

Advertising Response to Financial Misreporting and the Implications for Firm Value

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Do firms adjust advertising spending around accounting-based brand scandal events such as fraudulent restatement announcements? To address this question, this study presents an empirical assessment of firm-level advertising spending around fraudulent restatement announcements. This analysis is guided by opposing propositions presented in the brand scandal and marketing-finance literature regarding expectations for firm-level advertising response to brand scandals. To test these opposing conjectures, an empirical investigation is conducted on a sample of 136 firms accused of financial reporting fraud. The dataset is constructed using the SEC and Department of Justice enforcement action database for corporate misrepresentation compiled by Karpoff, Lee, and Martin (2008a) (KLM) and annual Compustat industrial files. The potential implications of advertising spending on post-restatement firm value are also assessed. The results of this study indicate that, on average, firms reduce advertising expenditures around fraudulent restatement announcements. The reduction in advertising is shown to effectively mitigate the potential damages to firm value. In addition to generating support and managerial guidance regarding the relevance of advertising expenditures to a firm's reputation management strategies, this paper is the first known study to investigate the relationship between advertising spending and an accounting-based brand scandal. This study also makes multiple contributions to the advertising, brand scandal, and reputation management literature.

Keywords: Advertising Spending; Restatements; Brand Scandal; Reputation Management; Financial Misconduct

Introduction

Do firms adjust advertising expenditures around accounting-based brand scandal events such as financial reporting fraud? As the primary mode of firm-to-consumer communication, advertising is the "voice of the brand" (Keller, 2007, p. 55) and represents an essential aspect of building and protecting a firm's reputation. Therefore, it is not surprising to find that among marketing scholars and practitioners, increased advertising is a preferred and recommended approach to countering the negative effects of product-related brand scandal events, including but not limited to product-failures and recalls (Cleeren et al, 2008; Cleeren et al., 2013; Rubel et al., 2011).

While the subset of marketing literature which focuses on product-related brand scandals is extensive and growing, published research focusing on accounting related brand scandals such as financial reporting fraud remains nascent among marketing scholars. This is likely due to the overtly financial nature of accounting brand scandals as such events are typically lacking in any immediate consequences for consumers (i.e., no impact on product, price, availability, overall quality, etc.). However, from a resource advantage perspective, brands represent key market-based (intangible) assets of the firm and are widely recognized as sources of differentiation, competitive advantage, and enhanced cash flows (Srivastava et al., 1998). As such, all adverse brand-related events, product-related or not, are of immediate concern to the firm and its stakeholders and should be examined for the purpose of strategic understanding and application. To this end, this investigation purports that the studied contexts of brand scandal should be extended to include accounting-based brand scandals, namely in the context of financial reporting fraud.

Financial misreporting (also referred to as fraudulent restatements) involves the conscious omissions of relevant information from the firm's financial reports in order to alter the overall image presented to investors and other relevant users. As demonstrated by high-profile cases of financial reporting fraud involving Enron in 2001 and WorldCom Inc. in 2002, this type of corporate misconduct can lead to financial ruin for the accused firm and its investors, instigate widespread mistrust among consumers, as well attract regulatory attention (e.g. the Securities Act of 1933 and the Sarbanes-Oxley Act of 2002). According to Karpoff et al. (2008a), the legal penalties, levied against individual firms accused of financial misreporting between 1978 and 2002 exceeded \$23 million on average. These authors also show that, on average, the impact of the reputational losses to the affected firms tend to be more than 7.5 times the legal penalties.

The far-reaching implications of these accounting-based brand scandals substantiate the sustained scholarly interest in financial reporting fraud events. In addition to the implications of financial misreporting, accounting and finance scholars have also given substantial attention to the recovery efforts employed by firms accused of fraudulent behavior. Changes to the composition of their boards of directors (Farber, 2005), reducing CEO option-based compensation (Cheng & Farber, 2008), dismissal of CEO's and other culpable employees (Karpoff et al, 2008b; Wilson, 2008), naming a successor CEO (Gomulya & Boeker, 2014), and replacing auditors (Wilson, 2008) are among the studied repair strategies—each of which have been shown to have positive effects on firm recovery. These studies also provide evidence of investors' interest in and sensitivity to fraudulent restatement announcements. However, to date, no attention has been given towards examining marketing-based strategies to address the reputational damages of financial misreporting.

Independent arguments and findings from the extant accounting and marketing-finance literature lead to the conclusion that both announcements of financial misconduct and adjustments in advertising expenditures are immediately relevant for brand associations and investor behavior. Accordingly, the primary objectives of this investigation are, first, to examine the effect (if any) of financial reporting fraud on advertising expenditures, and second, to determine the effect (if any) of advertising spending on firm value following such events.

This study tests whether firms adjust their level of advertising spending in the years around (i.e., prior to, during, or after) the revelation of financial misreporting. Of note, the traditional views and associated findings of the extant brand scandal literature and that of the recent insights generated by the empirical findings from marketing-finance studies support conflicting expectations for advertising spending strategies around fraudulent restatement announcements and the related implications for firm value. While both perspectives support the use of advertising strategies for mitigating potential losses to the firm around brand scandal events, the brand scandal and marketing-finance literature support differing expectations regarding the associated outcomes of such strategies. Insights from brand scandal literature suggests a positive outcome will be achieved by increasing firm-level

advertising, while those of the marketing-finance literature suggests positive outcomes will be achieved by a decrease in firm-level advertising.

To test these opposing conjectures, an empirical investigation is conducted on a sample of 136 firms accused of financial reporting fraud between 1977 and 2010. The dataset is constructed using the SEC and Department of Justice enforcement action database for corporate misrepresentation compiled by Karpoff, Lee, and Martin (KLM) and annual Compustat industrial files. Furthermore, the potential implications of advertising spending on post-restatement firm value are also assessed. The results of this study indicate that, on average, firms reduce advertising expenditures around fraudulent restatement announcements. In addition, the reduction in advertising is shown to effectively mitigate the potential damages to firm value. This examination makes multiple contributions to the extant literature in the areas of marketing-finance, brand scandal, and financial misconduct. It provides support and guidance regarding the relevance of advertising expenditures to a firm's reputation management strategies. In sum, the propositions derived from the marketing-finance literature are empirically and economically supported by the results of this analysis. Based on what is known, this study is the first to investigate the relationship between firm-level advertising expenditures, accounting-based brand scandal, and the subsequent implications for firm value. In doing so, this study makes several noteworthy contributions to the advertising, brand scandal, and reputation management literature—each of which are discussed in the latter sections of the paper.

The remainder of the paper proceeds as follows: the next section provides a discussion of the relevant literature and presents the hypotheses of the investigation. The data and key measures are described in the third section. The methodological approach and results of the empirical tests are presented in the fourth section, and concluding remarks, contributions, and future research are presented in section five.

Literature Review and Hypothesis Development

Strategic Advertising and Brand Building

Advertising as part of the firm's competitive conduct is a common tactic in marketing practice and a heavily studied area among marketing scholars. Advertising provides firms with a unique opportunity to capture and influence the attention of its target population. Advertising is a widely studied area in the marketing discipline. Prior investigations into the potential firm outcomes associated with advertising spending indicate that it has the potential to strategically modify consumer preference (Chamberlin, 1933; Moorthy & Zhao, 2000), create brand loyalty (Chamberlin, 1933), influence changes in market composition (Comanor & Wilson, 1974), increase profitability (Comanor & Wilson, 1974; Currim et al., 2012; Joshi & Hanssens, 2010), mitigate the negative implications of corporate social irresponsibility on firm performance (Sharpe & Hanson, 2018), influence investor attention (Chemmanur & Yan, 2009; Lou, 2014; Madsen & Niessner, 2019), and increase firm value (Cohen et al., 2010). According to the theories of market-based assets (Srivastava et al., 1998) and customer equity (Rust et al., 2004), increased investments in marketing helps to generate strong brand recognition and a loyal consumer following for the firm. Additionally, Srivastava et al. (1998) theorize that greater marketing expenditures create valuable intangible assets through which the firm can create barriers to entry and switching, as well as signal greater future profitability. The robust insights generated from these and other studies exploring the firm-level outcomes of advertising spending in the context of pursuing competitive advantage illustrate the relevance of increased advertising as part of the firm's strategic conduct.

Strategic Advertising and Brand Scandal Response

To date, advertising remains a key component of firm-level marketing strategy and a heavily studied area among marketing scholars. In this study, the relationship between accounting-based brand scandals and advertising spending is examined from the crisis management perspectives of image repair theory (Benoit, 1995) and the closely aligned situational crisis communication theory (SCCT) (Coombs 1998; Coombs 2013). Image repair theory posits that communication is a goal-oriented activity and that maintaining a favorable reputation is a key goal of communication. Building on these key assumptions, Coomb's SCCT purports that organizations will use strategic communication to help mitigate the potential for reputational damage during turbulent periods (Benoit, 2015; Coombs, 2013; Coombs, 2015; Sellnow & Seeger, 2013). SCCT is a relevant and commonly applied approach to image repair by organizations in crisis. The SCCT approach provides a succinct list of crisis response strategies organized into four postures—denial (i.e., attack the accuser, denial, and shift blame strategies), diminish (i.e., excuse and justification strategies), rebuild (i.e., compensation and apology strategies) and bolstering (i.e., bolstering, ingratiation, and victimage strategies) (Coombs, 2012, p. 155; see also 2015).

In the context of brand scandals, insights and recommendations from the extant marketing and crisis communications literature support a bolstering posture—namely, a communication-based crisis management strategy aiming to reduce the potential for reputational harm thru increased communication efforts designed to remind stakeholders of the organization's positive attributes (Cleeren et al., 2008; Cleeren et al., 2013; Sharpe & Hanson, 2018). More specifically, this subset of literature consistently indicates that by increasing advertising-based communications, scandal facing firms can reinforce their desired image and leverage their established relationships with key stakeholders through increased visibility. In doing so, it is also shown that such firms can effectively mitigate the potential losses associated with the brand scandal event (Cleeren et al., 2008; Cleeren et al., 2013; Sharpe & Hanson, 2018).

In their investigation into advertising spending around product-harm related brand scandal events, Rubel et al. (2011) propose and test a dynamic model of advertising in which, at each point in time, there exists a nonzero probability for the occurrence of a scandal event that hurts brand sales and influences marketing effectiveness. Using sales and advertising expenditures data for the corresponding weeks associated with product-harm scandals affecting three top automotive brands, they find that product harm scandals can reduce baseline sales up to 35% and positively influence advertising spending behavior. Moreover, a statistically significant relationship is shown between brand scandal occurrence and positive adjustments in post-scandal advertising expenditures—thereby suggesting that managers intentionally increase advertising spending levels in response to brand scandal occurrences. Based on their findings, and consistent with the recommendations of other marketing scholars, Rubel et al. (2011) encourage increases in post-scandal advertising as a strategic response to limit, and ultimately recover from, the potential losses associated with brand scandals. Additional empirical support for this recommended approach to post-brand scandal advertising is generated by Cleeren et al. (2008), Cleeren, et al. (2013), Sharpe & Hanson, (2018), and others.

From a bolstering posture perspective, increased advertising following a brand scandal event can demonstrate (signal) that the firm is committed to the affected brand and thereby generate positive expectations among the firm's key stakeholders (consumers, investors, employees, etc.). Based on the assumption that brand managers are rational, stakeholders will generally expect that established firms will act in the interest of overcoming brand scandals by undertaking necessary investments to mitigate potential losses—including but not limited to response actions such as directing brand-related communications, voluntary product recalls, and issuing restitutions. Given the heightened levels of brand awareness and media attention around financial reporting fraud events along with the serious

threats to the firm's reputation and profitability, accused firms may be prompted to action based on the assumption that consumers and investors alike will be exposed to their response strategy.

The aforementioned theoretical assumptions and the documented preference for increased advertising investments following (other categories of) brand scandal events leads to the expectation that the same strategy will be implemented by firms facing brand scandals derived from financial reporting fraud. More formally, it is anticipated that:

H1a: firms increase advertising expenditures around financial reporting fraud announcements.

Diminished firm value is a major consequence of financial reporting fraud (Karpoff et al., 2008a; Murphy et al., 2009). However, the positive expectations and outcomes associated with increased advertising spending in both the general and brand scandal contexts lead us to consider the potential effect of this strategy on post-restatement firm value. Additionally, growing evidence from the marketing-finance literature demonstrates advertising's positive effects on firm value in multiple investor-relevant contexts—namely, stock liquidity (Grullon et al., 2004), shareholder value (Lou & Donthu, 2006), analyst following (Lou & de Jong, 2012), implied cost of capital (Huang & Wei, 2012), and equity offerings (Belo, Lin, & Vitorino, 2014; Chemmanur & Yan, 2009; Lou, 2014). Consistent with the arguments and evidence from the extant brand scandal literature regarding the use of increased advertising to protect and remediate the brand's position during the post-scandal period, it is also expected that:

H1b: increased advertising around financial reporting fraud announcements will mitigate the negative effect of financial reporting fraud on post-restatement firm value.

Strategic Advertising and Investor Attention

Studies conducted by Chemmanur and Yan (2009), Lou (2014), and Belo et al. (2014) examine strategic advertising activity around equity offerings and the implications of these actions for investor behavior. Collectively, these authors argue that firm managers are aware of the positive effect of advertising on investor attention and intentionally adjust advertising expenditures around key financial market events in order to strategically leverage this attention and thus influence the firm's stock returns. For example, in their examination of annual advertising spending among a sample of equity issuing firms in the initial public offering (IPO) year and the adjacent non-IPO years (specially, the two years before and two years after), Chemmanur and Yan (2009) find that IPO firms make significant increases to advertising spending prior to making initial public offerings (from year $t-1$ to the IPO year t). Advertising spending between the IPO year t and the year immediately following ($t+1$) are also shown to be significantly reduced. These authors further conclude that the significant increase in advertising expenditures just prior to the IPO year followed by the significant decrease in advertising expenditures in the year after gives cause to suspect that managers intentionally adjust advertising to increase firm visibility prior to initial public offerings. Additionally, they find that the stock returns for firms with this practice tend to be unusually high during the IPO year.

Similar advertising spending strategies are also observed around seasoned equity offerings (SEOs). In similar studies, Lou (2014) and Belo et al. (2014) confirm Chemmanur and Yan's findings regarding the adjustment of advertising around SEOs. Lou (2014) provides additional evidence of increased advertising leading to contemporaneous growth in abnormal stock returns. This research also finds that managers opportunistically adjusting advertising spending around insider sales. More specifically, to examine the extent to which managers adjust advertising expenditures in the years before, contemporaneous, and subsequent to insider sales Lou conducts a pooled OLS regression using a sample of Compustat firms. Relative to all other years, his research reveals that the average

advertising spending in the years before, contemporaneous, and after insider sales is 5.3% higher, 6.9% higher, and 3.9% lower. Lou contends that this inverted V-shaped pattern in firm-level advertising spending around insider sales provides evidence of intentional behavior among managers to exploit the effect of advertising on stock returns for the benefit of their firm. Compared to a matched sample of firms which did not have insider sales Lou finds that, the average advertising expenditures for firms with insider sales is significantly higher in the two years before insider selling (i.e., $t-2$ and $t-1$) and significantly lower in the two years after (i.e., $t+1$ and $t+2$). Moreover, this analysis provides additional support for the argument that managers intentionally adjust advertising spending for the purpose of influencing investor behavior and stock prices around insider sales. In addition, a weak correlation is observed between advertising spending and future sales growth in periods of insider sales compared to other years and the observed pattern of advertising spending around insider sales is shown to be greater when there is an increased volume of insider selling. In an empirical analysis similar to that of Lou (2014), Belo et al. (2014) use an investment in brand capital (a variable constructed using annual advertising expenditures) to examine advertising and stock returns around SEOs. Consistent with the results reported by Lou (2014), they also observe an inverted V-shaped pattern in advertising investments around SEOs and find that this strategy has positive effects on stock returns during the immediate year before and contemporaneous to equity offerings.

Furthermore, Madsen and Niessner (2019) examine the role of advertising in financial markets by evaluating the advertising strategies used by firms to influence investor attention around earnings announcements. They find that daily print advertisements, especially those in weekend business publications, generate significant increases in Google searches for the advertised firm's stock ticker. These results illustrate how a firms' advertising activity can effectively attract investors' attention. Madsen and Niessner also test for differences in advertising volume around earnings announcements and find that when earnings are positive firms weekly advertising increases by 3% starting one week prior to the earnings announcement through two weeks after the announcement—then returning to average advertising levels in the following weeks. These findings offer evidence consistent with that of an earlier study by Cohen et al., (2010) showing that managers engage in real earnings management behavior to meet financial reporting benchmarks. More specifically, Cohen and authors find that, on average, managers in their sample intentionally reduced advertising expenditures to alleviate potential losses and or decreases in earnings. The insights generated by Cohen et al. (2010) and Madsen and Niessner (2019) showing that firms tend to reduce advertising when anticipating the release of negative information is contrary to the established support and recommendation from extant marketing and brand scandal literatures. This observed inconsistency suggests that managers anticipate that the interpretation of the firm's advertising around brand scandal events will be different for investors and consumers. As such, it can also be assumed that the firm's advertising spending strategy will differ when facing a product-based brand scandal event versus an accounting-based brand scandal event.

Chen et al. (2009), examination of investor sensitivity to the firm's brand scandal response, generate further support for this view. Chen et al. (2009), measures the effect of proactive and passive response strategies on firm's financial value following a product-recall. To facilitate their investigation, the authors use a sample of Consumer Product Safety Commission recall announcements and daily stock return data for firms publicly traded on the New York Stock Exchange between 1996 to 2007. Using event study analysis, they show that, on average, proactive response strategies (i.e. voluntary recalls, product replacements, etc.) have a more negative effect on firm value compared to more passive strategies—irrespective of firm and product characteristics. These results suggest that investors interpret proactive response strategies as indicative of an expectation on the part of the firm for severe financial losses.

While Chen et al. (2009) do not examine advertising response strategies, the findings of their study does suggest that investors would likely respond negatively towards proactive strategies involving increased advertising as well. This expectation is largely due to the increased visibility that

would be generated for the scandal facing firm as a result of an increase in advertising activity. For example, in the context of Chen et al. (2009) study, the proactive response to product harm crises was measured by the firm's voluntary recall of defective products. Though necessary for the safety and wellbeing of the firm's consumers at large, the recall-related communications will likely be widely distributed and discussed making the event highly visible. It is further assumed by the Chen and coauthors that the increased visibility around this negative event will likely be discouraging to investors who may see this action as a sure sign of culpability—therefore leading them to take action to disassociate with the firm.

Benoit's image repair theory also stresses the relevance of audience (stakeholder) perceptions to the selection and ultimate success of communication-based crisis response strategies (Benoit, 2015, p. 45; see also 1995). This perspective posits that, as part of their image repair strategy, the crisis facing organization seek to understand and influence the perceptions of multiple audiences—namely, employees, consumers, investors, government officials, and potentially other citizens. Benoit also emphasizes that different audiences can have dissimilar values and perspectives in their evaluation of crisis situations and, as such, a crisis response strategy designed for one audience (i.e., consumers) may not persuade another audience (i.e., investors). In the aforementioned study, Chen et al. (2009) provide strong empirical verification of investor sensitivity to product-based brand scandal response efforts. Furthermore, the findings suggest that pronounced differences may exist in the advertising response strategy used by firms when facing a nonproduct related brand scandal event. These findings and perspectives also support a rationale for the alternative expectation that managers will reduce advertising activity around accounting-based brand scandal events. That said, it also reasonable to expect that:

H2a: firms decrease advertising expenditures around financial reporting fraud announcements.

Additionally, as a result of the anticipated decrease in advertising expenditures around financial reporting fraud announcements, it is also expected that the positive effect of advertising on firm value will be significantly reduced around such events. Arguably, by decreasing their advertising activity around financial reporting fraud, managers would reduce the firms advertising-derived visibility and in doing so limit investor attention and focus towards the negative event. This rationale motivates the following expectation:

H2b: decreased advertising around financial reporting fraud announcements will mitigate the negative effect of financial reporting fraud on post-restatement firm value.

Data and Key Variables

Sample

The dataset for this examination is constructed using firm-level accounting information from the annual Standard and Poor's Compustat industrial files and the SEC and US Department of Justice enforcement action database for financial misreporting compiled by Karpoff et al. (2008a, 2008b) (hereafter referred to as KLM). The KLM data makes it feasible to identify enforcement actions initiated, by the SEC and US Department of Justice against 626 firms between 1973 and 2011 for actions which violate one or more of the books and records, internal controls, or circumvention provisions outlined by the Securities Exchange Act of 1934 as amended by the Foreign Corrupt Practices Act of 1977 (15 U.S.C.A. § 78 m(b)(2)(A)).

When matched at the firm and year levels, Compustat accounting data are available for 412 of the 626 KLM misreporting firms. Next, the sample is separated into two groups. The first group includes misreporting firms for which annual advertising data are available in Compustat, while the

second group includes misreporting firms for which no annual advertising data is available in Compustat. The sample size is further reduced by the exclusion of firms in the financial and regulated utilities industries (SIC codes 6000-6999 and 4900-4999) and those for which the dependent or the control variables are missing. This selection process yields a final sample of 3,686 firm-year observations from 1977 to 2010 for 258 misreporting firms. There are 136 misreporting firms in the dataset sample with available advertising expenditures data and 122 without. Table 1 presents the sample selection process leading to the final sample of misreporting firms.

Table 1 - Sample Selection of Misreporting Firms

This dataset is constructed using the SEC and Department of Justice enforcement action database for corporate misrepresentation compiled by Karpoff, Lee, and Martin (KLM) between 1973 and 2010 and annual Standard and Poor's Compustat industrial files. The sample consists of 136 firms subject to enforcement actions for violating one or more of the books and records, internal controls, or circumvention provisions outlined by the Securities Exchange Act of 1934.

	Number of Firms	Number of Restatements
All enforcement actions initiated by the SEC and DOJ in KLM database between 1973 and 2010 (i.e., fraudulent financial reporting, bribery, criminal obstruction/perjury, 1933 Securities Act fraud, etc.)	945	1102
Less:		
– Firms identified by the SEC for having intentionally misrepresented their financial statements (namely, those identified by the SEC as having intentionally violated one or more of the three provisions of Securities Exchange Act of 1934)	252	294
– Firms with multiple fraudulent restatements (10 firms had 2 restatements)	10	20
– Firms with no identifiable restatement announcement date	57	162
– Firms not matched to Compustat database	67	67
– Firms with no Compustat data available during or after the restatement announcement year	147	147
– Restatements lost with the exclusion of firms in the financial and regulated utilities industries (SIC codes 6000-6999 and 4900-4999) and those for which advertising, Tobin's Q and control variables are missing.	154	154
Final Sample		
Firms with advertising expenditures data in Compustat database	136	136
Firms without advertising expenditures data in Compustat database	122	122
	258	258

Variables

Restatement. Financial restatement reflects a form of accounting-based misconduct—occurring when firms provide stakeholders with financial information that is neither credible nor accurate. Restatements can arise from both managerial incompetence as well as from intentional acts of deception, both of which are damaging to a firm's reputation. Restatements provide a unique setting for this investigation into the relationship between financial reporting fraud and firm-level advertising expenditures. In this study, the *Restatement* variable equals one if a firm faced SEC enforcement actions for financial restatement in a given year and zero otherwise.

Advertising expenditures. In the Compustat database, advertising expenditures data are defined as the total annual cost of advertising media (television, radio, periodicals, etc.) and promotional expenses. This examination focusses on the firm's total annual advertising expenditures (defined as the natural logarithm of one plus advertising expenditures)—hereafter referenced as *logAdx*.

Firm value. The proxy for firm value is *Tobin's q*—a common method of estimating the fair value of the stock market. Consistent with prior research, this measure is computed as the ratio of market

value of the firm over the replacement value of its assets where the market value of assets is equals to the sum of book value of assets and market value of equity less the sum of book value of equity and deferred taxes (Hirshleifer et al., 2012).

Control variables. Multiple firm and industry-level factors are controlled for in this examination. Among the firm-level controls, firm size ($\log Assets$) is measured as the natural logarithm of the firm's book value of total assets. Sales ($\log Sales$) is measured as the natural logarithm of annual sales. Return on assets (ROA) controls for firm profitability and is defined as operating income before depreciation scaled by the book value of its total assets. Capital intensity (PPE/Emp) is captured by the ratio of net property, plant, and equipment to the number of employees, and firms' market value of equity (MVE) is the product of a firm's common shares outstanding multiplied by its annual closing price. Additionally, *market-to-book* is measured as the ratio of (book value of assets – book value of equity + value of equity) to book value of total assets. Consumer firms (*Consumer*) are also specified among the control variables. The age of the firm ($\log Age$), defined as the natural logarithm of the number of years the firm has been listed in the Compustat database, is also accounted for. Lastly, industry competition is controlled for using the Herfindahl-Hirschman Index (HHI).

To minimize the effect of outliers, all the continuous and ratio variables are winsorized at the 1st and 99th percentile levels. Moreover, year dummies are also included in the regression analysis to control for potential market-wide fluctuations and business cycle effects.

Empirical Analysis and Results

Summary Statistics

Table 2 presents summary information for the sample of misreporting firms with available advertising data in the Compustat database along with a sample of misreporting firms without available advertising expenditures. On average, the sample of 136 misreporting firms spend over \$97 million annually on advertising. Additionally, the average annual growth rate of advertising expenditures for these firms is 20.6%. Unless otherwise noted, the empirical tests are conducted using all non-missing firm-year observations for the sample firms with available advertising expenditures data. This approach is consistent with prior studies focusing on advertising around financial events (see Belo et al., 2014; Madsen & Niessner, 2019; Lou, 2014).

Table 2 – Summary Statistics

Panel A: <i>Misreporting Firms with Available Advertising Expenditures Data in Compustat</i>						
Variable	N	Mean	Std. Dev.	Min	Median	Max
Restatement	2122	0.064	0.245	0.000	0.000	1.000
Total Assets [\$M]	2122	3314.278	8871.554	0.409	257.346	59000.000
Market Value of Equity [\$M]	2122	4112.693	13000.000	0.783	221.882	85000.000
Market-to-book	2122	2.009	2.463	0.204	1.241	20.578
Return on Assets	2122	0.038	0.339	-2.365	0.112	0.432
Herfindahl-Hirschman Index	2122	0.375	0.212	0.109	0.317	1.000
Property Plant Equipment/Employees	2122	41.813	90.044	0.839	19.225	1801.882
Sales [\$M]	2122	3311.776	7976.582	0.014	310.486	44000.000
Tobins Q	2122	2.365	2.517	0.603	1.550	21.373
Advertising Expenditures [\$M]	2122	97.032	294.062	0.000	3.899	1800.000
% growth in advertising	2122	0.206	0.763	-1.000	0.022	3.482
Firm Age* [Years]	2122	22.084	15.809	3.000	17.000	57.000

Panel B: <i>Misreporting Firms without Available Advertising Expenditures Data in Compustat</i>						
Variable	N	Mean	Std. Dev.	Min	Median	Max
Restatement	1564	0.070	0.256	0.000	0.000	1.000
Total Assets [\$M]	1564	1761.159	4679.757	0.848	120.976	39000.000
Market Value of Equity [\$M]	1564	1560.040	5820.896	0.671	110.404	73000.000
Market-to-book	1564	1.755	2.227	0.199	1.047	14.715
Return on Assets	1564	-0.004	0.387	-2.365	0.092	0.400
Herfindahl-Hirschman Index	1564	0.024	0.018	0.008	0.019	0.133
Property Plant Equipment/Employees	1564	57.728	121.435	1.416	20.912	742.747
Sales [\$M]	1564	2242.177	7068.434	0.030	141.555	48000.000
Tobins Q	1564	2.137	2.390	0.572	1.378	16.076
Firm Age [Years]	1564	17.416	12.575	3.000	12.000	57.000

Baseline Results: Restatement, Advertising Investment, and Firm Value

This examination is guided by the marketing, management, and accounting literature, the average effect of fraudulent restatement announcements on the advertising spending and firm value of the sample firms is examined. Preliminary assessments are made using the following ordinary least squares (OLS) regression model,

$$\log Adx_{i,t}(Q_{i,t}) = \alpha + \beta_1 \text{Restatement}_{i,t} + \gamma Z_{i,t} + \text{Industry}_i + \text{Year}_t + \epsilon_{i,t}, \quad (1)$$

where i and t reference the firm and time index, respectively. The dependent variables are $\log Adx$ and Q —the previously defined measures of annual advertising expenditures and firm value, respectively. In this model, *Restatement* is the independent variable of interest. The coefficient associated with this variable (β_1) captures the difference in $\log Adx$ (Q) between the restatement announcement year and all other years for the average misreporting firm in the sample. Z is a vector of the control variables ($\log Assets_{t-1}$, $\text{Market-to-book}_{t-1}$, HHI_{t-1} , *Consumer*, and $\log Adx_{t-1}$ when $\log Adx_i$ is the dependent variable and $\log Assets_{t-1}$, $\log Sales_Growth_{t-1}$, HHI_{t-1} , $\log PPE/EMP_{t-1}$, and $\log Adx_{t-1}$ when Q_t is the dependent variable). Year and industry fixed effects are also included to account time and industry trend effects, and standard errors clustered at the firm level.

The results for Equation 1 are presented in Table 3. As expected, restatement announcements events are shown to have a significantly negative effect on annual advertising expenditures and firm value. More specifically, as shown in Panel A of Table 3, Restatement announcements have a negative and significant impact on $\log Adx$. This effect is consistent in the univariate (Column 1; $\beta = -.219$, $p < .05$) and multivariate (Column 1; $\beta = -.098$, $p < .01$) setting. The observed relationship between restatement announcement and advertising expenditures is also shown to become more significant when consumer firms (Column 3) and advertising expenditures (Column 4) are added to the control variables.

The results presented in Panel B of Table 3 show that restatement announcements also have a negative and highly significant effect on firm value. Specifically, in the univariate setting (Column 1), Restatement announcements instigates significant declines in Q ($\beta = -.451$, $p < .05$). This relationship remains negative and increases in significance after controlling for the previously defined list of confounding factors— $\beta = -.458$, $p < .01$ in Columns 2 and $\beta = -.438$, $p < .01$ in Column 3.

Overall the results in Panel A of Table 3 suggest that fraudulent restatements have a negative impact on advertising expenditures—providing baseline support for the expectations of H2a (and against that of H1a). The results in Panel B of Table 3 corroborate the expectation that misreporting

negatively impacts shareholder activity (Karpoff et al., 2008a). Additionally, baseline support is provided for H1b (and against H2b) regarding the potential for advertising to reduce the negative impact of restatement on firm value. Specifically, in Column 3 in Panel B of Table 3, the effect of Restatement on Q is shown to be negative and significant ($\beta = -.438$, $p < .01$) while the effect of $\log Adx$ on Q is shown to be positive and significant ($\beta = .384$, $p < .01$).

Table 3 - Baseline Regressions

This table shows OLS regression results of the effects of restatement on advertising expenditures and Tobin's Q . Coefficient estimates for industry dummies (based on the Fama-French 12 industry classification) and year dummies are not reported. T-statistics, shown in parentheses, are based on standard errors clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% respectively.

Panel A: Restatement and Advertising Expenditures

	(1) $\log \text{Advertising}_t$	(2) $\log \text{Advertising}_t$	(3) $\log \text{Advertising}_t$	(4) $\log \text{Advertising}_t$
Restatement	-0.219** (0.109)	-0.164** (0.065)	-0.211*** (0.068)	-0.098*** (0.033)
$\log \text{Assets}_{t-1}$		0.750*** (0.041)	0.766*** (0.040)	0.037*** (0.009)
Market-to-book		0.096*** (0.018)	0.082*** (0.022)	0.018*** (0.005)
Herfindahl-Hirschman Index _{t-1}		0.207 (0.553)	0.081 (0.320)	-0.027 (0.049)
Consumer			0.253 (0.237)	0.014 (0.021)
$\log \text{Advertising}_{t-1}$				0.962*** (0.010)
Year_dum	Yes	Yes	Yes	Yes
Industry_dum	Yes	Yes	No	No
_cons	3.202*** (0.885)	-1.386*** (0.419)	-1.855*** (0.236)	-0.087 (0.058)
N	2122	1984	1984	1822
adj. R^2	0.145	0.791	0.770	0.977

Panel B: Restatement and Firm Value

	(1) Q_t	(2) Q_t	(3) Q_t
Restatement	-0.451** (0.204)	-0.458*** (0.161)	-0.438*** (0.166)
$\log \text{Assets}_{t-1}$		-0.180*** (0.058)	-0.474*** (0.103)
$\log \text{Sales_Growth}_{t-1}$		0.313*** (0.107)	0.345*** (0.118)
Herfindahl-Hirschman Index _{t-1}		-0.056 (0.681)	-0.086 (0.702)
$\log \text{Property_Plant_Equipment}_{t-1}$		-0.011 (0.009)	-0.012 (0.009)
$\log \text{Advertising}_{t-1}$			0.384*** (0.096)
Year_dum	Yes	Yes	Yes
Industry_dum	Yes	Yes	Yes
_cons	1.820*** (0.574)	2.499*** (0.752)	3.507*** (0.835)
N	2122	1897	1751
adj. R^2	0.121	0.175	0.210

Analysis of Hypothesis 1a and 2a

While the results generated by Equation 1 offer some baseline support for the propositions under investigation, the focus is limited to a general explanation of the effect of restatement announcements on advertising expenditures and firm value. As it is the aim of this investigation to evaluate advertising spending around fraudulent restatement announcements and the implications thereof for firm value, the established approaches of Lou (2014), Belo et al. (2014), and Madsen and Niessner (2019) are referenced, and the following pooled regression model is used to examine the conjectures of H1a and H2a:

$$\log(Adx)_{i,t} = \alpha + \beta_1 preEvent_{i,t} + \beta_2 Event_{i,t} + \beta_3 postEvent_{i,t} + \gamma Z_{i,t-1} + Industry_i + Year_t + \epsilon_{i,t}, \quad (2)$$

where i refers to the firm and t indexes time. The dependent variable in this model is the previously defined advertising expenditures variable $\log Adx$. $Event$, is a dummy variable which equals one if the firm has a restatement in that year and zero otherwise. For all years where $Event$ equals zero, $preEvent$ equals one if year $t+1$ is an event (restatement) year, and likewise $postEvent$ equals one if year $t-1$ is an event year and zero otherwise. The coefficients of these dummy variables indicate whether the average advertising expenditures in the year before, during, or subsequent to the restatement announcements are different from those in an average non-restatement year (i.e., when all three dummy variables are zero). In this model, Z is a vector of the previously defined control variables. Year and industry fixed effects are also included to account time and industry trend effects and standard errors clustered at the firm level.

H1a (H2a) predicts positive (negative) and significant coefficients around restatement announcements. As such, it is expected that advertising expenditures for misreporting around restatement announcements will be higher (lower) than in all other years. The multivariate results corresponding to this prediction are shown in Table 4. In Columns 1 to 3, the results indicate that on average annual advertising expenditures are significantly lower in the year before, contemporaneous, and subsequent to a restatement announcement than average advertising expenditures in a non-event year. When the lag of advertising expenditures and the consumer variables are included among the list of controls (Column 4), the negative effect of misreporting on annual advertising expenditures in the year prior to and following the restatement announcement loses significance. However, the average advertising spending in the year of the restatement announcement remains negative ($\beta = -.102$, $p < .01$). This result suggests that the average advertising expenditures in the year of fraudulent restatement announcements are 10.2% lower than in a non-restatement announcement year. Taking the mean annual advertising expenditures for the firms in the sample (\$97 million), this coefficient represents an average reduction of \$9.9 million in annual advertising spending during the restatement year. H2a is, therefore, empirically and economically supported.

In sum, the observed pattern of the event dummy coefficients reported in Table 4 indicates that managers reduce advertising investments during the year of the restatement announcement. These findings are consistent with the rationale that managers make significant reductions in advertising expenditures prior to the announcement of negative information to reduce the advertising-based visibility of their firm and to avoid the intensification of negative associations among investors.

Table 4 - Advertising Spending Around Financial Reporting Fraud

This table shows pooled OLS regression analysis of total advertising spending around financial reporting fraud. Coefficient estimates for industry dummies (based on the Fama-French 12 industry classification) and year dummies are not reported. T-statistics, shown in parentheses, are based on standard errors clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% respectively.

	(1) <i>logAdvertising_t</i>	(2) <i>logAdvertising_t</i>	(3) <i>logAdvertising_t</i>	(4) <i>logAdvertising_t</i>
<i>preEvent_t</i>	-0.326** (0.138)	-0.256*** (0.076)	-0.276*** (0.085)	-0.002 (0.033)
<i>Event_t</i>	-0.279** (0.130)	-0.201*** (0.075)	-0.253*** (0.079)	-0.102*** (0.033)
<i>postEvent_t</i>	-0.305** (0.126)	-0.127* (0.071)	-0.171** (0.075)	-0.046 (0.031)
<i>logAssets_{t-1}</i>		0.750*** (0.041)	0.766*** (0.040)	0.037*** (0.009)
Market-to-book		0.097*** (0.018)	0.083*** (0.022)	0.018*** (0.005)
Herfindahl-Hirschman Index _{t-1}		0.195 (0.555)	0.082 (0.321)	-0.028 (0.049)
Consumer			0.249 (0.236)	0.013 (0.021)
<i>logAdvertising_{t-1}</i>				0.961*** (0.010)
Year_dum	Yes	Yes	Yes	Yes
Industry_dum	Yes	Yes	No	No
_cons	3.258*** (0.892)	-1.338*** (0.424)	-1.806*** (0.240)	-0.083 (0.058)
N	2122	1984	1984	1822
adj. R ²	0.147	0.792	0.771	0.977

Analysis of Hypothesis 1b and 2b

H1b (H2b) posit that the firm's advertising around fraudulent restatement announcements will mitigate the negative effect of misreporting on post-restatement firm value. Consistent with the approach used to examine H1a and H2a, the following pooled OLS regression model is used to assess these predictions:

$$Q_{i,t} = \alpha + \beta_1 preEvent_{i,t} + \beta_2 Event_{i,t} + \beta_3 postEvent_{i,t} + \beta_4 preEvent_{i,t} * \log Adx_{i,t} + \beta_4 Event_{i,t} * \log Adx_{i,t} + \beta_4 postEvent_{i,t} * \log Adx_{i,t} + \gamma Z_{i,t-1} + Industry_i + Year_t + \epsilon_{i,t}, \quad (3)$$

where the dependent variable Q is firm value for firm i . The measure as well as the *preEvent*, *Event*, and *postEvent* variables are as defined in the previous section. In this model, three key interaction terms are used among the list of independent variables—namely, *preEvent*logAdx*, *Event*logAdx*, and *postEvent*logAdx*. Including these interactions allows for the examination into how firm value is affected by advertising expenditures in the years before, contemporaneous, and after the restatement announcement. As in the prior models, Z is the vector of control variables associated with Q . Year and industry fixed effects are also accounted for, and standard errors are clustered at the firm level.

If the prediction of H1b (H2b) is supported, a positive significant (insignificant) relationship should be observed between the *postEvent*logAdx* interaction and Q . Table 5 presents the regression results for Equation 3. Before and after the inclusion of the control variables, the results in Table 5

show that on average Q is significantly lower during the misreporting event year and the year after compared to a non-event year. Consistent with the baseline regression results of Panel A in Table 3, the $\log Adx_{t-1}$ variable is shown to have positive effect on Q ($\beta = .379$, $p < .01$). Adding the interaction terms of the event variables with $\log Adx$ to the regression specifications generates strong support for H2b. Specifically, the results presented in Column 4 indicate that the average effect of advertising spending on firm value in the year of and year subsequent to the restatement announcement is positive but insignificant. As such, the expectation that advertising will not reduce the negative effect of financial reporting fraud on firm value is supported.

In sum, it is observed that advertising spending produces no significant counter effect to the restatement announcements impact on losses to firm value. Given that, on average, advertising's effect on firm value is positive and significant, the insignificant impact of advertising around restatement announcements is likely attributed to the reduction in advertising expenditures in the year of the restatement announcement. Additionally, from the perspective of the manager and in the context of misreporting announcements, the effectiveness of advertising expenditures is evaluated by the reduction in investor visibility. As such, the positive yet insignificant impact of advertising around restatement announcements may suggest that reducing advertising effectively reduces firm visibility among investors—thereby mitigating (though not repairing) the potential damages incurred to firm value as a result of financial reporting fraud. Considering the findings of Chen et al. (2009), indicating that increased investor awareness of brand scandal events significantly diminishes firm value, actively reducing advertising around such events can be an effective strategy in the context of financial reporting fraud announcements.

Table 5 - Advertising Effect on Firm Value around Restatement

This table shows pooled OLS regression results for the effect of advertising expenditures on firm value. All models include industry dummies (based on the Fama-French 12 industry classification) and year dummies, whose coefficient estimates are not reported. T-statistics, shown in parentheses, are based on standard errors clustered at the firm level. ***, **, and * denote significance at 1%, 5%, and 10% respectively.

	(1) Q_t	(2) Q_t	(3) Q_t	(4) Q_t
preEvent _t	-0.190 (0.200)	-0.285* (0.149)	-0.210 (0.143)	-0.146 (0.227)
Event _t	-0.527** (0.219)	-0.530*** (0.177)	-0.439** (0.169)	-0.625** (0.259)
postEvent _t	-0.627*** (0.160)	-0.506*** (0.166)	-0.462*** (0.162)	-0.600** (0.260)
preEvent*logAdvertising _t				-0.032 (0.078)
Event*logAdvertising _t				0.095 (0.092)
postEvent*logAdvertising _t				0.068 (0.078)
$\log Advertising_t$			0.379*** (0.086)	0.370*** (0.088)
$\log Assets_{t-1}$		-0.181*** (0.058)	-0.462*** (0.092)	-0.459*** (0.092)
$\log Sales_Growth_{t-1}$		0.309*** (0.109)	0.299*** (0.110)	0.293*** (0.109)
Herfindahl-Hirschman Index _{t-1}		-0.056 (0.677)	-0.197 (0.669)	-0.176 (0.670)
$\log PropertyPlantEquipment$ / Employees _{t-1}		-0.011 (0.009)	-0.010 (0.008)	-0.010 (0.008)
Year_dum	Yes	Yes	Yes	Yes
Industry_dum	Yes	Yes	Yes	Yes
_cons	1.868*** (0.571)	2.533*** (0.752)	3.398*** (0.770)	3.412*** (0.776)
N	2122	1897	1897	1897
adj. R ²	0.124	0.179	0.207	0.207

Conclusions

This study examines whether firms adjust advertising expenditures around accounting-based brand scandal events such as financial reporting fraud. Guided by the crisis management perspectives of image repair theory (Benoit, 1995) and the closely aligned, situational crisis communication theory (SCCT) (Coombs, 1998; Coombs, 2013), this analysis focuses on two opposing propositions presented in the brand scandal and marketing-finance literature regarding organizational response to adverse events (i.e. brand scandals). While recent findings from the marketing-finance literature show that managers tend to reduce advertising when anticipating the release of negative information, this response is contrary to the established support and recommendation from the extant brand scandal literature. This inconsistency suggests that firms treat product-based brand scandal events differently from accounting-based brand scandal events—suggesting that managers anticipate investors' response to advertising around brand scandal to be different from that of a consumer.

Based on what is known, this study is the first to investigate the relationship between firm-level advertising expenditures, accounting-based brand scandal and the subsequent implications for firm value. In doing so, this study makes several noteworthy contributions to the advertising, brand scandal, and reputation management literature. Firstly, it explicitly attends to the paucity of marketing investigations into the implications of non-product market brand scandal events for advertising spending strategy and the implications thereof. In doing so, it introduces corporate accounting scandals to the studied areas of brand crises and provides empirical support for the value relevance of firm-level advertising expenditures. Secondly, this study contributes to the need for linking marketing actions to financial outcomes, which is a primary challenge facing today's marketing practitioner and is the primary focus of the extant literature on the marketing-finance interface. Furthermore, this study contributes to this growing stream of literature by quantifying the returns of firm-level advertising investments in financial terms—and in a non-consumer setting. Lastly, this examination also provides empirical support for the effectiveness of a marketing response (specifically advertising) and adds it to the list of post-restatement reputation building strategies currently addressed in the financial misconduct literature

Limitations and Future Research

The findings from this study offer new insight into the marketing-related managerial action taken by firms experiencing accounting-based brand scandals and the implications for firm value. Nevertheless, the overall scope of the investigation was subject to multiple data-related limitations—which, if remedied, could provide new and promising directions for future research. One limitation is the lack of information about the content of the advertising around restatement announcements. This detail is not captured by the Compustat database and, as a result, it is not feasible to examine the implications of message related changes (i.e., images, copy, themes, etc.) in the advertising efforts put forth by our sample firms during the studied period. In addition, Compustat does not include the distribution of firm-level advertising expenditures. This limitation restricts the analysis from testing the hypotheses on the basis of the various media types across which advertising budgets are typically distributed (i.e., television, radio, online, outdoor, print, etc.). Such an analysis could offer additional insight into the differentiated approaches used by firms to communicate with consumers, investors, and other stakeholders during the periods around restatement announcements.

Furthermore, the need for additional investigation into the observed relationship between financial misreporting, advertising spending, and firm value remains active. In particular, future research efforts may seek to better explain the observed impact of advertising spending for firm value and overall performance around restatement announcements by specifically testing for differential effects. For example, the results of this study indicate that, on average, the studied sample of

misreporting firms experience a non-significant increase in firm value in the year of the restatement announcement. To determine whether the non-significant increases in firm value can be attributed to the strategic reduction in advertising expenditures, an analysis into whether there is a differential effect associated with misreporting firms which advertise compared to misreporting firms which do not advertise would be a vital direction for future research. Additional insights into the potential sources of the observed difference in the advertising spending habits of firms facing accounting-based brand crises may also be garnered through the construction of a comparative matched sample of non-misreporting firms.

Also, given the observation by Romanus (2019), pre-restatement factors significantly influence market reaction to restatement announcements. Future research may also consider the relationship between pre-restatement brand equity and firm value around fraudulent restatement announcements. With the aim of offering empirical support for the implementation of consumer-focused strategies in the wake of fraudulent restatement events—future studies can also evaluate the relationship between financial misreporting and consumer purchasing behavior.

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