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Drivers of the cost of capital: The joint role of non-financial metrics

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ABSTRACT

Recent marketing studies suggest that non-financial metrics, such as customer satisfaction and brand value, help explain the variation in the cost of equity and the cost of debt. These studies typically focus on only one non-financial metric and one component of capital cost. In this study, we broaden the understanding of the relevance of non-financial metrics to the cost of capital. We investigate the joint role of customer satisfaction, brand value, and corporate reputation for stock market beta and credit ratings, which reflect variation in equity and debt risk premiums across firms. In addition to the joint direct influence of these metrics on capital cost, we also study their interaction effects. We develop a conceptual model to explain the effects on capital costs and test the resulting hypotheses in a broad sample of 344 firms from diverse industries using data from the 1991–2006 period.
Our results suggest that higher satisfaction ratings reduce both the cost of equity and cost of debt, whereas brand value and corporate reputation only show a negative direct association with the cost of debt. In addition, both measures moderate the effect of satisfaction on the cost of debt. Brand value attenuates the influence of satisfaction, whereas corporate reputation amplifies this effect.

1. Introduction

The weighted average cost of capital (WACC) is an important financial metric relevant both to members of the financial community, such as institutional investors, and to the top management of (publicly listed) firms. Given a stream of future cash flows, a lower WACC indicates a higher present value of that stream. For management, a lower WACC constitutes lower hurdle rates for investment projects because investors require less return from the according capital expenditures. WACC is composed of equity cost and debt cost. Both providers of capital demand a return for their investment. The larger the risk that they perceive to be associated with the investment, the higher the required return. The most important measure for equity holder risk is systematic risk, whereas credit ratings are the best signal for debt holders with respect to the default risk of a firm (Brealey, Myers, & Allen, 2007).

Systematic risk and default risk vary across companies and over time. The extant accounting/finance literature has thus addressed the natural question regarding the drivers of such risks (e.g., Beaver, Kettler, & Scholes, 1970; Blume, Lim, & MacKinlay, 1998). Most studies focus predominantly on "hard" financial metrics, such as operating margins, asset growth, leverage, and earnings variability, which are commonly documented in financial reports or can be derived from corporate or analyst disclosures. Researchers have found that several financial variables serve as drivers of the costs of equity and debt; however, they also acknowledge that their models explain only a fraction of the observed variance in capital cost (e.g., Elton, Gruber, Agrawal, & Mann, 2001). Several authors believe that so-called soft or intangible, non-financial metrics, such as management capabilities and marketing metrics, contribute to explaining the residual variance (e.g., Blume et al., 1998; Pinches & Mingo, 1973).

An emerging research stream on the interface between accounting/finance and marketing provides evidence for the value relevance of marketing metrics. In particular, recent efforts demonstrate that advertising expenditures, brand value, customer satisfaction, and corporate social responsibility possess the power to lower the cost of capital (for an overview, see Srinivasan & Hanssens, 2009). However, all these studies investigate only a single non-financial driver of capital cost. We believe that marketing-related non-financial metrics may offer different informational value for investors and creditors. As a result, such metrics may impact capital costs above and beyond each other. Measures such as customer satisfaction, brand value, and corporate reputation reflect competitive advantages from different domains. Satisfaction focuses on the customer, brand value focuses on the product, and corporate reputation emphasizes the firm. Therefore, these measures provide different signals to investors regarding the financial health of a firm that eventually influence the cost of debt and equity.

This study attempts to provide several contributions. First, we investigate the joint role of the common non-financial measures of customer satisfaction, brand value, and corporate reputation in the cost of capital. We call these measures "non-financial" because they

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inform investors about the quality of marketing and management capabilities although they may be measured in monetary units (e.g., brand value). Specifically, we consider the popular and publicly available American Customer Satisfaction Index ratings, the financial brand values by Interbrand, and Fortune's corporate reputation scores. We develop a novel conceptual model of the informational value and signals contained in these metrics. From this model, we derive hypotheses regarding the incremental contribution of each metric in explaining the risk components of the cost of capital. In addition, we suggest potential moderating effects. Specifically, we suggest that brand value and corporate reputation moderate the influence of customer satisfaction on the cost of capital. Customer satisfaction plays this central informational role because it reflects customer experiences with past transactions (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). Financial accounting is transaction-based and emphasizes historical earnings, which contain information with the highest certainty level (Kothari, 2001). Brand value and corporate reputation are less transaction-based and rather provide information on a firm's potential for future growth. Therefore, these information signals influence the interpretation and processing of satisfaction ratings by investors.

Second, we test the hypotheses in a broad sample of 344 firms from diverse industries in the 1991–2006 period. Our analysis accounts for the dynamics and the potential endogeneity of our focal non-financial metrics. Including all three metrics together in the empirical models of equity cost and debt cost enables us to quantify the relative effect of each of the measures above and beyond each individual metric. For managers and investors, it is important to know whether satisfaction ratings, brand value, and corporate reputation scores provide additional distinct information. If not, investors and managers could simply substitute one non-financial metric for another to evaluate risk potential.

Third, given that the focal metrics are measured at different scales, it is difficult to compare their relative importance in driving the cost of capital. Hence, we transform the estimated coefficients into elasticity estimates. This study is among the first to calculate elasticities for the effects of non-financial metrics on the components of capital costs. These elasticities enable managers and investors to assess precisely how changes in non-financial metrics influence the cost of capital. In addition, the results enable us to conduct meta-analyses.

This paper is organized as follows. We briefly discuss the related literature in the next section. Subsequently, we provide details about the conceptualization of our key variables, which is important to assess their informational value. In Section 4, we derive our hypotheses. The next section includes the empirical study and the estimation results. We discuss these results in the final section and finish by presenting the conclusions and limitations of our study.

2. Literature background

In Table 1, we briefly review the related accounting, finance, and marketing literature. From the marketing literature, we include all studies that consider either systematic risk (equity cost) or default risk (debt cost) as a dependent variable and non-financial metrics as an independent variable.

2.1. Accounting and finance literature

The extant literature examines the effects of various factors on systematic risk and the cost of equity. Beaver et al. (1970) provide one of the first contributions within this field of research. Their model relates systematic risk (measured by beta) to variables that describe the financial position of a firm. The authors find that greater systematic risk is related to lower dividend payout, higher growth, smaller asset size, and greater leverage. Subsequent studies (e.g., Hill & Stone, 1980) consider similar variables and support the results obtained by Beaver et al. (1970).

The research of Horrigan (1966) is among the first studies to analyze drivers of credit ratings that reflect the terms of debt financing. He considers different financial variables (e.g., total assets) to predict corporate bond ratings. Kaplan and Urwitz (1979) use an ordered probit model to predict bond ratings. The authors find, as an example, that total assets, the ratio of long-term debt to total assets, and the stock market beta are relevant. Blume et al. (1998) extend the approach by analyzing a panel of firms in the 1978–1995 period. These researchers introduce new variables, such as pretax interest coverage. We adopt the widely used models by Beaver et al. (1970) and Blume et al. (1998) as baseline specifications that we extend using our focal non-financial metrics.

Table 1
Sample of prior research on drivers of the cost of capital.

Author(s)	Accounting/financial variables	Non-financial (marketing) metrics				Cost of capital	
		Advertising	Brand value	Satisfaction	Reputation	Equity	Debt
Studies with focus on accounting/financial variables							
Beaver, Kettler, and Scholes (1970)	✓					✓	
Blume, Lim, and MacKinlay (1998)	✓						✓
Horrigan (1966)	✓						✓
Kaplan and Urwitz (1979)	✓						✓
Pinches and Mingo (1973)	✓						✓
Studies with focus on non-financial (marketing) variables							
Agarwal and Berens (2009)	✓				(✓)[a]	✓	✓
Anderson and Mansi (2009)	✓			✓			✓
Bharadwaj, Tuli, and Bonfrer (2011)	✓		(✓)[b]			✓	
Fornell, Mithas, Morgeson, and Krishnan (2006)	✓			✓		✓	
Gruca and Rego (2005)				✓		✓	
Johansson, Dimofte, and Mazvancheryl (2012)	✓		✓			✓	
Luo, Homburg, and Wieseke (2010)	✓			✓		✓	
Madden, Fehle, and Fournier (2006)			✓			✓	
McAlister, Srinivasan, and Kim (2007)	✓	✓				✓	
Orlitzky and Benjamin (2001)	✓				(✓)[a]	✓	
Osinga, Leeflang, Srinivasan, and Wieringa (2011)	✓	✓				✓	
Rego, Billett, and Morgan (2009)	✓		✓			✓	✓
Singh, Faircloth, and Nejadmalayeri (2005)		✓				✓	✓
Tuli and Bharadwaj (2009)	✓			✓		✓	
This study	✓		✓	✓	✓	✓	✓

[a] Authors only investigate one dimension of corporate reputation, which is corporate social responsibility.
[b] Authors investigate one dimension of brand value, which is brand quality.

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