Does Product Differentiation Have an Impact on Rate of Returns on Equity?

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Does Product Differentiation Have an Impact on Rate of Returns on Equity?

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Microeconomic theory predicts firms that produce differentiated products generate higher rate of returns to equity for their constituents. In this paper we scrutinize this hypothesis using a multiple regression model with returns to equity as the dependent variable against selected intervening explanatory variables. Our model is an extension of the model suggested by J. A. Dalton & D. W. Penn (1976) updated with more recent data. Noteworthy among the explanatory variables are industry growth, absolute firm size, market share, and sellers’ market concentration ratios. We used a pooled data set with thirty firms producing various electronic products from 2005 to 2009. The literature suggests that companies with high product differentiation and high seller concentration earn higher profit, than companies with low concentration and low product differentiation. In addition, the effect of share on profitability is expected to be stronger in industries experiencing a moderate rate of growth.

The results from our regression suggest that product differentiation, as was expected, indeed had a significant impact on the rate of returns on equity, while concentration ratio did not. We found that on average firms with higher product differentiation earned 1.75 times higher returns to equity than firms with lower product differentiation in our sample. We suspect that concentration ratio was insignificant partially because among these firms changes in the ratio was averagely concentrated and lacked significant variability.

Finally we scrutinized the robustness of the estimated coefficient by testing for multicollinearity and Heteroscedasticity. Since we used the industry growth rate and market share variables concurrently, we expected a collinearity problem. The model’s Variable Inflation Factor (VIF) was low and did not indicate presence of sever multicollinearity problem. Also, since data from firms of different size was used in our model, we expected to experience heteroscedasticity. However, the results of Park Test did suggest absence of heteroscedasticity in our model.