

Advertising, research and development, and capital market risk: higher  
risk firms versus lower risk firms

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Finance

Management

Abstract

This study examines how a firm's advertising and R&D affects the firm's  $\beta$ -risk and idiosyncratic risk, which are metrics of interest to both finance executives and senior management. Due to the existence of a non-normal and heteroscedasticity dataset, we use quantile regression to analyze the sample to understand the full behavior of our non-normally distributed datapoints. The evidence of this study shows that: (1) Advertising is significantly associated with lower  $\beta$ -risk for firms with lower, median and higher  $\beta$ -risk. (2) R&D significantly increases  $\beta$ -risk for firms with median and higher  $\beta$ -risk firms. (3) Advertising is significantly associated with lower idiosyncratic risk for firms with higher idiosyncratic risk. (4) R&D is significantly associated with higher idiosyncratic risk for firms with median and higher idiosyncratic risk. In summary, our evidence shows that both advertising and R&D have a stronger effect on firms with higher  $\beta$ - and idiosyncratic risk than on those with lower  $\beta$ - and idiosyncratic risk, respectively. Our findings are useful to help both management executives and investors. Firm managers can allocate limited resources more efficiently to reduce their firm risk; investors could exert their influence on firm's senior executives to make decisions that are beneficial to stock returns.

Keyword:  $\beta$ -risk, idiosyncratic risk, advertising, marketing, R&D, quantile regression, CAPM