Financing Strategically: The Moderation Effect of Marketing Activities on the Bifurcated Relationship between Debt Level and Valuation of Small and Medium Enterprises

Sang-Joon Kim, Ph.D.
Assistant Professor
Ewha School of Business
Ewha Womans University
52 Ewhayeodae-gil, Seodaemun-gu, Seoul 03760, Korea
EMAIL: s.kim@ewha.ac.kr
TEL: +82 2 3277 2654

Jong-Wan Bae, Ph.D.
Assistant Professor of Finance
Martha & Spencer Love School of Business
Elon University
100 Campus Drive, Elon, NC 27244
EMAIL: markovbae@gmail.com

Hannah Oh, Ph.D.
Assistant Professor
Department of Marketing, College of Business Administration
University of Nebraska at Omaha
Omaha, NE 68182
EMAIL: hannahoh5151@gmail.com

* Please do not cite or quote without permission

Financing Strategically: The Moderation Effect of Marketing Activities on the Bifurcated Relationship between Debt Level and Valuation of Small and Medium Enterprises

Abstract

In this study, we explore a condition where corporate debt can be strategically used in the stock market by governing its interpretations from investors. To disentangle the performance implications of corporate debt, we pay attention to the signaling aspect of debt financing. Acknowledging that investors can interpret the value of a firm with the level of debt, we postulate that debt can convey differentiated signals (i.e. driver vs. distress). In addition, we argue that the bifurcated role of debt can be moderated by marketing activities, which can affect the stakeholders' interpretations. This idea is empirically examined in a population of SMEs (Small- and Medium-sized Enterprises). Using COMPUSTAT database of 2,174 U.S. public firms ranging from 1982 to 2010, we find resource-independent debt (called idiosyncratic debt) has bifurcated impacts on Buy-and-Hold Abnormal Returns (BHARs) and the marketing moderation of such relationship is also bifurcated.

INTRODUCTION

Can debt financing be considered a strategic choice? If so, how can firms strategize their debt levels for performance enhancement? Given that financial resources can be a critical source for competitive advantage of the firm (George, 2005; Bower, 1970; Gilbert, 2005), it is important to investigate how firms construct their capital structure for their competitive advantage. This suggests that debt financing may be strategically employed: i.e. firms will determine a particular level of debt which can strengthen the advantages of debt and mitigate its disadvantages. In this sense, finance scholars have been interested in investigating the optimal debt capacity (Myers, 1984; Frank & Goyal, 2005; Leary & Roberts, 2010). Then, when and how do firms employ the debt financing as a strategic decision?

Acknowledging that those different meanings of debt result from asymmetric information (Ross, 1977), we postulate that different levels of debt can make firm valuation from investors differ. In particular, given that firm value can be governed by investors' interpretation (Hennessy et al., 2010; Ross, 1977), we focus on marketing activities as a means to calibrate the debt signaling effects. It has been understood that through marketing activities, firms can persuade stakeholders (including investors, debtors, shareholders, suppliers, and customers) about their advantageous prospects by facilitating communication with them and framing any issues around the firm (e.g. Keller & Lehmann 2006; Joshi & Hanssens 2010). Furthermore, as Srivastava et al. (1998) found, marketing activities can generate market-based assets (e.g., strong brands or loyalty of customers and channel members) that, in turn, can lead to superior financial outlook. As such, marketing activities can facilitate the positive interpretation of debt on firm valuation. However, we need to beware that these marketing activities may impair firm valuation as they further seek for short-term-oriented performances (Levinthal & March, 1993;

Mizik, 2010). Considering that debt has been understood as a growth driver (Titman and Trueman 1986, Hyytinen and Pajarinen 2005; Hennessy et al., 2010), we have to acknowledge that marketing activities, which mainly foster short-term performance, can blur such positive meanings of debt.

Taken together, we are inspired to examine the differentiated moderation roles of marketing activities with illuminating the bifurcated signaling impact of debt on firm valuation. To examine these ideas, we consider a population of small- and medium-sized enterprises (SMEs) in the U.S. SMEs are a relevant setting to investigate the multiple interpretations of debt, which can affect firm valuation, because debt financing has been understood as heavily dependent on firm size (e.g. Degryse, de Goeij, & Kappert, 2012; Sogorb-Mira 2005; Lemmon & Zender, 2010; Hyytinen & Pajarinen, 2005). Large firms are generally more diversified and thus able to hedge risks of stock returns (Fama & French, 2002; Lemmon & Zender, 2010). As such, bankruptcy risks by debt can be less severely interpreted by investors (Degryse et al., 2012). In contrast, since SMEs tend to rely on internal resources in their capital structure (Carpenter & Petersen, 2002), the issuance of debt (as an external financing source) can convey a significant signal and thus their valuation will significantly rely on the level of debt (e.g. Degryse et al., 2012). Accordingly, in SMEs (comparing to large firms), the 'polysemous' character of debt can be clearly identified.

By using COMPUSTAT data between 1982 and 2010, we examine that SMEs' debt has a bifurcated relationship with their valuation, which is captured by Buy-and-Hold Abnormal Returns (BHARs), and this relationship is influenced by marketing intensity. Furthermore, we discern the maturity of debt (i.e. long-term and short-term debt) and also investigate if the

different maturity of debt has also the bifurcated relationship with firm valuation and if marketing intensity can moderate the non-monotonic relationship.

The contribution of this paper is threefold. First, this study attempts to integrated financial theories into strategy literature. Acknowledging that debt financing is a decision firms make to construct a firm's capital structure and thus significantly influences other strategic decisions, this study can provide a guideline regarding how debt financing can be strategically used to enhance competitive advantages. Second, this study specifies that marketing activities can be a moderator to strategize debt financing. Under the bifurcated relationship between debt and firma valuation, we contend that the moderating role of marketing activities is also bifurcated. Lastly, our paper can be beneficial for SMEs in coping with their constrained resources and in seeking for firm growth. By considering debt financing and marketing activities, SMEs can enhance firm valuation.

The rest of the paper is structured as follows: First, we develop hypotheses based on prior literature on debt signaling effects and marketing activities. The hypotheses will be examined with the financial data of the U.S. public SMEs by developing valid measures on debt, marketing activities and firm valuation. Lastly, we report empirical results and further discussions from the findings follow.

THEORY AND HYPOTHESES

Non-Monotonic Signaling Effects of Corporate Debt in Valuation of SMEs

In the management literature, debt has been understood as a constraint of firm capabilities while the benefits of its control mechanisms in corporate governance have been acknowledged (O'Brien et al., 2014; David, O'Brien, & Yoshikawa, 2008; Simerly & Li, 2000; Tan & Peng,

2003). These equivocal performance implications of debt suggest that there may be a non-monotonic impact of debt on organizational outcomes (e.g. firm valuation). Consistently, in the finance literature, debt, as a component of capital structure, has highlighted positive meanings as well as negative meanings (e.g., Modigliani & Miller 1958; Myers 1984; Kraus & Litzenberger 1973). For example, debt improves the firm's cash flow and can shield earnings from corporate income taxes (Miller 1977; Myers & Majluf, 1984) while it still entails bankruptcy risks (Kraus & Litzenberger, 1973; Hennessy, Livdan, & Miranda, 2010). Although these multiple meanings can elaborate our knowledge on the performance implications of debt financing, those also make the effect of debt on firm performance empirically inconclusive (e.g. Modigliani & Miller 1958; Myers & Majluf 1984; Sogorb-Mira, 2005; Weill, 2008; López-Gracia & Sogorb-Mira, 2008; Wahba, 2013).

To figure out the role of debt for organizational outcomes, we attempt to adopt a relevant theory from the finance literature. In terms of governing information asymmetry, debt is one of the important financial indicators for investors (Ross, 1977). Since the utilization/interpretation of its information is differentiated between senders and receivers (Spence 1973; Connelly et al., 2011), debt, as asymmetrically treated information, can be used to "signal" a firm's strength rather than to reveal it (Ross 1977). This implies that when debt is strategically dealt with, firm valuation from stakeholders can be enhanced (Ross 1977; Leland & Pyle 1977; Stulz 1990).

From prior literature, we can understand two different signals debt can convey. First, debt can signal a positive relation with firm valuation: "driver" (Titman and Trueman 1986, Hyytinen and Pajarinen 2005; Hennessy et al., 2010). The "driver" signal can increase the favorable evaluation of the firm, because investors will perceive that the firm is likely to grow in the future with the increase of debt (Jensen 1986; Hennessy et al., 2010). Debt financing itself

implies that the firm's stocks are undervalued, so investors will be likely to perceive the firm is performing well (Myers, 1984). In addition, since debt can control agency problems, the favorable evaluation (the "driver" signal) can be reinforced. For example, Jensen (1986) found that debt can increase efficiency in appropriating free cash flow or moral hazard. Given that the greater level of debt can signify the change in governance structure by mitigating information asymmetry (Ross, 1977; Wahba, 2013), debt financing can positively influence firm valuation. Given that, in a strategic sense, SMEs can be likely to be incentivized to consider debt financing for its firm valuation. The capital structure drawn from the active debt financing can be understood as the situation where the firm has more opportunities for growth and has more leeway to utilize their financial leverage. That is, by issuing more debt purposefully, SMEs can reinforce the driver signal, enhancing firm valuation. From this standpoint, we hypothesize as shown below:

H_1: The higher level of debt in an SME's financial capital has a positive impact on firm valuation.

On the other hand, debt can involve in a negative relation with firm valuation. Since debt indicates financial liabilities, it can entail bankruptcy costs (Myers, 1984; Frank & Goyal, 2005; Hennessy et al., 2010). Also, debt is seen as inherently costly because it impairs access to credit from debt-holders and non-financial stakeholders (i.e., customers, suppliers, and employees) (Opler and Titman 1994; Degryse et al., 2012). Accordingly, the more debt, the more apparent the "distress" signal, which will lead to the decreased market value of the firm. That is, debt can increase the perceived risk associated with businesses, making the firms unattractive to investors (Smith and Watts 1992). In fact, firms with a low debt level (e.g., high free cash flow) have a

better ability to respond to competitor's aggressive strategy, whereas firms with a high debt level lack the resources needed to compete with (Bolton and Scharfstein 1990; Chevalier 1995). Thus, the limited liquidation status of a firm (e.g. low free cash flow) elicits distress signal.

For SMEs, the distress signal can appear more clearly comparing to large firms which have much leeway to control the volatility. In particular, given that SMEs tend to prefer internal capital to external capital (Sogorb-Mira 2005), debt as an external financing mean can signify that the firm is vulnerable to the influence from stakeholders, which can affect trade credit of the firm (e.g. Degryse et al., 2012). Furthermore, when there are sound financing alternatives, especially internal financing (Gilbert, 2005), debt financing can indicate that the firm's capital structure is not solid, conveying a signal of "distress". For SMEs, vulnerable to their environment with limited resources, debt financing will be likely to take the firms to a risk of bankruptcy. SMEs, accordingly, have incentives to reduce debt levels. This suggests that SMEs which intend to issue less debt will have positive valuation, and this forms another hypothesis:

H_2: The lower level of debt in an SME's financial capital has a positive impact on firm valuation.

The Role of Marketing Intensity for Debt Signaling

Given that debt conveys bifurcated signals regarding the firm valuation in terms of its level, we explore how the signals can be strategized. In this study, we postulate that marketing activities, which generally deal with perception of stakeholders (Joshi and Hanssens, 2010; Srivastava et al. 1999; McAlister, Srinavasan, & Kim, 2007), can affect firm valuation from investors. For example, Joshi and Hanssens (2010) found that firm advertising and communication spending can "promote product differentiation, distributor loyalty, repurchase

8

intention, and price insensitivities that directly affect firm sales and profits" (p. 9). In the stock market, investors also can benefit from marketing activities (Rao & Bharadwaj 2008). By using marketing data, investors can expect more accurately about the risk of future cash flows (Srivastava et al. 1999; Joshi and Hanssens 2010). According to Mizik and Jacobson (2007), marketing expenditure, which is a discretionary spending, can be used as an indicator for firm's financial status telling whether the firm is a good-quality or a bad-quality firm. Erikson and Jacobson (1992) found out that increased advertising spending is positively associated with stock returns because investors interpret the increase in advertising spending as a signal of higher future profitability. Also, as McAlister et al. (2007) argued, marketing spending helps build brand equity that can serve as a high-quality information channel that leads to higher liquidity and increased breadth of investor ownership.

Built on this understanding, we contend that marketing can be aimed to control the multiple signals of debt (driver vs. distress) in different ways. This will result in either enhancing or constraining firm valuation from investors. First, marketing activities can ease out concerns of investors who interpret debt as distress signal as they can affect the shareholders' value by increasing the stock price and reducing the firm's cash needs (Rao & Bharadwaj, 2008). In general, marketing activities have positive impact on firm financial outcome (e.g., enhanced financial outlook, acceleration and stabilization of firm's cash flow, reduced vulnerability to the cash flow variability). For example, Gruca & Rego (2005) argued that customer satisfaction, which can be derived from successful marketing actions, creates shareholder value by securing growth and stability of the firm. As such, marketing activities will mitigate the risk derived from the distress signal of debt.

From this standpoint, we hypothesize that marketing activities, by alleviating the distress signals, will enable stakeholders to generate positive evaluation of the firms.

H₃: Marketing activities are likely to positively moderate the negative relationship between the lower level of debt and firm valuation.

On the other hand, marketing activities can convey a contradictory signal to what debt signals. In general, marketing management often falls into myopia (Letvinthal and March 1993; Deleersnyder et al. 2009, Graham, Harvey, & Rajgopal, 2005; Lamey et al. 2007). Even with this increased financial accountability of marketing actions, managers often get caught in trap of myopic management such as underinvesting in R&D, advertising, and employee training (Letvinthal and March, 1993; Lehmann 2004; Markovitch et al. 2005; Mizik and Jacobson, 2007; Mizik 2010). If marketing activities become apparently are trapped in the myopia, the roles of managing the signals of debt for firm valuation cannot be properly played. In particular, according to our hypothesis, the purposefully-employed debt financing can signify firm growth opportunities, which is contradictory to the general understandings of marketing activities. Hence, focusing on marketing activities with debt financing can convey an equivocal signal. Stakeholders, especially investors, will not clearly understand the meaning of debt financing. In other words, the consideration of marketing activities may make the driver signal of debt inconsistent, resulting in lowering firm valuation.

Such suspicious interpretation can be amplified in SMEs as the information the firms disclose is likely to be opaque (Sogorb-Mira, 2005). In general, it has been understood that firms with high information asymmetry tend to show opportunistic behavior (e.g., moral hazard) more

likely than those that don't (La Porta et al. 2000; Healy and Pelepu 2001). This indicates that SMEs have more possibilities to bear more severe information asymmetry than large firms. Hence, in SMEs with greater level of debt, the information asymmetry prevents investors from evaluating these firms' value positively.

To reflect this negative moderation effect depending on marketing activities, especially in the situation where firms seek for debt financing to convey a driver signal, we specify hypotheses as below:

H_4: Marketing activities are likely to negatively moderate the positive relationship between the higher level of debt and firm valuation.

METHODS

Sample and Data

Our empirical focus is on small- and medium-sized firms (SMEs) which are appropriate to explicitly identify the multiple signals of debt. When the organizational structure is complex, the interpretations from investors can be also idiosyncratic. This means that debt signaling can be influenced by organizational structure. The more segments a firm has, the more complex the interpretation of the debt level. To reduce this measurement bias in identifying the multiple debt signals, we need a setting which could be less confounded with structural factors. SMEs have fewer organizational and managerial resources than relatively large, established firms (Gilmore & Carson, 1999; Man, Lau, & Chan, 2002). That is, they are more likely to suffer from resource constraints, whereas large, established firms are able to address their resource constraints by expanding their financing sources (e.g. Degryse et al., 2012). Because of the resource

11

constraints, they are vulnerable to environmental contingency and their performance tends to be volatile (e.g. Stinchcomb, 1965). Accordingly, SMEs tend to be dependent on internal resources and thus debt financing can be interpreted as a salient action for the firms (Wahba, 2013; Barclay & Smith, 1995). From this standpoint, we considered SMEs.

In defining SMEs, we followed the most widely used definition, which is offered by American Small Business Administration (SBA): Stand-alone enterprises with fewer than 500 employees (e.g. Lubakin et al., 2006). Other than this, SMEs can be also identified as enterprises which own $25 to $500 million asset values (Beamish, Craig, & McLellan, 1993). Following these criteria, we defined a sample of SMEs as publicly traded U.S. firms that have fewer than 500 employees with less than $500 million asset values.

The detailed procedure for sampling was as follows: at first, we identified all public firms in the Compustat database. Then, we used the year of IPO as a starting point of our sampling because publicly traded firms provide validated financial data, making our analysis reliable. To consider the criteria for SMEs (i.e. employees and asset values) as dispositional characters of SMEs, we excluded firms which have ever had more than 500 employees or exceed the averaged asset values of $500 million until 2010. As a result, we sampled 13,894 firms-years of 2,174 SMEs between 1982 and 2010. The specific samples are shown in Table I.

Insert Table I about here.

The sample used to analyze our hypotheses employed Compustat and CRSP database. The Compustat database was used to calculate our main hypothesized variables (total debt, long-term debt, long-term debt, and marketing activities), as well as control variables that represent firm and industry characteristics. CRSP (Center for Research in Security Prices) monthly

database provides information pertaining to the stock value on monthly basis, i.e. stock price, returns, and outstanding shares, etc. We used monthly stock returns in CRSP to calculate firm valuation.

Measures

Dependent Variables. Our primary dependent variable, firm valuation, is based on abnormal returns (e.g. Prabhala, 1997; Barber and Lyon, 1997). In particular, if the abnormal returns are understood as the firm performance after accounting for market's general performance, these stock returns can indicate how investors evaluate the given firm (Prabhala, 1997; Barber and Lyon, 1997). Specifically, the abnormal returns implicitly assume investors take high turnover strategy. If investors hold a firm's stocks in some time intervals, this behavior indicates that the investors have positive attitude on the firm. Accordingly, the relationship between debt and the abnormal returns can be understood as how the information on debt a firm signals can be interpreted by investors. In this sense, we focused on buy-and-hold abnormal returns (BHARs), which refer to the compounding excess returns relative to the returns from the market where the market return is the value-weighted return of all U.S. firms listed on the NYSE, AMEX, and NASDAQ. Based on the long-term performance measure of Barber and Lyon (1997), it is defined as the following:

$$BHAR_{it} = \prod_{t=s}^{s+12}(1+ret_{it}) - \prod_{t=s}^{s+12}(1+market\_ret_t) \qquad (1)$$

where we adjust the 12 months cumulative stock returns of firm (denoted by ret_{it}), by the corresponding cumulative returns of market portfolio (denoted by $market\_ret_t$). This provides firm's abnormal stock returns during next year, controlling for the effect of market performance.

Independent Variable. To discern the bifurcated signaling effects of debt on firm valuation, we have to acknowledge that debt financing is inherently dependent on resources around the firm (Myers & Majluf, 1984). According to pecking order theory, developed by Myers & Majluf (1984), firms primarily tend to attain their resources internally (e.g. from retained earnings); once the internal resources are insufficient for implementing their strategies, they consider debt financing as an external source. This suggests that debt financing would not be exogenous in determining the resource attainment. Under resource-infertile conditions, such as economic recession periods or under-performing situations, the use of debt can be constrained as it can entail financial distress. Under resource-fertile conditions, such as environmental munificence, growth opportunities, retained earnings, etc., the use of debt can be facilitated as it can bring various financial advantages.

However, since financing (or attaining resources) is a precursor of the construction of firm competence in competitive environments (Barney, 1991; Gilbert, 2005), the level of debt financing is not fully endogenously-determined. Firms have a clear intent on the resource-attainment decisions, including debt financing. They can intend to avoid debt financing and to issue fewer debts than what their competitors do. They can internally source their resources they need or they can attract investors from the public (Frank and Goyal 2005; Gilbert, 2005). Also, they intend to issue more debts than their competitors do even under the same conditions where they are situated in terms of resource attainment.

This suggests that the dollar amount of debt in a firm can be decomposed into *systematic debt* which is drawn from the resource-related conditions and *idiosyncratic debt* which is strategically made in each firm. As resource-dependent, *systematic debt* is predicted under resource-related conditions. As firm-specific, *idiosyncratic debt* has unobserved variability from

14

the estimation of debt with respect to the resource-related conditions. This decomposition of debt enables to delineate the exogenous variation (or strategic use) of debt financing from the endogenously-made (or resource-dependent) debt financing.

To discriminate the two types of debt, we use a regression model to estimate the dollar amount of debt with respect to resource-related conditions. The resource-related conditions refer to any conditions under which firms' capital structure can be influenced. Specifically, internal firm-resources (such as retained earnings) will affect debt financing (Myers, 1984); environmental munificence also can be a resource-related condition (Castrogiovanni, 1991); and national economic situation (such as recession) can affect firm activities (Stinchcombe, 1965). In this sense, we consider three factors to affect the level of debt: decrease in firm revenues, underperforming returns (i.e. discrepancy between firm performance and industry-averaged performance), and economic recession period. Since the regression model presents how the level of debt is explained by resource-related conditions, the idiosyncratic debt (i.e. resource-independent debt) can be understood as the residuals of the model. We thus calculate the residuals of the regression model and use the measure as the independent variable.

Technically, idiosyncratic debt is measured from the equation below:

$$ID_{it} = D_{it} - \dot{D}_{it} \quad s.t. \quad \dot{D}_{it} = f(R_{jt}^F, R_{it}^I, R_{\cdot t}^E) \tag{2}$$

where ID_{it} denotes idiosyncratic debt of firm i at time t; D_{it} indicates the dollar amount of total debt, the sum of long-term debt and short-term debt, of firm i at time t; $_{it}$ represents systematic debt, or total debt predicted from the three factors (i.e. decrease in firm revenues (R^F_{it}), difference between ROE and industry-averaged ROE (R^I_{it}), and year dummies indicating economic recession (2007-2010) (R^E_{it})). Then, to normalize the level of debt, the calculated idiosyncratic debt is divided by financial capital which is the sum of total debt and market value

of outstanding shares (see Leary & Roberts, 2010; David, O'Brien, & Yoshikawa, 2008; O'Brien et al., 2014)[1]. Based on the equation, the measure of idiosyncratic debt shows exogenous variation and is independent of resource-related conditions. That is, the level of idiosyncratic debt can be strategically made in each firm regardless of resource availability (based on performance), environmental conditions or other resource-based attributes. Accordingly, we can understand that idiosyncratic debt is a firm-specific and self-select characteristic.

Given that, as the equation represents, the idiosyncratic debt is understood as the distance between actual debt and resource-induced debt, the conception of distance brings two cases in further understanding the idiosyncratic debt: under-issued vs. over-issued debt. Under-issued debt refers to the debt-financing case where the level of debt is less than the resource-induced debt (i.e. systematic debt). This indicates that firms intend to reject debt financing comparing to the level of debt the industry can predict. In other words, firms strategically take the low-level debt financing. On the other hand, over-issued debt shows the case where the level of debt is greater than that of the resource-induced debt (i.e. systematic debt). This means that firms strategically issue more debt than what we predict based on resource-related conditions.

Such bifurcated cases can be captured empirically by using a spline method (e.g. Greve, 1998). The variables of under-issued and over-issued debt are computed as shown below:

$$ID_{it}^{U} = \begin{cases} D_{it} - \dot{D}_{it} & \text{if } D_{it} - \dot{D}_{it} < 0 \\ 0 & \text{else} \end{cases} \tag{3}$$

$$ID_{it}^{O} = \begin{cases} D_{it} - \dot{D}_{it} & \text{if } D_{it} - \dot{D}_{it} > 0 \\ 0 & \text{else} \end{cases} \tag{4}$$

---

[1] The market value of equity is computed as the multiplication of common shares outstanding and share price of the end of fiscal year.

where ID^U_{it} in Equation (3) and ID^O_{it} in Equation (4) denote under-issued debt and over-issued debt respectively.

Moderating Variable. *Marketing activities* is considered as a moderator of the relationship between debt and firm valuation. Our argument on the moderation role of marketing activities is based on the premise that firms can influence investors' interpretations. In addition to marketing activities, advertising also can influence any signals firms convey (e,g, Xie and Kronrod, 2012; Barone, Taylor, and Urbany, 2005). Accordingly, we construct the variable of marketing activities as the sum of marketing expenditures (i.e. SG&A expenditures) and advertising expenditures, divided by total assets, which represent the carrying capacity of the firm. The equation for marketing activities is shown below:

$$MKT_{it} = \frac{SGA_{it} + AD_{it}}{AT_{it}} \tag{5}$$

where MKT_{it} denotes marketing intensity of firm i at time t; SGA_{it} and AD_{it} respectively indicate the dollar amount of SG&A expenditures and advertising expenditures of firm i at time t; AT_{it} refers to the dollar amount of total assets of firm i at time t.

Control Variables. Our set of control variables includes prior performance, industry performance, industry asset intensity, market share, market-to-book ratio, firm size, firm age, current ratio, and free cash flow. Prior performance, the lagged ROA, was included in the estimation model to control for a contingent condition under where firms are likely to conceive debt financing (e.g. Bromley, 1991). Undervalued firms are likely to issue the less underpriced short-term debt and overvalued firms tend to consider issuing the more overpriced long-term debt (Flannery, 1986; Kale and Noe, 1990). To control for industry effects, we also used

industry performance and industry asset intensity as our control variables. Industry performance is operationally defined as the aggregation of ROA for firms with a given 3-digit SIC code. Industry asset intensity has been viewed as a barrier to exit in studying diversification strategies (e.g., Robins and Wiersema 1995), but it also influences a firm's performance when firms perceive the industry-level assets as sunk investment. We measured this by averaging the total assets for firms with a given 3-digit SIC code.

Market share is calculated as the proportion of individual firm's sales to the total sales in the industry, indicates that the higher the share, the greater the impact of innovations for the firm value (Tsai 2006). Market-to-Book ratios are measured by year-end market value of equity divided by book value of equity. The Market-to-Book ratios are known to capture value risk factor (Fama and French 1993) and studies have documented that value stocks tend to outperform market. Firm size is defined as the number of employees in the given firm. Studies have shown that larger firms are less subject to financial distress due to higher diversification (Titman and Wessels 1988) while smaller firms have higher external financing cost with a greater level of constraints than larger firms (Whited 1992; Fazzari and Petersen 1993).

Firm age is also controlled for because the longer years of existence in the market can reflect the solid market shares of the firm's product as well as value of the firm through built-up reputation and stability of the business. Furthermore, firm age represents the firm's operating experience (Stinchcombe, 1965; Jovanovic, 1982) and thus is expected to influence the decision on debt financing. For example, younger firms are more likely to be more flexible than older firms in debt financing. In our analysis, we measured firm age as the logarithm of the years after the IPO. Current ratios have been understood as a measure to indicate slack resources. Since slack resources emphasize the firm's flexibility to re-allocate its resources (George, 2005), they

can influence the way to determine the level of debt. Current ratios are computed as a ratio of current assets to current liability (George, 2005; Bromiley, 1991). Last, as another dimension for slack resources, free cash flow is computed as "net income plus depreciation and amortization minus changes in working capital minus capital expenditures" (Novy-Marx, 2013: p. 3).

Table II summarizes the variables, their measures, and data sources, and Table III provides descriptive statistic for all variables used in the models

----
Insert Table II about here

Insert Table III about here

Estimation Methods

In the empirical setting, to examine the hypotheses, the maximum likelihood estimation of firm valuation is employed. Through Breusch-Pagan Lagrange multiplier (LM) test, we find that random effects model is superior to the OLS model (χ^2=25.72; p<.000). Between random effects model and fixed effects model, Hausman test suggests that fixed effects model is more appropriate for our data than random effects model (χ^2=1377.16; p<.000)[2]. Also, in case that the fixed effect models may have composite errors that are serially correlated, we conducted Durbin-Watson tests and found that serial correlation could exist in the error terms in the model at the 0.05 significance level (DW=358.75; p<.001).

The estimation of the valuation of SMEs is done with the equations below:

$$y_{it} = X_{it}\beta + Z_{it}\delta + D + u_i + \varepsilon_{it} \tag{6}$$

---

[2] The Hausman test is typically used to compare fixed and random effects models in econometrics (Hausman, 1978). If the statistic for the test has lower p-values than the 0.05 significance level, the random effects model shows inconsistent results.

where y_{it} denotes the dependent variable, BHAR, of firm i at time t; X_{it} is a matrix of the independent variables (i.e. under-issued debt and over-issued debt); Z_{it} is a matrix of the control variables; D indicates year dummies; and β and δ are vectors of parameters for independent variables and control variables respectively; u_i refers to individual-level effects and ε_{it} is the error term.

RESULTS

Hypothesis Tests

Table IV presents the estimation of BHAR with respect to the debt level and marketing activities. Model 1 presents the control variables. Model 2 tests the bifurcated effect of total debt on BHAR. Models 3 through 5 show the moderation effects of marketing activities on the relationship between the level of debt and firm valuation.

In Model 2, we find a negative effect of under-issued debt on BHAR (β = -1.106; p < .000) and a positive effect of over-issued debt on BHAR (β = 2.450; p < .01). These results support Hypotheses 1 and 2. Models 3 through 5 test Hypotheses 3 and 4. Overall, comparing to Model 2, Models 3 through 5 improve the prediction as the log likelihood tests suggest (i.e. χ^2 = 29.26; p < .000 for the marketing main effect, χ^2 = 35.82; p < .000 for the marketing interaction effects with under-issued debt, and χ^2 = 31.72; p < .000 for the marketing interaction effects with over-issued debt). This indicates that the relationship between debt and firm valuation is significantly moderated by marketing activities. Specifically, in Model 4, we find that the interaction effect between marketing activities and under-issued debt is positive (β = .152; p < .01) and the interaction effect between marketing activities and over-issued debt is negative (β = -1.130; p < .1).

Additional Analyses

Debt Maturity. The bifurcated effects of debt on firm valuation can appear even when the maturity of debt is differentiated. When the total debt is decomposed to long-term and short-term debt, the bifurcated effects of debt on firm valuation remains consistent. Table V presents the estimation of BHAR with respect to debt maturity and marketing moderation. Models 1 through 4 test the relationship between long-term debt (decomposed into under-issued long-term debt and over-issued long-term debt) and firma valuation and the moderation impact of marketing activities. In Model 2, we find the main effects of long-term debt on firma valuation consistent. That is, there is a negative impact of under-issued long-term debt (β = -1.123; p < .000) and a positive impact of over-issued long-term debt (β = 2.904; p < .01). In terms of marketing moderation, the results reveal that marketing activities weaken the positive impact of over-issued debt (β = -1.498; p < .01).

Meanwhile, in Models 5 through 8, we test how short-term debt affect firm valuation and how marketing activities moderate its relation. As Model 5 shows, there is a negative impact of under-issued debt on firm valuation (β = -6.015; p < .000) while over-issued debt has insignificant effect (β = .146; p = .798). Marketing activities play a significantly positive role in enhancing firm valuation with under-issued debt (β = .927; p < .000).

Split-Sample Test. To further understand the moderation impact of marketing activities, we split the sample into two competing groups in terms of marketing activities. We define a group of low marketing activities as the group whose marketing activities are below its median and a group of high marketing activities as the group whose marketing activities are above its median. Under the different samples, we figure out how the impact of debt level can be differentiated. Table VI presents the split-sample test. In the group of low marketing activities, as shown in Model 1 through 4, we can find strong negative impact of under-issued debt regardless of debt maturity while over-issued debt has no significant effect on firm valuation. The group of high marketing activities, shown in Model 5 through 8, show consistent results: significant and negative impact of under-issued debt, but insignificant effect of over-issued debt.

Given the relationships between debt and firm valuation in the split samples, we compare the coefficients across the split-samples. All coefficients of under-issued debt in the group of high marketing activities are larger than those in the group of low marketing activities. That means, the impact of under-issued debt can increase as marketing activities intensify. This facilitating role of marketing is shown regardless of debt maturity (See Models 3 and 7 for long-term debt; Model 4 and 8 for short-term debt). These results support Hypothesis 3.

Insert Table VI about here.

Alternatives Dependent Variables. To validate our arguments regarding firm valuation, we consider alternative measures of our dependent variable (i.e. BHAR). First, as an alternative of BHAR, we consider CAR (Cumulative Abnormal Return) (Prabhala, 1997; Fama, 1998). CAR, as the time-aggregated abnormal returns, determines cumulative effects over time. In terms that CARs use arithmetic average rather than geometric average, the measures can represent firm

valuation with a different approach to it from BHAR. Even though BHARs have been suggested to use over CARs in illustrating investors' experience (Barber & Lyon, 1997), those still can be useful to specify how the information of debt can influence firm valuation from investors (Prabhala, 1997; Fama, 1998). The correlation between BHAR and CAR in our sample is .13. Table VII presents the fixed effects estimation of CAR with respect to debt level, debt maturity, and marketing moderation. Overall, we find that negative impacts of under-issued debt on CAR regardless of debt maturity. And such relationship is positive moderated by marketing activities. In the case of over-issued debt, short-term debt has no significant impact on CAR whereas total debt and long-term debt have significant, positive effects. And marketing moderation for the over-issued debt turns out insignificant.

Insert Table VII about here.

Another alternative measure of firm valuation is Tobin's q. Tobin's q explains the variability of book values as well as that of market values (e.g. Lubatkin & Shrieves, 1986; Allen, 1993). Operationally, Tobin's q is calculated by dividing the market value of the firm by the book value of assets (Brown & Caylor, 2006; Bebchuk & Cohen, 2005; Gompers, Ishii, & Metrick, 2003). The correlation between BHAR and Tobin's q in our sample is -.06. Table VIII presents the fixed effect estimation of Tobin's q. As seen in Table VIII, there are negative effects of under-issued debt on Tobin's q and positive moderating effects of marketing activities regardless of debt maturity. Those results are consistent to other dependent variables (such as BHAR and CAR). For over-issued debt, we cannot find any significant results.

Insert Table VII about here.

Overall, we conclude that the level of debt (especially under-issued debt) has significant impact on firma valuation (i.e. BHAR, CAR, and Tobin's q). Those consistent estimation results in the terms of debt level and moderation effects of marketing activities enable us to conclude that our results are robust to alternative measure of firm valuation.

DISCUSSION OF THE RESULTS

Marketing as a Strategic Means to Control Debt Signaling

In this study, we demonstrate that the level of debt has bifurcated effects on firm valuation, captured by Buy-and-Hold Abnormal Returns (BHARs) and the effects are reinforced by marketing intensity. In particular, we find that long-term debt and short-term debt have different roles in firm valuation. The implication of debt signaling is that firms can strategically determine the level of debt to control how investors or other stakeholders evaluate a firm's status. This implies that some firms may retain even higher levels of debt to enhance their valuation than others. The curvilinear relationship thus indicates that when firms can make the strategic retention of debt effective. By investigating the threshold where the "driver" signal is turned to the "distress" signal, firms can make a decision as to whether they will issue more debt for the next period. We found in this study that the threshold tends to rely on the maturity of debt.

Ross (1977) argued that one firm could issue more debt than the other. That means that increasing debt can be costly (or beneficial) for certain firms. Our findings suggest that when the strategic use of debt can be reinforced when firms acknowledge that the effect of debt can be interpretative. That is, the marketing activities which can make the perception of stakeholders on the firm favorable will facilitate the strategic use of debt signaling. We find that firm valuation

24

in the lower levels of debt can be enhanced when marketing activities are engaged. However, the moderating role of marketing activities for the debt signaling is not linear. In the higher level of debt, the marketing activities cannot boost up a firm's value. Rather, the simultaneous increases in debt and marketing intensity may lead to detrimental firm valuation. In other words, marketing activities under the significant growth opportunities harms the firm valuation instead of alleviating the distress.

This finding suggests that the stock market, i.e. firm valuation from investors, is not isolated from the consumer market. Investors have their own roles in a firm, but they can be critical customers of the firm. Firms should consider these multiplex relations between investors and firms in constructing their resource structure. These activities driven by marketing activities can be further investigated in terms of the enhancement of firm valuation in the stock market.

Debt Maturity and Firm Valuation

In general, debt is useful for cash generation, but it entails a peril that a firm's investment incentives can be reduced (Williamson, 1988; Singh & Faircloth, 2005). To mitigate such underinvestment problems, called *debt overhang*, finance scholars have focused on the maturity of debt (Myers, 1977; Diamond & He, 2012; Wahba, 2013). In particular, Myers (1977) conjectured that shortening debt maturity can resolve the debt overhang problems. Since the short-term debt involves earlier repayments and thus the bankruptcy costs can be lessened comparing to the long-term debt (Diamond, 1991; Johnson, 2003). As such, short-term debt provides leeway to adjust its capital structure to avoid debt overhang (Diamond & He, 2012). However, when short-term debt is overwhelmed in a firm's capital structure, it creates a risk of suboptimal liquidation (Johnson, 2003; Titman & Tsyplakov, 2007). Since short-term debt

maturity increases the control rights of debtors (Benmelech, 2006), it makes firm liquidation volatile (Diamond & He, 2012).

On the other hand, the long-term debt may mitigate liquidation volatility as it can reduce refinancing costs which are generated by short-term maturity of debt (e.g. Wahba, 2013). The longer maturity can also facilitate managerial discretion (Johnson, 2003; Stulz, 1990) and alleviate adverse selection issues (Webb, 1991). However, as discussed, long-term debt is not free from the debt overhang problem and also it increases information costs (Flannery, 1986) and adverse selection costs (Barclay & Smith, 1995). When a firm's capital structure is dominated by long-term debt, investors can interpret that the firm may be vulnerable to debt overhang and its related issues. Based on the understandings of the long- and short-term debt, we can understand that the different roles can be differentiated depending on the level of each debt.

In our analysis, we find that debt maturity has different signaling impact on firm valuation. Although both long-term and short-term debt have negative impacts on firm valuation, long-term debt has a marginal positive impact while short-term debt has no significant impact on firm valuation. Marketing moderation is also differentiated. In terms of long-term debt, there is only negative moderation with over-issued long-term debt. Since long-term debt inherently bears liquidation risks, marketing activities will accelerate the negative signaling. On the other hand, marketing activities can alleviate the negative impact of under-issued short-term debt on firm valuation. Since short-term debt is functioned with information effects (Wahba, 2013), the role of marketing activities will improve the interpretations from investors.

SMEs vs. Large Firms

In this study, we focus only on SMEs, because, we acknowledge, large firms have some convoluted factors for firm valuation, such as diversified segments, corporate governance, complex tax schemes, or other means to hedge stock risks. To check the difference between SMEs and large firms in terms of debt signaling, we re-run the main models with a sample of large-sized firms[3] and found that there is no significant relationship between debt and BHAR in large firms. Specifically, we perform Chow test to examine the coefficients of debt level in SMEs and large firms are different. The test shows that the role of debt level (i.e. under-issued and over-issued debt) and marketing moderation for firm valuation are differentiated between SMEs and large firms (F = 30.10; p<.000, for main effects of debt level; F = 28.11; p<.000, for marketing moderation effects). This indicates that SMEs, comparing to large firms, have distinctive relationship between debt and firm valuation. Furthermore, since large firms have several tools to enhance firm valuation, the underlying mechanisms to relate debt to firm valuation would be situated in multiple conditions. This means that for large firms, we may need to additional perspectives to disentangle the signaling effect of debt on firm valuation. For example, the financing priority in capital structure (i.e. pecking order theory) can be a more important aspect in understanding the signaling effect in large firms (e.g. Myers, 1984). This suggests that future studies will unpack the underlying mechanisms of debt-signaling for large firms.

CONCLUSION

In this study, we argue that the signals of debt (i.e., driver vs. distress) can be bifurcated in SMEs, correspondingly affecting firm valuation. As issuance of debt signifies that firms

---

[3] To sample large firms, from the Compustat database, we first identified all available firms which belong to the same industries of the SMEs, and then extracted all the cases where the number of employees exceeds 500.

utilize the external financing source extensively, active use of external financial resources can make investors positively perceive the firm's value (Myers 1984; Jensen 1986). Meanwhile, investors also can understand issuing of debt as a state of financial distress. This suggests that in a certain range of its use, debt is interpreted as a driver for growth, but in the other range of debt financing, negative signals of the debt are dominated (Hennessy et al., 2010).

Recognizing that the debt signaling processes are inherently interpretative, this study demonstrates that marketing activities moderates the bifurcated relationship between debt and firm valuation. This study finds that firms with less amount of debt issued (under-issued) will experience negative effect of debt on firm valuation as the firm increases use of debt while firms with high amount of debt issued (over-issued) will add value as additional debts are implemented. Marketing activities have two distinctive impacts in response to the use of additional debt depending on the current debt situation. If a firm is currently under-issued, marketing activities positively moderates the existing negative relationship between debt and firm valuation. On the other hand, marketing negatively moderates the positive relationship between debt and firm valuation for firms that currently hold a significant amount of debt. This finding on relationship between debt and firm valuation and the impact of marketing activities on this relationship persists when we examine the effect of long-term and short-term debt separately. Also, subsample analysis of marketing activities suggests negative impact of debt on the firm value by firms with under-issued debt regardless of the level of marketing intensity while the magnitude of the negative impact is alleviated for the sample of firms with high marketing intensity.

This study has three implications. First, this study provides a perspective that debt is polysemous so that the effect of debt on a firm's outcome should be treated as an interpretative process. In particular, marketing activities, which mainly enable firms to communicate with

stakeholders (including investors), can be critically involved in the interpretative process of debt. That is, the strategic use of marketing activities will enhance firm valuation. The second implication presents that the interplay between the stock market and the product market can affect firm valuation. Although the marketing function is mainly engaged in the product market, its implementation can be reflected to the stock market. In this sense, investors can be a link to connect the two markets. In other words, investors, who are influenced by a firm's activities at the product market and its capital structure, will rate the firm for their future investment decisions. Last, debt maturity is also an important aspect to investigating debt signaling effect on firm valuation. The different roles of long-term vs. short-term debt can enable firms to strategically construct their capital structure, which can convey a significant signal to investors.

Although this study has meaningful implications in the areas of strategy, finance, and marketing, it has some limitations which can be considered for the future studies. First, the marketing intensity was measured in terms of the marketing expenditures. According to the resource allocation theory (Gilbert, 2005), decision makers' resource commitment is reflected by capital investment. That is, marketing expenditures can indicate how intensive the decision makers pay attention to marketing activities. Yet, the measure is still indirect to capture the means to govern the stakeholders' interpretations. If the marketing activities to directly relate to investors (such as industrial relations) could be specified, the role of marketing for debt signaling could be more precisely identified. Accordingly, future studies will specify the measure of marketing intensity to further understand the moderation role of marketing activities in the debt signaling in the stock market. Second, future studies will specify how firms strategically use debt financing. We theorized that according to the level of debt, its signals can be differentiated for firm valuation. Yet, this signifies a condition under which a firm can strategically use debt to

enhance its valuation from investors. We need to discern the signals where stakeholders can identify from the signals where firms intend to make. In other words, how firms can create "costly signals" of debt for firm valuation still needs to be addressed.

REFERENCES

Allen, F. 1993. Strategic management and financial market. *Strategic Management Journal*, 14: 11-22.

Barber, B. M., J. D. Lyon. 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics,* 43(3): 341-372.

Barclay, M. J. & Smith, Jr., C. W. 1995. The maturity structure of corporate debt. *Journal of Finance*, 50(2): 609-631.

Barney, J. B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17: 99-120.

Beamish, P.W., R. Craig, and K. McLellan. 1993. The performance characteristics of Canadian versus U.K. exporters in small and medium sized firms. *Management International Review*, 33(2): 121–137.

Bebchuk, L., Cohen, A. 2005. The cost of entrenched boards. *Journal of Financial Economics,* 78:409-433.

Benmelech, E. 2006. *Managerial entrenchment and debt maturity: Theory and evidence.* Working paper, Harvard University

Berger, A. N. & Udell, G. F. 1998. A more complete conceptual framework for SME finance. *Journal of Banking & Finance*, 30: 2945-2966.

Bolton, P., D. S. Scharfstein. 1990. A theory of predation based on agency problems in financial contracting. *American Economics Review*, 80(1): 93-106.

Bower, J. L. 1970. *Managing the Resource Allocation Process*. Cambridge, MA: Harvard Business School Press.

Bromiley P. 1991. Testing a causal model of corporate risk taking and performance. *Academy of Management Journal,* 34(1): 37-59.

Brown, L. D., Caylor, M. L. 2006. Corporate governance and firm valuation. *Journal of Accounting and Public Policy,* 25(4): 409-434.

Carpenter, R. E. & Petersen, B. C. 2002. Is the growth of small firms constrained by internal finance? *Review of Economics and Statistics*, 84: 298-309.

Chevalier, J.A. 1995. Capital structure and product-market competition: Empirical evidence from the supermarket industry. *American Economics Rev*iew, 85(3): 415-435.

Chow, G. 1960. Tests of equality between sets of coefficients in two linear regressions. *Econometrica*, 28(3): 591–605.

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. 2011. Signaling theory: A review and assessment. *Journal of Management*, 37(1): 39-67.

David, P., O'Brien, J. P., & Yoshikawa, T. 2008. The implications of debt heterogeneity for R&D investment and firm performance. *Academy of Management Journal*, 51(1): 165-181.

Degryse, H., de Goeij, P., & Kappert, P. 2012. The impact of firm and industry characteristics on small firms' capital structure. *Small Business Economics*, 38: 431-447.

Deleersnyder, B., J. -B. E. M. Steenkamp, M.G. Dekimpse, P. S. H. Leeflang. 2009. The role of national culture in advertising's sensitivity to business cycles: An investigation across continents. *Journal of Marketing Research,* 46(5): 623-636.

Diamond, D. W. & He, Z. 2012. *A theory of debt maturity: The long and short of debt overhang.* NBER Working paper 18160.

Diamond, D. W. 1991. Debt maturity structure and liquidity risk. *Quarterly Journal of Economics*, 106: 709-737.

Erikson, G., R. Jacobson. 1992. Gaining comparative advantage through discretionary expenditures: The returns to R&D and advertising. *Management Science,* 38(9) 1264-1279.

Fama, E. F, 1998, Market efficiency, long-term returns, and behavioral finance, *Journal of Financial Economics* 49, 283-306.

Fama, E. F. & French, K. R. 2002. Testing trade-off and pecking order predictions about dividends and debt. *The Review of Financial Studies,* 15(1): 1-33.

Fama, E. F. & French, K. R. 1993. Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics,* 33(1): 3-56.

Fazzari, S. M., B. Petersen. 1993. Working capital and fixed investment: New evidence on financing constraints. *Rand Journal of Economics,* 24: 328-342.

Flannery, M. 1986. Asymmetric information and risky debt maturity choice. *Journal of Finance*, 41: 19-37.

Frank, M. Z., Goyal, V. K. 2005. Tradeoff and pecking order theories of debt. In B. Espen Eckbo (ed.), *Handbook of Corporate Finance: Empirical Corporate Finance*, Chapter 7, Elsevier.

George, G. 2005. Slack resources and the performance of privately held firms. *Academy of Management Journal*, 48(4):661-676.

Gilbert, C. G. 2005. Beyond Resource Allocation: How Definition and Impetus Interact to Shape Strategic Outcomes. In Bower, J. J., & C. G. Gilbert (eds.), *From Resource Allocation to Strategy*, 269-295. New York, NY: Oxford University Press Inc.

Gilmore, A., & Carson, D. 1999. Entrepreneurial marketing by networking. *New England Journal of Entrepreneurship*, 2(2): 31-38.

Gompers, P., Ishii, J., Metrick A. 2003. Corporate governance and equity prices. *Quarterly Journal of Economics,* 118(1): 107-155.

López -Gracia, J. & Sogorb-Mira, F. 2008. Testing trade-off and pecking order theories financing SMEs. *Small Business Economics*, 31(2): 117-136.

Graham, J. R., C. R. Harvey, S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting Economics,* 40(1-3): 3-73.

Greve, H. R. 1998. Performance, aspirations, and risky organizational change, *Administrative Science Quarterly*, 43: 58-86.

Gruca, T .S., L .L. Rego. 2005. Customer satisfaction, cash flow, and shareholder value. *Journal of Marketing,* 9: 115-130.

Hausman, J.A. 1978. Specification tests in econometrics. *Econometrica*, 46(6):1251-1271.

Healy, P. M., Palepu, K. G. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting Economics*, 31: 405-440.

Hennessy, C. A., Livdan, D., & Miranda, B. 2010. Repeated signaling and firm dynamics. *Review of Financial Studies*, 23(5): 1981-2023.

Hyytinen, A., Pajarinen, M. 2005. External finance, firm growth and the benefits of information disclosure: Evidence from Finland. *European Journal of Law Economics,* 19: 69-93.

Jensen, M. C. 1986. The agency costs of free cash flow: Corporate finance and takeovers. *American Economics Review,* 76: 323-329.

Johnson, S. A. 2003. Debt maturity and the effects of growth opportunities and liquidity risk on leverage. *The Review of Financial Studies*, 16(1): 209-236.

Joshi, A., D. M. Hanssens. 2010. The direct and indirect effects of advertising spending on firm value. *Journal of Marketing,* 74: 20-33.

Jovanovic, B. 1982. Selection and the evolution of industry. *Econometrica.* 50(3):649-670.

Kale, J. R. & Noe, T. H. 1990. Risky debt maturity choice in a sequential equilibrium. *Journal of Financial Research*, 13: 155-165.

Keller, K. L., D. R. Lehmann. 2006. Brands and branding: Research findings and future priorities. *Marketing Science,* 25(6): 740-759.

Kraus, A., R. H. Litzenberger. 1973. A state-preference model of optimal financial leverage. *Journal of Finance,* 28: 911-922.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R. 2000. Investor protection and corporate governance. *Journal of Financial Economics,* 58: 2-27.

Lamey, L. B. Deleersnyder, M. G. Dekimpe, J.-B. E. M. Steenkamp. 2007. How business cycles contribute to private-label success: Evidence from the United States and Europe. *Journal of Marketing,* 71: 1-16.

Leary, M. T. & Roberts, M. R. 2010. The pecking order, debt capacity, and information asymmetry. *Journal of Financial Economics*, 95: 332-355.

Lehmann, D. R. 2004. Linking marketing to financial performance and firm value. *Journal of Marketing,* 68: 73-75.

Leland, H., D. Pyle. 1977. Information asymmetries, financial structure and financial intermediation. *Journal of Finance,* 32: 371-387.

Lemmon, M. L. & Zender, J. F. 2010. Debt capacity and tests of capital structure theories. *Journal of Financial and Quantitative Analysis*, 45(5): 1161-1187.l

Levinthal, D. A., J. G. March. 1993. The myopia of learning. *Strategic Management Journal,* 14: 95-112.

Lubakin, M. H. and Shrieves, R.E. 1986. Toward reconciliation of market performance measures to strategic management research. *Academy of Management Review.* 11: 497-512.

Lubakin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. 2006. Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, 32(5): 646-672.

Man, T. W. Y., Lau, T., & Chan, K. F. 2002. The competitiveness of small and medium enterprises. *Journal of Business Venturing*, 17: 123-142.

Markovitch, D. G., J. H. Steckel, B. Young. 2005. Using capital markets as market intelligence: Evidence from the pharmaceutical industry. *Management Science,* 51(10): 1467-1480.

McAlister, L., R. Srinavasan, M. Kim. 2007. Advertising, research and development, and systematic risk of the firm. *Journal of Marketing,* 71: 35-48.

Miller, M. H. 1977. Debt and taxes. *Journal of Finance,* 32: 261-276.

Mizik, N. 2010. The theory and practice of myopic management. *Journal of Marketing Res*earch, 47: 594-611.

Mizik, N., R. Jacobson. 2007. Myopic marketing management: Evidence of the phenomenon and its long term performance consequences in the SEO context. *Marketing Science,* 26(3): 361-379.

Modigliani, F., M. H. Miller. 1958. The cost of capital, corporate finance and the theory of investment, *American Economics Review,* 48**:** 261-297.

Myers, S. C. 1977. Determinants of corporate borrowing. *Journal of Financial Economics*, 5: 147-175.

Myers, S. C. 1984. The capital structure puzzle. *Journal of Finance,* 39: 575-592.

Myers, S. C., N. Majluf. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics,* 13: 187-221.

Novy-Marx, R. 2013. The other side of value: The gross profitability premium. *Journal of Financial Economics*, 108: 1-28.

O'Brien, J. P., David, P., Yoshikawa, T., & Delios, A. 2014. How capital structure influences diversification performance: A transaction cost perspective. Strategic Management Journal, 35: 1013-1031.

Opler, T. C., S. Titman. 1994. Financial distress and corporate performance. *Journal of Finance,* 49(3) : 1015-1040.

Petersen, M. A. & Rajan, R. G. 1994. The benefits of lending relationships; Evidence from small business data. *Journal of Finance*, 49(1): 3-37.

Prabhala, N.R., 1997. Conditional methods in event studies and an equilibrium justification for standard event study procedures. *Review of Financial Studies* 10, 1–38.

Rao, R.K.S., N. Bharadwaj. 2008. Marketing initiatives, expected cash flows, and shareholders' wealth. *Journal of Marketing,* 72: 16-26.

Robins, J., M. F. Wiersema. 1995. A resource-based approach to the multibusiness firm: Empirical analysis of portfolio interrelationships and corporate financial performance. *Strategic Management Journal,* 16(4): 277-299.

Ross, S. 1977. The determination of financial structure: The incentive-signaling approach. *Bell Journal of Economics,* 20: 26-40.

Simerly, R. L. & Li, M. 2000. Environmental dynamism, capital structure and performance; A theoretical integration and an empirical test. *Strategic Management Journal*, 21(1): 31-49.

Singh, M. & Faircloth, S. 2005. The impact of corporate debt on long term investment and firm performance. *Applied Economics*, 37(8): 875-883.

Smith, C. W., R. L. Watts. 1992. The investment opportunity set and corporate financing dividend and compensation policies. *Journal of Financial Economics,* 32: 263-292.

Sogorb-Mira, F. 2005. How SME uniqueness affects capital structure: Evidence from a 1994-1999 Spanish data panel. *Small Business Economics*, 25: 447-457.

Spence, A. M. 1973. Job market signaling. *Quarterly Journal of Economics,* 87(3): 355-374.

Srivastava, R. K., T. A.Shervani, L. Fahey. 1998. Market-based assets and shareholder value: A framework for analysis. *Journal of Marketing,* 62: 2-18.

Srivastava, R.K., T. A. Shervani, L. Fahey. 1999. Marketing, business processes, and shareholder value: An organizationally embedded view of marketing activities and the discipline of marketing. *Journal of Marketing,* 63: 168-179.

Stinchcombe, A. 1965. Social structure and organizations. In March, J. (Ed.), *Handbook of Organization*, 142-193. Chicago, IL: Rand McNally.

Stulz, R. 1990. Managerial discretion and optimal financing policies. *Journal of Financial Economics,* 26: 3-27.

Tan, J., & Peng, M. W. 2003. Organizational slack and firm performance during economic transitions: Two studies from an emerging economy. *Strategic Management Journal*, 24: 1249–1263.

Titman S. & Tsyplakov, S. 2007. A dynamic model of optimal capital structure. *Review of Finance*, 11(3): 401-451.

Titman, S., Trueman, B. 1986. Information quality and the valuation of new issues. *Journal of Accounting Economics,* 8: 159-172.

Titman, S., R. Wessels. 1988. The determinants of capital structure choice. *Journal of Finance,* 43: 1-21.

Tsai, B. 2006. *Innovation, market share, and firm value - Patents in personal computer industry.* Working paper, National Chiao Tung University, Hsinchu City.

Wahba, H. 2013. Debt and financial performance of SMEs: The missing role of debt maturity structure. *Corporate Ownership & Control*, 10(3): 354-365.

Webb, D. C. 1991. Long-term financial contracts can mitigate the adverse selection problem in project financing. *International Economic Review*, 32(2): 305-320.

Weill, L. 2008. Leverage and corporate performance: Does institutional environment matter? *Small Business Economics*, 30: 251-265.

Whited, T. 1992. Debt, liquidity constraints, and corporate investment: Evidence from panel data. *Journal of Finance,* 47: 1425-1460.

Williamson, O. E. 1988. Corporate finance and corporate governance. *Journal of Finance,* 43(3): 567-591.

Wooldridge, J. M. 2010. *Econometric analysis of cross section and panel data,* 2nd ed. MIT Press, Cambridge.

TABLE I
Industry Classification of Sample Firms

SIC Code	Description	Frequency[*]	SIC Code	Description	Frequency[*]
10	Metal Mining	9 (0.41%)	38	Instruments and Related Products	303 (13.94%)
13	Oil and Gas Extraction	62 (2.85%)	39	Misc. Manufacturing Industries	22 (1.01%)
15	General Building Contractors	4 (0.18%)	47	Transportation by Air	2 (0.09%)
17	Special Trade Contractions	5 (0.23%)	48	Communication	32 (1.47%)
20	Food and Kindred Products	22 (1.01%)	49	Electric, Gas, and Sanitary Services	15 (0.69%)
22	Textile Mill Products	3 (0.14%)	50	Wholesale Trade – Durable Goods	61 (2.81%)
24	Lumber and Wood Products	4 (0.18%)	51	Wholesale Trade – Nondurable Goods	20 (0.92%)
25	Furniture and Fixtures	2 (0.09%)	55	Automotive Dealers & Service Stations	4 (0.18%)
26	Paper and Allied Products	11 (0.51%)	57	Furniture and Home-Furnishings Stores	6 (0.28%)
27	Printing and Allied Products	6 (0.28%)	58	Eating and Drinking Places	11 (0.51%)
28	Chemicals and Allied Products	421 (19.37%)	59	Misc. Retail	25 (1.15%)
30	Rubber and Misc. Plastics Products	26 (1.20%)	70	Hotels and Other Lodging Places	8 (0.37%)
32	Stone, Clay, and Glass Products	4 (0.18%)	73	Business Services	423 (19.46%)
33	Primary Metal Industries	7 (0.32%)	78	Motion Pictures	5 (0.23%)
34	Fabricated Metal Products	18 (0.83%)	79	Amusement & Recreation Services	7 (0.32%)
35	Industrial Machinery and Equipment	242 (11.13%)	80	Health Services	22 (1.01%)
36	Electronic & Other Electric Equipment	281 (12.93%)	87	Engineering & Management Services	49 (2.25%)
37	Transportation Equipment	14 (0.64%)	99	Non-Classifiable Establishments	18 (0.83%)

[*] Percentage of the firms in parentheses, N=2,174

TABLE II
Variable Operationalization

Measure	Operationalization[1]	Data Source
BHAR	$$BHAR_{it} = \prod_{t=s}^{s+12}(1+ret_{it}) - \prod_{t=s}^{s+12}(1+market\_ret_t)$$ ret_{it}: 12-month cumulative stock returns of firm i at time t $market\_ret_{it}$: 12-month cumulative returns of market portfolio at time t	CRSP
ROA	Net income / Total Asset	Compustat
Industry Performance	The sum of ROA in each 3-digit SIC at t	Compustat
Industry asset intensity	Log(The sum of book values of total assets in each 3-digit SIC)	Compustat
Market Share	Sales of firm i / aggregated sales in each 3-digit SIC	Compustat
Market-to-Book Ratio	(share price * number of common stock outstanding) / Total assets	CRSP and Compustat
Firm size	Number of employees (in thousands)	Compustat
ln Firm Age	Logarithm of the years after IPO	Compustat
Slack	Current asset / current liability	Compustat
Free Cash Flow	Net income + depreciation and amortization – Δworking capital – capital expenditures	Compustat

Under-issued Total Debt	$D^U_{it} = D_{it-1} - \hat{D}_{ijt-1}$ if $D_{it-1} - \hat{D}_{ijt-1} < 0$
	     0 else
	 $\hat{D}_{ijt-1} = f(R^I_{jt-1}, R^F_{it-1}, R^E_{\cdot t-1})$
	 * D^U_{it} : Under-issued Total Debt (=Long-term debt + Short-term debt) of firm i at time t-1
	    D_{it-1}: Actual Total Debt of Firm i at time t-1
	    $\hat{D}_{ijt-1}$: Estimated Total Debt of Firm i at time t-1
	 $R^I_{jt-1} = ROE_{it-1} - IROE_{it-1}$
	    s.t. R_{it-1}: ROE of firm i at time t-1
	      IR_{it-1}: Industry-averaged ROE of industry j (2-digit SIC codes) at time t-1
	 $R^F_{it-1} = g(GR_{it-1}) \cdot R_{it-1}$
	    s.t. $g(GR_{it-1})$: Indicator of decreasing growth rate of sales of firm i at time t-1
	      R_{it-1}: Revenue of firm i at time t-1
	 $R^E_{\cdot t-1}$: Periods of Economic recession (i.e. 1: focal year>2007, 0: else)
		Compustat

Over-issued Total Debt	$D^O_{it} = D_{it-1} - \hat{D}_{ijt-1}$ if $D_{it-1} - \hat{D}_{ijt-1} > 0$ 0 else * D^O_{it} : Over-issued Total Debt of firm i at time t-1	Compustat
Marketing Activities	(Selling, general, and administrative expenditure + advertising expenditure) / Total assets	Compustat

[1] The dollar-value-based variables (e.g. total assets etc.) are deflated by the 1982-based Consumer Price Index (CPI).

TABLE III
Descriptive Statistics and Correlation Matrix

Variables (N=13894)	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. BHAR	0.19	1.31	-1.00	34.5																
2. ROA	0.86	0.77	0	18.47	.01															
3. Industry performance	0.04	0.06	-0.55	0.88	-.11***	-.07														
4. Industry Asset Intensity	0.50	0.75	0.01	12.44	.02†	-.01***	.01													
5. Market Share	0.00	0.03	0	1.00	.00	.04***	.01	-.04***												
6. Market-to-Book Ratio	2.73	4.43	0	137.38	-.03***	-.18***	.09***	.00	-.01											
7. # Employees	0.13	0.10	0	0.5	-.03**	.20***	-.06***	.04***	.06***	-.18***										
8. Firm Age	2.17	0.59	1.10	3.91	-.02*	.13***	.03***	.11***	.00	-.10***	.09***									
9. Slack	5.18	17.34	0	1719.25	.00	-.11***	.02**	-.01	-.01	.03**	-.06***	-.03**								
10. Free Cash Flow	-0.03	0.10	-3.74	1.36	-.02*	.25***	.03***	-.03***	.06***	-.03***	-.08***	.11***	-.01							
11. Under-issued Total Debt	-0.03	0.09	-4.80	0	-.02*	-.06**	-.02**	-.15***	.00	-.13***	.21***	.06***	.00	-.06***						
12. Over-issued Total Debt	0.00	0.02	0	1.16	.02**	.01***	-.04***	.02*	-.01	.00	-.02**	-.01	-.02†	.00	.03***					
13. Under-issued Long-term Debt	-0.02	0.08	-4.04	0	-.02†	-.05	-.01	-.14***	-.01	-.11***	.19***	.04***	.01	-.06***	.97***	-.02*				
14. Over-issued Long-term Debt	0.00	0.01	0	0.92	.02*	.01***	-.04***	.01	-.01	.00	-.02*	-.02*	-.02†	-.01	.03***	.97***	.03***			
15. Under-issued Short-term Debt	-0.01	0.02	-0.75	0	-.01	-.05***	-.06***	-.16***	.00	-.18***	.25***	.10***	-.01	-.07***	.88***	.04***	.80***	.03**		
16. Over-issued Short-term Debt	0.00	0.02	0	1.88	.00	-.01	.00	.00	.00	.02†	-.02*	.02**	-.01	.00	.01	.35***	-.22***	.14***	.01	
17. Marketing Activities	0.43	0.45	-0.13	17.09	.04***	.29***	-.08***	-.01	-.01	.16***	-.02*	-.08***	-.08***	.02*	-.19***	.06***	-.17***	.07***	-.21***	.00

* BHAR: Buy-And-Hold Abnormal Return

TABLE 4

The Moderation Effect of Marketing Activities on the Relationship between Debt and Buy-And-Hold Abnormal Return (BHAR)

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-.543	-.588	-.687	-.576	-.671
	(.750)	(.750)	(.745)	(.745)	(.742)
Prior ROA	-.309***	-.312***	-.315***	-.316***	-.316***
	(.009)	(.009)	(.009)	(.009)	(.009)
Industry Performance	-1.344***	-1.358***	-1.341***	-1.345***	-1.349***
	(.257)	(.257)	(.257)	(.257)	(.257)
Industry Asset Intensity	.064	.076	.073	.074	.074
	(.056)	(.056)	(.056)	(.056)	(.056)
Market Share (%)	-.099	-.102	-.081	-.082	-.076
	(.893)	(.892)	(.891)	(.891)	(.891)
Market-to-Book Ratio	-.031***	-.034***	-.036***	-.036***	-.036***
	(.003)	(.003)	(.003)	(.003)	(.003)
Firm Size (# Employees)	-1.623***	-1.503***	-1.473***	-1.435***	-1.473***
	(.210)	(.210)	(.210)	(.211)	(.210)
Firm Age	-.184*	-.166*	-.184*	-.184*	-.183*
	(.079)	(.079)	(.079)	(.079)	(.079)
Slack	-.000	-.000	-.000	-.000	-.000
	(.001)	(.001)	(.001)	(.001)	(.001)
Free Cash Flow	-.200	-.208	-.148	-.137	-.142
	(.154)	(.154)	(.154)	(.154)	(.154)
Under-issued Debt		-1.106***	-.867***	-1.164***	-.853***
		(.196)	(.202)	(.237)	(.202)
Over-issued Debt		2.450*	2.180*	2.090†	3.135**
		(1.064)	(1.065)	(1.066)	(1.190)
Marketing Activities			.189***	.240***	.203***
			(.037)	(.042)	(.037)
Under-issued Debt × Marketing Activities				.152*	
				(.064)	
Over-issued Debt × Marketing Activities					-1.130†
					(.630)
Year Dummies	Included	Included	Included	Included	Included
Firm Dummies	Included	Included	Included	Included	Included
AR(1)-DW	.155	.154	.155	.155	.156
Log Likelihood	-21110.27	-21089.04	-21074.41	-21071.13	-21073.18
AIC	42296.54	42258.08	42230.82	42226.27	42230.35
χ^2	-	42.46***	71.72***	78.28***	74.18***

The number of firm-year: 13,894, The number of firms: 2,174, Standard errors in parentheses
† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 5
Fixed Effect Estimation of BHAR with respect to Debt Maturity and Marketing Activities

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	-.525 (.750)	-.649 (.744)	-.547 (.746)	-.652 (.741)	-.507 (.752)	-.613 (.747)	-.580 (.749)	-.623 (748)
Prior Performance	-.311*** (.009)	-.315*** (.009)	-.315*** (.009)	-.315*** (.009)	-.312*** (.009)	-.315*** (.009)	-.316*** (.009)	-.315*** (.009)
Industry Performance	-1.354*** (.257)	-1.337*** (.257)	-1.340*** (.257)	-1.347*** (.257)	-1.364*** (.257)	-1.346*** (.257)	-1.351*** (.257)	-1.345*** (.257)
Industry Asset Intensity	.075 (.056)	.072 (.056)	.073 (.056)	.073 (.056)	.078 (.056)	.074 (.056)	.075 (.056)	.074 (.056)
Market Share (%)	-.104 (.892)	-.082 (.891)	-.082 (.891)	-.076 (.891)	-.078 (.892)	-.062 (.891)	-.055 (.891)	-.063 (.891)
Market-to-Book Ratio	-.033*** (.003)	-.035*** (.003)	-.035*** (.003)	-.036*** (.003)	-.035*** (.003)	-.037*** (.003)	-.036*** (.003)	-.037*** (.003)
Firm Size (# Employees)	-1.522*** (.210)	-1.488*** (.210)	-1.465*** (.211)	-1.486*** (.210)	-1.497*** (.210)	-1.472*** (.210)	-1.411*** (.211)	-1.471*** (.210)
Firm Age	-.170* (.079)	-.188* (.079)	-.187* (.079)	-.188* (.079)	-.154† (.079)	-.174* (.079)	-.176* (.079)	-.174* (.079)
Slack	-.000 (.001)	-.000 (.001)	-.000 (.001)	-.000 (.001)	-.000 (.001)	-.000 (.000)	-.000 (.001)	-.000 (.001)
Free Cash Flow	-.206 (.154)	-.144 (.154)	-.137 (.154)	-.138* (.154)	-.207 (.154)	-.150 (.154)	-.132 (.154)	-.151 (.154)
Under-issued Debt, Long-Term	-1.123*** (.226)	-.881*** (.230)	-1.095*** (.270)	-.870*** (.230)				
Over-issued Debt, Long-Term	2.904* (1.356)	2.418† (1.358)	2.309† (1.360)	3.981* (1.549)				
Under-issued Debt, Short-Term					-6.015*** (.958)	-4.743*** (.992)	-6.552*** (1.093)	-4.775*** (.995)
Over-issued Debt, Short-Term					.146 (.569)	.224 (.569)	.255 (.568)	.185 (.576)
Marketing Activities		.198*** (.036)	.228*** (.041)	.212*** (.037)		.182*** (.037)	.259*** (.042)	.178*** (.038)
Under-issued Long-Term Debt × Marketing Activities			.115 (.076)					
Over-issued Long-Term Debt × Marketing Activities				-1.498* (.715)				
Under-issued Short-Term Debt × Marketing Activities							.927*** (.236)	
Over-issued Short-Term Debt × Marketing Activities								1.281 (3.057)
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included
Firm Dummies	Included	Included	Included	Included	Included	Included	Included	Included
AR(1)-DW	.154	.155	.155	.156	.154	.155	.155	1.55
Log Likelihood	-21093.63	-21077.34	-21076.01	-21075.51	-21086.67	-21073.32	-21063.63	-21073.26
AIC	42267.26	42236.68	42236.03	42235.03	42253.34	42228.65	42211.27	42230.51
χ^2	33.28***	65.86***	68.52***	69.52***	47.2***	73.9***	93.28***	74.02***

The number of firm-year: 13,894, The number of firms: 2,174, Standard errors in parentheses
† *p* <.1 **p* <.05 *** p* <.01 **** p* <.001

<div align="center">

TABLE 6
Marketing Moderation Effect (Split-sample) Tests

</div>

	Low Marketing Activities				High Marketing Activities			
	Model 1 Base	**Model 2** Total Debt	**Model 3** Long-Term	**Model 4** Short-Term	**Model 5** Base	**Model 6** Total Debt	**Model 7** Long-Term	**Model 8** Short-term
Intercept	-.379 (.260)	.462† (.261)	.467† (.262)	.484† (.264)	.357 (.221)	.228 (.219)	.229 (.219)	.235 (.219)
Prior Performance	-.340*** (.014)	-.344*** (.014)	-.343*** (.014)	-.344*** (.014)	-.419*** (.012)	-.427*** (.012)	-.427*** (.012)	-.427*** (.012)
Industry Performance	-.029 (.427)	-.106 (.427)	-.070 (.427)	-.129 (.426)	-1.109** (.359)	-1.068** (.358)	-1.069** (.358)	-1.067** (.358)
Industry Asset Intensity	-.067 (.086)	-.048 (.086)	-.054 (.086)	-.052 (.085)	.098 (.094)	.094 (.094)	.093 (.094)	.098 (.094)
Market Share (%)	-.648 (1.708)	-.829 (1.706)	-.791 (1.707)	-.644 (1.703)	.653 (1.276)	.734 (1.272)	.735 (1.272)	.736 (1.272)
Market-to-Book Ratio	-.028*** (.004)	-.031*** (.004)	-.030*** (.004)	-.032*** (.005)	-.039*** (.005)	-.046*** (.005)	-.046*** (.005)	-.047*** (.005)
Firm Size (# Employees)	-1.561*** (.305)	-1.469*** (.307)	-1.514*** (.307)	-1.418*** (.306)	-1.716*** (.359)	-1.463*** (.359)	-1.471*** (.359)	-1.456*** (.359)
Firm Age	-.318** (.122)	-.283* (.122)	-.301* (.122)	-.258* (.122)	-.190 (.163)	-.195 (.163)	-.197 (.163)	-.194 (.164)
Slack	-.000 (.001)	-.000 (.001)	-.000 (.001)	.000 (.001)	-.012 (.008)	-.001 (.008)	-.001 (.008)	-.000 (.008)
Free Cash Flow	-.020 (.208)	.003 (.208)	.005 (.208)	.008 (.208)	-.634* (.303)	-.515† (.304)	-.512† (.304)	-.516† (.304)
Under-issued Debt		-1.599*** (.379)	-1.165** (.407)	-10.126*** (1.828)		-.521* (.264)	-.617† (.317)	-2.246 (1.364)
Over-issued Debt		.274 (2.701)	2.457 (3.967)	-.634 (.716)		1.246 (1.583)	.910 (1.894)	12.300† (7.412)
Marketing Activities		.512† (.262)	.511† (.263)	.495† (.262)		.259*** (.053)	.262*** (.053)	.261*** (.053)
Year Dummies	Included	Included	Included	Included	Included	Included	Included	Included
Firm Dummies	Included	Included	Included	Included	Included	Included	Included	Included
AR(1)-DW	.226	.226	.227	.224	.291	.294	.294	.295
Log Likelihood	-8771.62	-8758.82	-8765.04	-8748.42	-9754.22	-9733.90	-9734.13	-9733.83
AIC	17619.24	17599.64	17612.07	17578.84	19584.45	19549.8	19550.25	19549.65
χ^2	-	25.6***	13.16**	46.4***	-	40.64***	40.18***	40.78***
# Firm	1,286	1,286	1,286	1,286	1,364	1.364	1,364	1,364
# Firm-Year	6,351	6,351	6,351	6,351	6,516	6,516	6,516	6,516

$\dagger$ $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$

TABLE 7
Fixed Effect Estimation of Cumulative Abnormal Return (CAR) with respect to Debt and Marketing Moderation

	Model 1 Base	Total Debt		Long-Term Debt		Short-Term Debt	
		Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	-8.110***	-7.816***	-8.119***	-7.725***	-8.051***	-8.056***	-8.138***
	(.761)	(.736)	(.742)	(.737)	(.742)	(.747)	(.746)
Prior Performance	-.206***	-.199***	-.199***	-.200***	-.199***	-.199***	-.200***
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Industry Performance	-.062	-.071	-.061	-.062	-.055	-.077	-.065
	(.178)	(.177)	(.177)	(.177)	(.177)	(.177)	(.177)
Industry Asset Intensity	.000	.010	.008	.009	.007	.012	.010
	(.038)	(.038)	(.038)	(.038)	(.038)	(.038)	(.038)
Market Share (%)	.524	.540	.540	.540	.540	.567	.557
	(.612)	(.609)	(.609)	(.609)	(.610)	(.608)	(.609)
Market-to-Book Ratio	-.021***	-.026***	-.026***	-.026***	-.026***	-.027***	-.028***
	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)
Firm Size (# Employees)	-2.480***	-2.250***	-2.313***	-2.286***	-2.329***	-2.229***	-2.295***
	(.141)	(.141)	(.141)	(.141)	(.141)	(.141)	(.141)
Firm Age	.199***	.195***	.195***	.192***	.191***	.202***	.205***
	(.051)	(.051)	(.051)	(.051)	(.051)	(.051)	(.051)
Slack	-.001	-.000	-.000	-.000	-.000	-.000	-.000
	(.001)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Free Cash Flow	.235*	.295**	.278**	.296**	.284**	.293**	.270*
	(.107)	(.107)	(.107)	(.107)	(.107)	(.107)	(.107)
Under-issued Debt		-1.336***	-.872***	-1.219***	-.812***	-7.292***	-5.460***
		(.161)	(.138)	(.184)	(.158)	(.742)	(.678)
Over-issued Debt		1.654*	1.567†	2.378*	2.409*	-.184	-.344
		(.724)	(.816)	(.924)	(1.061)	(.387)	(.392)
Marketing Activities		.282***	.199***	.269***	.210***	.271***	.174***
		(.029)	(.026)	(.028)	(.025)	(.029)	(.026)
Under-issued Debt × ***Marketing Activities***		.245*** (.044)		.224*** (.053)		1.205*** (.163)	
Over-issued Debt × ***Marketing Activities***			.268 (.437)		.169 (.496)		4.468 (2.101)
Year Dummies	Included	Included	Included	Included	Included	Included	Included
Firm Dummies	Included	Included	Included	Included	Included	Included	Included
AR(1)-DW	.108	.112	.111	.112	.111	.110	.110
Log Likelihood	-15997.83	-15900.95	-15917.96	-15915.57	-15925.05	-15882.45	-15903.59
AIC	32071.67	31885.89	31919.92	31915.15	31934.11	31848.9	31891.18
χ^2	-	193.76***	159.74***	164.52***	145.56***	230.76***	188.48***

The number of firm-year: 13,894, The number of firms: 2,174, Standard errors in parentheses
† *p* <.1 *p <.05 ** *p* <.01 *** *p* <.001

TABLE 8
Fixed Effect Estimation of Tobin's q with respect to Debt and Marketing Moderation

	Model 1 Base	Total Debt		Long-Term Debt		Short-Term Debt	
		Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	-4.468***	-4.175***	-4.456***	-4.083***	-4.432***	-4.374***	-4.432***
	(.356)	(.359)	(.358)	(.358)	(.357)	(.364)	(.360)
Prior Performance	-.009	-.013	-.006	-.013	-.008	-.006	-.001
	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)	(.013)
Industry Performance	.276	.251	.270	.260	.275	.239	.252
	(.417)	(.416)	(.417)	(.416)	(.417)	(.416)	(.416)
Industry Asset Intensity	-.090	-.084	-.088	-.081	-.087	-.079	-.080
	(.114)	(.114)	(.114)	(.114)	(.114)	(.113)	(.114)
Market Share (%)	1.152	1.135	1.129	1.141	1.138	1.158	1.131
	(1.566)	(1.561)	(1.565)	(1.563)	(1.566)	(1.557)	(1.562)
Market-to-Book Ratio	-.110***	-.105***	-.111***	-.106***	-.110***	-.111***	-.118***
	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Firm Size (# Employees)	-2.669***	-2.378***	-2.621***	-2.460***	-2.648***	-2.274***	-2.509***
	(.403)	(.404)	(.405)	(.405)	(.405)	(.403)	(.404)
Firm Age	-.462†	-.325	-.417	-.359	-.441†	-.259	-.317
	(.263)	(.260)	(.261)	(.261)	(.262)	(.255)	(.260)
Slack	-.001	-.001	-.002	-.001	-.001	-.001	-.001
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Free Cash Flow	.154	.188	.113	.182	.123	.152	.082
	(.252)	(.252)	(.253)	(.253)	(.253)	(.252)	(.253)
Under-issued Debt		-2.661***	-.933**	-2.194***	-.504	-18.647***	-11.870***
		(.404)	(.341)	(.468)	(.392)	(1.879)	(1.707)
Over-issued Debt		.626	.609	1.775	2.139	-.993	-1.263
		(1.919)	(2.041)	(2.440)	(2.641)	(1.054)	(1.088)
Marketing Activities		.197**	-.110	.152*	-.082	.096	-.198**
		(.073)	(.064)	(.071)	(.063)	(.071)	(.064)
Under-issued Debt × Marketing Activities		.823***		.836***		3.064***	
		(.104)		(.127)		(.366)	
Over-issued Debt × Marketing Activities			.825		.596		4.270
			(.997)		(1.138)		(4.995)
Year Dummies	Included	Included	Included	Included	Included	Included	Included
Firm Dummies	Included	Included	Included	Included	Included	Included	Included
AR(1)-DW	.467	.463	.465	.465	.466	.458	.464
Log Likelihood	-28443.73	-28396.93	-28436.06	-28413.68	-28439.99	-28361.62	-28410.11
AIC	56963.47	56877.86	56956.13	56911.35	56963.98	56807.25	56904.22
χ^2	-	193.76***	159.74***	164.52***	145.56***	230.76***	188.48***

The number of firm-year: 13,894, The number of firms: 2,174, Standard errors in parentheses
† $p < .1$ * $p < .05$ ** $p < .01$ *** $p < .001$