth in output are examined and dealt with. The article concludes that average costs are constant beyond $100 million of premiums.

THIS PAPER presents a cross sectional study of the relation between average costs and premium receipts of life insurance companies as a means of investigating economies of scale.[2] This is desirable since decisions both public and private rest in part on the presumed economies or lack thereof.

Service activities in general and life insurance in particular present difficulties of cost measurement if for no other reason than the problem of identifying output.[3] Premiums paid is used as a proxy for output which is analogous to measuring output as total sales. This is appropriate assuming the product is homogeneous and is sold at the same price by all firms.[4] Even so, differences in the average price received will result from differences in product mix, but this can be handled. The use of premiums paid, however, requires a cross-sectional study between life insurance firms to exclude increases in premiums paid over time which reflect rate but not output increases.

1. THE MODEL

The approach used is to fit long run average cost functions of the following forms: (i) logarithms: $AC = a + b \log P$; (ii) reciprocal: $AC = a + b(1/P)$; and (iii) reciprocal logs: $AC = a + b(1/\log P)$ where AC is total costs (which are

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[2] To date there has been no serious effort to study and measure economies of scale in life insurance operations. Most commentators have confined themselves to nonquantitative arguments which simply assert the presence or absence of scale economies. In the one study where quantitative methods were employed, the analysis was very brief, as it was part of a larger survey; see Johnston, J., and G. W.

Abstract

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