PEPPERDINE UNIVERSITY

The Journal of Entrepreneurial Finance

Volume 15
Issue 2 *Winter 2011 (Issue 1/2)*

Article 3

December 2011

Brand Reputation and the Cost of Capital: Evidence of Adopting a Brand Name as the Corporate Name

YiLin Wu
National Taiwan University

Recommended Citation

Wu, YiLin (2011) "Brand Reputation and the Cost of Capital: Evidence of Adopting a Brand Name as the Corporate Name," *The Journal of Entrepreneurial Finance*: Vol. 15: Iss. 2, pp. 29-63.
DOI: https://doi.org/10.57229/2373-1761.1011
Available at: https://digitalcommons.pepperdine.edu/jef/vol15/iss2/3

The Journal of Entrepreneurial Finance Volume 15, Issue 2, Winter 2011 29-63

ISSN: 1551-9570

Brand Reputation and the Cost of Capital: Evidence of Adopting a Brand Name as the Corporate Name

YiLin Wu*

Abstract

This paper studies how the capital market perceives brand name adoption. I distinguish between brand adoption and radical type of corporate name change. A brand adoption name change occurs when the firm adopts one of its well-established brands as its new corporate name and a radical type occurs when the new name is semantically unrelated to firm history. Improved profitability and increased net investment accompany brand name adoption. After controlling for changes in the competing information sources, the accompanying improved economic performance, and the endogeneity of the decision to adopt a brand name, I find that, while there are no intertemporal variations in the cost of capital for a radical name change, a brand name adoption is associated with a lower cost of capital following the name change, suggesting that brand reputation is a valuable asset.

1. Introduction

Kreps (1990) and Tadelis (1999) propose that corporate names bear brand name or reputation capital. Hall (2001) documents that intangible assets like reputation account for an important part of a firm's value. Diamond (1991) and Tirole (2001) contend that a firm's reputational capital can reduce the extent of moral hazard and is thus conducive to a lower cost of capital and a greater availability of external financing. Given that corporate name changes are a common practice (Wu (2010)), it is surprising that there is limited scholarly attention to the impact of the brand reputation component on the cost of capital. However, considerable financial press has already emphasized the value of the corporate brand. For instance:

Many savvy companies are starting to realize that a good name can be their most important asset…which enables companies to hone their message to attain specific financial outcomes.
—BusinessWeek, July 9, 2007

To examine the cost of capital effect of a brand name, I identify 890 name changes and classify them into 697 brand-adoption name changes and 193 radical name changes. A brand-adoption name change involves changing the corporate name to one of its prominent brand names, such as when Blue Arrow Corporation changed its name to Manpower in 1989. Chairman Mitchell Fromstein explained that "Since Manpower is the multinational brand, it

* YiLin Wu is an associate professor at the National Taiwan University. Her teaching centers around financial management, corporate finance, capital market and derivatives. Her current research interests include corporate finance issues relevant to entrepreneurial ventures and small firms, and private placements and small business financing.

is appropriate to choose it as the new name" (The New York Times, December 14, 1989). The contrasting type of name change, a radical name change, refers to a name change where the old and the new names bear no semantic relation and the new name lacks association with the firm's history, such as when Cook Data Services became Blockbuster Entertainment Corp in 1990. Founder David P. Cook said that "Our company departed from the distressed oil and gas industry and entered the video rental business, thus, the old name is no longer appropriate" (PR Newswire, March 20, 1986).

A prevalent marketing practice introduces new products in different categories under the same name as a well-established brand, and the academic literature argues that this practice makes it possible to launch new products at a lower cost for a given level of sales (Smith and Park (1992)).[1] This study proposes that the cost of capital is lower after brand-adoption name changes through at least two channels. First, brand-adoption name changes play an information transmission role (Easley and O'Hara (2004)). By elevating the well-established brand name from the level of products, subsidiaries, or divisions to the whole firm, the firm capitalizes on its good reputation and thus alleviates the informational asymmetry problem encountered by the rest of the firm (Cabral (2009)). Investors expect that the firm's prospects are good as long as the performance history and prospects of the brand is good. Second, brand-adoption name changes play a valuable bonding role by associating the brand capital (or reputation capital) with the firm's prospects (Choi (1998)). When investors perceive that performance is below expectations the brand capital suffers damage, which is a strong disincentive to adopting brand name changes. Accordingly, firms will not make brand-adoption name changes unless their prospects are sufficiently positive. In contrast, this study proposes that radical name changes have a negligible effect on the cost of capital. A radical name change cannot alleviate information asymmetry because investors have limited knowledge of what is behind the new corporate name nor can a radical name change guarantee the firm's prospects because the firm has 'nothing to lose' if its future performance turns out to be poor.

To evaluate the effect of brand-adoption name changes on the cost of capital, it is important to control for changes in the competing information sources, the endogeneity of the decision to adopt a brand name, and the accompanying improved economic performance. This is because the information revealed by alternative sources is likely to subsume or mitigate the information transmission role of brand-adoption name changes. In addition, Wu (2010) documents that a firm with better past performance, or more favorable public perception tends to make a brand-adoption name change instead of a radical name change. If a firm with good past performance tends to make a brand-adoption name change and tends to have a lower cost of capital, then not taking into account the effect of past performance on the name-change decision will result in attributing the lower cost of capital only to the brand-adoption name change, rather than partly to the good past performance. To account for this self-selection bias, I implement Heckman's (1979) two-step procedure, in which the first stage estimates a probit regression of the choices of new names to get the correction for self-selection parameter, which is then added to the second-stage regression analysis of the cost of capital effect of the brand name adoption.

To examine whether firm uses its brand capital as a bond for improved performance by adopting the brand name as the corporate name, I define real name changes as those name changes that lead to improved performance and cosmetic name changes as those name changes that lead to little or no improved performance. For a brand-adoption name change to

[1] For example, Canon establishes its reputation as a maker of photographic cameras. In the mid-1970s, it entered into the market for photocopiers, under the same brand name (Cabral (2000)).

bond the firm's prospects, the capital market should be able to separate (even imperfectly) the two types of name changes (brand-adoption versus radical name changes) from the two natures of name changes (real versus cosmetic) and most brand-adoption name changes should be real name changes whereas most radical name changes should be cosmetic in nature.

The result supports the view that the brand capital (or reputation capital) is associated with the firm's prospects. Not surprisingly, I document that the accompanying changes in economic performance of firms making brand-adoption name changes are improved Tobin's Q, improved profitability, and increased net investments. In contrast, the accompanying changes in economic performance of firms making radical name changes are decreased external financing and net investments. The result indicates that most brand-adoption name changes are real name changes, whereas most radical name changes are cosmetic in nature. This finding is different from Cooper, Gulen, and Rau (2005) that the accompanying changes in mutual fund flows are similar across funds with hot investment-style new names regardless of whether or not the subsequent funds' holdings match the hot new names. The difference in finding could be due to that mutual fund investors are predominantly individuals who are considered irrational and thus the changes in mutual fund flows might indicate unsophisticated investors' misperceptions (Warther (1995), Cha and Lee (2001), and Brown and Cliff (2005)).

The empirical results are broadly consistent with the idea that brand names are a valuable asset and are thus conducive to a lower cost of capital. The accounting-based implied cost of equity capital is lower after brand-adoption name changes. In contrast, there are no significant intertemporal variations in the accounting-based implied cost of equity capital for radical name change firms. The results are robust to measuring the cost of equity capital using the Fama-French's (1993) three factors and Pastor-Stambaugh's (2003) traded liquidity factor asset pricing model. Specifically, the market risk is reduced after the brand-adoption name change. The average reduction in market risk of 0.220, induced by the brand-adoption name change, translates into an average reduction of 1.99% per annum in the cost of equity capital. This is around a 10.95% reduction in the average 18.150% per annum pre-brand-adoption name change cost of equity capital. To measure the cost of debt capital, I use the firm's credit rating, the at-issue bond credit ratings, and at-issue yield spreads for 144A private placements, traditional private placements, and public fixed-rate nonconvertible bonds. The result shows a lower cost of debt after a brand-adoption name change.

The effect of a brand-adoption name change on the cost of capital becomes stronger after controlling for the accompanying economic performance. Following a two-stage procedure, in which the first stage orthogonalizes the variables measuring the economic natures of name changes to the dummy indicating the types of name changes, I then replace the economic performance with the orthogonalized residuals for the economic performance in the second-stage regression of the cost of capital and find increases in the magnitude and the significance of the coefficient of the brand name change dummy. This finding reinforces the idea that brand-adoption name changes play a valuable bonding role by associating the brand capital with the firm's prospects. To check the bonding role of brand-adoption name changes, I examine class action lawsuits in which shareholders sue the firms because of financial misrepresentation in the three years following the name changes.[2] The mean estimated brand

[2] Class action lawsuits are shareholder lawsuits against the firm, officers, directors and other related parties resulting from financial misrepresentation. Shareholders sue the firms because the public reports contain materially false and misleading statements about the firms' prospects or the firms fail to disclose materially important information that causes the stock price to be artificially inflated.

reputation loss due to financial misrepresentation is significant at almost $87.5 million for firms making brand-adoption name changes.

The remainder of this paper is organized as follows. Section 2 develops the hypotheses. Section 3 describes the data and section 4 analyzes the cost of capital effects of a brand-adoption name change. Section 5 concludes the paper.

2. Hypotheses and Related Literature

The real world evidence points to corporate names as a bearer for brand reputation.[3] Based on the literature on brand reputation, this section derives four testable hypotheses on the effect of a brand-adoption name change on the cost of capital.

HYPOTHESIS 1 (henceforth H1): *The brand-adoption name change reduces the cost of capital due to its capacity to transmit private information, or its capacity to bond future performance, or both.*

According to H1, the first effect of the brand-adoption name change on the cost of capital is its capacity to reduce adverse selection cost. By elevating a well-established brand name from products, subsidiaries, or divisions to the firm level, the firm extends the brand capital to the overall firm and capitalizes on its good reputation.[4] Investors expect that the firm's prospects are good as long as the performance history and prospects of the brand name is good. Without brand name adoption, the rest of the firm may suffer from adverse selection cost like foregoing profitable investment opportunities (Myers and Majluf (1984)). Therefore, the value of a brand name adoption includes at least the realization of profitable growth opportunities and the brand's potential for reducing adverse selection cost.

The second effect of the brand-adoption name change on the cost of capital is its capacity to bond firm prospects through brand reputation. If the company cannot deliver the investors' expectations, under the same name as the brand, then the brand reputation is spoiled, which is a strong disincentive to adopting a brand name. Consequently, adopting a brand name can be more costly than creating a new name when poor performance harms the firm's brand capital.

In contrast to the brand-adoption name change, the radical name change cannot alleviate information asymmetry nor guarantee future performance. This is because investors have limited knowledge of what is behind the new name, and the new name has no reputational capital to lose if the firm's performance turns out to be poor.

[3] For example, California Microwave sold its information systems division to Northrop Grumman for $98 million. The California Microwave name has such a great reputation among the intelligence community that the company name is part of the sales agreement (Business Wire, March 11, 1999). Actinium, an internet professional services firm focused on customer relationship solutions, changes its name to Digital Lighthouse, which is derived from Lighthouse Consulting Group, a nationally recognized consulting firm which the Company acquired for $2.91 million (PR Newswire, September 7, 2000). Atrion purchased the cardiovascular services product lines, including the rights to the old name Quest Medical for approximately $24 million in cash on December 30, 1997. Quest Medical announced that it has changed its corporate name to Advanced Neuromodulation Systems (PR Newswire; June 18, 1998). Fuqua Enterprises purchased the assets of Lumex health care division, including the rights to the old name "Lumex" for $ 40.75 million in cash (PR Newswire). Transamerica Corp acquired container rental division, including the old name "Tiphook" for $1,200 million (The Times). The other cases in which corporate names are viewed as a tradeable asset are available from the author upon request.

[4] A counter example is the case of the 1982 Tylenol poisoning. Mitchell (1989, P. 612) documents that Johnson & Johnson, the producer of Tylenol, made extensive attempts to downplay the connection between it and Tylenol. Mitchell (1989, P. 613) interprets this action as suggesting that Johnson & Johnson was fearful that consumers might associate the company name with the poisonings, thereby damaging its reputation across its entire product line.

HYPOTHESIS 2 (henceforth H2): *If self-selection in the choices of new names exists, after controlling for firm-specific characteristics that affect the choices of new names using Heckman's (1979) two-step procedure, there should be a corresponding decrease in the magnitude and the significance of the coefficient of the name change dummy (one for brand-adoption name changes and zero for radical name changes) and a negative coefficient of the self-selection parameter in the regression model of the cost of capital.*

A firm is likely to adopt the name of one of its well-recognized brands when there are net gains and to stay away from a radically different name when there are net costs, and *vice versa*. Wu (2010) shows that the choices of new names are related to the firm-specific characteristics linked to reputation. Failure to control for these firm-specific characteristics, which lead the firm to adopt a brand name and lead the firm to have a lower cost of capital, the estimated effect of the brand name adoption on the cost of capital could be biased upwards. To evaluate properly the effect of brand name adoption on the cost of capital, I implement Heckman's (1979) two-stage procedure, in which the first stage estimates a probit regression of the choices of new names to get the correction for self-selection parameter, which is then added to the second-stage regression model of the cost of capital effect of the brand name adoption. If the firm-specific characteristics are partially responsible for the lower cost of capital following the brand name adoption, then we should observe a drop in the magnitude and the significance of the coefficient of the name change dummy and a negative estimated coefficient of self-selection parameter in the second-stage regression.

HYPOTHESIS 3 (henceforth H3): *For the brand-adoption name changes to guarantee future performance, most brand-adoption name changes should be real name changes that lead to improved performance whereas most radical name changes should be cosmetic in nature that lead to little or no improved performance.*

To examine whether firm uses its brand capital as a pledge for improved performance by adopting the brand name as the corporate name, I separate the two economic natures of name changes (real versus cosmetic) within each type of name change (brand adoption versus radical change). Real name changes are name changes that lead to improved performance and cosmetic name changes are name changes that lead to little or no improved performance. In equilibrium, firms adopt brand names only when they are confident about the prospects. Otherwise the poor performance would damage the pledged brand capital. Consequently, most brand-adoption name changes should be real name changes and most radical name changes should be cosmetic in nature.

HYPOTHESIS 4 (henceforth H4): *If brand-adoption name changes play a bonding role, after replacing the economic natures of name changes with the orthogonalized residuals for the economic natures of name changes, there should be a corresponding increase in the magnitude and the significance of the coefficient of the name change dummy in the regression model of the cost of capital.*

H3 predicts that firms adopting brand names tend to be accompanied by increased investment and improved performance. To extract the bonding role of brand-adoption name changes from the accompanying economic performance, I implement a two-step procedure, in which the first stage orthogonalizes the accompanying economic performance to the name change dummy. The magnitude and the significance of the coefficient of the name change dummy in the second-stage regression model of the cost of capital should increase after replacing the economic natures of name changes with the orthogonalized residuals.

To further investigate whether corporate misconduct will spoil the pledged brand capital for brand-adoption name changes (Klein and Leffler (1981) and Ippolito (1990)), similar to Karpoff, Lee, and Martin (2008), I examine class action lawsuits brought by shareholders against the firm, officers, directors, and other related parties as a result of

financial misrepresentation during the three years following a name change.

3. The Data and Summary Statistics

a. Sample Formation and Variable Construction

To construct a sample of new names likely to carry the brand capital component and their comparisons, I first obtain the CRSP name change records during the 1980–2000 period, and then obtain name change announcement dates and reported reasons for the changes in question from the company news file in the Lexis-Nexis database, the Dow Jones Interactive database, and SEC filings (Proxy Statements, Annual Reports to Shareholders, Forms 8-K, 10-Q, and 10-K). The announcement date of the name change is the earlier of the press date or SEC filing date. The name changes that occur as a direct consequence of mergers and acquisitions in the prior one year, or other confounding events are excluded from the final sample.[5] Information on the brand names is collected from the Lexis-Nexis database (the Directory of Corporate Affiliations file and the business description item in the S&P Corporate Descriptions file), the products item of the Hoover Profiles database, and brand data from the Global Market Information database. The final sample consists of 697 brand-adoption name changes and 193 radical name changes.

The sample period begins in 1980 and ends in 2000. This sample period is well suited for the purposes of this study for two major reasons. First, Irvine and Pontiff (2009) document that idiosyncratic volatility of earnings, cash flows, and sales increases dramatically in the post-2000 period (see Figure 2 of Irvine and Pontiff (2009)). An explanation offered for increased idiosyncratic volatility is increased competition, which is attributable to consumers demonstrating less loyalty to a given firm's product. A reduction in consumer loyalty could occur when branding is a less important feature for the product.[6] A decrease in the value of brand names implies that the effectiveness of the bonding role and information transmission role proposed by the literature might be diminishing over the 2000s.

Second, while Cooper, Dimitrov, and Rau (2001) document a surge of dot.com additions during the bubble boom period, Cooper, Khorana, Osobov, Patel, and Rau (2005) document a surge of dot.com deletions following the bubble burst (post-2000 period). These results suggest that corporate name change decision varies between the market upturn and downturn.

In sum, this study focuses on name change data that have many homogeneous characteristics over the 1980–2000 period, so the importance of brand-name adoption should be untainted by the trend towards increasing product market competition, the burst of the Nasadq bubble, and related fallout.

Table 1 presents the definitions of the key analysis variables including the measures of cost of capital, economic nature of the name change, information environment, and accounting-based intangible assets. The cost of capital is measured on the year prior to the name change and on the end of the third year following the name change. The explanatory variables in the cost of capital regressions are measured on the prior year relative to the cost of capital. Firms take time to plan and execute investment. To assess whether firms adopting brand names are accompanied by major increases in net investments, I therefore delay measuring the cost of capital until the third year following the name change. I perform sensitivity tests of this single-year measure by using the three-year (or two-year) average and the median values in the empirical tests.

[5] The confounding events include changes in organizational structures (e.g., changes to holding companies), re-incorporation, stock splits or reverse stock splits, changes in stock exchanges, or changes in legal status.

[6] Bils and Klenow (2004) provide empirical evidence of a more competitive product pricing.

This paper measures the cost of equity capital using five measures of accounting-based implied cost of equity capital, which differ in the assumptions concerning the earnings growth rate, and using the Fama-French's (1993) three factors and Pastor-Stambaugh's (2003) traded liquidity factor asset pricing model to fit the ex post realized returns. This paper uses three measures of the cost of debt capital: the firm's credit rating, the at-issue bond credit rating, and the corresponding at-issue yield spreads for 144A private placements, traditional private placements, and public fixed-rate nonconvertible bonds. The bond issuance data are collected from Thomson Financial's SDC Platinum U.S. New Issues database.

To capture important changes in the economic performance accompany the brand name adoption, I primarily use the statement of cash flows data (Bradshaw, Richardson, and Sloan (2006) and Frank and Goyal (2003)). The total funds from operations scaled by log of sales (IFIN/ln(sales)) and Tobin's Q measure firm profitability and growth opportunities, respectively. The external financing (EFIN/ln(cap)) is measured as net equity financing plus net debt financing scaled by log of market value of equity. The net investment (INV/ln(cap)) is measured as the sum of capital expenditures, increases in long-term investments, acquisitions, and other uses of funds not classified elsewhere minus the sale of property, plant, and equipment, and minus the sale of investments. In addition, an indicator variable called 'Real' equals one for firms with profitability improvements/net investment increases after the name changes take place, and zero otherwise.

To examine whether the information transmission role of the brand name adoption is robust to the inclusion of competing information sources, this paper includes the following measures of information sources: the number of equity analysts obtained from detail I/B/E/S, share turnover (Turnover), institutional ownership (Institution) obtained from CDA/Spectrum institutional (13f) holdings, leverage, and the existence of bank loans (Bankdebt, Compustat #206). This paper adopts the following three accounting-based proxies for intangible assets: advertising expenses, R&D expenses, and balance sheet intangibles including goodwill (Barth, Kasznik, and McNichols (2001) and Barron, Byard, Kile, and Riedl (2002)).

b. Are Brand-Adoption Name Changes Economically Motivated?

Table 2 reports results on the prediction of H3 that most brand-adoption name changes are economically motivated while radical name changes are cosmetic. Table also reports the percentage of firms with at least zero increase in the variables after the name changes. Panel A shows that the firm characteristics of those making brand-adoption name changes are significantly different from those making radical name changes. In general, prior to the name changes, firms making brand-adoption name changes are associated with smaller external financing and greater net investments than firms making radical name changes. Following the name changes, firms making brand-adoption name changes also are associated with greater Tobin's Q, profitability, external financing, and net investments. The significance levels hold when internally generated cash flows are scaled by the natural log of the market value of equity and net investments are scaled by the natural log of sales. The results generally support H3 that a majority of firms making brand-adoption name changes are accompanied by improved Tobin's Q, improved profitability measured by IFIN/ln(sales), and increased net investments after name changes, while a majority of firms making radical name changes are accompanied by reduced external financing and net investments after name changes.

Panel B shows no apparent differences in the level of information asymmetry prior to the name changes. However, firms with brand-adoption name changes have a significantly greater number of equity analysts and institutional ownership, but lower leverage ratios, following the name changes. Within each name change category, except for an increase in the

number of equity analysts and a reduction in bank debt, there are no apparent changes in the information environment around the name changes.

Panel C shows that advertising expenses are greater for the brand-adoption name change firms relative to the radical name change firms. Because many firms report zero advertising expenses and R&D expenses. After counting only firms with positive advertising expenses and R&D expenses, the unreported results show no differences between brand-adoption name change firms and radical name change firms for either measure. Panel C shows an increase in balance sheet intangibles (Goodwill, #33 + #204), which suggests an increase in the acquisitions of firms and/or intangible assets after brand adoption name changes.[7] Overall, the finding in Table 2 provides some insights about the asset structures of the two types of name-changing firms. Specifically, firms have increased physical asset investments and/or intangible asset investments after brand adoption name changes. The significance levels in Table 2 are robust to measuring the variables over the three years (or two years) prior to and following the name changes.

4. Empirical Results

This section first presents results of the basic prediction that a brand-adoption name change is associated with a lower cost of capital subsequent to the name change. It then uses three econometric techniques to examine through what channels the brand-adoption name change reduces the cost of capital.

a. The Basic Results

Table 3 presents results of the basic prediction that a brand-adoption name change is associated with a lower cost of capital subsequent to the name change, whereas there are no intertemporal variations in the cost of capital for a firm making radical name change.

The first five rows of Table 3 present the estimated accounting-based implied cost of equity capital at one fiscal year prior to and three fiscal years following the name changes. The first three implied costs of equity are Easton's (2004) r_{PE}, r_{PEG}, and r_{MPEG}. The fourth implied cost of equity, r_{OJ}, is estimated from the Ohlson-Juettner model in Gode and Mohanram (2003). The last implied cost of equity, r_{RIV}, is estimated from the residual income valuation model in Gebhardt, Lee and Swaminathan (2001). Consistent with Easton's (2004), the median r_{PE} is lower than the median r_{PEG}, which is lower than the median r_{MPEG}. The estimates of r_{OJ} and r_{RIV} are close to those of Guay, Kothari, and Shu's (2005).

The first five rows of Table 3 show no differences in the implied cost of equity capital prior to the name changes. In contrast, after the name changes, three out of five models show significantly lower implied cost of equity capital for firms with brand-adoption name changes than do firms with radical name changes. Consistent with H1, three (four) out of five models show lower mean (median) estimated cost of equity capital following the brand-adoption name changes, whereas there are no intertemporal variations in the mean (median) estimated costs of equity capital for firms making radical name changes.

The last three rows of Table 3 present the estimated cost of debt. The firm's most senior bond rating usually captures a firm's credit rating and is updated as the bond seasons (Mansi, Maxwell, and Miller (2004)). By requiring that the bond ratings are available as of the fiscal year prior to the name changes and the third fiscal year following the name changes, I am left

[7] Compustat annual data item 33 reports the unamortized value of intangible assets and Compustat annual data item 204 reports the excess of cost over equity of an acquired company.

with 171 observations prior to and 194 observations following the name changes. As to the at-issue bond credit ratings and yield spreads for fixed-rate nonconvertible bonds, there are 43 bond offerings for 43 firms prior to and 273 bond offerings for 93 firms (66 firms have a single bond offering) following the brand-adoption name changes. There is no bond offering prior to the radical name changes. There are 33 bond offerings for 28 firms (25 firms have a single bond offering) subsequent to the radical name changes.[8] Following Beatty, Liao, and Weber (2010), for firms with rated debt, the categorical credit rating is one if the rating is between SD (D) and B+, two if the rating is between BB- and BB+, three if the rating is between BBB- and BBB+, and four if their rating is between A- and AAA.

The last three rows of Table 3 show that firms with brand-adoption name changes have better credit ratings, better at-issue bond credit ratings, and lower yield spreads than do firms with radical name changes. Note that, compared to the seasoned bond credit ratings, the at-issue bond credit ratings are generally lower. For example, in the post-brand-adoption name change period, the mean firm's credit rating is 2.70 and the mean at-issue bond credit rating is 2.02, which belongs to the speculative grade. A possible explanation may be that the seasoned bonds are less sensitive to adverse selection costs. Consistent with H1, firms with brand-adoption name changes are associated with significant improvements in the mean (median) firm credit ratings, at-issue bond credit ratings, and yield spreads after the name changes. This finding suggests that credit ratings are responsive to new information. As the firm elevates its well-recognized brand to be its corporate name, the levered brand capital transmits private information and is thus conducive to higher at-issue credit ratings and lower at-issue yield spreads.

In addition to the accounting-based implied cost of equity capital, I estimate the cost of equity capital using the Fama-French's (1993) three factors and Pastor-Stambaugh's (2003) traded liquidity factor asset pricing model and apply Petersen's (2009) two-way-clustering panel data model (clustered by firm identifier and name-change announcement year) to account for the non-independence of standard errors. The following time-series model examines changes in each individual firm *i*'s risks from before to after the name changes:

$$r_{t,i} - r_{f,t} = \alpha_{i,0} + \alpha_{i,1}D_t + (\beta_{i,0} + \beta_{i,1}D_t)(r_{m,t,i} - r_{f,t,i}) + (S_{i,0} + S_{i,1}D_t)SMB_{t,i} + (H_{i,0} + H_{i,1}D_t)HML_{t,i}$$
$$+ (L_{i,0} + L_{i,1}D_t)LIQ_{t,i} + \varepsilon_{t,i}, \quad (1)$$

where D_t=1 if t is in the post-name change period, and D_t=0 if t is in the pre-name-change period; $\beta_{i,0}, S_{i,0}, H_{i,0}$, and $L_{i,0}$ are firm i's pre-name change market risk, beta on size factor, beta on book-to-market factor, and liquidity risk, respectively; $\beta_{i,1}, S_{i,1}, H_{i,1}$, and $L_{i,1}$ are the differences between its post- and pre-name-change market risk, beta on size factor, beta on book-to-market factor, and liquidity risk, respectively; $\alpha_{i,0}$ is its pre-name-change abnormal return; and $\alpha_{i,1}$ is the difference between its post- and pre-name-change abnormal return. To avoid the name-change announcement effect, Eq. (1) is estimated for each firm for t from month -36 to month -2 prior to the name change

[8] To be more specific, in the pre-brand adoption name change period, there are one 144A private placement, 31 traditional private placements, and 11 public bond offerings for 43 firms. In the post-brand adoption name change period, there are 38 144A private placements, 103 traditional private placements, 132 public bond offerings for 93 firms and 66 of them have a single bond offering. There is no bond offering prior to the radical name changes. There are 8 144A private placements, 20 traditional private placements, and 5 public bond offerings subsequent to the radical name changes for 28 firms and 25 of them have a single bond offering during the post-radical name change period.

announcement month and from month +2 to month +36 after the name change announcement month. To ensure that the factor loadings are estimated with sufficient observations, the estimation excludes firms that have fewer than 12 monthly returns in the pre-name change period and firms that have fewer than 12 monthly returns in the post-name change period. This procedure results in 647 brand-adoption name change firms and 161 radical name change firms.

Table 4 reports the averages of time series results of the estimation of the model in Eq. (1). Panel A shows that the averages of the firms making brand-adoption name changes experience a significant reduction in market risk—the β_1 is -0.22 (p=0.063), and size beta—the S_1 is -0.23 (p=0.085) in the post-name-change period. However, Panel B shows no evidence of intertemporal variations in the systemic risk for firms making radical name changes.

How much would the cost of equity capital be reduced for the firms making brand-adoption name changes because of lower market risk? I estimate their representative cost of equity capital by annualizing the following expected monthly return on individual firm *i*:

$$E(r_{t,i}) = r_{f,t} + \beta_i * E(r_{m,t,i} - r_{f,t,i}) + S_i * E(SMB_{t,i}) + H_i * E(HML_{t,i}) + L_i * E(LIQ_{t,i}). \quad (2)$$

The unconditional monthly means of r_{ft}, $r_{m,t,i} - r_{f,t,i}$, $SMB_{t,i}$, $HML_{t,i}$, and $LIQ_{t,i}$ over the period 1980-2000 proxy for r_{ft}, $E(r_{m,t,i} - r_{f,t,i})$, $E(SMB_{t,i})$, $E(HML_{t,i})$, and $E(LIQ_{t,i})$, which are 0.553%, 0.746%, -0.033%, 0.336%, and 0.414%, respectively. Thus, an average reduction in market risk, induced by the brand-adoption name change, of 0.220 translates into an average reduction of 1.99 percentage points per annum in the cost of equity capital. This is a sizable reduction—a 10.95% reduction in the cost of equity capital—because the average pre-name-change period cost of equity capital is 18.150% per annum.

The estimated cost of equity capital does not seem to vary much across models. Estimates from the asset pricing model in Eq. (2) of the average 18.150% cost of equity capital per annum are close to the average 17.038% r_{PEG} and 15.739% r_{MPEG} implied costs of equity capital during the pre-brand-adoption name change period.

b. The Regression Results

This section uses three econometric techniques to examine through what channels do the brand-adoption name changes reduce the cost of capital? Specifically, this section examines whether brand-adoption name changes play an information transmission role by alleviating the informational asymmetry problem, play a bonding role by associating the brand reputation with the firm's prospects, or both.

b.1. The Probit Estimation of Choices of New Names

To control for firm-specific characteristics that lead a firm to adopt brand name and lead a firm to have a lower cost of capital, I follow Heckman's (1979) two-stage procedure, in which the first stage estimates a probit regression of the choices of new names. The estimates are used to get the correction for self-selection parameter, which is then added to the second-stage regression model of the cost of capital reported below. The choices of new names for firm *i* have the following specification:

$$Adoption^{*}_{i,t} = \beta Z_{i,t} + u_{i,t} \quad (3)$$
$$Adoption_{i,t} = 1, if \ \ Adoption^{*}_{i,t} > 0$$
$$Adoption_{i,t} = 0, if \ \ Adoption^{*}_{i,t} < 0,$$

where $Adoption^{*}_{i,t}$ is an unobserved latent variable, $Adoption_{i,t}$ is a dummy that equals one for firm *i* adopting a brand name and zero for firm *i* choosing a radically different new name, $Z_{i,t}$ is a set of firm-specific characteristics that affect the choices of new names, and $u_{i,t}$ is an error term.

Table 5 estimates Eq. (3) using a probit model. Consistent with Wu (2010), Table 5 shows that, indeed, firm-specific characteristics are significant in explaining the choices of the two types of new names. Superior past performance (Tobin's Q, IFIN/ln(caps), and INV/ln(caps)), more neutral and good media coverage, less bad media coverage, a greater number of reported brands, a larger physical capital, smaller bid/ask spreads, a greater number of equity analysts following, a greater institutional ownership, and a lower leverage ratio generally increase the probability of adopting one of the established brand names as the new corporate name.

b.2. Three Intertemporal Regression Models

The basic OLS intertemporal regression model of the cost of capital has the following specification:

$$r_{i,t} - r_{f,t} = \alpha_1 + \beta_{100} D_t + \beta_{10} Adoption_{i,t} + \beta_1 D_t * Adoption_{i,t} + \gamma_1 Information_{i,t-1} + \delta_1 Performance_{i,t-1} + \pi_1 Controls_{i,t-1} + \varepsilon_{1i,t}, \quad (4)$$

where $r_{i,t} - r_{f,t}$ is the estimated cost of equity capital for firm *i* at time *t* measured at the year-end prior to the name changes and at the end of the third year following the name changes. D_t is an indicator variable that takes the value of one after the name changes and otherwise zero. $Adoption_{i,t}$ is a dummy that equals one for firm *i* adopting a brand name and zero for firm *i* choosing a radically different new name. $D_t * Adoption_{i,t}$ measures the impact of brand-name adoption on the cost of equity capital. As noted earlier, a negative value of β_1 means that the cost of equity capital is reduced after the brand-adoption name changes. To minimize endogeneity, the explanatory variables have a one year lag. To control for changes in the competing information sources, Eq. (4) includes $Information_{i,t-1}$, a vector of firm *i* information sources measured at time *t*-1. To control for changes in economic performance following the brand-adoption name changes, Eq. (4) includes $Performance_{i,t-1}$, a vector of firm *i* economic performance measured at time *t*-1. In addition, Eq. (4) controls for accounting-based intangibles, volatility, and price momentum (Gebhardt, Lee and Swaminathan (2001)).

To extract the bonding role of brand-adoption name changes from the accompanying economic performance, I implement a two-step procedure, in which the first stage orthogonalizes the vector of firm *i* economic performance to $D_t * Adoption_{i,t}$. The vector regression specification is

$$Performance_{i,t-1} = \alpha_2 + \beta_{200} D_t + \beta_{20} Adoption_{i,t} + \beta_2 D_t * Adoption_{i,t} + \varepsilon_{2i,t-1}. \quad (5)$$

A positive value of β_2 means that firms adopting brand names tend to be accompanied by improved performance. The $Performance_{i,t-1}$ in Eq. (4) is replaced with the orthogonalized residuals of Eq. (5). The second-stage regression (i.e., a hybrid intertemporal multiple regression) becomes

$$r_{i,t} - r_{f,t} = \alpha_3 + \beta_{300} D_t + \beta_{30} Adoption_{i,t} + \beta_3 D_t * Adoption_{i,t} + \gamma_3 Information_{i,t-1} + \delta_3 \varepsilon_{2,i,t-1} + \pi_3 Controls_{i,t-1} + \varepsilon_{3i,t} \ . \quad (6)$$

The vector Eq. (5) is substituted into Eq. (4) and the second-stage regression becomes

$$r_{i,t} - r_{f,t} = \alpha_1 + \beta_{100} D_t + \beta_{10} Adoption_{i,t} + \beta_1 D_t * Adoption_{i,t} + \gamma_1 Information_{i,t-1} + \delta_1(\alpha_2 + \beta_{200} D_t + \beta_{20} Adoption_{i,t} + \beta_2 D_t * Adoption_{i,t} + \varepsilon_{2i,t-1}) + \pi_1 Controls_{i,t-1} + \varepsilon_{1i,t}. \quad (7)$$

To examine whether the accompanying improved performance has any material impact on the relationship between $D_t * Adoption_{i,t}$ and the cost of capital, Eq. (7) is rearranged in terms of:

$$r_{i,t} - r_{f,t} = \underbrace{(\alpha_1 + \delta_1 \alpha_2)}_{=\alpha_3} + \ldots + \underbrace{(\beta_1 + \delta_1 \beta_2)}_{=\beta_3} D_t * Adoption_{i,t} + \gamma_1 Information_{i,t-1} + \underbrace{\delta_1}_{=\delta_3} \varepsilon_{2i,t-1} + \ldots, (7)$$

If brand-adoption name changes play a bonding role by associating the brand reputation with the firm's prospect, by comparison with Eq. (4), then the coefficient of $D_t * Adoption_{i,t}$ in Eqs. (6) and (7) will be more negative (i.e., $\beta_1 + \delta_1 \beta_2 < \beta_1$). This is because firms adopting brand names are accompanied by improved performance ($\beta_2 > 0$) and cost of equity capital is lower after improved performance ($\delta_1 < 0$).

Turning to the issue of how to control for self selection bias, the expected cost of equity capital for firm *i* adopting a brand name is

$$E(r_{i,t} - r_{f,t} \mid Adoption_{i,t} = 1) = \alpha_1 + \beta_{100} D_t + \beta_{10} + \beta_1 D_t + \gamma_1 Information_{i,t-1} + \ldots + E(\varepsilon_{1i,t} \mid Adoption_{i,t} = 1).$$

Similarly, the expected cost of equity capital for firm *i* choosing a radically different new name is

$$E(r_{i,t} - r_{f,t} \mid Adoption_{i,t} = 0) = \alpha_1 + \beta_{100} D_t + \gamma_1 Information_{i,t-1} + \ldots + E(\varepsilon_{1i,t} \mid Adoption_{i,t} = 0).$$

The difference in the cost of equity capital is given by

$$E(r_{i,t} - r_{f,t} \mid Adoption_{i,t} = 1) - E(r_{i,t} - r_{f,t} \mid Adoption_{i,t} = 0) = \beta_{10} + \beta_1 D_t + E(\varepsilon_{1i,t} \mid Adoption_{i,t} = 1) - E(\varepsilon_{1i,t} \mid Adoption_{i,t} = 0).$$

Assuming that the errors in Eqs. (3) and (4), $u_{i,t}$ and $\varepsilon_{1i,t}$, have a bivariate normal distribution with means of zero, standard deviation 1 and $\sigma_{\varepsilon 1}$, and with correlation ρ. We have

$$E(\varepsilon_{1i,t} \left| Adoption_{i,t} = 1) = \rho\sigma_{\varepsilon 1}\lambda_1, \text{ where } \lambda_1 = \frac{\phi(\beta Z_{i,t})}{\Phi(\beta Z_{i,t})}$$

$$E(\varepsilon_{1i,t} \left| Adoption_{i,t} = 0) = \rho\sigma_{\varepsilon 1}\lambda_2, \text{ where } \lambda_2 = \frac{-\phi(\beta Z_{i,t})}{1-\Phi(\beta Z_{i,t})},$$

$\phi(.)$ and $\Phi(.)$ are, respectively, the density and cumulative distribution functions of the standard normal. The difference in the cost of equity capital of firm adopting a brand name and firm choosing a radically different new name is then given by

$$E(r_{i,t} - r_{f,t} \left| Adoption_{i,t} = 1) - E(r_{i,t} - r_{f,t} \right| Adoption_{i,t} = 0) = \beta_{10} + \beta_1 D_t + \rho\sigma_{\varepsilon 1} \frac{\phi(\beta Z_{i,t})}{\Phi(\beta Z_{i,t})(1-\Phi(\beta Z_{i,t}))}. \quad (8)$$

The right-hand side of Eq. (8) is what is actually estimated by the OLS coefficient of $Adoption_{i,t}$ in Eq. (4). In line with Heckman's two-step procedure, Table 5 estimates Eq. (3) using a probit model to get consistent estimates of β. These are then used to get estimates of λ_1 and λ_2, the correction for self-selection. The second-step regression

$$\begin{aligned} r_{i,t} - r_{f,t} &= \alpha_1 + \ldots + \beta_{10} Adoption_{i,t} + \beta_1 D_t * Adoption_{i,t} + \rho\sigma_{\varepsilon 1}(\lambda_1 * D_t * Adoption_{i,t} + \lambda_2 * D_t * (1 - Adoption_{i,t})) + \ldots + \eta_{4i,t}, \\ &= \alpha_1 + \ldots + \beta_{10} Adoption_{i,t} + \beta_1 D_t * Adoption_{i,t} + \rho\sigma_{\varepsilon 1} \underbrace{\frac{\phi(\beta Z_{i,t})}{\Phi(\beta Z_{i,t})(1-\Phi(\beta Z_{i,t}))}}_{=\lambda \text{ (Lambda)}} + \ldots + \eta_{4i,t} \\ &= \alpha_1 + \ldots + \beta_{10} Adoption_{i,t} + \beta_1 D_t * Adoption_{i,t} + \rho\sigma_{\varepsilon 1}\lambda + \ldots + \eta_{4i,t} \end{aligned} \quad (9)$$

The estimated impact of brand-name adoption, using OLS in Eq. (4), will be biased downward where ρ, the correlation of the error terms in Eqs. (3) and (4), is negative. By comparison with Eq. (4), after control for self selection in the choices of new names, the coefficient of $Adoption_{i,t}$ in Eq. (9) will be less negative when the firm-specific characteristics that lead the firms to adopt brand names also lead to a lower cost of capital ($\rho < 0$).

Table 6 presents eight intertemporal regressions of accounting-based implied cost of equity capital, measured by $r_{MPEG} - r_f$. For brevity, the results of the other four accounting-based implied cost of equity capital models are omitted because they are qualitatively similar. Columns (1) to (4) present the OLS results. Columns (1) and (2) show the OLS results without the key test variable: $D_t * Adoption_{i,t}$, which illustrate the incremental explanatory power of the key test variable as well as the effects of the other explanatory variables. Columns (3) and (4) add the key test variable to the OLS regressions. Columns (5) and (6) show the second-stage results after replacing the Performance covariates with the orthogonalized residuals. Columns (7) and (8) show the second-stage results after adding the correction for self-selection (Lambda in Eq. (9)).

Columns (3) and (4) show that after adding the name change dummy, in general, the coefficients of the Performance covariates are smaller, compared to the estimates in columns (1) and (2). The Wald test shows that the Performance covariates are jointly less significant in

columns (3) and (4), compared to columns (1) and (2). For example, the Performance covariates are jointly significant at *P*-values of 0.075 and 0.097 in columns (2) and (4), respectively. Using estimates in columns (3) and (4), an average reduction in the cost of equity capital, induced by the brand-adoption name change, is around 1.36 percentage points to 2.42 percentage points.

The results in columns (3) and (4) support the view that brand-adoption name changes play an information transmission role. In spite of the significance of the variables measuring competing information sources (except for institutional ownership and the bank debt dummy), the coefficients of $D_t * Adoption_{i,t}$ are significantly negative in all specifications. The other variables in the regressions have the signs suggested by previous research in almost all cases. Greater volatility in stock returns (Goyal and Santa-Clara (2003)) and forecast earnings variability (e.g., Gebhardt, Lee and Swaminathan (2001)) are associated with a larger cost of equity capital. Conversely, firms with higher recent price momentum tend to have a lower cost of equity capital.

The results in columns (5) and (6) support the view that brand-adoption name changes play a bonding role. If the bonding role of the brand-adoption name changes is extracted from the economic outcomes accompanying the name changes, then the coefficient of $D_t * Adoption_{i,t}$ should be larger (in absolute value) as the estimate now incorporates both information and bonding factors. Indeed, both the magnitude and the significance level increase compared with the OLS estimators. The coefficients of $D_t * Adoption_{i,t}$ are -0.548 and -1.123 in columns (5) and (6), respectively, compared to the corresponding coefficients of -0.174 and -0.731 in columns (3) and (4), respectively.

Columns (7) and (8) incorporate the correction for self-selection. The coefficients of λ, the self-selection parameters, are -0.004 and -0.140 in columns (7) and (8) and are significant at the 10% and 1% level, respectively. This result suggests that the firm characteristics that affect brand-adoption name changes also lead to a lower cost of equity capital. Still, the coefficients of $D_t * Adoption_{i,t}$ are -0.117 and -0.286 in columns (7) and (8) and are significant at the 10% and 5% level, respectively.

The main results in Table 6 are robust to a range of sensitivity analyses. First, Table 6 is re-estimated using median regressions with bootstrapped *t*-statistics to correct for heteroskedasticity. Second, instead of a single year, it is re-estimated using three-year average for both independent and dependent variables. Finally, the result is qualitatively similar regardless of defining the dummy varaible Real as an improvement in profitability (ΔIFIN/ln(sales)>0) or an increase in net investments (ΔINV/ln(caps)>0). Overall, a lower cost of capital following a brand name adoption persists even after controlling for changes in the competing information sources, the endogeneity of the decision to adopt a brand name, and the accompanying improved economic performance.

Table 7 addresses the issue of whether the market risk reduction and the reduction in size beta are induced by the brand-adoption name change. The dependent variables, β_1, in columns (1), (3), and (5) are the differences between the post- and pre-name-change market risk. The dependent variables, S_1, in columns (2), (4), and (6) are the differences between the post- and pre-name-change betas on the SMB factor. Table 7 includes the same set of explanatory variables as Table 6 except that the vector of economic performance is replaced with changes in the vector.

Notably, for the three regressions on the market risk reduction, the adjusted R-squared for columns (1), (3), and (5) are relatively smaller at 4.9%, 5.1%, and 6.4%, respectively. The intercepts in columns (1) and (3) are significantly different from zero, suggesting that the market risk reduction cannot be fully explained by the set of explanatory variables. As to the

regressions on the reduction in size beta, the adjusted R-squared for columns (2), (4), and (6) are relatively larger at 9.4%, 9.9%, and 10.1%, respectively.

Table 7 shows that the reductions in the market risk and size beta are associated with the brand name adoption. Columns (3) and (4) include orthogonalized residuals for the changes in the Performance covariates. Both the magnitude and the significance of *Adoption* increase, although marginally, compared to the OLS specifications in columns (1) and (2). Columns (5) and (6) add the correction for self-selection. The coefficient of λ, the self-selection parameter, is -2.067 in column (5) and is significant at the 5% level. However, the coefficient of λ is not significant in column (6).

Taken together, the significance of *Adoption* is consistent with the interpretation that brand-adoption name changes reduce the systemic risk through the information transmission channel and by using brand reputation as a pledge for improved performance.

Table 8 presents intertemporal ordered probit regressions of the four ordinal-scaled firm credit ratings based on Beatty, Liao, and Weber (2010). Table 8 includes almost the same set of explanatory variables as Table 6 except that it adds Altman's (1968) Z-score to measure the default risk for public firms (e.g., Mansi, Maxwell, and Miller (2004)). The firm credit rating is expected to be higher for firm with higher Z-score. Columns (1) to (4) show the intertemporal ordered probit estimation results. Columns (5) and (6) show the results of the hybrid ordered probit regressions using the orthogonalized residuals for the Performance covariates. Columns (7) and (8) add the correction for endogenous self-selection.

On the one hand, the brand-adoption name changes can improve firm credit ratings when they are responsive to new information (Odders-White and Ready (2006)). On the other hand, it is possible that the firm credit ratings only summarize the publicly available information (Wakeman (1990)) and are thus insensitive to the brand-adoption name changes.

Column (3) shows that the coefficient of $D_t * Adoption_{i,t}$ is significantly positive. Within the brand-adoption name change category, the ordinal-scaled credit rating is 1.13 (coefficients of 0.01+1.12) higher after the name changes. The credit ratings of firms making brand-adoption name changes are significantly better at 1.26 (coefficients of 1.12+0.137) than firms making radical name changes, following the name changes. The finding suggests that brand-adoption name changes contain credit-relevant information that is not reflected in the credit rating prior to the name changes but has been impounded into the credit rating afterwards.

Columns (5) and (6) replace Performance covariates with their orthogonalized residuals. Both the magnitude and the significance of $D_t * Adoption_{i,t}$ increase compared to the specifications in columns (3) and (4). The result is consistent with the interpretation that the brand reputation promises better future performances and is conducive to a higher credit rating. However, the credit rating is not particularly sensitive to performance improvements measured by the Real dummy. Columns (7) and (8) incorporate endogenous self-selection model. The coefficient of the self-selection parameter is 0.031 in column (7) and is significant at the 10% level. Still, the coefficients of $D_t * Adoption_{i,t}$ are 0.924 and 1.048 in columns (7) and (8) and are significant at the 1% and 10% level, respectively. The other variables in the regressions have the signs suggested by previous research in almost all cases. Greater stock returns volatility are associated with a lower credit rating. Surprisingly, Altman's (1968) Z-scores are unrelated to the credit ratings.

To address directly how the investors in the primary bond markets perceive the brand-adoption name changes, Table 9 focuses on the at-issue yield spreads (Yieldspread) for fixed-rate nonconvertible bonds issued during the last three years before the name changes and the first three years after the name changes. There are 43 bond offerings prior to the name

changes and 306 bond offerings following the name changes. Given no bond offering prior to the radical name changes, Table 9 focuses on the at-issue yield spreads after the name changes. Yieldspread is the difference between the at-issue yield for the straight debt offer and the yield for a Treasury bond with similar maturity on the same day. For corporate bonds without an exact match for Treasury maturity, a linear interpolation is used to estimate Treasury yields. For firms with multiple bonds, I use a weighted average of the firm's individual at-issue bond credit ratings (at-issue yield spread), where the weight is the relative principal of the bond to the total principal outstanding. Table 9 includes a parsimonious version of variables in Table 8 together with variables measuring bond characteristics, bond risk factors, and a dummy variable that equals one for companies that issue multiple bonds.

Columns (1) and (2) present the OLS estimation results. Column (3) replaces the four ordinal-scaled at-issue bond credit ratings (*BR_Rating*) with the residuals from the first-stage regression that orthogonalizes the *BR_Rating* to the name change dummy, Real dummy, Information vector, and the variables measuring bond characteristics and bond risk factors. Column (4) replaces the Real dummy with the residuals from the first-stage regression that orthogonalizes the Real dummy to the name change dummy. Column (5) replaces the *BR_Rating* and the Real dummy with their corresponding orthogonalized residuals. Columns (6) and (7) report results on two sensitivity analyses. Specifically, column (6) measures Yieldspread as the difference between the at-issue yield for the fixed-rate nonconvertible bond and the yield for a Treasury bond with a similar modified duration on the same day. Column (7) incorporates the Fama-French (1993) three risk factors: $R_{M,t}$-$R_{f,t}$, SMB, and HML, in addition to the spreads between the Baa and Aaa index. Elton, Gruber, Agrawal, and Mann (2001) find that the corporate bond markets price the Fama-French three risk factors.

Table 9 shows that all of the coefficients of *Adoption* are negative, ranging from -0.135 to -0.772. Notably, the coefficients of *Adoption* increase under the two-stage procedure, compared with the OLS estimates. A smaller at-issue yield spreads for bonds issued by firms with brand-adoption name changes persists even after controlling for observable bond characteristics and risks, observable firm characteristics, and information environment. The result that investors demand a smaller at-issue yield spreads in the primary bond markets for firms with brand-adoption name changes reinforces the idea that corporate names bear brand capital and are thus conducive to a lower cost of capital.

c. A Robustness Test on the Bonding Role of the Brand-Adoption Name Changes

The credibility of the bonding role played by the brand-adoption name changes depends on how large is the bond posted. In equilibrium, firms adopt brand names only when the brand capital is sufficiently large. Accordingly, firms will suffer significant brand reputation losses due to financial misrepresentation.

Class action lawsuits are the result of financial misrepresentation. Following Karpoff, Lee, and Martin (2008), information on coverage on class action lawsuits during the first three years following the name changes and for payments to shareholders to settle them is gathered from the Lexis-Nexis database (company news file, SECREL on Securities Exchange Commission (SEC) decisions, orders, and releases, and CASES on Securities Exchange Commission cases and releases).

Table 10 shows that there are 34 (4.9% of the brand sample) class action lawsuits against the firms with brand-adoption name changes and 5 (2.6% of the radical sample) against the firms with radical name changes. To the extent that the Lexis-Nexis chooses to report on firms that are better recognized, this under-reporting bias on firms with radical name changes might lead to the underestimated frequencies of corporate misconduct.

How much of the stock market decline is due to the loss in brand reputation as a result of the announcement of class action lawsuits?

The stock market decline≈ settlement of class action lawsuit + loss if no cooking the books +reputation loss (10)

According to Eq. (10), firms suffer direct out-of pocket costs to settle and resolve class action lawsuits. Furthermore, it takes into consideration the stock price had there been no financial misreporting. The loss if there is no misrepresentation is calculated by multiplying each firm's book value of write-offs by its industry median market-to-book assets ratio using two-digit SIC codes. The book value of write-offs is the largest accounting adjustment and is defined as (negative one times) the sum of special items, accounting charges, and charge offs (Items 17, 183, and 349) after the name changes. Table 10 uses market model regressions to estimate the abnormal returns due to the announcement of class action lawsuits and transforms the abnormal returns into dollar terms by multiplying each abnormal return by the firm's market capitalization one day prior to the announcement date. The estimation window is (-260, -11), with day 0 being the announcement of the class action lawsuit. Table 10 partitions the total dollar loss into three portions according to Eq. (10). There are 3 firms with settlements funded entirely by insurance policies, 7 firms for which the court announces dismissal of the class action lawsuits, and 22 firms without information on the class action settlement payments. Table 10 then partitions the total dollar loss for these 32 firms into two portions: those attributable to the losses if there is no misrepresentation and to reputation loss.

Panel A reports the estimated loss during the announcement period of (-3, 0). A considerable portion of the stock market loss is due to unanticipated poor performance. For example, for brand-adoption name change firms, around 90 (70) % of the mean (median) cumulative CAR (-3, 0) loss is due to the loss if there is no misrepresentation. The mean (median) reputation losses differ significantly between firms making brand-adoption name changes and firms making radical name changes. The mean (median) magnitude of the estimated reputation loss is almost $87.5 ($16.3) million for the brand-adoption name change firms, while the estimated mean (median) magnitude of the estimated reputation loss is $16.3 ($6.4) for the radical name change firms. The finding of significant reputation losses from corporate misconduct is consistent with Klein and Leffler (1981), who argue that a loss to brand capital occurs when the brand is misused.

Panel B shows that the mean magnitudes of the estimated reputation loss based on the cumulative CAR (-2, 2) are $63.7 million and $4.3 million for the brand adoption and the radical name change firms, respectively. The mean (median) magnitude of the estimated reputation loss for the brand-adoption name change firms is $63.7 ($12.4) million and is comparable to that reported by Karpoff, Lee, and Martin (2008); their mean (median) estimated reputation loss is $64.7 million ($19.8 million).

The estimated impact of corporate misconduct on reputation loss is robust to an alternative estimation. Reestimating the reputation loss by using the largest accounting adjustments during the 60 months following the Class period (typically the time frame during which the alleged fraud is believed to take place) as the book value of write-offs, the unreported result shows that the mean (median) reputation loss is $810 million ($20.5) for the brand-adoption name change firms and $51.8 million ($6.9 million) for the radical name change firms. The mean (median) reputation losses differ significantly between brand adoption firms and radical change firms at a *p*-value of 0.056 (0.086).

5. Conclusions

This paper proposes that brand-adoption name changes play a valuable information role. Elevating a well-recognized brand name to the corporate level reduces information asymmetry. In addition, brand-adoption name changes play a valuable bonding role by associating the brand reputation with the firm's prospects. As a result, the types of name changes bear implications on the accompanying economic outcomes. This paper documents that a majority of the brand-adoption name changes are accompanied by a significant increase in net investments and an improvement in profitability, while a majority of the radical name changes are cosmetic in nature without real improvements.

This paper documents that a brand name adoption is associated with a lower cost of capital following the name change, while there are no intertemporal variations in the cost of capital for radical name change. This finding persists even after controlling for the competing information sources, the accompanying changes in firm characteristics, and the endogeneity of the decision to adopt a brand name as the new corporate name. The finding supports the idea that corporate name bears brand capital and is thus conducive to a lower cost of capital. The bonding role of brand-adoption name changes is further buttressed by that the brand reputation suffers for financial misrepresentation.

REFERENCES

Altman, Edward I., 1968, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy", Journal of Finance 4, 589-609.

Barron, Orie E., Donal Byard, Charles Kile, and Edward J. Riedl, 2002, "High-Technology Intangibles and Analysts' Forecasts", Journal of Accounting Research 40, 289-312.

Barth, Mary E., Ron Kasznik, and Maureen F. Mcnichols, 2001, "Analyst Coverage and Intangible Assets", Journal of Accounting Research 39, 1-34.

Beatty, Anne, Scott Liao, and Joseph Weber, 2010, "The Effect of Private Information and Monitoring on the Role of Accounting Quality in Investment Decisions", Contemporary Accounting Research 27, 17-47.

Bils, M., and Peter J. Klenow, 2004, "The Importance of Sticky Prices", Journal of Political Economy 112, 947–985.

Bradshaw, Mark T., Scott A. Richardson, and Richard G. Sloan, 2006, "Relation Between Corporate Financing Activities, Analysts' Forecasts and Stock Returns", Journal of Accounting and Economics 42, 53-85.

Brown, Gregory W., and Michael T. Cliff, 2005, "Investor Sentiment and Asset Valuation", Journal of Business 78, 405-440.

Cabral, Luís M. B., 2000, "Stretching Firm and Brand Reputation", Rand Journal of Economics 31, 658-673.

Cabral, Luís M. B., 2009, "Umbrella Branding with Imperfect Observability and Moral Hazard", International Journal of Industrial Organization 27, 206-213.

Cha, Heung-Joo, and Bong-Soo Lee, 2001, "The Market Demand Curve for Common Stocks: Evidence from Equity Mutual Fund Flows", Journal of Financial and Quantitative Analysis 36, 195-220.

Choi, Jay Pil, 1998, "Brand Extension as Informational Leverage", Review of Economic Studies 65, 655-669.

Cooper, Michael J., Orlin Dimitrov, and P. Raghavendra Rau, 2001, "A Rose.com by Any Other Name", Journal of Finance 56, 2371-2388.

Cooper, Michael J., Huseyin Gulen, and P. Raghavendra Rau, 2005, "Changing Names with Style: Mutual Fund Name Changes and Their Effects on Fund Flows", Journal of Finance 60, 2825-2858.

Cooper, Michael J., Ajay Khorana, Igor Osobov, Ajay Patel, and P. Raghavendra Rau, 2005, "Managerial Actions in Response to a Market Downturn: Valuation Effects of Name Changes in the dot.com Decline", Journal of Corporate Finance 11, 319-335.

Diamond, Douglas W., 1991, "Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt", Journal of Political Economy 99, 689-721.

Easley, David, and Maureen O'hara, 2004, "Information and the Cost of Capital", Journal of Finance 59, 1553-1583.

Easton, Peter D., 2004, "PE ratios, PE Ratios, PEG Ratios, and Estimating the Implied Expected Rate of Return on Equity Capital", Accounting Review 79, 73-95.

Elton, Edwin J., Martin J. Gruber, Deepak Agrawal, and Christopher Mann, 2001, "Explaining the Rate Spread on Corporate Bonds", Journal of Finance 56, 247-277.

Fama, Eugene F., and Kenneth R. French, 1993, "Common Risk Factors in the Returns on Stocks and Bonds", Journal of Financial Economics 33, 3-56.

Frank, Murray Z., and Vidhan K. Goyal, 2003, "Testing the Pecking Order Theory of Capital Structure", Journal of Financial Economics 67, 217-248.

Gebhardt, William R., Charles M. C. Lee, and Bhaskaran Swaminathan, 2001, "Toward an Implied Cost of Capital", Journal of Accounting Research 39, 135-176.

Gode, Dan, and Partha Mohanram, 2003, "Inferring the Cost of Capital Using the Ohlson–Juettner Model", Review of Accounting Studies 8, 399-431.

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

Guay, Wayne R., S.P. Kothari, and Susan Shu, 2005, "Properties of Implied Cost of Capital Using Analysts' Forecasts", Sloan MIT. Working Paper

Hall, Robert E., 2001, "The Stock Market and Capital Accumulation", American Economic Review 91, 1185-1202.

Heckman, James J., 1979, "Sample Selection Bias as a Specification Error", Econometrica 47, 153-161.

Ippolito, Pauline M., 1990, "Bonding and Nonbonding Signals of Product Quality", Journal of Business 63, 41-60.

Irvine Paul J., and Jeffrey Pontiff, 2009, "Idiosyncratic Return Volatility, Cash Flows, and Product Market Competition," Review of Financial Studies 22, 1149-1177.

Karpoff, Jonathan M., D. Scott Lee, and Gerald S. Martin, 2008, "The Cost to Firms of Cooking the Books", Journal of Financial and Quantitative Analysis 43, 581-612.

Klein, Benjamin, and Keith B. Leffler, 1981, "The Role of Market Forces in Assuring Contractual Performance", Journal of Political Economy 89, 615-641.

Kreps, David, 1990, "Corporate Culture and Economic Theory", in James Alt and Kenneth

Shepsle, eds., Perspectives on Positive Political Economy, New York, Cambridge University Press.

Mansi, Sattar A., William F. Maxwell, and Darius P. Miller, 2004, "Does Auditor Quality and Tenure Matter to Investors? Evidence from the Bond Market", Journal of Accounting Research 42, 755-793.

Mitchell, Mark L., 1989, "The Impact of External Parties on Brand-Name Capital: The 1982 Tylenol Poisonings and Subsequent Cases", Economic Inquiry 27, 601-618.

Myers, Stewart C., and Nicholas S. Majluf, 1984, "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have", Journal of Financial Economics 13, 187-221.

Odders-White, Elizabeth R., and Mark J. Ready, 2006, "Credit Ratings and Stock Liquidity", Review of Financial Studies 19, 119-157.

Pástor, Ľuboš, and Robert F. Stambaugh, 2003, "Liquidity Risk and Expected Stock Returns", Journal of Political Economy 111, 642-685.

Petersen, Mitchell A., 2009, "Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches", Review of Financial Studies 22, 435-480.

Smith, Daniel C., and C. Whan Park, 1992, "The Effects of Brand Extensions on Market Share and Advertising Efficiency", Journal of Marketing Research 29, 296-313.

Tadelis, Steven, 1999, "What's in a Name? Reputation as a Tradeable Asset", American Economic Review 89, 548-563.

Tirole, Jean, 2001, "Corporate Governance", Econometrica 69, 1-35.

Wakeman, L. MacDonald, 1990, "The Real Function of Bond Rating Agencies", in Clifford, Smith, ed., The Modern Theory of Corporate Finance, 2nd ed., New York, McGraw Hill.

Warther, Vincent A., 1995, "Aggregate Mutual Fund Flows and Security Returns", Journal of Financial Economics 39, 209-235.

Wu, YiLin, 2010, "What's in a Name? What Leads a Firm to Change Its Name and What the New Name Foreshadows", Journal of Banking and Finance 34, 1344-1359.

Table 1
List of Variables

Variables	Definitions
Cost of Capital	$r_{PE}, r_{PEG}, r_{MPEG}, r_{OJ}, r_{RIV}$
r_{PE}, Easton (2004)	$r_{PE} = EPS_1 / P_0, EPS_1 > 0$ **, CR_Rating, BR_Rating, Yieldspread**
r_{PEG}, Easton (2004)	$r_{PEG} = \sqrt{(EPS_2 - EPS_1)/P_0}, EPS_2 > EPS_1$
r_{MPEG}, Easton (2004)	$r_{MPEG} = \sqrt{(EPS_2 + r_{MPEG} DPS_1 - EPS_1)/P_0)}, EPS_2 > EPS_1$
r_{OJ}, Gode and Mohanram (2003)	$r_{OJ} = A + \sqrt{A^2 + (EPS_1/P_0)*(growth_2 - (\gamma - 1)}, growth_2 = \frac{EPS_2 - EPS_1}{EPS_1}$, $A = \frac{1}{2}((\gamma - 1) + \frac{DPS_1}{P_0}), \gamma - 1 = r_f$ -3%, where r_f is the yield on 10-year notes.
r_{RIV}, Gebhardt, Lee and Swaminathan (2001)	$P_0 = B_0 + \sum_{i=1}^{11} \frac{E_0[(ROE_i - r_{RIV})B_{i-1}]}{(1+r_{RIV})^i} + \frac{E_0[(ROE_{12} - r_{RIV})B_{11}]}{r_{RIV}(1+r_{RIV})^{11}}$, $E_0[(ROE_i] = EPS_i / E_0(B_{i-1}), E_0(B_i) = E_0(B_{i-1}) + EPS_i - DPS_i$, $DPS_i = EPS_i$ * current payout ratio, for i ≥ 2
CR_Rating	Firm's categorical credit rating. One if the firm's credit rating is between SD (D) and B+, two if the bond rating is between BB- and BB+, three if the rating is between BBB- and BBB+, and four if the rating is between A- and AAA.
BR_Rating	The at-issue bond's categorical credit rating. For firms with multiple bonds, I use a weighted average of a firm's individual at-issue bond categorical ratings, where the weight is the relative principal outstanding.
Yieldspread	The difference between the at-issue yield for the fixed-rate nonconvertible bond offers and the yield for a Treasury bond with a similar maturity on the same day. For corporate bonds that do not exactly match the Treasury maturity, I use linear interpolation to estimate the Treasury yields.
Economic Nature of Name Change	**Tobin's Q, IFIN, EFIN, INV, Real**
Tobin's Q	Market value of the assets/book value of the assets (# 6 – #60 +#199*#25) /(#6)
IFIN	Internal financing. For firms reporting format codes 1, 2 and 3, it equals #123 + #124 + #125 + #126 + #106 + #213 + #217 + #218. For firms reporting format code 7, it equals #123 + #124 + #125 + #126 + #106 + #213 + #217 + #314.
EFIN	External financing that equals net equity financing plus net debt financing. Net equity financing equals the issuance of common and preferred stock (#108) less the purchase of common and preferred stock (#115) less payments for dividends (#127). Net debt financing equals the issuance of long-term debt (#111) less payments for long-term debt reductions (#114) less the net changes in current debt (#301).
INV	The aggregate net investments. For firms reporting format codes 1 to 3, net investments are equal to #128 + #113 + #129 + #219 - #107 - #109. For format code 7, net investments are equal to #128 + #113 + #129 - #107 - #109 - #309 - #310.
Real	One for firms with improvements in IFIN or INV, and zero otherwise.
Information Environment	**Analysts, Turnover, Institution, Leverage, Bankdebt**
Analysts	Number of equity analysts
Turnover	Trading volume/the average of outstanding shares
Institution	Institutional ownership
Leverage	Ratio of debt over total assets
Bankdebt	One for firms with notes payable or bank debt (#206), and zero otherwise.
Accounting-based Intangible Assets	**ADV, R&D, Goodwill**

ADV	Advertising expenses/total operating expenses
R&D	R&D expense/total operating expenses
Goodwill	Balance sheet intangibles. Goodwill=(#204 +#33)/total assets

Table II

Changes in Firm Characteristics around Brand-Adoption Name Changes and Radical Name Changes

	Brand Adoption			Radical Change			Brand Adoption vs. Radical Change	
	Before	After	*p*-paired	Before	After	*p*-paired	*p*-before	*p*-after
Panel A: Economic nature of name change								
Tobin's Q	1.797	1.960	[0.042]	1.630	1.539	[0.470]	[0.134]	[0.000]
	53.8%		[0.081]	45.98%		[0.804]		
	(446)	(554)		(142)	(111)			
IFIN/ln(sales)	5.289	8.988	[0.001]	4.890	5.320	[0.809]	[0.768]	[0.020]
	63.3%		[0.000]	48.2%		[0.670]		
	(548)	(491)		(139)	(106)			
EFIN/ln(cap)	0.984	1.150	[0.786]	2.508	-3.010	[0.015]	[0.071]	[0.057]
	46.4%		[0.929]	43.5%		[0.904]		
	(532)	(476)		(140)	(106)			
INV/ln(cap)	4.843	6.458	[0.032]	-1.744	-10.420	[0.033]	[0.000]	[0.000]
	55.4%		[0.022]	48.2%		[0.670]		
	(519)	(462)		(137)	(106)			
Panel B: Information environment								
Analysts	0.258	5.420	[0.000]	0.083	2.404	[0.000]	[0.114]	[0.000]
	85.2%		[0.000]	76.9%		[0.000]		
	(697)	[697)		(193)	(193)			
Turnover	0.115	0.123	[0.325]	0.128	0.109	[0.525]	[0.587]	[0.487]
	52.3%		[0.125]	47.0%		[0.812]		
	(681)	[692)		(185)	(190)			
Institution	24.66	26.36	[0.416]	19.620	17.100	[0.562]	[0.149]	[0.006]
	56.5%		[0.019]	46.2%		[0.756]		
	(276)	[287)		(54)	(58)			
Leverage	0.258	0.283	[0.076]	0.284	0.333	[0.129]	[0.244]	[0.065]
	51.7%		[0.206]	54.0%		[0.185]		
	(629)	(649)		(164)	(163)			
Bankdebt	51.3%	41.0%	[0.000]	49.2%	41.5%	[0.124]	[0.599]	[0.917]
	41.0%		[0.000]	41.5%		[0.021]		
	(697)	(697)		(193)	(193)			
Panel C: Accounting-based intangible assets								
ADV	0.131	0.133	[0.357]	0.067	0.061	[0.962]	[0.010]	[0.029]
	44.0%		[0.918]	42.9%		[0.788]		
	(203)	(184)		(49)	(27)			
R&D	0.146	0.154	[0.607]	0.133	0.157	[0.488]	[0.603]	[0.916]
	40.0%		[0.996]	29.2%		[0.989]		
	(259)	(226)		(52)	(38)			
Goodwill	0.091	0.155	[0.000]	0.084	0.097	[0.611]	[0.185]	[0.022]
	58.1%		[0.001]	44.3%		[0.880]		
	(561)	(498)		(143)	(108)			

The first line in each cell is the mean (and the *p*-value of a matched pair of t-tests to compare the matched paired means), the second line in each cell is the percentage of the variable with at least zero increase (and

the *p*-value of a binomial sign test to determine if the percentage is significantly greater than 50%), the third line in each cell is the number of observations. For Bankdebt, the first line is the percentage of firms with notes payable or bank debt, the second line is the percentage of firms with at least zero increase in Bankdebt, and the third line in each cell is the number of observations. The last two columns show the *p*-values for differences in means between the brand-adoption name changes and the radical name changes.

Table III
The Estimated Costs of Capital around the Name Changes

Cost of capital	Brand Adoption			Radical Change			Brand Adoption vs. Radical Change	
	Before	After	*p*-paired	Before	After	*p*-paired	*p*-before	*p*-after
r_{PE}, Easton (2004)	6.393	5.606	[0.142]	6.610	7.231	[0.159]	[0.695]	[0.254]
	5.652	4.654	[0.083]	4.776	4.865	[0.668]	[0.863]	[0.795]
	(250)	(261)		(33)	(46)			
r_{PEG}, Easton (2004)	17.038	14.245	[0.058)	17.422	18.960	[0.313]	[0.625]	[0.048]
	13.650	11.496	[0.015]	13.140	14.220	[0.664]	[0.378]	[0.089]
	(240)	(257)		(36)	(46)			
r_{MPEG}, Easton (2004)	15.739	13.340	[0.005]	19.000	22.345	[0.611]	[0.243]	[0.039]
	14.033	11.882	[0.002]	14.660	16.040	[0.604]	[0.500]	[0.098]
	(240)	(257)		(37)	(45)			
r_{OJ}, Gode and Mohanram (2003)	7.681	7.289	[0.324]	5.225	7.364	[0.440]	[0.574]	[0.854]
	8.263	6.268	[0.069]	4.470	6.802	[0.528]	[0.110]	[0.941]
	(230)	(263)		(39)	(46)			
r_{RIV}, Gebhardt, Lee and Swaminathan (2001)	9.354	6.787	[0.050]	11.392	14.642	[0.006]	[0.122]	[0.041]
	6.748	6.376	[0.425]	11.400	13.653	[0.010]	[0.114]	[0.084]
	(221)	(254)		(37)	(47)			
CR_Rating	2.082	2.696	[0.000]	1.750	1.722	[0.922]	[0.080]	[0.000]
	2.000	3.000	[0.000]	1.000	1.000	[0.871]	[0.090]	[0.000]
	(140)	(158)		(31)	(36)			
BR_Rating	1.468	2.024	[0.021]	—	1.191	—	—	[0.000]
	1.000	2.000	[0.015]	—	1.000	—	—	[0.000]
	(43)	(93)			(28)			
Yieldspread	2.76	2.46	[0.052]	—	3.78	—	—	[0.035]
	2.77	2.29	[0.054]	—	3.26	—	—	[0.031]
	(43)	(93)			(28)			

For the pre-name change period, the figures are as of one fiscal year before the name changes. For the post-name change period, the figures are as of the third fiscal year after the name changes. The first line in each cell is the mean (and the *p*-value of a matched pair t-test to compare the matched paired means), the

second line in each cell is the median (and the *p*-value of a Wilcoxon signed-rank test to compare the matched paired medians), and the third line in each cell isthe number of observations. The last two columns show the *p*-value for differences in means (medians) between the brand-adoption and the radical name changes. The — = not applicable.

Table IV
Pooled Regression Estimates of Costs of Equity Capital from the Fama-French's (1993) Three Factors and Pastor-Stambaugh's (2003) Traded Liquidity Factor Asset Pricing Model

	α_0	α_1	β_0	β_1	S_0	S_1	H_0	H_1	L_0	L_1
Panel A: Brand Adoption										
$r_{i,t} - r_{f,t}$	0.0084	-0.0033	1.0863	-0.2200	1.0688	-0.2337	0.0051	-0.1108	0.1685	-0.1006
	(0.000)	(0.357)	(0.000)	(0.063)	(0.000)	(0.085)	(0.962)	(0.648)	(0.165)	(0.169)
Panel B: Radical Change										
$r_{i,t} - r_{f,t}$	-0.0034	-0.0078	1.0251	0.0199	0.9188	0.3124	0.6465	-0.2791	0.0668	0.0352
	(0.654)	(0.348)	(0.000)	(0.924)	(0.000)	(0.209)	(0.280)	(0.659)	(0.715)	(0.877)

$$r_{t,i} - r_{f,t} = \alpha_{i,0} + \alpha_{i,1}D_t + (\beta_{i,0} + \beta_{i,1}D_t)(r_{m,t,i} - r_{f,t,i}) + (S_{i,0} + S_{i,1}D_t)SMB_{t,i} + (H_{i,0} + H_{i,1}D_t)HML_{t,i} + (L_{i,0} + L_{i,1}D_t)LIQL_{t,i} + \varepsilon_{t,i}, \quad (1)$$

where D_t equals one if the data are in the post-name change period, and zero if the data are in the pre-name change period. β_0, S_0, H_0, and L_0 denote the pre-name change betas on the excess value-weighted CRSP index return, size factor, book-to-market factor, and the liquidity factor, respectively; β_1, S_1, H_1, and L_1 denote the differences between the post- and pre-name change betas on the market factor, size factor, book-to-market factor, and the liquidity factor, respectively; α_0 is the pre-name change abnormal return; and α_1 is the difference between the post- and pre-name change abnormal return. To avoid the announcement effect, I run Eq. (1) for each month t from month -36 to month -2 prior to the name change announcement month and from month +2 to month +36 after the name change announcement month. To ensure that the factor loadings are estimated with sufficient observations, firms that have fewer than 12 monthly returns in the pre-name change are excluded and firms that have fewer than 12 monthly returns in the post-name change period are excluded. In parentheses are the *p*-values.

Table V

Probit Analysis for the Choices between the Brand Adoption Name Changes and the Radical Name Changes

	Brand Adoption vs. Radical Change
Intercept	2.740
	(0.000)
Tobin's Q	0.019
	(0.081)
IFIN/ln(caps)	0.013
	(0.008)
EFIN/ln(caps)	-0.023
	(0.154)
INV/ln(caps)	0.055
	(0.004)
Bad coverage	-0.022
	(0.009)
Other coverage	0.006
	(0.062)
Ticker	-0.012
	(0.950)
Brands	0.033
	(0.021)
Goodwill	0.150
	(0.758)
Physical capital	0.008
	(0.096)
ln(1+Age Since IPO)	0.088
	(0.584)
Bid/Ask Spread	-0.042
	(0.016)
ln(1+Analysts)	3.937
	(0.089)
Institution	0.019
	(0.000)
Herfindahl	0.361
	(0.638)
Leverage	-0.486
	(0.020)
Year fixed effect	Yes
Correct Prediction Rate (%) (CPR)	89.35
pseudo R^2	18.09
Sample Size	684

For the dependent variable, Brand-adoption name change equals one, and zero otherwise. Bad coverage refers to the number of news reports on fraud, unreliable acts, and poor performance in the company news file of the Lexis-Nexis database and the Dow Jones Interactive database within three years prior to name changes. Other coverage refers to the number of media reports other than bad news in the same above sources over the same period. Ticker equals one for firms that experience ticker symbol changes. Brands refer to the number of reported brand names. Physical capital is the natural log of net property, plant & equipment. Age since IPO is the number of years between IPO and the announcement of the name changes. Bid/Ask Spread is 100*(1-bid/ask). Herfindahl is the Herfindahl index. Please refer to Table 1 for the detailed definition of the rest of the independent variables. P-values (in parentheses) are based on White-corrected standard errors. The p-value for the significance of the regression equation is less than 0.000.

Table VI

Intertemporal Regression Analysis of the Effect of the Brand-Adoption Name Changes on the Costs of Equity Capital

	Expected Sign	OLS regression				Orthogonalized reg.		Self-selection	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept		1.338	2.720	0.546	2.058	0.064	0.627	5.451	6.790
		(0.502)	(0.957)	(0.899)	(0.581)	(0.988)	(0.860)	(0.000)	(0.000)
Type of name change and the correction for self-selection									
D_t (0,1)	-	-0.758	-0.844	-1.182	-1.685	-1.185	-2.260	-0.009	-0.089
		(0.300)	(0.407)	(0.380)	(0.480)	(0.347)	(0.284)	(0.900)	(0.444)
Adoption (0,1)	-			-0.894	-0.521	-1.094	-0.724	-0.129	-0.082
				(0.049)	(0.127)	(0.020)	(0.102)	(0.086)	(0.107)
Lambda	-							-0.004	-0.140
								(0.085)	(0.000)
D_t *Adoption	-			-0.174	-0.731	-0.548	-1.123	-0.117	-0.286
				(0.097)	(0.085)	(0.010)	(0.034)	(0.089)	(0.037)
Economic performance (Nature of name change)									
Tobin's Q	-	-0.153	-0.001	-0.129	-0.010	-0.100	-0.009	-0.017	-0.010
		(0.116)	(0.198)	(0.147)	(0.243)	(0.909)	(0.983)	(0.623)	(0.686)
IFIN/ln(sales)	-	-0.009	-0.006	-0.007	-0.007	-0.001	-0.000	-0.048	-0.023
		(0.079)	(0.082)	(0.085)	(0.098)	(0.936)	(0.836)	(0.067)	(0.079)
EFIN/ln(caps)	+	0.004	0.013	0.003	0.009	0.001	0.001	0.204	0.261
		(0.817)	(0.450)	(0.527)	(0.450)	(0.989)	(0.828)	(0.079)	(0.062)
INV/ln(caps)	+	-0.010	-0.016	-0.020	-0.023	-0.008	-0.002	-0.020	-0.021
		(0.096)	(0.085)	(0.049)	(0.087)	(0.561)	(0.344)	(0.223)	(0.205)
Real (0,1)	-		-2.108		-3.313		-1.126		-1.931
			(0.014)		(0.072)		(0.099)		(0.052)
D_t *Real	-		-1.458		-1.658		-0.654		-1.102
			(0.059)		(0.066)		(0.466)		(0.082)
Information environment									
ln(1+Analysts)	-	-1.349	-1.169	-1.524	-1.345	-1.524	-1.345	-1.080	-1.076
		(0.048)	(0.012)	(0.049)	(0.034)	(0.049)	(0.034)	(0.002)	(0.032)
Turnover	-	-4.644	-8.843	-4.618	-	-4.618	-9.028	-0.287	-0.307

					9.028				
		(0.073)	(0.006)	(0.031)	(0.082)	(0.031)	(0.082)	(0.040)	(0.039)
Institution	-	-0.024	-0.014	-0.026	-0.007	-0.026	-0.007	-0.061	-0.048
		(0.269)	(0.354)	(0.283)	(0.579)	(0.283)	(0.579)	(0.101)	(0.209)
Leverage	+	7.886	8.881	6.979	7.025	6.979	7.025	0.287	0.154
		(0.010)	(0.000)	(0.012)	(0.014)	(0.012)	(0.014)	(0.076)	(0.088)
Bankdebt (0,1)	-	0.586	0.397	0.530	0.516	0.530	0.516	0.483	0.031
		(0.609)	(0.623)	(0.681)	(0.632)	(0.681)	(0.632)	(0.312)	(0.953)
CR (0,1)	-	-1.308	-1.272	-1.203	-0.630	-1.203	-0.630	-1.176	-0.723
		(0.053)	(0.056)	(0.051)	(0.681)	(0.051)	(0.681)	(0.057)	(0.274)
Other controls: Accounting-based intangible assets, volatility and price momentum									
Goodwill	-	-0.298	-0.609	-7.110	-0.987	-7.110	-0.987	-0.017	-0.017
		(0.902)	(0.726)	(0.192)	(0.676)	(0.192)	(0.676)	(0.623)	(0.613)
STD	+	43.433	28.932	27.746	27.186	27.746	27.186	9.951	4.304
		(0.000)	(0.000)	(0.000)	(0.045)	(0.000)	(0.045)	(0.000)	(0.000)
MAE of forecast earnings	+	0.079	0.066	0.017	0.018	0.017	0.018	0.012	0.015
		(0.028)	(0.095)	(0.097)	(0.079)	(0.097)	(0.079)	(0.000)	(0.034)
$Return_{-12}$	+	-3.660	-3.482	-3.484	-3.441	-3.484	-3.441	-1.219	-1.193
		(0.001)	(0.000)	(0.008)	(0.002)	(0.008)	(0.002)	(0.005)	(0.007)
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No.		550	550	550	550	550	550	550	550
Adj. R-squared (%)		58.14	61.04	59.77	65.21	58.38	65.21	62.81	66.65

Dependent variable ($r_{MPEG} - r_{f,t}$) is measured at the year-end prior to and at the end of the third year following the name changes. D_t equals to one for the post-name-change period, and zero otherwise. Adoption equals one for the brand adoption name changes, and zero otherwise. The other independent variables are measured at two years prior to and two years following the name changes. Real equals one for firms with an improvement in IFIN/ln(sales) and zero otherwise. CR equals one for firms whose bonds have been rated during the sample period and zero otherwise. STD is the standard deviation of monthly buy-and-hold market-adjusted returns from the previous five years ending at the time measuring independent variable. MAE of forecast earnings is the mean absolute error of the preceding five annual I/B/E/S consensus forecasts ending at the time measuring independent variable. $Return_{-12}$ is the one year period buy-and-hold market-adjusted return. Please refer to Table 1 for the detailed definition of the rest of the independent variables. *P*-values (in parentheses) are based on White-corrected standard errors. For all regressions, the *P*-value for the significance of the regression equation is 0.000 or lower.

Table VII

Cross-Sectional Analysis of the Effect of the Brand-Adoption Name Changes on the Reduction in Market Risk and the Reduction in Size Beta

	Expected Sign	OLS		Orthogonalized		Self-selection	
		β_1	S_1	β_1	S_1	β_1	S_1
		(1)	(2)	(3)	(4)	(5)	(6)
Intercept		1.024	1.213	1.009	1.160	0.666	0.927
		(0.035)	(0.029)	(0.038)	(0.037)	(0.363)	(0.241)
Type of name change and the correction for self-selection							
Adoption (0,1)	-	-0.764	-0.204	-0.775	-0.211	-0.521	-0.195
		(0.053)	(0.066)	(0.042)	(0.065)	(0.075)	(0.075)
Lambda	-					-2.067	-0.278
						(0.013)	(0.895)
Changes in economic performance (Nature of name change)							
ΔTobin's Q	-	-0.061	-0.048	-0.077	0.061	-0.056	-0.020
		(0.026)	(0.084)	(0.426)	(0.584)	(0.096)	(0.188)
ΔIFIN/ln(sales)	-	-0.001	-0.015	-0.008	-0.195	-0.002	-0.020
		(0.945)	(0.021)	(0.945)	(0.121)	(0.807)	(0.067)
ΔEFIN/ln(caps)	+	0.003	-0.001	0.046	-0.021	0.002	0.003
		(0.734)	(0.893)	(0.814)	(0.893)	(0.826)	(0.746)
ΔINV/ln(caps)	+	0.007	0.007	0.149	0.138	0.006	0.006
		(0.285)	(0.387)	(0.285)	(0.387)	(0.401)	(0.452)
Information environment							
ln(1+Analysts)	-	-0.207	-0.341	-0.207	-0.341	-0.206	-0.308
		(0.488)	(0.019)	(0.488)	(0.019)	(0.549)	(0.046)
Turnover	-	-3.262	0.561	-3.261	0.561	-4.036	-0.265
		(0.000)	(0.630)	(0.000)	(0.630)	(0.001)	(0.836)
Institution	-	0.002	-0.007	0.002	-0.007	0.003	-0.001
		(0.711)	(0.287)	(0.711)	(0.287)	(0.616)	(0.843)
Leverage	+	0.274	0.557	0.274	0.557	0.609	0.811
		(0.069)	(0.031)	(0.069)	(0.031)	(0.062)	(0.023)
Bankdebt (0,1)	-	0.041	-0.192	0.041	-0.192	0.028	-0.207
		(0.856)	(0.451)	(0.856)	(0.451)	(0.915)	(0.458)
CR (0,1)	-	-0.165	-0.363	-0.165	-0.363	-0.128	-0.396
		(0.596)	(0.310)	(0.596)	(0.310)	(0.730)	(0.321)
Other controls: Accounting-based intangible assets, volatility and price momentum							
Goodwill	-	-0.472	0.199	-0.472	0.199	-0.486	-0.710
		(0.169)	(0.789)	(0.169)	(0.789)	(0.537)	(0.403)
STD	+	0.884	-5.797	0.884	-5.797	1.370	-4.734
		(0.388)	(0.000)	(0.388)	(0.000)	(0.071)	(0.000)
MAE of forecast earnings	+	0.124	0.087	0.124	0.087	0.144	0.067
		(0.711)	(0.631)	(0.711)	(0.631)	(0.624)	(0.823)
$Return_{-12}$	+	0.098	0.320	0.098	0.320	0.088	0.298
		(0.159)	(0.035)	(0.159)	(0.035)	(0.543)	(0.056)
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes
No.		351	351	351	351	292	292
Adj. R-squared (%)		4.90	9.40	5.10	9.92	6.40	10.12

The dependent variable, β_1, in columns (1), (3), and (5) is the differences between the post- and pre-name change betas on the market factor. The dependent variable, S_1, in columns (2), (4), and (6) is the differences between the post- and pre-name change betas on the SMB factor. Adoption equals one for the brand adoption name change firms, and zero otherwise. I measure the changes in economic performances as the differences between the two years following and two years prior to the name changes. I measure the other independent variables at two years prior to the name changes. CR equals one for firms whose bonds have been rated

during our sample period and zero otherwise. STD is the standard deviation of monthly buy-and-hold market-adjusted returns from the previous five years ending at the time measuring independent variable. MAE of forecast earnings is the mean absolute error of the preceding five annual I/B/E/S consensus forecasts ending at the time measuring independent variable. $Return_{-12}$ is the one year period buy-and-hold market-adjusted return. Please refer to Table 1 for the detailed definition of the rest of the independent variables. *P*-values (in parentheses) are based on White-corrected standard errors. For all regressions, the *P*-value for the significance of the regression equation is 0.000 or lower.

Table VIII

Intertemporal Ordered Probit Regression Analysis of the Effect of the Brand-Adoption Name Changes on the Firm Credit Ratings

	Expected Sign	Ordered Probit reg.				Orthogonalized reg.		Self-selection	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Type of name change and the correction for self-selection									
D_t (0,1)	+	1.073	1.359	0.010	0.314	0.010	0.150	0.029	0.151
		(0.000)	(0.000)	(0.988)	(0.657)	(0.988)	(0.831)	(0.976)	(0.882)
Adoption (0,1)	+			0.137	0.069	0.137	0.069	0.196	0.164
				(0.032)	(0.894)	(0.032)	(0.894)	(0.814)	(0.833)
Lambda	+							0.031	0.084
								(0.071)	(0.101)
D_t *Adoption	+			1.120	1.170	1.340	1.352	0.924	1.048
				(0.053)	(0.116)	(0.000)	(0.000)	(0.006)	(0.078)
Economic performance (Nature of name change)									
Tobin's Q	+	0.285	0.285	0.289	0.276	0.101	0.028	0.118	0.139
		(0.096)	(0.100)	(0.098)	(0.121)	(0.198)	(0.241)	(0.155)	(0.123)
IFIN/ln(sales)	+	0.005	0.005	0.037	0.043	0.004	0.008	0.044	0.048
		(0.000)	(0.000)	(0.000)	(0.000)	(0.771)	(0.176)	(0.000)	(0.000)
EFIN/ln(caps)	-	-0.068	0.001	-0.003	0.004	0.003	0.000	0.002	0.002
		(0.578)	(0.240)	(0.669)	(0.542)	(0.979)	(0.794)	(0.216)	(0.198)
INV/ln(caps)	+	0.263	0.005	0.002	0.001	0.000	0.000	-0.001	-0.006
		(0.072)	(0.527)	(0.541)	(0.840)	(0.774)	(0.981)	(0.571)	(0.326)
Real	+		0.033		0.356		0.268		0.167
			(0.073)		(0.147)		(0.331)		(0.240)
D_t *Real	+		0.275		0.401		0.073		0.662
			(0.089)		(0.078)		(0.196)		(0.140)
Information environment									
Analysts	+	0.016	0.020	0.016	0.022	0.016	0.022	0.106	0.165
		(0.041)	(0.010)	(0.034)	(0.006)	(0.034)	(0.006)	(0.001)	(0.058)
Turnover	+	0.123	0.050	0.002	0.260	0.002	0.260	1.329	0.190
		(0.094)	(0.195)	(0.486)	(0.876)	(0.486)	(0.876)	(0.754)	(0.632)
Institution	+	0.005	0.005	0.006	0.006	0.006	0.006	0.005	0.006

		(0.095)	(0.042)	(0.064)	(0.090)	(0.064)	(0.090)	(0.084)	(0.146)
Leverage	-	-1.509	-1.500	-1.498	-1.515	-1.498	-1.515	-2.209	-2.259
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.026)	(0.000)
Bankdebt (0,1)	+	0.328	0.349	0.388	0.422	0.388	0.422	0.829	0.820
		(0.089)	(0.073)	(0.045)	(0.032)	(0.045)	(0.032)	(0.019)	(0.020)
Other controls: Accounting-based intangible assets, volatility and risk									
Goodwill	-	-0.421	-0.297	-0.489	-0.333	-0.489	-0.333	-0.875	-0.819
		(0.328)	(0.496)	(0.262)	(0.453)	(0.262)	(0.453)	(0.119)	(0.214)
STD	-	-11.218	-11.870	-10.491	-10.995	-10.491	-10.995	-5.487	-9.564
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Z-score	+	-0.003	0.020	0.011	0.042	0.011	0.042	-0.030	0.039
		(0.964)	(0.760)	(0.870)	(0.531)	(0.870)	(0.531)	(0.673)	(0.720)
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No.		699	699	699	699	699	699	699	699
Pseudo R-squared (%)		44.45	40.54	48.66	48.53	54.66	59.76	51.88	58.94
Cut-off group 1		-0.955	-1.097	-0.943	-0.881	-1.640	-1.444	-0.927	-0.888
Cut-off group 2		-0.015	-0.123	0.019	0.126	-0.678	-0.437	0.947	1.004
Cut-off group 3		1.647	1.588	1.719	1.892	1.215	1.330	3.223	3.315

The dependant variable takes the value of four when the bond is rated between A- and AAA, three when it is rated between BBB- and BBB+, two when it is rated between BB- and BB+, and one for the rest. The dependent variable is measured at the year-end prior to and at the end of the third year following the name changes. D_t equals to one for the post-name change period, and zero otherwise. Adoption equals one for the brand-adoption name changes, and zero otherwise. The other independent variables are measured at two years prior to and following the name changes. Real dummy equals one for firms with an improvement in IFIN/ln(sales), and zero otherwise. Bankdebt equals one for firms that have notes payable or bank debt (#206), and zero otherwise. STD is the standard deviation of monthly buy-and-hold market-adjusted returns from the previous five years ending at the time measuring independent variable. Z-score is the Altman's (1968) Z-score for public firms. Please refer to Table 1 for the detailed definitions of the rest of the independent variables. *P*-values (in parentheses) are based on White-corrected standard errors. For all regressions, the *P*-value for the significance of the regression equation is 0.000 or lower.

Table IX

Regression Analysis of the Effect of the Brand-Adoption Name Changes on the At-Issue Yield Spreads

	Expected Sign	OLS		Orth. BR_Rating	Orth. Real	Orth. BR_Rating and Real		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant		3.000	2.819	2.819	2.829	2.636	2.496	3.512
		(0.008)	(0.018)	(0.018)	(0.019)	(0.025)	(0.240)	(0.000)
Type of name change								
Adoption (0,1)	-		-0.135	-0.195	-0.142	-0.325	-0.526	-0.772
			(0.073)	(0.062)	(0.071)	(0.041)	(0.046)	(0.000)
Economic performance (Nature of name change)								
Real	-	-0.373	-0.337	-0.656	0.033	-0.656	-0.160	-0.123
		(0.067)	(0.086)	(0.035)	(0.901)	(0.035)	(0.799)	(0.000)
Information environment								
Turnover	-	-3.152	-2.063	-4.491	-2.063	-4.491	-3.178	-5.610
		(0.037)	(0.064)	(0.017)	(0.064)	(0.017)	(0.066)	(0.070)
Institution	-	0.000	-0.001	-0.008	-0.001	-0.008	-0.004	-0.017
		(0.938)	(0.719)	(0.075)	(0.719)	(0.075)	(0.593)	(0.014)
Leverage	+	3.062	3.207	3.416	3.207	3.416	2.989	2.212
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Bankdebt (0,1)	-	-0.642	-0.908	-1.055	-0.908	-1.055	-0.916	-0.939
		(0.007)	(0.000)	(0.000)	(0.000)	(0.000)	(0.056)	(0.000)
Bond characteristics								
BR_Rating	-	-0.609	-0.414	-0.414	-0.414	-0.414	-0.329	-0.566
		(0.000)	(0.005)	(0.005)	(0.005)	(0.005)	(0.206)	(0.000)
Principal	+	0.001	0.000	-0.000	0.000	-0.000	-0.000	0.000
		(0.039)	(0.147)	(0.411)	(0.147)	(0.411)	(0.662)	(0.578)
Maturity	+	0.096	0.095	0.140	0.095	0.140	0.209	0.195
		(0.010)	(0.014)	(0.001)	(0.014)	(0.001)	(0.004)	(0.045)
Call	+	0.681	0.709	0.463	0.709	0.463	0.347	0.411
		(0.010)	(0.009)	(0.081)	(0.009)	(0.081)	(0.098)	(0.000)
Sub	+	0.081	0.101	1.346	0.101	1.346	0.951	1.358
		(0.782)	(0.153)	(0.000)	(0.153)	(0.000)	(0.161)	(0.000)
Put	-	-0.037	-0.074	-0.524	-0.074	-0.524	-0.430	-1.246
		(0.915)	(0.749)	(0.130)	(0.749)	(0.130)	(0.521)	(0..138)
Placement	+	0.073	0.096	0.730	0.096	0.730	0.514	0.852
		(0.072)	(0.096)	(0.000)	(0.096)	(0.000)	(0.076)	(0.000)
Volatility and risk								
STD	+	4.310	4.174	4.862	4.174	4.862	8.565	7.131
		(0.421)	(0.018)	(0.025)	(0.018)	(0.025)	(0.010)	(0.041)
Z-score	-	-0.039	-0.084	-0.125	-0.084	-0.125	-0.148	-0.153
		(0.636)	(0.270)	(0.121)	(0.270)	(0.121)	(0.355)	(0.131)
Baa-Aaa spread	+	0.691	1.215	0.051	1.215	0.051	0.783	0.271
		(0.093)	(0.084)	(0.096)	(0.084)	(0.096)	(0.066)	(0.223)
$R_{M,t}$-$R_{f,t}$	+							0.003
								(0.784)
SMB	+							0.277
								(0.000)
HML	+							0.037
								(0.001)
No.		254	254	254	254	254	254	254
Pseudo R-squared (%)		47.97	48.82	48.82	48.82	48.82	47.63	51.35

The dependant variable is the at-issue yield spreads. The bond issuances are measured during the first three years after the name changes. Adoption equals one for the brand adoption name changes, and zero otherwise. Real equals one for firms with an improvement in IFIN/ln(sales), and zero otherwise. Bankdebt equals one for firms with notes payable or bank debt (#206), and zero otherwise. BR_Rating is the at-issue four ordinal-scaled bond rating. Bond characteristics include principal (the ratio of the principal amount of the bond over the firm's total assets), maturity (natural logarithm of one plus the number of years to final maturity), call (an indicator equals one for callable bonds and zero otherwise), sub (an indicator equals one for subordinated bonds and zero otherwise), put (an indicator equals one for bonds containing put options and zero otherwise), and placement (a categorical variable equals two for traditional private placement debt, one for 144A private placement debt, and zero for public offering bond). STD is the standard deviation of monthly buy-and-hold market-adjusted returns from the previous five years ending at the time measuring the independent variable. Z-score is the Altman's (1968) Z-score for public firms. Baa-Aaa spread is the difference of yield spread between Moody's Baa bonds and Aaa bonds. Please refer to Table 1 for the detailed definitions of the rest of independent variables. Model (6) measures the yield spreads as the difference between the at-issue yield for the fixed-rate nonconvertible bond offers and the yield for a Treasury bond with a similar modified duration on the same day. All models include a dummy that equals one for companies that issue multiple bonds in the sample. *P*-values (in parentheses) are based on White-corrected standard errors. For all regressions, the *P*-value for the significance of the regression equation is 0.000 or lower.

Table X

Estimated Brand Reputation Loss from Financial Misconduct

			Brand Adoption		Radical Change		Brand Adoption vs. Radical Change	
			Mean	Median	Mean	Median	[*P*-value]	
Panel A: Reputation loss based on CAR (-3,0)								
Cumulative CAR (-3,0)% abnormal returns,			-16.68%	-9.27%	-11.240	-12.27	[0.092]	[0.905]
			[0.000]	[0.048]	[0.115]	[0.625]		
			(34)	(34)	(5)	(5)		
(1)	Cumulative CAR (-3,0)% loss ($ millions)		948.790	37.83	60.111	9.209	[0.096]	[0.389]
			[0.065]	[0.003]	(0.181)	(0.375)		
			(34)	(34)	(5)	(5)		
(2)	Loss if no cooking of the books ($ millions)=(3)*(4)		857.257	26.56	43.842	27.34	[0.066]	[0.660]
			[0.041]	[0.000]	[0.148]	[0.063]		
			(34)	(34)	(5)	(5)		
	(3)	Book value of write-offs	571.437	18.94	29.296	21.25	[0.064]	[0.721]
			[0.039]	[0.000]	[0.156]	[0.063]		
			(34)	(34)	(5)	(5)		
	(4)	Industry median market-to-book assets	1.429	1.372	1.470	1.451	[0.777]	[0.644]
			[0.000]	[0.000]	[0.000]	[0.063]		
			(34)	(34)	(5)	(5)		
(5)	Settlement payments of class action lawsuit ($ millions)		19.707	5.00	—	—	—	—
			[0.240]	[0.016]				
			(7)	(7)	(0)	(0)		
Reputation Loss ($ Millions) =(1)-(2)-(5)			87.476	16.270	16.270	6.389	[0.064]	[0.093]
			[0.023]	[0.090]	[0.190]	[1.000]		
			(34)	(34)	(5)	(5)		
Panel B: Reputation loss based on CAR (-2,2)								
Cumulative CAR (-2,2)% abnormal returns,			-15.41%	-11.70%	-12.81%	-8.083%	[0.075]	[0.794]
			[0.000]	[0.024]	[0.154]	[0.125]		
			(34)	(34)	(5)	(5)		
(1)*	Cumulative CAR (-2,2)% loss ($ millions)		797.590	19.352	16.495	17.19	[0.039]	[0.887]
			[0.099]	[0.024]	[0.089]	[0.125]		
			(34)	(34)	(5)	(5)		
Reputation Loss ($ Millions)			63.724	12.42	4.258	8.890	[0.066]	[0.476]

=(1)*-(2)-(5)	[0.069]	[0.073]	[0.625]	[0.855]		
	(34)	(34)	(5)	(5)		

I search for the Lexis-Nexis database (company news file, SECREL, and CASES) for coverage on class action lawsuits for three years following the name changes and for payments to shareholders to settle the class action lawsuits. Class action lawsuits are shareholder lawsuits against the firm, officers, directors and other related parties, as a result of the financial reporting related charges. I calculate CAR(%) using a market model regression of firm stock returns on the CRSP equally weighted market index. The estimation window is (-260, -11), with day 0 being the announcement of the class action lawsuit. To transform the abnormal returns into dollar terms, I multiply each abnormal return by the firm's market capitalization one day before the event day. The cumulative CAR (-3,0)% loss is the dollar losses summed over all event days for a given firm. I calculate the loss if there is no misrepresentation by multiplying each firm's book value of write-offs by its industry median market-to-book assets ratio using two-digit SIC codes. The book value of write-offs is the largest accounting adjustment and is defined as (negative one times) the sum of special items, accounting charges, and charge offs (Items 17, 183, and 349) after the name changes. If the settlement consists of common stock of the defendant, the payment is valued at the settlement announcement date. There are 22 firms without information on the settlement payments, 3 firms in which the settlement is funded entirely by insurance policies, and 7 firms for which the court announces dismissal of the class action lawsuit. *P*-values in square brackets are for the two-tailed t-test (two-tailed Wilcoxon signed-rank test) that the mean (median) is equal to zero. The last two columns show the *p*-values for differences in means (medians) between the brand adoption name changes and the radical name changes. — = not applicable.