9-2011

The Impact of Brand Quality on Shareholder Wealth

Sundar G. BHARADWAJ
University of Georgia

Kapil R. TULI
Singapore Management University, kapilrtuli@smu.edu.sg

Andre BONFER
Australian National University
DOI: https://doi.org/10.1509/jmkg.75.5.88

The Impact of Brand Quality on Shareholder Wealth

Sundar G. Bharadwaj
Professor of Marketing
Goizueta Business School
Emory University
Atlanta, GA 30322
Ph: 404-727-2646
Fax: 404-727-3552
Email: Sundar_Bharadwaj@bus.emory.edu

Kapil R. Tuli
Assistant Professor of Marketing
Lee Kong Chian School of Business
Singapore Management University
Singapore 178899
Ph: 65-6828-0434
Fax: 65-6828-0777
Email: Kapilrtuli@smu.edu.sg

Andre Bonfrer*
Professor of Marketing
School of Management, Marketing and International Business
ANU College of Business and Economics
Australian National University
Acton, ACT 0200

Ph: 61-2612-57323
Fax: 61-2612-58796
Email: Andre.bonfrer@anu.edu.au

Published in Journal of Marketing, September 2011, Vol. 75, No. 5, pp. 88-104.
http://doi.org/10.1509/jmkg.75.5.88

*The authors contributed equally to the manuscript. The authors thank Marnik Dekimpe, Jin K. Han, Anirban Mukherjee, Raghunath Rao, John Roberts, and Maria Ana Vitorino for comments on earlier versions of the manuscript. The authors would also like to thank the Emory Marketing Institute and Harris Interactive for access to some of the data, and the Institute for Services Excellence at the Singapore Management University (ISES) for funding this project.

The Impact of Brand Quality on Shareholder Wealth

Abstract

This study examines the impact of changes in brand quality that are unanticipated by investors on three components of shareholder wealth: stock returns, systematic risk and idiosyncratic risk. The study finds that such changes in brand quality enhance shareholder wealth by being positively associated with stock returns and negatively related to changes in idiosyncratic risk. However, unanticipated changes in brand quality can also erode shareholder wealth as they have a positive association with changes in systematic risk. The study introduces a contingency theory view to the research in the marketing-finance interface by analyzing the moderating role of two factors that are widely followed by investors. The results show that when firms do not trade off increases in current period earnings for changes in brand quality, firms are rewarded with enhanced stock returns and lowered systematic risk. Similarly, brand quality is valuable for firms, since the positive impact of unanticipated increases in brand quality on stock returns is larger when facing increasing competition. The results are robust to endogeneity concerns and across alternative models. The authors conclude by discussing the nuanced implications of their findings for shareholder wealth, reporting brand quality to investors and its use in employee evaluation.

Key Words: Brand Quality, Stock Returns, Idiosyncratic Risk, Systematic Risk, Earnings, Industry Concentration, Marketing-Finance Interface

Perceived brand quality represents consumers' view of how well a brand meets their requirements and expectations (Mitra and Golder 2006). Firms devote significant resources to quality improvement programs and staff training (Rust, Zahorik, and Keiningham 1995) and voluntarily provide quality information (Guo and Zhao 2009) to improve consumer perceptions of brand quality.[1] Managers are also likely to align their pricing and advertising strategy (e.g., charge higher prices and place advertisements in high quality media vehicles) to increase brand quality (see also Kopalle and Lehmann 2006). Senior managers also discuss brand quality with investors. For example, recently, the EVP of Target Inc, identified improvements in brand quality as the reason for better performance (Earnings Conference Call, 11/17/2009). Given its managerial importance, it is vital to understand the effect of brand quality on shareholder wealth, as reflected in stock returns and the systematic and idiosyncratic risk of stock returns.

While extant literature examines the impact of brand quality on stock returns, it is relatively silent about its impact on the systematic and idiosyncratic risk of stock returns (see Table 1). For example, while Mizik and Jacobson (2004) examine the effects of brand quality on stock returns, they do not study its impact on risk. More recently, Mizik and Jacobson (2008) examine the impact of a related construct, brand esteem, on stock returns but do not study its impact on risk. Directly related to risk, Rego, Billet, and Morgan (2009) find that consumer based brand equity (CBBE) is associated with lower systematic and idiosyncratic risk.

[Insert Table 1 about here]

Brand quality is conceptually distinct from both brand esteem and CBBE. Brand quality is an important but distinct dimension of brand esteem, with leadership, regard, and reliability being others (Mizik and Jacobson 2008). Similarly, brand quality is conceptually distinct from

[1] For ease of exposition, we use 'brand quality' in place of 'perceived brand quality' from this point onward.

CBBE, which includes other dimensions, namely, awareness, purchase intentions, and distinctiveness (Rego, Billet, and Morgan 2009). Indeed, brand quality is considered a distinct and valuable marketing asset (e.g., Keller and Lehmann 2006; Rust et al. 2004). That brand quality is distinct construct is also reflected in literature that specifically examines its antecedents (e.g., Kopalle and Lehman 2006; Guo and Zhao 2009) and consequences (see Table 2).

Taken together, the current literature leaves us with a somewhat incomplete picture of the joint impact of brand quality on both stock returns and risk. Research needs to examine both these components of shareholder wealth. This is because while an asset might increase stock returns, it could also increase the risk of stock returns (e.g., Osinga et al. 2010; Tuzel 2010). As the global financial crises of 2008 demonstrate, investors and managers that judge performance only in terms of stock returns are likely to place more resources than warranted in risky opportunities and apply misguided performance evaluations (cf. Markowitz 1952, 1959). Accordingly, the current study has two objectives and seeks to make the following contributions:

First, this study seeks to jointly examine the impact of 'unanticipated changes' in brand quality on both stock returns and the changes in the systematic and the idiosyncratic risk of stock returns. Unanticipated changes in brand quality refer to the changes in brand quality that were not expected by investors.[2] The focus on unanticipated changes is consistent with the efficient market hypothesis that investors react only to new (unanticipated) information and all other information is already reflected in the current stock price (see Mizik and Jacobson 2004).

We test our hypotheses using a stock response model and a difference in risk metrics model on a database of 132 firms from multiple industries spanning a period of six years (2000-2005). The results highlight the importance of considering the risk and return implications of

[2] Unanticipated changes in brand quality do not mean that these changes are random and that managers did not work towards changing brand quality. Managers do take several initiatives that may not be visible to investors. As a result, outcomes of such initiatives (e.g., an increase in brand quality) are unanticipated for investors and hence not yet incorporated in the stock price

unanticipated changes in brand quality. We find that unanticipated changes in brand quality are positively associated with stock returns and negatively associated with changes in idiosyncratic risk. However, unanticipated changes in brand quality are also positively associated with changes in systematic risk, i.e., unanticipated increases (decreases) in brand quality can make stock returns more (less) sensitive to stock market movements. These results are salient for marketing managers for whom it is important to articulate the impact of marketing assets to senior management, investors, and analysts (see Swaminathan and Moorman 2009).

Second, the current study seeks to enable a richer understanding of the impact of unanticipated changes in brand quality on shareholder wealth by highlighting the moderating role of unanticipated changes in current-period earnings and industry concentration. We achieve this objective by developing hypotheses that integrate theoretical perspectives from accounting (e.g., Graham, Harvey, and Rajgopal 2005) and finance (e.g., Hou and Robinson 2006) with current literature in the marketing-finance interface (e.g., Bahadir, Bharadwaj, and Srivastava 2008). As such, this study is responsive to recent calls for identifying factors that moderate the effects of marketing assets on financial metrics (e.g., Kimbrough and McAlister 2009).

Consistent with the moderator hypotheses, we find that an unanticipated increase in current-period earnings enhances the positive impact of unanticipated changes in brand quality on stock returns but mitigates their deleterious effects on changes in systematic risk. Unanticipated changes in brand quality are also more valuable in more competitive industries (i.e., with unanticipated decreases in industry concentration) as their positive effects on stock returns are stronger and their deleterious effects on systematic risk are weaker in such industries. These results are of direct import to senior managers and analysts as they identify conditions under which investors are more or less responsive to unanticipated changes in brand quality.

Related Literature

Literature examining the financial performance impact of brand characteristics has a rich empirical precedence. Early work by Horsky and Swyngedouw (1987) examines the financial market impact of firm name changes (also see Lane and Jacobson 1995). Research using data on brand value from the Financial World magazine provides preliminary evidence of a positive association with firm market value (Kerin and Sethuraman 1998). Empirical research also shows that firm value as represented by Tobin's Q is positively related to corporate branding strategy (Rao, Agarwal and Dahlhoff 2004) and brand portfolio strategy (Morgan and Rego 2009).

A second stream of research explores the specific impact of brand quality on a number of consumer behavior and firm performance metrics (see Table 2). A focus on how brand quality impacts financial performance is important because of the central role it plays in marketing strategy. For example, marketing communications to enhance the perceived quality of a brand require higher investment in advertising, alignment of the communication with high quality media vehicles, and it takes a significant amount of time (see Mitra and Golder 2006).

[Insert Table 2 about Here]

As shown in Tables 1 and 2, prior studies on the financial outcomes of brand quality are primarily focused on stock returns, with little examination of the risk of stock returns. In addition, prior studies predominantly examine main effects and do not explore contingencies. Examining contingencies is critical for theory development and also better informs management practice. Accordingly, we develop hypotheses about the effect of unanticipated changes in brand quality on shareholder wealth, and the moderating role of unanticipated changes in current-period earnings and industry concentration.

Hypotheses

Stock Returns

Stock returns represent investors' expectations about a firm's future cash flows. Prior research identifies three key reasons for an unanticipated increase (decrease) in brand quality to be a signal of higher (lower) future cash flows (see Table 2). *First*, as quality increases, brands have a greater likelihood of being purchased and repurchased because it signals an increase in brand's credibility and reduces customers' perceived risk and information costs (Erdem, Swait and Valenzuela 2006). This impact on purchase and repurchase, in turn, leads to higher future cash flows. *Second*, cash flows also increase because consumers are willing to pay premium prices for higher quality brands (see Table 2). *Third*, marketing actions such as promotions and advertising are more effective for higher quality brands. As a result, an increase in brand quality signals potential costs savings, leading to higher future cash flows. Therefore, we expect:

H1: Unanticipated changes in brand quality are positively related to stock returns.

Systematic Risk

Systematic risk is the degree to which stock returns co-vary with the stock market returns. Firms that cushion themselves from the impact of stock market movements and deliver consistent cash flows enjoy lower systematic risk (McAlister, Srinivasan, and Kim 2007). Extant literature suggests two competing arguments about the effect of unanticipated changes in brand quality on changes in systematic risk, the *loyalty* argument and the *price premium* argument.

Loyalty argument. Since an increase in quality increases the probability of a customer choosing and continuing to purchase the brand, i.e., engenders brand loyalty (e.g., Dubé et al. 2008), it is likely to cushion the impact of market downturns on cash flows. During a downturn, as demand declines and cash flows of all firms are adversely affected, customers are likely to be

tempted with competitive offers through extensive promotions. However, loyal customers are less likely to be tempted by such offers (see Raju, Unnava, and Montgomery 2009). Thus, by fostering brand loyalty, increases in brand quality help firms attract and retain customers during a market downturn. The expected cash flows of such firms are therefore less affected by downturns. In contrast, a firm with a decline in brand quality suffers falls in cash flows not only due to market-wide factors but also due to the loss of customers. That is, the firm's future cash flows, and hence its stock returns, are more sensitive to market downturns. Therefore, we expect:

H2: Unanticipated changes in brand quality are negatively associated with changes in systematic risk

Price premium argument. A recent study argues that it is very difficult for firms to sell high quality brands at prices that consumers will perceive to be low (Morgan and Rego 2009). This is consistent with the argument that higher quality products/services cost more to produce because firms have to utilize better (and hence more expensive) inputs such as high quality ingredients and hire better qualified employees who demand higher wages (Rust, Moorman and Dickson 2002). Higher brand quality is not only viewed by consumers as a signal of higher price (Kirmani and Rao 2000; Rao 2005), but is actually associated with higher prices (see Table 2).

If higher brand quality is associated with higher prices, then unanticipated increases (decreases) in brand quality, are likely to make the brand more (less) vulnerable to downturns. This is because, during downturns, consumers become more price conscious (e.g., Estelami, Lehmann, and Holden 2001) and are likely to cut down on the purchase quantities of high quality brands. Loyal customers also tend to be price sensitive when making purchase decisions during downturns (Krishnamurthi and Raj 1991). Indeed, a recent study finds that store brands (lower quality) tend to outperform national brands (higher quality) during recessions (Lamey et al. 2007). In contrast, high quality brands benefit from market upswings as consumers buoyed by

the positive outlook are more likely to purchase them (e.g., Ward et al. 2002). This suggests that an unanticipated increase in brand quality is likely to make cash flows more vulnerable to stock market movements, that is, increase systematic risk. Therefore, we expect:

$H2_{alt}$: Unanticipated changes in brand quality are positively associated with changes in systematic risk

Idiosyncratic Risk

Idiosyncratic risk is the volatility in stock returns that cannot be explained by the stock market movements and, therefore, represents investor's uncertainty related to future cash flows (Fu 2009). We argue that unanticipated increases (decreases) in brand quality are likely to lower the volatility of future cash flows and therefore decrease (increase) idiosyncratic risk.

Since increases in brand quality increase customer loyalty, they are also likely to reduce a firm's vulnerability to competitive actions. This is because loyal customers are less likely to switch brands due to price reduction or other promotions by competitors (see Keller 1993; Klemperer 1995). High customer retention and low vulnerability to competitive actions, in turn, translate into lower volatility of cash flows as customers continue to purchase a firm's offerings.

Increasing brand quality also allows a firm to expand its offerings as customers are more likely to respond positively to their brand extensions (e.g., Echambadi et al. 2006). Such brand extensions diversify the sources of cash flows as a firm receives revenues from newer offerings and relies less on existing product/service categories. An increase in brand quality also allows a firm to license its brand across diverse categories. For example, Disney Inc, licenses its brands in categories as diverse as toys, movies, and apparel. Brand licensing, therefore, allows a firm with increasing brand quality to diversify its revenues with less set up costs. Accordingly, we expect:

H3: Unanticipated changes in brand quality are negatively associated with changes in idiosyncratic risk.

Moderating Role of Unanticipated Changes in Current-Period Earnings

Current-period earnings are viewed as the most important metric of the accounting system (Dichev and Tang 2008) and are widely followed by senior management (Graham, Harvey, and Rajgopal 2005). An unanticipated increase in current-period earnings is a signal that the future performance of a firm is likely to be better than current expectations (Dechow 1994). Consequently, investors, in general, react positively to unanticipated increases in current-period earnings (e.g., Dellavigna and Pollet 2009).

Pay-offs from intangible assets such as brand quality, are considered uncertain as their benefits generally accrue in the future (FASB 2001; SEC 2001). Therefore, if an unanticipated increase in brand quality is accompanied by an unanticipated increase in current-period earnings, it is a signal to investors that the firm is able to build brand quality without sacrificing its current and future performance. Unanticipated increases in earnings also suggest that a firm is likely to be able to invest in resources required to maintain and strengthen its brand quality (cf. Bahadir, Bharadwaj and Srivastava 2008). In contrast, an unanticipated increase in brand quality accompanied by an unanticipated decrease in current-period earnings is likely to indicate that the firm may not be able to invest in quality staff or equipment which could be the source of brand's quality associations. A strong quality brand without the resources to sustain and enhance quality faces the dilution of its existing advantage (Bharadwaj, Varadarajan and Fahy 1993).

Therefore, investors are likely to have a more favorable evaluation of the unanticipated increases in brand quality if these are accompanied by unanticipated increases in current-period earnings. Accordingly, the effects of unanticipated changes in brand quality on stock returns and changes in idiosyncratic risk are likely to be stronger in presence of unanticipated increases in current-period earnings. In addition, if unanticipated changes in brand quality have a negative

impact on changes in systematic risk (the loyalty argument) then these effects will be stronger in presence of unanticipated increases in current-period earnings. However, if unanticipated changes in brand quality have a positive effect on changes in systematic risk (the price premium argument), then owing to investors favorable evaluation, such effects will be weaker in presence of unanticipated increases in current-period earnings. Formally,

H4: The effect of unanticipated changes in brand quality on stock returns is more (less) positive when there is an unanticipated increase (decrease) in current-period earnings.

H5: The effect of unanticipated changes in brand quality on changes in systematic risk is more (less) negative when there is an unanticipated increase (decrease) in current-period earnings.

$H5_{alt}$: The effect of unanticipated changes in brand quality on changes in systematic risk is less (more) positive when there is an unanticipated increase (decrease) in current-period earnings.

H6: The effect of unanticipated changes in brand quality on changes in idiosyncratic risk is more (less) negative when there is an unanticipated increase (decrease) in current-period earnings.

Moderating Role of Unanticipated Changes in Industry Concentration

Research in finance frequently underscores the importance of industry concentration on investor's evaluation of a firm's stock price (e.g., Gaspar and Massa 2006; Hou and Robinson 2006). Industry concentration is key concept in industrial organization and competitive marketing strategy (Tirole 1988; Szymanski, Bharadwaj and Varadarajan 1993). It indicates the degree of competition in an industry such that higher (lower) industry concentration indicates lower (higher) competition. Therefore, an increase in industry concentration indicates high barriers to entry and low consumer choice (Giroud and Mueller 2010). Given the importance of competition and consumer choice to managers, scholars, and policy makers it is important to determine whether investors differ in their evaluation of unanticipated changes in brand quality across unanticipated changes in industry concentration.

As noted earlier, an unanticipated increase in brand quality raises the probability of customers choosing a brand and paying a higher price for it, and thereby increases future cash flows. Investors are likely to appreciate unanticipated increases in brand quality more for firms in industries where there is an unanticipated decrease in concentration. This is because an unanticipated decrease in industry concentration indicates that firms are likely to face higher competition and thus greater difficulty in increasing cash flows. Indeed, as industry concentration decreases, the pressure increases on managers to raise productivity and to innovate and differentiate their offerings to attract and retain customers (e.g., Hou and Robinson 2006). In contrast, an unanticipated increase in industry concentration indicates that customers have fewer choices and there is lower pressure on firms to differentiate their offerings. As a result, the value of an unanticipated increase in brand quality for an investor is likely to be lower, as compared to when there is an unanticipated decrease in industry concentration. Therefore, we expect:

H7: The effect of unanticipated changes in brand quality on stock returns is less (more) positive when there is an unanticipated increase (decrease) in industry concentration.

H8: The effect of unanticipated changes in brand quality on changes in systematic risk is less (more) negative when there is an unanticipated increase (decrease) in industry concentration.

$H8_{alt}$: The effect of unanticipated changes in brand quality on changes in systematic risk is more (less) positive when there is an unanticipated increase (decrease) in industry concentration.

H9: The effect of unanticipated changes in brand quality on changes in idiosyncratic risk is less (more) negative when there is an unanticipated increase (decrease) in industry concentration.

Methodology

Models and Estimation Procedure

Stock response model. We use a stock response model to assess the impact of unanticipated changes in brand quality on stock returns. This follows the underlying principle,

> "Because share returns reflect aggregate investor use of information, tests of association between performance metrics and returns shed light on the extent to which a given metric is a relatively good, or relatively poor, summary indicator of the information actually used by investors." (Francis, Schipper, and Vincent 2003, p. 126).

Following Srinivasan and Hanssens (2009), we start with the benchmark three-factor model (see Fama and French 1993):

$$(1) \quad (R_{ijT} - R_{fT}) = \alpha + \beta(R_{mT} - R_{fT}) + s(SMB_T) + h(HML_T) + \varepsilon_{SijT}$$

where,
- R_{ijT} = Compounded monthly stock returns of firm 'i' in industry 'j' for the year 'T'
- R_{fT} = 'Risk Free' rate of returns for the year 'T' calculated using U.S. Treasury Bonds
- R_{mT} = Stock Market Returns for the year 'T'
- SMB_T = Fama and French (1993) size portfolio returns for the year 'T'
- HML_T = Fama and French (1993) book-to-market value portfolio returns for the year 'T'
- ε_{SijT} = $a_i + a_j + v_{SijT}$, and $v_{SijT} \sim N(0, \sigma_S)$

Equation (1) is augmented with the unanticipated changes in accounting and marketing variables:

$$(2) \quad (R_{ijT} - R_{fT}) = \alpha + \beta(R_{mT} - R_{fT}) + s(SMB_T) + h(HML_T) + \gamma_{s1}(U\Delta BQ_{ijT}) + \gamma_{s2}(U\Delta EAR_{ijT}) + \gamma_{s3}(U\Delta IC_{jT}) + \gamma_{s4}(U\Delta TS_{ijT}) + \varepsilon_{SijT}$$

where,
- $U\Delta(BQ)_{ijT}$ = Unanticipated changes in brand quality of firm 'i' in industry 'j' during year 'T'
- $U\Delta(EAR)_{ijT}$ = Unanticipated changes in current-period earnings
- $U\Delta(IC)_{jT}$ = Unanticipated changes in industry concentration
- $U\Delta(TS)_{ijT}$ = Unanticipated changes in total sales

The significance of γ_{s1} in model (2) indicates whether unanticipated changes in brand quality provide information incremental to that provided by the Fama and French (1993) factors and the accounting variables. The full model that tests the main effect and moderator hypotheses is:

$$(3) \quad (R_{ijT} - R_{fT}) = \alpha + \beta(R_{mT} - R_{fT}) + s(SMB_T) + h(HML_T) + \gamma_{s1}(U\Delta BQ_{ijT}) + \gamma_{s2}(U\Delta EAR_{ijT}) + \gamma_{s3}(U\Delta IC_{jT}) + \gamma_{s4}(U\Delta TS_{ijT}) + \gamma_{s5}(U\Delta BQ_{ijT} * U\Delta EAR_{ijT}) + \gamma_{s6}(U\Delta BQ_{ijT} * U\Delta IC_{jT}) + \varepsilon_{SijT}$$

Risk models. We use models that include changes in systematic and idiosyncratic risk as the dependent variables and unanticipated changes in marketing and accounting metrics as the

independent variables. Since changes in a variable incorporate both current and lagged values, the use of changes in risk as dependent variables allows us to take into account the inertia in risk metrics (e.g., Lui, Markov and Tamayo 2007). Importantly, these models approximate a first differences model and are therefore consistent with recent recommendations that future research in marketing should not use levels models in the context of stock returns and related measures (see Mizik and Jacobson 2009, p. 321-322; Srinivasan and Hanssens 2009, p. 300). Specifically:

$$(4)\quad \Delta\beta_{ijT} = \delta + \gamma_{b1}(U\Delta BQ_{ijT}) + \gamma_{b2}(U\Delta BQ_{ijT}*U\Delta EAR_{ijT}) + \gamma_{b3}(U\Delta BQ_{ijT}*U\Delta IC_{jT}) + \gamma_{b4}(U\Delta EAR_{ijT}) + \gamma_{b5}(U\Delta IC_{jT}) + \gamma_{b6}(U\Delta TA_{ijT}) + \gamma_{b7}(U\Delta TS_{ijT}) + \gamma_{b8}(U\Delta DIV_{ijT}) + \gamma_{b9}(U\Delta LV_{ijT}) + \varepsilon_{\beta ijT}$$

$$(5)\quad \Delta IR_{ijT} = \omega + \gamma_{r1}(U\Delta BQ_{ijT}) + \gamma_{r2}(U\Delta BQ_{ijT}*U\Delta EAR_{ijT}) + \gamma_{r3}(U\Delta BQ_{ijT}*U\Delta IC_{jT}) + \gamma_{r4}(U\Delta EAR_{ijT}) + \gamma_{r5}(U\Delta IC_{jT}) + \gamma_{r6}(U\Delta TA_{ijT}) + \gamma_{r7}(U\Delta TS_{ijT}) + \gamma_{r8}(U\Delta DIV_{ijT}) + \gamma_{r9}(U\Delta LV_{ijT}) + \varepsilon_{RijT}$$

where,
- $\Delta\beta_{ijT}$ = $\beta_{ijT} - \beta_{ij(T-1)}$, the change in Systematic Risk of firm 'i' in industry 'j' in year 'T'
- ΔIR_{ijT} = $IR_{ijT} - IR_{ij(T-1)}$, the change in Idiosyncratic Risk
- $U\Delta TA_{ijT}$ = Unanticipated changes in Total Assets
- $U\Delta DIV_{ijT}$ = Unanticipated changes in Dividends Paid
- $U\Delta LV_{ijT}$ = Unanticipated changes in Financial Leverage
- $\varepsilon_{\beta ijT}$ = $a_i + a_j + v_{\beta ijT}$, and $v_{\beta ijT} \sim N(0, \sigma_\beta)$
- ε_{RijT} = $a_i + a_j + v_{RijT}$, and $v_{RijT} \sim N(0, \sigma_R)$

We follow Srinivasan et al. (2009) and use a fixed effects time-series panel model to estimate (3) - (5). This model uses the within transformation to account for time-invariant unobservables (firm and industry specific fixed effects) that could be correlated with independent variables (see Wooldridge 2009, p. 481). As such, this model addresses the potential endogeneity of independent variables that could arise from them being correlated with unobservables.

Data Collection & Measures

We use four different sources to collect data. The brand quality metric comes from Harris Interactive's EquiTrend database, one of few sources of longitudinal data for brand quality that is widely utilized in academic research (e.g., Aaker and Jacobson 1994; Clark, Doraszelski, and Draganska 2009; Mitra and Golder 2006; Mizik and Jacobson 2004; Rego, Billett, and Morgan 2009). Every year, Harris Interactive conducts an online survey of 20,000 to 43,000 consumers for approximately 1,000 brands. Each consumer is asked to rate a brand's perceived quality on a scale from 0 (unacceptable / poor quality) to 10 (outstanding / extraordinary quality), with each brand being rated by at least 1,000 consumers. For each brand, the brand quality score is the weighted average of consumer responses. The weights assigned are based on matching the sample's demographic composition to the demographic composition of the US.

Consistent with prior research, we include only those firms that are publicly listed 'mono-brand' firms, that is, firms with a single prominent brand (e.g., Mizik and Jacobson 2008). This is important because the quality ratings are available at the brand level whereas the stock returns and risk measures are at the firm level. In addition, we include only those firms that have at least two consecutive years of data in order to calculate the unanticipated changes in brand quality.

Data for daily and monthly stock returns were obtained from the Center of Research on Stock Prices (CRSP). Data for the value-weighted market portfolio, the Fama and French (1993) factors, Treasury bond rates, and the momentum factor were obtained from Dr. Kenneth French (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html). For accounting measures, we use the Standard and Poor's COMPUSTAT quarterly data file.

We align the quarterly COMPUSTAT data and the CRSP data to the brand quality data measured by Harris Interactive at the end of the first calendar quarter. The stock returns were

measured over the 12 months ending with March of the given year. The quarterly accounting data was aligned with the 12 months starting with the start of April in the preceding year to the end of March in the given year. For example, for the brand quality data released at the end of March 2001, the matching measure of stock returns was from the first trading day of April 2000 to the last trading date of March 2001. The accounting data was also aligned over the 4 quarters from fiscal quarter starting in or closest to April 2000 and ending in or closest to March 2001.

Stock returns. We use the compounded monthly returns over the 12 month period that corresponds to the time between the release of brand quality data by Harris Interactive (e.g., Mizik and Jacobson 2008). We denote this 12 month period as year 'T'.

(6) $$R_{ijT} = \prod^{l}_{m=k}(1+ret_{ijm})$$

Where, R_{ijT} is the stock return for firm 'i' in industry 'j' for the year 'T' and ret_{ijm} is the holding period return for firm 'i' in industry 'j' during month 'm'. 'l' is the first month at the start of the year 'T' and 'k' is the last month of the year 'T'.

Systematic and idiosyncratic risk. We use the Fama and French (1993) three factor model to obtain the measures of systematic and idiosyncratic risk. We estimate model (7) for each firm 'i' in industry 'j' during the 252 trading days (t) corresponding to the year 'T' for which the brand quality and accounting data are aligned and for which the stock returns are calculated. In model (7), β_{ijT} represents the systematic risk for a firm 'i' in industry 'j' for year 'T', while the idiosyncratic risk is the standard deviation of residuals from this model.

(7) $$(R_{ijt} - R_{ft}) = \alpha_{ijT} + \beta_{ijT}(R_{mt}-R_{ft}) + s_{ijT}(SMB)_t + h_{ijT}(HML)_t + E_{ijt}$$

where,
- α_{ijT} = Abnormal stock returns of firm 'i' in industry 'j' during year 'T'
- R_{ijt} = Daily return on stock of firm 'i' in industry 'j' on day 't'.
- R_{ft} = Daily risk free return on day 't'.
- R_{mt} = Daily return on a value-weighted market portfolio on day 't'
- $(SMB)_t$ = Returns from the Fama and French (1993) size portfolio on day 't'
- $(HML)_t$ = Returns from the Fama and French (1993) market-to-book portfolio on day 't'

(8) $$R_{ijt} = [(D_{ijt} + P_{ijt}) - P_{ij(t-1)}] / P_{ij(t-1)}$$

(9) $$R_{mt} = [L_t - L_{(t-1)}] / L_{(t-1)}]$$

where, D_{ijt} = Dividends from firm 'i' in industry 'j' on day 't'
P_{ijt} = Split adjusted stock price of firm 'i' in industry 'j' on day 't'.
L_t = Market price adjusted index of a value-weighted market portfolio comprising all stocks on NASDAQ, AMEX, and NYSE markets on day 't'.

Therefore, for each firm 'i' in industry 'j' for year 'T' we have the stock returns (R_{ijT}) and the corresponding values of the systematic (β_{ijT}) and idiosyncratic risk (IR_{ijT}) of stock returns.

Current-period earnings. We use operating income before depreciation (COMPUSTAT DATA ITEM 21) scaled by Total Assets (ITEM 2) as a measure of current-period earnings (e.g., Mizik and Jacobson 2008).

Industry Concentration. Following prior research, we use the Herfindahl concentration index as a measure of industry concentration (e.g., Hou and Robinson 2006). We use the SIC 4 digit code as an indicator of an industry and measure industry concentration at this level:

(10) $$IC_{jT} = \sum_{i=1}^{I} ms_{ijT}^2$$

where, ms_{ijT} is the market share of firm 'i' in industry 'j' at year 'T'.

Control variables. Table 3 outlines the control variables, their definitions, expected effects, and the literature supporting their inclusion in the models. To control for the expected stock returns, we use the excess stock market returns, size portfolio returns, and the book-to-market portfolio returns (see Srinivasan and Hanssens 2009). To account for marketing actions that could enhance sales, we control for a firm's sales growth.

[Insert Table 3 about here]

For the idiosyncratic and systematic risk models, we use Total Assets, Total Sales, Herfindahl concentration index, Dividend Payouts, and Financial Leverage as control variables. The inclusion of Dividend Payouts and Financial Leverage follows from research in finance and

accounting which shows that these variables are likely to have an impact on the systematic and idiosyncratic risk of stock returns (see Table 3).

Unanticipated Changes. Following recent literature (e.g., Mizik and Jacobson 2004, Srinivasan et al. 2009), we use a first-order autoregressive model to form time-based expectations about the accounting and marketing metrics, and use deviations from these expectations as a measure of the unanticipated changes in these metrics. Specifically:

$$(11) \quad Y_{ijT} = a_0 + \theta_1 Y_{ij(T-1)} + \eta_{ijT}$$

where, θ_1 is the first-order autoregressive coefficient depicting the persistence of the series. The unanticipated change in variable Y_{ijT} is the residual obtained from the estimation of (11). Model (11) is estimated for each variable using clustered standard errors (see Mizik and Jacobson 2009)

Results

Combining the four datasets yields 519 observations from 132 firms (see Table 4). The panel data cover a period of six years from 2000 to 2005, and is unbalanced. The observations come from six sectors: computers and telecommunications (15%), retail and apparel (30.2%), financial services (14.45%), consumer durables (12.5%), consumer non-durables (21.2%), and travel and transport (6.55%)[3]. Table 5 outlines the results of the models.

[Insert Tables 4 and 5 about Here]

Brand Quality and Stock Returns

Model fit diagnostics support the full model (including the moderating effects) over the main effects only model (likelihood ratio test, χ^2 (2) = 22.14, $p<.01$). Importantly, results in the

[3]Sectors comprise following SIC codes: *Computer and Telecommunications* (3570, 3571, 3663, 3674, 4812, 4813, 7370, 7372, 7373), *Retail and Apparel* (2300, 2320, 2330, 5211, 5311, 5331, 5399, 5411, 5531, 5661, 5700, 5731, 5812, 5912, 5940, 5944, 5945, 5990), *Financial Services* (6020, 6035, 6111, 6141, 6199, 6211, 6282, 6311, 6324, 6331, 6798), *Consumer Durables* (3011, 3089, 3420, 3540, 3559, 3630, 3651, 3711, 3861, 3944), *Consumer Non-Durables* (100, 2030, 2060, 2080, 2670, 2711, 2721, 2731, 2834, 2840, 2844, 2911, 3021, 4841, 7011, 7510, 7841), and *Travel and Transport* (4400, 4512).

full model support H1, that is, unanticipated changes in brand quality are positively associated with stock returns (γ_{s1} = .48, *p*<.*01*). In support of H4, we find that the interaction of unanticipated changes in brand quality and current-period earnings has a positive effect on stock returns (γ_{s5} = 8.18, *p*<.*01*). Supporting H7, the interaction of unanticipated changes in brand quality and industry concentration has a negative effect on stock returns (γ_{s6} = -13.65, *p*<.*01*).

To illustrate the impact of these interactions, we calculate the marginal effects of unanticipated changes in brand quality on stock returns and plot it against unanticipated changes in current-period earnings and industry concentration. Figure 1(a) shows that the positive effect of unanticipated changes in brand quality on stock returns becomes stronger when there is an unanticipated increase in current-period earnings. In contrast, the positive effects of unanticipated changes in brand quality on stock returns decrease when there is an unanticipated increase in industry concentration (see Figure 1b).

Parameter estimates for the control variables are in line with prior literature. Consistent with Srinivasan et al. (2009), we find that excess stock market portfolio returns have a positive impact on stock returns (β = .97, *p*< .*01*). Results of the Fama and French (1993) factors are also in line with expectations that smaller firms tend to do better than the stock market (s = .65, *p*<.*01*) and firms with higher book-to-market ratio do better than the stock market (h = .41, *p*<.*01*). Consistent with research in accounting (e.g., Kothari 2001), unanticipated changes in earnings (1.13, *p*<.*05*) and sales (.21, *p*<.*05*) have a positive impact on stock returns.

[Insert Figure 1 about here]

Brand Quality and Systematic Risk

Results support the full model as compared to a main effects only model (likelihood ratio test, χ^2 (2) = 13.69, *p*<.*01*). In line with the price-premium argument ($H2_{alt}$) we find that

unanticipated changes in brand quality are positively associated with changes in systematic risk (γ_{b1} = .26, $p<.05$). As shown in Figure 1(c), $H5_{alt}$ is also supported, that is, the impact of unanticipated changes in brand quality on changes in systematic risk is weaker (stronger) for unanticipated increases (decreases) in current-period earnings (γ_{b2} = -8.76, $p<.01$). H8 is also supported (see Figure 1(d)) as we find that the effect of unanticipated changes in brand quality on changes in systematic risk is stronger (weaker) for unanticipated increases (decreases) in industry concentration (γ_{b3}= 8.83, $p<.05$). We also find that unanticipated changes in sales have a negative effect (-.56, $p<.01$), in total assets have a positive effect (.24, $p<.10$), and those in dividend payouts have a negative impact on the changes in systematic risk (-2.08, $p<.05$).

Brand Quality and Idiosyncratic Risk

Consistent with H3, we find that unanticipated changes in brand quality are negatively related with changes in idiosyncratic risk (γ_{r1} = -.42, $p<.05$). We do not, however, find support for H6 and H9. Results for the control variables are largely in the expected direction. Unexpected increases in earnings soothe investors' concerns and lower idiosyncratic risk (-2.04, $p<.01$). We also find that unanticipated changes in sales have a positive effect (.27, $p<.10$), while those in total assets have a negative effect (-.39, $p<.10$) on changes in idiosyncratic risk. Finally, unanticipated changes in industry concentration also decrease idiosyncratic risk (-1.38, $p<.10$).

Sensitivity Analyses

Alternative model. We explicitly test the likelihood that the impact of unanticipated changes in brand quality on stock returns and changes in systematic and idiosyncratic risk could be mediated by the unanticipated changes in current-period earnings. We follow recent guidelines in the marketing literature (Zhao, Lynch and Chen 2010) and examine the statistical significance of the indirect effect of unanticipated changes in brand quality (the mediated

variable) on the outcomes (stock returns, systematic and idiosyncratic risks) via the mediator (unanticipated changes in current-period earnings) using the Preacher and Hayes (2008) bootstrapping procedure. In all three cases, the indirect effect is not significant, indicating that unanticipated changes in current-period earnings do not mediate brand quality's effect on the three outcome variables (the 95% bootstrap confidence interval for stock returns model was -.01 to .05; for systematic risk model was -.03 to .01 and for idiosyncratic risk model was -.06 to .31).

Carhart model. Studies in finance routinely use the Carhart (1997) model that includes a momentum factor to assess the robustness of their results to the use of Fama and French (1993) model. The momentum factor is defined as the difference in the returns of firms with high and low prior stock performance (Carhart 1997). Specifically, the following model (as opposed to model 3) can be used to test the stock returns hypotheses:

$$(12) \quad (R_{ijT} - R_{fT}) = \alpha + \beta(R_{mT} - R_{fT}) + s(SMB_T) + h(HML_T) + u(UMD)_T + \gamma_{s1}(U\Delta BQ_{ijT}) + \gamma_{s2}(U\Delta EAR_{ijT}) + \gamma_{s3}(U\Delta IC_{jT}) + \gamma_{s4}(U\Delta TS_{ijT}) + \gamma_{s5}(U\Delta BQ_{ijT} * U\Delta EAR_{ijT}) + \gamma_{s6}(U\Delta BQ_{ijT} * U\Delta IC_{jT}) + \varepsilon_{SijT}$$

Where, $(UMD)_T$ are the returns from the momentum factor for year "T", and other symbols have usual meanings. As shown in Table 6, our conclusions remain unchanged if we use this model.

[Insert Table 6 about here]

The Carhart (1997) model can also be estimated using daily returns to derive measures of systematic and idiosyncratic risk. Specifically, as opposed to model (7), the following model is used to estimate systematic (β_{ijT}) and idiosyncratic risk (standard deviation of residuals):

$$(13) \quad (R_{ijt} - R_{ft}) = \alpha_{ijT} + \beta_{ijT}(R_{mt} - R_{ft}) + s_{ijT}(SMB)_t + h_{ijT}(HML)_t + u_{ijT}(UMD)_t + E_{ijt}$$

As shown in Table 6, our substantive conclusions do not change when we use this model.

Endogeneity. A potential concern with the models in this study could be that brand quality is endogenous as firms with higher prior earnings, market capitalization, but lower prior systematic and idiosyncratic risk are more likely to have higher brand quality. In addition, it can be argued that current-period earnings are a function of prior market capitalization, systematic and idiosyncratic risk, and brand quality. Therefore, using three stage least square, we estimate a system of equations that takes into account the preceding arguments:

$$(14)\ (R_{ijT} - R_{fT}) = \alpha + \beta(R_{mT} - R_{fT}) + s(SMB_T) + h(HML_T) + \gamma_{s1}(U\Delta BQ_{ijT}) + \gamma_{s2}(U\Delta EAR_{ijT}) + \gamma_{s3}(U\Delta IC_{jT}) + \gamma_{s4}(U\Delta TS_{ijT}) + \gamma_{s5}(U\Delta BQ_{ijT}*U\Delta EAR_{ijT}) + \gamma_{s6}(U\Delta BQ_{ijT}*U\Delta IC_{jT}) + \varepsilon_{SijT}$$

$$\Delta\beta_{ijT} = \delta + \gamma_{b1}[U\Delta BQ_{ijT}] + \gamma_{b2}[U\Delta BQ_{ijT}*U\Delta EAR_{ijT}] + \gamma_{b3}(U\Delta BQ_{ijT}*U\Delta IC_{jT}) + \gamma_{b4}[U\Delta EAR_{ijT}] + \gamma_{b5}[U\Delta TA_{ijT}] + \gamma_{b6}[U\Delta TS_{ijT}] + \gamma_{b7}[U\Delta DIV_{ijT}] + \gamma_{b8}[U\Delta LV_{ijT}] + \gamma_{b9}[U\Delta IC_{jT}] + \varepsilon_{\beta ijT}$$

$$\Delta IR_{ijT} = \omega + \gamma_{r1}[U\Delta BQ_{ijT}] + \gamma_{r2}[U\Delta BQ_{ijT}*U\Delta EAR_{ijT}] + \gamma_{r3}(U\Delta BQ_{ijT}*U\Delta IC_{jT}) + \gamma_{r4}[U\Delta EAR_{ijT}] + \gamma_{r5}[U\Delta TA_{ijT}] + \gamma_{r6}[U\Delta TS_{ijT}] + \gamma_{r7}[U\Delta DIV_{ijT}] + \gamma_{r8}[U\Delta LV_{ijT}] + \gamma_{r9}[U\Delta IC_{jT}] + \varepsilon_{RijT}$$

$$BQ_{ijT} = \rho + \gamma_{bq1}[MCAP_{ij(T-1)}] + \gamma_{bq2}[\beta_{ij(T-1)}] + \gamma_{bq3}[IR_{ij(T-1)}] + \gamma_{bq4}[EAR_{ij(T-1)}] + \gamma_{bq5}[IC_{j(T-1)}] + \varepsilon_{BQijT}$$

$$EAR_{ijT} = \sigma + \gamma_{e1}[MCAP_{ij(T-1)}] + \gamma_{e2}[\beta_{ij(T-1)}] + \gamma_{e3}[IR_{ij(T-1)}] + \gamma_{e4}[BQ_{ij(T-1)}] + \gamma_{e5}[IC_{j(T-1)}] + \varepsilon_{EARijT}$$

where, $MCAP_{ijT}$ = Log of Market Capitalization of firm 'i' in industry 'j' at the end of year T, and other symbols have the usual meanings. As shown in Table 6, our basic conclusions remain unchanged when the preceding model is used. We also find that earnings at (T-1) have a positive impact (3.55, $p<.01$) and systematic risk at (T-1) has a negative impact (-.14, $p<.05$) on brand

quality. In addition, brand quality at (T-1) has a positive effect on earnings at T (.05, $p<.01$). Results for other variables are also as expected, market capitalization has a positive impact (.01, $p<.05$), and systematic risk has a negative impact (-.04, $p<.01$) on earnings.

Using additional controls. We also test for the impact of endogeneity by including three additional control variables, brand awareness, marketing spending, and R&D expenses that are likely to have an impact on stock returns and risk (e.g., McAlister, Srinivasan, and Kim 2007; Mizik 2010). This follows the logic that unanticipated changes in brand quality could be correlated with unobservable factors and inclusion of additional control variables could test the robustness of results to the exclusion of such variables (see Mizik and Jacobson 2008, p. 29). Data on brand awareness were obtained from Harris Interactive, while those for marketing spending and R&D were obtained from COMPUSTAT. Following Mizik (2010), we subtract a firm's R&D expenses (COMPUSTAT DATA ITEM 4) from its SG&A expenses (ITEM 1) to obtain marketing spending. Both marketing spending and R&D expenses are scaled by total assets (see McAlister, Srinivasan, and Kim 2007). We calculate the unanticipated changes in these variables using model (11), and use them as additional controls in models (3) – (5). As shown in Table 6, our basic conclusions remain unchanged.

Removing outliers. We also assess the robustness of our results by removing the +/- 5 percentile residuals obtained from the estimation of the three models (3) – (5). As shown in Table 6, our basic conclusions do not change when such residuals are removed from the dataset.

Discussion

The current study adds to the literature on the marketing-finance interface by examining the effects of unanticipated changes in brand quality on shareholder wealth and identifying two contingencies that moderate this relationship. A few limitations of the study, however, must be

acknowledged. The current study does not explicitly control for other brand-related metrics such as brand esteem and brand equity. These variables could have an impact on stock returns, be correlated with brand quality, and therefore lead to omitted variable bias. However, such a bias is unlikely to be a serious concern in the present context. Unanticipated changes in brand esteem do not have a significant effect on stock returns (Mizik and Jacobson 2008). Therefore, the lack of brand esteem as a control is unlikely to result in omitted variable bias. As noted in the sensitivity analyses, the use of additional controls also does not change our results. Finally, the use of a fixed-effects panel data model accounts for firm-specific unobservables and therefore, is likely to mitigate omitted variable bias (see Wooldridge 2009).

Another potential limitation of the study is the short time frame of the data considered (2000-2005). While the length of the time frame is unlikely to bias our conclusions, future studies could utilize a long time-series and examine whether the impact of unanticipated changes in brand quality on shareholder wealth varies across economic expansions and recessions.

Implications for Marketing Theory

The hypotheses and empirical results in the current study have several implications for the research in the marketing-finance interface. *First*, the study brings to fore the importance of examining both the risk and returns implications of marketing metrics. We find that while unanticipated changes in brand quality can enhance stock returns and lower idiosyncratic risk, they can also make a firm's stock returns more vulnerable to the stock market movements. This finding resonates with the recent anecdotal evidence that companies with higher quality were hurt more during the recent recession. For example, recently P&G said it was, "cutting prices and increasing promotions across nearly 10% of its household brands in a bid to raise volume sales

and its market share. The company lost market share for key brands during the recession, as consumers traded down from its pricier offerings." (Wall Street Journal Online, 10/30/2009).

Second, the current study advances a contingency theory of the marketing-finance interface. Results strongly support the argument that investors view unanticipated increases in brand quality less favorably if accompanied by decreases in current-period earnings because it is a signal that a firm does not have the resources to maintain and enhance its brand quality (see Figure 1a and 1c). Indeed, the financial press has started to highlight that well known high quality brands (e.g., Reader's Digest and Blockbuster) are likely to disappear due to the lack of resources to support them (24/7 Wall Street Journal, 2010).

We also find that unanticipated increases in brand quality become more valuable as competition increases, i.e., unanticipated decreases in industry concentration (see Figure 1b and 1d). This result adds to the emerging empirical literature on the resource based view in marketing that identifies other marketing metrics (e.g., relationship multiplexity) that are more valuable in competitive environments (e.g., Tuli, Bharadwaj and Kohli 2010). Future research, therefore, should not only look at the main effects of marketing metrics on stock returns and risk, but also consider the moderating effects of both firm and industry level factors.

Third, results of this study underscore the differences in the impact of individual marketing assets and instruments on shareholder wealth. While unanticipated changes in brand quality have a positive impact on changes in systematic risk, advertising (McAlister, Srinivasan, and Kim 2007) and brand equity (Rego, Billet, and Morgan 2009) lower systematic risk.

McAlister, Srinivasan, and Kim (2007) argue that advertising enhances brand equity, which, in turn, lowers systematic risk. The opposite conclusion in this study could be due to the difference between the impact of advertising on brand equity and brand quality. Brand quality is

one dimension of brand equity, an aggregate construct with other dimensions such as awareness, purchase consideration, and distinctiveness (Rego, Billet, and Morgan 2009). The impact of advertising on brand equity, and therefore systematic risk, could be driven by its impact on other components of brand equity. Indeed, a recent study finds that advertising has a significant impact on brand awareness, but not on brand quality (Clark, Doraszelski, and Draganska 2009).

Similarly, while the current study finds a significant impact of unanticipated changes in brand quality on stock returns, Mizik and Jacobson (2008) do not find a significant effect of unanticipated changes in brand esteem. Brand esteem is also an aggregate construct that includes quality as one dimension, others being, leadership, regard, and reliability. In summary, the differences between the results of this study and others that examine related constructs indicate that the effects of individual brand attributes on shareholder wealth are likely to differ.

Finally, the positive impact of unanticipated changes in brand quality on stock returns in this study combined with results of prior studies (see Table 1) suggests that the value relevance of brand quality could be viewed as an empirical generalization.

Implications for Managers

Disclosure of brand quality. The significant effects of unanticipated changes in brand quality on stock returns and changes in risk metrics support the practice of firms discussing brand quality with investors. However, as shown in Figure 1, investors are likely to be less responsive to unanticipated changes in brand quality in the presence of unanticipated decreases in current-period earnings or for firms facing unanticipated increases in industry concentration. Managers facing such conditions, therefore, need to be cognizant of the impact of these factors. This also suggests that managers need to explore options in framing their disclosure of brand quality information in a manner that is likely to make the investors appreciate brand quality even

in the presence of unanticipated decreases (increases) in current-period earnings (industry concentration). For example, in disclosing brand quality under such circumstances, managers could articulate its long-term benefits (e.g., higher loyalty and lower price sensitivity) to convince investors of importance of brand quality. Clearly, this is a preliminary conjecture and future research could be directed at examining how alternative ways of framing the disclosure of marketing metrics could elicit better responses from investors under conditions such as unanticipated decreases in earnings.

Reporting brand quality. The significant impact of unanticipated changes in brand quality on shareholder wealth also implies that perhaps brand quality should be measured and disclosed regularly in the annual Securities and Exchange Commission (SEC) filings by firms (cf. Wiesel, Skiera, and Villanueva 2008). However, the statistical significance of a metric is only a starting point in the discussion for inclusion in SEC filings. Other criteria such as a cost-benefit analysis, reliability, and comparability also need to be evaluated (see Lambert 1998). Since the disclosures of such intangible assets are usually discretionary and are not standardized by GAAP, they impede a clear understanding of their value to investors. Marketers, therefore, need to develop industry wide standards to measure marketing metrics and encourage adoption by the financial community. The emerging initiative of the Marketing Standards and Accounting Board seems to be a step in that direction.

Risk implications. The impact of unanticipated changes in brand quality on changes in risk alerts senior managers to its risk implications. On the positive side, the negative impact on changes in idiosyncratic risk is general and not conditional on the two moderators examined. This result is important as idiosyncratic risk is a key metric that is widely followed by managers, financial analysts and investors (Goyal and Santa Clara 2003). Indeed, high idiosyncratic risk

can put the survival of a firm at risk, hamper efforts to acquire or divest firm stock, and affect the value of stock options (e.g., Clayton, Hartzell, and Rosenberg 2005).

However, the positive impact of unanticipated changes in brand quality on changes in systematic risk suggests that senior management needs to be aware of the risk-return tradeoffs. An increase in systematic risk implies that the stock returns expected by investors also increase because systematic risk is a key determinant of returns expected by investors and analysts (Brealey, Myers, and Allen 2008)[4]. Consider a case where the annual risk free rate of return is 1% and stock market return is 5%. The expected returns from firm with systematic risk of 1 will be 5%. We find that a unit increase in brand quality results in an increase of .26 units in systematic risk. Therefore, the returns expected by investors for a firm whose systematic risk increases from 1 to 1.26 would increase from 5% to 6.04%, an increase of almost 21%. Similarly, systematic risk increases the cost of capital and is used by 80% of financial managers in their calculations for the same (Graham and Harvey 2001). Senior managers, therefore, need to be alert to these secondary effects of changes in brand quality on investor expectations and cost of capital.

In summary, the challenge for managers is to harvest the benefits of brand quality without increasing systematic risk. Results suggest that the deleterious impact of unanticipated changes in brand quality on changes in systematic risk is mitigated in the presence of unanticipated increases in current-period earnings. Consequently, managers need to adopt a joint focus on building brand quality and ensuring that current-period earnings are not compromised.

Employee evaluation. Firms frequently use brand quality related measures for performance evaluation as it is a forward looking measure (e.g., Campbell 2008; Luft 2009). The

[4] According to Brealey, Myers, and Allen (2008, p. 214):
Expected Returns = Risk Free Rate of Return + Systematic Risk*(Market Return – Risk Free Rate of Return).

results of the moderator analyses suggest that in using brand quality as an employee evaluation tool, senior managers need to ensure that employees do not abuse incentive mechanisms by sacrificing current-period earnings to augment brand quality. Indeed, recent research suggests that employees tend to adopt short-term initiatives (e.g., discounts) to enhance their performance in terms of non-financial measures (see Marginson et al. 2010).

In addition, managers in firms faced with unanticipated increases in industry concentration cannot afford to be complacent about brand quality improvements, since the impact on systematic risk can be magnified in such conditions. Conversely, the finding that improvements in brand quality are more valuable in more competitive markets bodes well for marketing managers in demonstrating the value of marketing investments in brand quality to senior management. In fact, research suggests that non-financial performance measures are more likely to be used by firms in more competitive industries (Banker and Mashruwala 2007).

Conclusion

The impact of brand quality on shareholder wealth is of relevance to managers, investors, and marketing research. The hypotheses and results in this study elaborate on several issues of managerial importance and bring to the fore issues that need scholarly investigation. We hope that this study provides an impetus for further research on this important topic.

References

24/7 Wall Street, http://247wallst.com/2010/06/15/247-wall-st-ten-brands-that-will-disappear-in-2011

Aaker, David and Robert Jacobson (1994), "The Financial Information Content of Brand Quality," *Journal of Marketing Research,* 31 (2), 191-201.

Allenby, Greg M. and Peter E. Rossi (1991), "Quality Perceptions and Asymmetric Switching Between Brands," *Marketing Science*, 10 (3), 185–204.

Bahadir, Cem S., Sundar G. Bharadwaj and Rajendra Srivastava (2008), "Financial Value of Brands in Mergers and Acquisitions: Is Value in the Eye of the Beholder?" *Journal of Marketing*, 72 (6), 49-64.

Balachander Subramanian and Axel Stock (2009), "Limited Edition Products: When and When Not to Offer Them," *Marketing Science*, 28 (2), 336 – 355.

Banker Rajiv D. and Raj Mashruwala (2007), "The Moderating Role of Competition in the Relationship between Nonfinancial Measures and Future Financial Performance," *Contemporary Accounting Research*, 24 (3), 763-793.

Beaver, William, Paul Kettler and Myron Scholes (1970), "The Association Between Market-Determined and Accounting Determined Risk Measures," *Accounting Review*, 45 (October), 654-682.

Bharadwaj, Sundar, Rajan Varadarajan and John Fahy (1993), "Sustainable Competitive Advantage in Service Industries: A Conceptual Model and Research Propositions," *Journal of Marketing*, 57 (4), 83-99.

Boulding, William, Ajay Kalra, and Richard Staelin (1999), "The Quality Double Whammy," *Marketing Science*, 18 (4), 463 – 484.

Brealey, R., S. Myers and F. Allen (2008), *Principles of Corporate Finance*, Irwin/McGraw-Hill, New York.

Campbell, Dennis (2008), "Nonfinancial Performance Measures and Promotions-Based Incentives," *Journal of Accounting Research*, 46 (2), 297-332.

Carhart, Mark (1997), "On Persistence in Mutual Fund Performance," *Journal of Finance*, 52 (1), 57-82.

Clark, Robert, Ulrich Doraszelski and Michaela Draganska (2009), "The Effect of Advertising on Brand Awareness and Perceived Quality: An Empirical Investigation Using Panel Data," *Quantitative Marketing and Economics*, 7 (2), 207-236.

Clayton, Matthew C., Jay C. Hartzell, and Joshua Rosenberg (2005), "The Impact of CEO Turnover on Equity Volatility," *The Journal of Business*, 78 (5), 1779-1808.

Dechow, Patricia M. (1994), "Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals," *Journal of Accounting and Economics*, 18 (1), 3-42

DellaVigna, Stephano and Joshua Pollet (2009), "Investor Inattention and Friday Earnings Announcements," *The Journal of Finance*, 64 (2), 709-749.

Dhar, K., Sanjay and Stephen J. Hoch (1997), "Why Store Brand Penetration Varies by Retailer," *Marketing Science*, 16 (3), 208-227.

Dichev, Ilia D. and Vicki Wei Tang (2008), "Matching and the Changing Properties of Accounting Earnings Over the Last 40 years," *The Accounting Review*, 83 (November), 1425-1460.

Dubé, Jean-Pierre, Günter J. Hitsch, Peter E. Rossi and Maria Ana Vitorino (2008), "Category Pricing with State-Dependent Utility," *Marketing Science*, 27 (3), p.417 – 429.

Echambadi, Raj, Inigo Arroniz, Werner Reinartz and Junsoo Leed (2006), "Empirical Generalizations From Brand Extension Research: How Sure Are We?" *International Journal of Research in Marketing*, 23 (3), 253-261

Erdem, Tülin, Joffre Swait, and Ana Valenzuela (2006), "Brands as Signals: A Cross Country Validation Study," *Journal of Marketing*, 70 (1), 34-49.

----, Michael P. Keane and Baohung Sun (2008), "A Dynamic Model of Brand Choice When Price and Advertising Signal Product Quality," *Marketing Science*, 27 (6), 1111-1125.

Estelami, Hooman, Donald R. Lehmann and Alfred C. Holden (2001), "Macro-Economic Determinants of Consumer Price Knowledge: A Meta-Analysis of Four Decades Of Research," *International Journal of Research in Marketing*, 18 (4), 341-355.

Fama, Eugene and Kenneth French (1993), "Common Risk Factors in the Returns on Stock and Bonds," *Journal of Financial Economics*, 33 (1), 3-56.

Financial Accounting Standards Board (2001), *Goodwill and Other Intangible Assets*, Statement of Financial Accounting Standard No. 142. Norwalk, CT: FASB.

Fu, Fangjian (2009), "Idiosyncratic Risk and the Cross-Section of Expected Stock Returns," *Journal of Financial Economics*, 91 (1), 24-37.

Francis, Jennifer, Katherine Schipper and Linda Vincent (2003), "The Relative and Incremental Explanatory Power of Earnings and Alternative (to Earnings) Performance Measures for Returns," *Contemporary Accounting Research,* 20 (1), 121-164.

Gaspar, J. and M. Massa (2006), "Idiosyncratic Volatility and Product Market Competition," *Journal of Business*, 79 (6), 3125–152.

Giroud Xavier and Holger M. Mueller (2010), "Corporate Governance, Product Market Competition, and Equity Prices," *Journal of Finance, Forthcoming*

Goyal Amit and Pedro Santa-Clara (2003), "Idiosyncratic Risk Matters!" *The Journal of Finance*, 58 (3), 975-1007.

Graham, John R. and Campbell R. Harvey (2001), "The Theory and Practice of Corporate Finance: Evidence From the Field," *Journal of Financial Economics*, 60 (1), 187-243

----, ----, and Shiva Rajgopal (2005), "The Economic Implications of Corporate Financial Reporting," *Journal of Accounting and Economics*, 40 (December), 3-73.

Guo, Liang and Ying Zhao (2009), "Voluntary Quality Disclosure and Market Interaction," *Marketing Science,* 28 (3), 488-501.

Hong Gwangheon, and Sudipto Sarkar (2007), "Equity Systematic Risk (Beta) and Its Determinants," *Contemporary Accounting Research*, 24 (2), 423-466.

Horsky Dan and Patrick Swyngedouw (1987), "Does it Pay to Change Your Company's Name? A Stock Market Perspective," *Marketing Science,* 6 (Fall), 320-335.

Hou, Kewei and David T. Robinson (2006), "Industry Concentration and Average Stock Returns," *Journal of Finance,* 61 (4), 1927-1956.

Keller, Kevin Lane (1993), "Conceptualizing, Measuring, and Managing Customer-Based Brand Equity," *Journal of Marketing*, 57 (1), 1-22.

----, and Donald R. Lehmann (2006), "Brands and Branding: Research Findings and Future Opportunities," *Marketing Science,* 25 (6), 740-759.

Kerin Roger A. and R. Sethuraman (1998), "Exploring the Brand Value — Shareholder Value Nexus for Consumer Goods Companies," *Journal of the Academy of Marketing Science,* 26 (4), 260–273.

Kimbrough, Michael D. and Leigh McAlister (2009), "Linking Marketing Actions to Value Creation and Firm Value: Insights from Accounting Research," in Commentaries and Rejoinder to "Marketing and Firm Value: Metrics, Methods, Findings, and Future Directions" by Srinivasan and Hanssens (2009), *Journal of Marketing Research*, 46 (3), 313-329.

Kirmani, Amna and Akshay Rao (2000), "No Pain, No Gain: A Critical Review of the Literature on Signaling Unobservable Product Quality," *Journal of Marketing*, 64 (2), 66-79.

Klemperer, Paul (1995), "Competition When Consumers Have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics and International Trade," *The Review of Economic Studies*, 62 (4), 515-539.

Kopalle, Praveen K. and Donald R. Lehmann (2006), "Setting Quality Expectations When Entering a Market: What Should the Promise Be?" *Marketing Science*, 25 (1), 8-24.

Kothari, S. P. (2001), "Capital Markets Research in Accounting," *Journal of Accounting and Economics*, 31 (September), 105-231.

Krishnamurthi Laxman and S.P. Raj (1991), "An Empirical Analysis of the Relationship Between Brand Loyalty and Consumer Price Elasticity," *Marketing Science*, 10 (2), 172–183.

Lambert, Robert (1998), "Customer Satisfaction and Future Financial Performance: Discussion of: Are Nonfinancial Measures Leading Indicators of Financial Performance?" *Journal of Accounting Research*, 36 (Supplement), 36-46.

Lamey, Lien, Barbara Deleersnyder, Marnik G. Dekimpe and Jan-Benedict E.M. Steenkamp (2007), "How Business Cycles Contribute to Private-Label Success: Evidence from the United States and Europe," *Journal of Marketing*, 71 (1), 1-15.

Lane Vicki and Robert Jacobson (1995), "Stock Market Reactions to Brand Extension Announcements: The Effects of Brand Attitude and Familiarity," *Journal of Marketing*, 59 (1), 63–77.

Luft, Joan (2009), "Nonfinancial Information and Accounting: A Reconsideration of Benefits and Challenges," *Accounting Horizons*, 23 (3), 307-325.

Lui, Daphne, S. Markov, and A. Tamayo (2007), "What Makes a Stock Risky? Evidence from Sell-Side Analysts' Risk Ratings," *Journal of Accounting Research*, 45 (3), 629-665.

Marginson, David, Laurie McAulay, Melvin Roush and Tony Van Zijl (2010), "Performance Measures and Short-Termism: An Exploratory Study," *Accounting and Business Research*, 40 (4), 353-370.

Markowitz, Henry, (1952), "Portfolio Selection," *Journal of Finance*, 7 (1), 77-91.

----, (1959), *Portfolio Selection: Efficient Diversification of Investments*, Willey and Sons, New York.

McAlister, Leigh, Raji Srinivasan and Min Chung Kim (2007), "Advertising, Research and Development, and Systematic Risk of the Firm," *Journal of Marketing*, 71 (1), 35-48.

Mitra, Debanjan and Peter N. Golder (2006), "How Does Objective Quality Affect Perceived Quality? Short-Term Effects, Long-Term Effects, and Asymmetries," *Marketing Science*, 25 (3), 230-47.

Mizik, Natalie (2010), "The Theory and Practice of Myopic Marketing," *Journal of Marketing Research*, 46 (4), 594-611.

----, and Robert Jacobson (2004), "Stock Return Response Modeling In Assessing Marketing Strategy Performance: How Do We Get There?" in *Assessing Marketing Strategy Performance*, Eds. Christine Moorman and Donald Lehmann, Marketing Science Institute, Cambridge, MA.

----, and ---- (2008), "The Financial Value Impact of Perceptual Brand Attributes," *Journal of Marketing Research*, 45 (1), 15-32.

----, and ---- (2009) "Financial Markets Research in Marketing," in Commentaries and Rejoinder to "Marketing and Firm Value: Metrics, Methods, Findings, and Future Directions" by Srinivasan and Hanssens (2009), *Journal of Marketing Research*, 46 (3), 320-324.

Morgan Neil A. and Lopo Rego (2009), "Brand Portfolio Strategy and Firm Performance," *Journal of Marketing*, 73 (1), 59-74.

Osinga Ernst C., Peter S.H. Leeflang, Shuba Srinivasan and Jaap E. Wieringa (2010), "Why Do Firms Invest in Consumer Advertising with Limited Sales Response? A Shareholder Perspective," *Journal of Marketing, Forthcoming*.

Preacher, Kristopher and Andrew Hayes (2008), "Asymptotic and Resampling strategies for assessing and comparing indirect effects in multiple mediator models," *Behavior Research Methods*, 40 (3), 879-91.

Raju, Sekar, H. Rao Unnava and Nicole V. Montgomery (2009), "The Moderating Effect of Brand Commitment on the Evaluation of Competitive Brands," *Journal of Advertising*, 38 (2), 21-36.

Randall, Taylor, Karl Ulrich and David Reibstein (1998), "Brand Equity and Vertical Product Line Extent," *Marketing Science*, 17 (4), 356-379.

Rao, Akshay (2005), "The Quality of Price as a Quality Que," *Journal of Marketing Research*, 42 (4), 401-405

Rao, Vithala R., Manoj K. Agarwal and Denise Dahlhoff (2004), "How Is Manifest Branding Strategy Related to the Intangible Value of a Corporation?" *Journal of Marketing*, 68 (4), 126–141.

Rego, Lopo L., Matthew Billett and Neil Morgan (2009), "Consumer-Based Brand Equity and Firm Risk," *Journal of Marketing*, 73 (6), 47-60.

Rust, Roland T., Anthony J. Zahorik and Timothy L. Keiningham (1995), "Return on Quality (ROQ): Making Service Quality Financially Accountable," *Journal of Marketing*, 59 (1) 58-70.

---, Christine Moorman and Peter Dickson (2002), "Getting Return on Quality: Revenue Expansion, Cost Reduction, or Both?" *Journal of Marketing*, 66 (4), 7-24.

----, Tim Ambler, Gregory S. Carpenter, V. Kumar and Rajendra K. Srivastava (2004), "Measuring Marketing Productivity: Current Knowledge and Future Directions," *Journal of Marketing*, 68 (4), 76-89.

Securities and Economics Commission (2001), *Current Accounting and Disclosure Issues*, Division of Corporate Finance, Washington, D.C.:SEC.

Shaffer, Greg and John Z. Zhang (2002), "Competitive One-to-One Promotions," *Management Science*, 48 (9), 1143-1160.

Sivakumar K. and S.P. Raj (1997), "Quality Tier Competition: How Price Change Influences Brand Choice and Category Choice," *Journal of Marketing*, 61 (3), 71-84.

Srinivasan, Shuba and Dominique M. Hanssens (2009), "Marketing and Firm Value," *Journal of Marketing Research*, 46 (3), 293-312.

----, Koen Pauwels, Jorge Silva-Risso and Dominique M. Hanssens (2009), "Product Innovations, Advertising, and Stock Returns," *Journal of Marketing*, 73 (1), 24-43.

Steenkamp, Jan-Benedict E.M., Rajeev Batra and Dana Alden (2003), "How Perceived Brand Globalness Creates Brand Value," *Journal of International Business Studies*, 34 (1), 53-65.

Sullivan, Mary (1998), "How Brand Names Affect the Demand for Twin Automobiles," *Journal of Marketing Research*, 35 (2), 154-165.

Swait, Joffre and Tulin Erdem (2007), "Brand Effects on Choice and Choice Set Formation Under Uncertainty," *Marketing Science*, 26 (5), 679-697.

Swaminathan, Vanitha and Christine Moorman (2009), "Marketing Alliances, Firm Networks, and Firm Value Creation," *Journal of Marketing*, 72 (5), 52-69.

Szymanski, David M., Sundar G. Bharadwaj and P. Rajan Varadarajan (1993), "An Analysis of the Market Share-Profitability Relationship," *Journal of Marketing*, 57 (3), 1-18.

Tirole, J. (1988), *The Theory of Industrial Organization*, MIT Press, Cambridge, MA.

Tuli, Kapil R., Sundar G. Bharadwaj and Ajay K. Kohli (2010), "Ties That Bind: The Impact of Multiple Types of Ties with a Customer on Sales Growth and Sales Volatility," *Journal of Marketing Research*, 47 (1), 36-50.

Tuzel, S. (2010), "Corporate Real Estate Holdings and the Cross-Section of Stock Returns," *Review of Financial Studies*, 23 (6), 2268-2302.

Ward, Michael B., Jay P. Shimshack, Jeffrey M. Perloff and J. Michael Harris (2002), "Effect of the Private-Label Invasion in Food Industries," *American Journal of Agricultural Economics*, 84 (November), 961–73.

Wiesel Thorsten, Bernd Skiera and Julian Villanueva (2008), "Customer Equity: An Integral Part of Financial Reporting," *Journal of Marketing*, 72 (2), 1-14.

Wooldridge, Jeffrey (2009), *Introductory Econometrics*, Thompson Higher Education, Mason-OH.

Zhao, Xinshu, John Lynch and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis," *Journal of Consumer Research, Forthcoming*.

Table 1
The Impact of Brand Quality and Related Constructs on Shareholder Wealth

		Components of Shareholder Wealth			Moderators Identified
Study	**Construct Examined**	**Stock Returns**	**Systematic Risk**	**Idiosyncratic Risk**	
Aaker and Jacobson (1994)	Brand Quality	**Significant Positive Effect**	*Not Examined*	*Not Examined*	*Not Examined*
Mizik and Jacobson (2004)	Brand Quality	**Significant Positive Effect**	*Not Examined*	*Not Examined*	*Not Examined*
Mizik and Jacobson (2008)[+]	Brand Esteem	**Effect is Not Significant**	*Not Examined*	*Not Examined*	*Not Examined*
Rego, Billet, and Morgan (2009)[++]	Consumer Based Brand Equity	*Not Examined*	**Significant Negative Effect**	**Significant Negative Effect**	*Not Examined*
Current Study	Brand Quality	Significant Positive Effect	Significant Positive Effect	Significant Negative Effect	Unanticipated Changes in Current-Period Earnings and Industry Concentration

[+]Mizik and Jacobson (2008) also examine the impact of other brand attributes such as differentiation, relevance, knowledge, and energy on stock returns.
[++] Rego, Billet, and Morgan (2009) examine the impact of consumer based brand equity (CBEE) on different components of stock returns risk. CBBE is a higher order construct that comprises of multiple dimensions, namely, quality, awareness, distinctiveness, and purchase intentions.

Table 2
Outcomes Of Brand Quality

Study	Key Finding
Brand Quality and Consumer Choice	
Steenkamp, Batra, and Alden (2003)	Perceived brand quality is positively related to purchase likelihood.
Erdem, Swait, and Valenzuela (2006)	Across 7 countries, perceived brand quality has a strong positive impact on consumer intentions to purchase a brand.
Swait and Erdem (2007)	Perceived brand quality is a strong determinant of whether a brand is even in the consideration set of the customer.
Brand Quality and Price	
Dhar and Hoch (1997)	Consumers price sensitivity matters less for high quality brands.
Randall, Ulrich, and Reibstein (1998)	Perceived brand quality allows a brand to command significant price premiums.
Sullivan (1998)	Consumers pay higher prices for high quality brands even though the production platform of the car might be the same.
Erdem, Keane, and Sun (2008)	Perceived brand quality is positively related to price and frequent price cuts lower perceived brand quality.
Dubé et al. (2008)	Higher perceived brand quality yields greater long-term profitability from consumer loyalty. This is because over the long run loyal consumers will pay more for the higher quality brands.
Brand Quality and Marketing Initiatives	
Allenby and Rossi (1991)	Price promotions are more effective for high quality brands.
Sivakumar and Raj (1997)	Brands with high perceived quality derive greater benefits from price promotions in terms of consumer decision to purchase from a category and the choice of brand within the category. Brands with higher perceived quality are less affected by increases in prices.
Boulding, Kalra, and Staelin (1999)	Consumer perceptions of brand quality influence their evaluations of marketing actions of a firm. Specifically, higher the perceived brand quality, the greater will be the effectiveness of marketing actions.
Shaffer and Zhang (2002)	Price promotions are more beneficial for firms with higher perceived brand quality.
Srinivasan et al. (2009)	New product introductions are more valued by stock markets for products with higher perceived quality.
Brand Quality and Firm Performance	
Aaker and Jacobson (1994)	Changes in perceived brand quality are positively related to stock returns.
Mizik and Jacobson (2004)	Changes in perceived brand quality are positively related to stock returns.
Balachander and Stock (2009)	High quality brands are likely to yield higher profits by offering limited edition products.

Table 3
Definitions, Measures, and Literature Sources for Control Variables

Variable	Definition	Expected Impact	Specific Data Source	Examples of Prior Literature Support
Excess Stock Market Returns	Compounded monthly returns from a value weighted portfolio of all stocks listed on NASDAQ, AMEX, and NYSE, less the returns from investing in US treasury bonds	Positive impact on excess stock returns	Kenneth French Website	Fama and French (1993)
Size Portfolio Returns	Compounded monthly returns from the Fama and French (1993) size portfolio.	Positive impact on excess stock returns	Kenneth French Website	Fama and French (1993)
Market-to-Book Portfolio Returns	Compounded monthly returns from the Fama and French (1993) market-to-book portfolio.	Positive impact on excess stock returns	Kenneth French Website	Fama and French (1993)
Total Sales	The log of the total sales of a firm.	Unanticipated changes in sales are likely to be positively related to stock returns, and negatively related to changes in systematic and idiosyncratic risk	COMPUSTAT [DATA ITEM 2]	Beaver, Kettler, and Scholes (1970)
Total Assets	The logged value of total assets of a firm.	Unanticipated changes in total assets are likely to be positively related to the changes in systematic risk, but negatively related to changes in idiosyncratic risk	COMPUSTAT [DATA ITEM 44]	Beaver, Kettler, and Scholes (1970)
Leverage Ratio	The ratio of total long-term debt to the market capitalization of a firm	Unanticipated changes in leverage are likely to be positively related to changes in systematic and idiosyncratic risk	COMPUSTAT [DATA ITEM 14, 51, 61]	Hong and Sarkar (2007)
Dividends Payout	The ratio of cash dividends to the market capitalization of a firm.	Unanticipated changes in dividends are likely to be negatively related to the changes in systematic and idiosyncratic risk	COMPUSTAT [DATA ITEM 14, 61, 89]	McAlister, Srinivasan, and Kim (2007)
Competitive Intensity	The SIC 4 digit concentration index of firm revenues	Unanticipated changes in industry concentration are likely to be negative related to stock returns, and changes in systematic and idiosyncratic risk	Herfindahl Concentration Index Using COMPUSTAT [DATA ITEM 2]	Hou and Robinson (2006)

Table 4
Descriptive Statistics*

	Variable	Symbol	Obs	Mean	S.D.	Correlation Matrix									
						1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1	Stock Returns	R_{ijT}	519	0.11	0.53	1.00									
2	ΔSystematic Risk	$\Delta\beta_{ijT}$	519	0.04	0.46	-0.08	1.00								
3	ΔIdiosyncratic Risk	ΔIR_{ijT}	519	-0.29	0.71	-0.32	0.11	1.00							
4	UΔ(Brand Quality)	$U\Delta BQ_{ijT}$	519	0.01	0.19	0.11	0.09	-0.13	1.00						
5	UΔ(Earnings)	$U\Delta EAR_{ijT}$	519	0.00	0.04	0.13	-0.10	-0.12	0.04	1.00					
6	UΔ(Industry Concentration)	$U\Delta IC_{jT}$	519	0.00	0.04	0.03	-0.02	-0.07	-0.02	-0.02	1.00				
7	UΔ(Total Sales)	$U\Delta TS_{ijT}$	519	0.00	0.19	0.12	-0.14	0.01	0.07	0.22	-0.04	1.00			
8	UΔ(Total Assets)	$U\Delta TA_{ijT}$	519	0.00	0.17	0.15	0.02	-0.01	-0.03	-0.04	0.02	0.35	1.00		
9	UΔ(Dividends)	$U\Delta DIV_{ijT}$	519	0.00	0.03	-0.13	-0.16	0.11	0.07	0.02	0.03	0.09	-0.09	1.00	
10	UΔ(Leverage)	$U\Delta LV_{ijT}$	510	0.00	0.08	-0.59	0.06	0.31	-0.12	-0.21	0.00	-0.05	0.12	0.24	1.00

*UΔ = Unanticiapted Changes in the variable
All correlations .08 and above are significant at 95%.

Table 5
Changes in Brand Quality Impact Stock Returns, Systematic and Idiosyncratic Risk*

	MAIN EFFECTS MODEL			*FULL MODEL*		
	Stock Returns	**Δ(S. Risk)**	**Δ(I. Risk)**	**Stock Returns**	**Δ(S. Risk)**	**Δ(I. Risk)**
$U\Delta BQ_{ijT}$	.47***	.29**	-.43***	.48***	.26**	-.42**
$(U\Delta BQ_{ijT})*(U\Delta EAR_{ijT})$				8.18***	-8.76***	3.24
$(U\Delta BQ_{ijT})*(U\Delta IC_{jT})$				-13.65***	8.83**	.19
Control Variables						
$(R_{mT} - R_{fT})$	.96***			.97***		
$(SMB)_T$	.63**			.65**		
$(HML)_T$	.40***			.41***		
$U\Delta EAR_{ijT}$	1.39***	-.90*	-1.98**	1.13**	-.72	-2.04***
$U\Delta IC_{jT}$	.35	.09	-1.35*	.77*	-.17	-1.38*
$U\Delta TS_{ijT}$	.18*	-.53***	.27*	.21**	-.56***	.27*
$U\Delta TA_{ijT}$		.23*	-.39*		.24*	-.39*
$U\Delta DIV_{ijT}$		-2.45***	1.24		-2.08**	1.19
$U\Delta LV_{ijT}$		.35	2.79***		.23	2.81***
N	519	510	510	519	510	510
F-Statistic	(7, 380)=33.10***	(7, 371)=5.20***	(7, 371)=9.99***	(9, 378)=28.55***	(9, 369)=5.25***	(9, 369)=7.78***
R^2	.38	.09	.16	.41	.11	.16
Max VIF	2.02	1.24	1.24	2.02	1.25	1.25

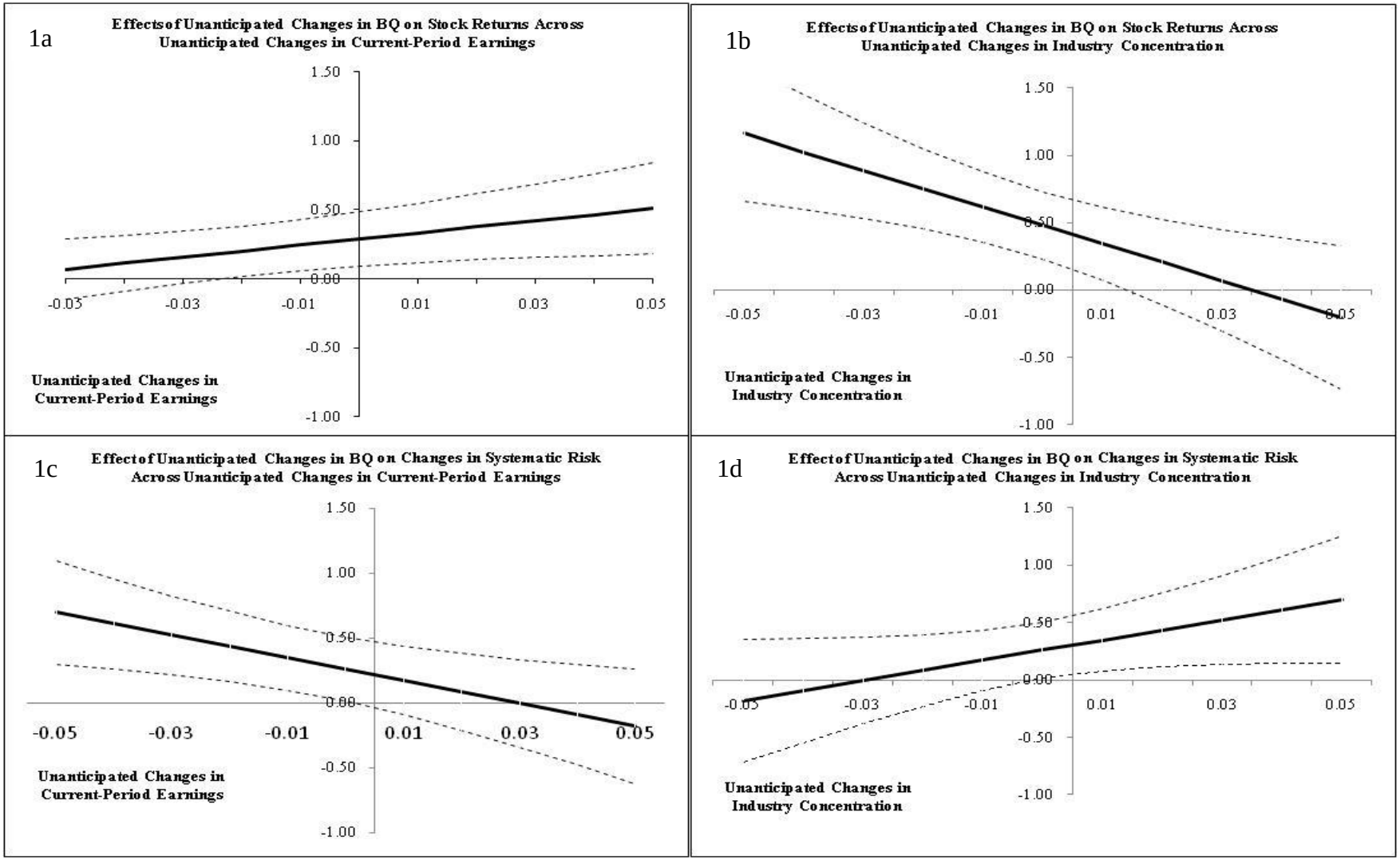
Δ(S. Risk): Change in Systematic Risk; Δ(I. Risk): Change in Idiosyncratic Risk
* ($p < 0.10$), ** ($p < 0.05$), *** ($p < 0.01$) one sided
Max VIF = Maximum Variance Inflation Factor

Table 6
Sensitivity Analyses Underscore the Robust Nature of Results*

	USING CARHART MODEL			*USING 3SLS MODEL*		
	Stock Returns	**Δ(S. Risk)**	**Δ(I. Risk)**	**Stock Returns**	**Δ(S. Risk)**	**Δ(I. Risk)**
$U\Delta BQ_{ijT}$	.52***	.21**	-.47***	.47***	.28***	-.25**
$(U\Delta BQ_{ijT})*(U\Delta EAR_{ijT})$	8.15***	-7.20**	2.72	9.33***	-7.44***	3.15
$(U\Delta BQ_{ijT})*(U\Delta IC_{jT})$	-13.49***	7.90**	-.42	-9.03**	7.89**	2.62
N	519	510	510	502	502	502
F-Statistic	(10, 377)=25.76 ***	(9, 369)=4.55 ***	(9, 369)=8.57 ***	$\chi^2(9)$=285.75 ***	$\chi^2(9)$=65.95 ***	$\chi^2(9)$=91.33 ***
R^2	.41	.10	.17	.34	.12	.14
	USING ADDITIONAL CONTROLS			*REMOVING +/- 5 %TILE OUTLIERS*		
	Stock Returns	**Δ(S. Risk)**	**Δ(I. Risk)**	**Stock Returns**	**Δ(S. Risk)**	**Δ(I. Risk)**
$U\Delta BQ_{ijT}$	.48***	.25**	-.42**	.22***	.18**	-.24**
$(U\Delta BQ_{ijT})*(U\Delta EAR_{ijT})$	8.28***	-9.53***	1.78	2.72**	-5.53**	1.98
$(U\Delta BQ_{ijT})*(U\Delta IC_{jT})$	-13.45***	7.04*	.16	-7.06***	12.04***	5.74
N	511	502	502	466	464	464
F-Statistic	(12, 368)=22.15***	(12, 359)=4.76***	(12, 359)=7.10***	(9, 328)=70.82***	(9, 325)=9.52***	(9, 325)=12.46***
R^2	.42	.14	.19	.66	.21	.26

Δ(S. Risk): Change in Systematic Risk; Δ(I. Risk): Change in Idiosyncratic Risk
* ($p < 0.10$), ** ($p < 0.05$), *** ($p < 0.01$) one sided
Max VIF = Maximum Variance Inflation Factor

Figure 1
The Moderating Impact of Unanticipated Changes in Current-Period Earnings and Industry Concentration *



*The dotted lines indicate the 95% confidence interval bands: BQ = Brand Quality