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Master Thesis in Marketing Analytics

The devastating effect of bad CEO behavior on investors' trust

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Abstract

The increasing visibility of CEOs in the media, especially in the form of negative news, and the fact that journalist have the tendency to ascribe corporate failures to the CEOs, rather than industry and environmental factors, highlights the importance of negative CEO news publications. This study investigates the effect of negative CEO news on stock return. Moreover, this study sought to uncover the boundary conditions, examining the moderating role of media coverage intensity, firm reputation and news subject (private versus corporate news). An event study was conducted and a unique dataset was constructed to test the hypotheses. The results indicate that negative CEO news has a devastating effect on stock return. This effect is more prevalent for high reputation firms compared to low reputation firms. For private-related negative news the impact is more negative compared to firm-related negative news. The average total loss on the stock market as a result of bad CEO behavior is 462 million dollars, highlighting its managerial relevance. This study ends with suggestions for future research related to drivers and methods to offset or reduce the negative effect on stock return.

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1. Introduction

1.1 Problem Indication

A recent development in corporate leadership is the increasing public appearances and public relations of CEOs (Hamilton & Zeckhauser, 2004; Lee, 2012). The increasing visibility of CEOs in the media can be attributed to the tendency of journalists to create a CEO celebrity status, by ascribing the successes and failures of a firm to the CEO instead of the industry or environmental factors (Hayward, Rindova, & Pollock, 2004). Especially, when news outlets publish negative news articles in regards to CEOs, this would have damaging consequences. Specifically, negative news about CEOs deteriorates CEO and corporate image (Jin & Yeo, 2011), highlighting the importance of CEO news.

News media publications aid the formation of the public opinion and thereby influencing stock return. Specifically, Negative news publications have a stronger effect on the stock return compared to positive news publications (Ferguson, Philip, Lam, & Guo, 2015; Shiller, 2005; Tetlock, 2007). The importance of investigating the effect of negative news about CEOs is derived from the fact that major newspapers provide content about CEOs with a higher intensity of negative news compared to the business and finance-oriented press (Hamilton & Zeckhauser, 2004).

As a result of the recession and corporate scandals in 2002, major papers have put more emphasis on negatively oriented CEO headline stories (Hamilton & Zeckhauser, 2004). For example, in 2006 Enron's CEO, Kenneth Lay was convicted of fraud and conspiracy, after the Securities and Exchange Commission investigated Enron's accounting books in October 2001. As a result Enron's stock price fell from $90 to less than $1 in less than a year (Suddath, 2010). In 2002, investigators revealed that the CEO of WorldCom, Bernie Ebbers, committed the largest accounting fraud in history. Furthermore, Bernie Ebbers had unrightfully seized a staggering $366 million in personal loans from WorldCom. As a result WorldCom's stock had dropped from over $64 to just over $1 and Bernie Ebbers was sentenced to 25 years in prison (Suddath, 2010). A more recent example is that of Hewlett-Packard Co. in 2010. The stock price of Hewlett-Packard Co. dropped by 8.30% after the news was published that its CEO resigned after the discovery of his misconduct (Worthen & Tam, 2010). These are just a few of many examples which confirms the study by Jory et al. (2015), which concluded that investors react adversely to corporate scandals involving CEOs.

Besides the negative firm-related scandals involving CEOs, private-related negative news about CEOs seems to have a similar catastrophic effect on the stock return. Surprisingly, no academic literature has been devoted to the effect of private-related negative news in the context of CEOs. Real-world examples of private-related news are the numerous CEOs, like Brian Krzanich, Darren Huston, Dov Charney, Brian Dunn, Kenneth Melani and Steven Heyer, who had to abruptly resign following alleged relationships with employees, which resulted in a negative stock return (McCoy, 2018).

In line with these real-world developments, extant research has been devoted to the negative effect of negative firm-related news in the context of CEOs (e.g. corporate scandals involving CEOs) (Ferguson et al., 2015; Chan, 2003; Tetlock, 2007). However, no research has been devoted to private-related news in the context of CEOs. This is surprising given that leaders are increasingly under scrutiny and essentially lead the firm. Furthermore, the previous named examples stress the necessity to further investigate the effect of negatively oriented private-related news regarding CEOs (e.g. sexual harassment scandals) on the stock return. Moreover, the necessity to further investigate this topic is derived from the fact that there is no data available on the difference in magnitude of private versus firm-related negative news in the context of CEOs. On top of that, further inquiry into CEO-related news is in line with the responsibility perspective, which highlights the fact that CEOs are solely responsible for private-related negative news, whereas the responsibility for firm-related negative news cannot be solely attributed to the CEOs. Understanding the effect of different types of news can also help firms to respond to allegations/news articles.

The media coverage intensity is an influential factor in the relationship between news publications and stock return (Tetlock, 2007; Ferguson et al., 2015). In general, high intensity of media pessimism results in a decreasing stock return (Tetlock, 2007). Furthermore, in regards to negatively oriented firm-specific content, an increasing media coverage intensity results in a downward pressure on the stock market prices (Ferguson et al., 2015). Moreover, a high intensity of CEO media coverage with the coverage being of positive nature results in a positive stock return (Nguyen, 2015). However, the effect of CEO media coverage with the coverage being of negative nature on stock return remains unexplored and enables the opportunity for further investigation. This is especially important to investigate when considering the increasing visibility of CEOs in the media (Hamilton & Zeckhauser, 2004; Lee, 2012), and the increasing number of news articles with CEO headlines (Hamilton & Zeckhauser, 2004).

Another influential factor on stock return is the firm reputation (Gatzert, 2015; Pfarrer, Pollock, & Rindova, 2010; Schnietz & Epstein, 2005; Rhee & Haunschild, 2006). The firm reputation can either protect the company from the negative effect of negative news on the stock return (Pfarrer, Pollock, & Rindova, 2010; Schnietz & Epstein, 2005), or act as a liability in which the negative effect of negative news on stock return is enhanced (Rhee & Haunschild, 2006). However, the contradiction in the general literature on firm reputation signals the necessity to further investigate the moderating effect of firm reputation.

1.2 Problem Statement and Research Questions

Based on the problem indication discussed in the previous section, this study will focus on the following problem statement: "*To what extent does negative news about CEOs affect the investors' trust (abnormal stock return), and to what extent is this relationship influenced by the moderating variables?*" The problem statement translates in the following research questions:

1. To what extent does negative news about CEOs influence the stock return?
2. To what extent does the news subject (private vs. job-related) influence the relationship between the negative news about CEOs and the stock return?
3. To what extent does media coverage influence the relationship between negative news about CEOs and stock return?
4. To what extent does firm reputation influence the relationship between the negative news about CEOs and the stock return?

1.3 Research Approach and Data

In order to provide valid answers to the research questions in the previous section, quantitative research was conducted. To investigate this matter the methodology of an event study was utilized. First, based on existing literature, influential moderators on the relationship between negative news about CEOs and abnormal stock returns were identified. Secondly, after reviewing the existing literature, a list of 361 companies listed on the US stock market was composed. After the composition of the list of companies, the CEOs of these companies in a timeframe of 10 years (01.04.2009 – 01.04.2019) were added to the data set, by utilizing the Google search algorithm. Thereafter, within the timeframe of 10 years all negative news articles related to the CEOs were added to the dataset by utilizing the Factiva databank. Furthermore, within this step the moderating variables were added to the dataset. Subsequently, the stock prices of the companies listed on the US stock market were retrieved from Yahoo

Finance for the timeframe of 10 years, in order to derive the abnormal stock return. Lastly, a multiple ordinary least squares regression model was estimated in order to draw valid conclusions about the data.

1.4 Academic Relevance

Research suggests that negative corporate news has a negative effect on stock return (e.g. Tetlock, 2007). Furthermore, prior research has shown that firm reputation can either protect the firm (e.g. Rhee & Haunschild, 2006), or act as a liability in case negative news (e.g. Schnietz & Epstein, 2005). Surprisingly, no research has been devoted to both the effect of negative news and the moderating effect of firm reputation on stock return, in the context of CEOs. Moreover, the effect CEO media coverage intensity has been investigate in the context of positive news (Nguyen, 2015). However, research on the effect of negative CEO media coverage intensity on stock return remains absent. This is remarkable considering the fact that CEOs are increasingly under scrutiny and more visible in the media (e.g. Hamilton & Zeckhauser, 2004).

This study focusses on the gap between the impact of negative news about CEOs and the abnormal stock return. Specifically, this study investigates the effect of bad CEO behavior on abnormal stock return and to what extent this relationship is influenced by media coverage intensity, firm reputation and news subject. Nevertheless, extant literature has been devoted to the comparison of CEOs to celebrity endorsers, as a result of the increasing public appearances and public relations of CEOs (Hamilton & Zeckhauser, 2004; Bendisch, Larsen, & Trueman, 2013; Hayward, Rindova, & Pollock, 2004; Malmendier & Geoffrey, 2009; Khurana, 2002). The existing literature on celebrity endorsers has investigated the effect of negative news about celebrity endorsers on the abnormal stock return (Louie, Kulik, & Jacobson, 2001). Still, there is a difference in the utilization process of celebrity endorsers and CEOs. This difference is derived from the fact that the CEO is primarly utilized for managerial purposes (Nguyen, 2015). Therefore, this study taps in an uninvestigated gap, thereby contributing to the existing literature. Given the similarities between CEOs and celebrity endorserment, this study also contributes to the field of celebrity endorsment by highglighting the importance of the moderators.

1.5 Managerial Relevance

As stated in the problem indication, CEOs are increasingly visible in the media (Hamilton & Zeckhauser, 2004; Lee, 2012). This trend is paired with a recent trend among major news publishers that illustrate a tendency of increasing the percentage of negatively

oriented stories and soft news stories about CEOs (Hamilton & Zeckhauser, 2004), which makes it therefore important for practitioners to understand the implications of such news items.

News media have the role to shape public opinion and thereby influencing stock return. However, this effect has a stronger presence in negative news compared to positive news (Ferguson et al., 2015; Shiller, 2005; Tetlock, 2007). Furthermore, stocks with negative public news can exhibit a drift for a longer timespan than stocks with positive news (Chan, 2003). This highlights the importance for firms to gain insights in the effect of negative news.

This study can aid CEOs in gaining more insight in the consequences of their actions resulting in negative news publications. Furthermore, investors can utilize the result of this study to predict abnormal stock returns based on negative news publications. On top of that, the result of this study can aid firms in the creation of policies in regards to the CEOs' personal lives, minimizing the occurrence of negative news about the CEO. Furthermore, managers and firms will be able to understand the effects of bad CEO behavior under the conditions of firm reputation, media coverage intensity and the news subject. This will enable firms to incorporate crisis protocols, in order to minimize the damage following bad CEO behavior. Moreover, managers can utilize information sessions to CEOs to generate awareness of the catastrophic consequences of negative news publications. In some cases, CEOs issue negative news publications just before the stock option grant dates, enabling the CEOs to generate more profit of their purchased stocks (Hubbard, 2019). To prevent this, managers will be able to utilize the results of this study to uncover these unethical practices by CEOs and will be able to adjust the stock options of CEOs accordingly.

1.6 Structure of the Thesis

This chapter presented an introduction to the research problem, based on which a problem statement and research questions were formed. Subsequently, the research approach, data collection method and data analyses were described. Lastly, an elaboration on the relevance from both an academic and a managerial perspective was provided. This chapter is followed by the literature review. The third chapter presents the hypotheses and the conceptual model. This chapter is followed by a chapter covering the methodology. Lastly, this paper will provide a chapter on the results, discussion, recommendations and limitations of this study.

2. Literature Review

2.1 The Role of Corporate News Publications on Stock Prices

News media publications are crucial to investors in the provision of valuable information and guides investors in the formation of a view on the stock market (Ferguson, Philip, Lam, & Guo, 2015). According to Ferguson et al. (2015), stock prices are a representation of its fundamentals and depend on the investors' information sets. The investors' information set is composed of both the acquired private and public information regarding the underlying value of the stock (Ferguson et al., 2015). Moreover, the investors' information set contains qualitative descriptions of the expected firm's future performance, such as the disclosure of a merger, lawsuits against the firm, new product announcements or the quality of the management (Ferguson et al., 2015). Furthermore, news media form the public opinion, in which the media may overstate past price movements, which affect future price movements (Shiller, 2005). Ferguson et al. (2015) provided evidence of the predictive power of news media content on future stock returns. Specifically, the study concluded that negatively oriented firm-specific content in news media results in lower stock returns in the next trading period (Ferguson et al., 2015). These findings are in line with a study conducted by Tetlock (2007), which concluded that a high intensity of media negativity results in a downward pressure on stock market prices, causing a decrease in stock return. This effect is especially large and slow for small stocks. Moreover, unconventional high or low intensity of media negativity contribute to high trading volumes, over a short timeframe (Tetlock, 2007).

Research has been devoted to the fluctuation of stock returns after news publications, which illustrates that the fluctuation in stock prices express a turning point at weekly and three to five year intervals and accumulate over one year (DeBondt & Thaler, 1985; Chan, 2003). According to Chan (2003), stocks with an appearance in the media show momentum, whereas stocks in the absence of media attention do not. Specifically, stocks with negative media attention illustrate a negative accumulation for up to one year, whereas positive public news show less drift (Chan, 2003). However, these studies solely focus on the effect of firm-related public news on stock return, thereby neglecting the individual facets of the firm-related news.

2.2 The Role of CEOs in News Publications

One of the facets emphasized by Ferguson et al. (2015) is the quality of the management, with the CEO being the highest level of management. According to Nguyen (2015), one of the channels through which investors recognize a firm is the media coverage of CEOs. Nguyen (2015) argues that CEOs have become more visible in the media and are therefore more

recognized by investors. As a results, the activities of CEOs are not only focused on management, but also on PR (Nguyen, 2015). In some instances, the CEO receives more media coverage compared to the firm (Hamilton & Zeckhauser, 2004). Therefore, some CEOs are not solely the public figure of the firm, but also its true representation (Fishman, Khurana, Rhodes-Kropf, & Yim, 2014). As a result, media coverage of CEOs is an influential factor in investment decisions (Russel Reynolds Associates, 2003). Moreover, previous research showed that in recent years CEO status has changed rapidly, from a CEO that mainly focused on management to a CEO with a "celebrity" like status (Hamilton & Zeckhauser, 2004; Bendisch, Larsen, & Trueman, 2013; Hayward, Rindova, & Pollock, 2004; Malmendier & Geoffrey, 2009; Khurana, 2002).

2.3 The Impact of CEO News on Stock Return

According to Nguyen (2015), companies with a high media coverage intensity of the CEO, and the coverage being of a positive nature, outperform the companies with a low media coverage intensity of the CEO by 8% and 7%, in annual abnormal stock returns. However, Nguyen (2015) did not investigate negatively oriented news about CEOs. Research by Elliot and colleagues (2018) concluded that investors expressed more trust in the CEO and were willing to invest more in the firm when the CEO utilized a personal Twitter account to communicate firm news followed by negative earnings. Nevertheless, research by Elliot et al. (2018) solely focused on news regarding negative earnings.

Hamilton & Zeckhauser (2004) argue that the higher percentage of negative news about CEOs is derived from the consumers' goal of reading, where some consumers would rather read for diversion instead of searching for new information. Furthermore, Chan (2003) argues that the stock return of companies with negative public news exhibit a negative drift for up to twelve month, whereas positive public news show less drift. Furthermore, negative news is known for receiving a greater weight than positive news (Herr, Kardes, & Kim, 1991) (Klein & Dawar, 2004), and negatively affect the sales, stock prices, company's image, employees' morale and profit (Einwiller et al., 2006; Weinberger & Lepkowska-White, 2000).

Research by Jory et al. (2015) has been devoted to the market response to corporate scandals involving CEOs. This study concludes that investors react adversely to corporate scandals (Jory et al., 2015). Specifically, it concludes that the cumulative abnormal returns of the announcement-period of the scandals were all negative and significant (Jory et al., 2015). Moreover, the days after the scandal-announcement exhibit an increase in stock volatility (Jory et al., 2015). The adverse reaction of investors could be justified for multiple reasons. First of

all, large investors in favor of the CEO involved in the scandal may leave following the resignation of the CEO (Jory et al., 2015). Secondly, uncertainty in regards to the upcoming CEO to follow strategies supported by its former CEO will lead to market unrest (Cimilluca, 2012). Thirdly, according to Ballinger and Marcel (2010) firm performances during the period of the implementation of a CEO succession plan are often associated with lower performances. Fourthly, as a result of the negative media coverage hardworking employees can become demotivated (Jory et al., 2015). Demotivation is not the only concern among employees, the negative media coverage also affect the employees' productivity and morale (Jory et al., 2015). However, the study conducted by Jory et al. (2015) solely focused on corporate scandals involving CEOs, thereby neglecting negatively-oriented news in regards to the CEO itself. Sohn, Lariscy, & Tinkham (2009) investigated the impact of CEO reputation on the attitude of the public and decision making. Specifically, Sohn, Lariscy & Tinkham (2009) explored the consequential effect of CEO behaviour on a personal level on potential consumers and employees. This study concludes that negative news in regards to CEOs on a personal level has a negative effect on brand selection, overall attitudes and behavioral intentions (Sohn, Lariscy, & Tinkham, 2009). On the other hand, while positive news in regards to a CEO's personal life may be satisfying to read and enhances the CEO reputation, has a negligible effect (Sohn, Lariscy, & Tinkham, 2009). On top of that, the best performing organizations employ CEOs who rarely appear in the press, supporting the notion "no news is good news" (Sohn, Lariscy, & Tinkham, 2009; Collins, 2001). Nevertheless, the study by Sohn, Lariscy & Tinkham (2009) neglect the effect of negative news about CEOs on a personal level on financial metrics, like stock return. Surprisingly, no academic literature has been devoted to the effect of private-related negative CEO news on stock return. Therefore, this study uncovers the effect of private and firm-related negative CEO news, and its difference in magnitude. Furthermore, none of the previously named studies investigated the important drivers and the effect of bad CEO behavior on stock return. Consequently, this study examines the effect of bad CEO behavior on stock return, and how its driven by the following variables: media coverage intensity, firm reputation and news subject.

2.3 Related Studies of Celebrity Endorsers

Extant research has been devoted to the comparison of CEOs to celebrity endorsers, as a result of the increasing public appearances and public relations of CEOs (Hamilton & Zeckhauser, 2004; Bendisch, Larsen, & Trueman, 2013; Hayward, Rindova, & Pollock, 2004; Malmendier & Geoffrey, 2009; Khurana, 2002). As a result of (a) the scarcity of academic literature on the effect of negative news in regards to CEOs on stock return and (b) the many similarities

between CEOs and celebrity endorsers, the literature on celebrity endorsement on this topic is reviewed. Research by Louie, Kulik, & Jacobson (2001) has been devoted to the involvement of celebrity endorsments in undesirable events and its effect on a firm's financial performance (stock return). According to Louie, Kulik & Jacobson (2001), the stock market response to the undesirable events is negatively related to the celebrities' blameworthiness. Specifically, the higher (lower) the blameworthiness of the celebrity endorser, the lower (higher) the stock return (Louie, Kulik, & Jacobson, 2001). On top of that, firms affiliated with celebrity endorsers that have a high degree of blameworthiness tend to exhibit a loss in stock value. Nonetheless, Louie, Kulik & Jacobson (2001) find that events rated below the mean score of culpability exhibit positive stock market returns. A study conducted by Bartz, Molchanov and Stork (2012) concluded that negative news in regards to celebrity endorsers has a more negative effect on abnormal stock return when the event attracts more media attention, or when the endorser is prominent. However, caution is required when comparing CEOs to celebrity endorsers due to the fact that CEOs differ from celebrity endorsers in the utilization process. This difference is derived from the fact that CEOs are primarly utilized for managerial purposes, in contrast to celebrity endorsers (Nguyen, 2015). A summary of the literature review utilized in this study is illustrated in Table 1.

Table 1. Summary of literature review

Source	*Negative News*	*Firm-related news*	*Private-Oriented News*	*Media Coverage Intensity*	*Stock return*	*Financial metrices*	*CEO comparisson to celebrity*	*CEO*	*Firm Reputation*
Fishman, Khurana, Rhodes-Kropf, & Yim, 2014								✓	
Hamilton & Zeckhauser, 2004	✓		✓					✓	
Hayward, Rindova, & Pollock, 2004	✓		✓				✓	✓	
Jory, Ngo, Wang, & Saha, 2015	✓	✓			✓			✓	
Khurana, 2002							✓	✓	
Malmendier & Geoffrey, 2009							✓	✓	
Nguyen, 2015			✓	✓	✓			✓	
Bendisch, Larsen, & Trueman, 2013							✓	✓	
Wade, Porac, Pollock & Graffin, 2006								✓	✓
This Study	✓	✓	✓	✓	✓	✓		✓	✓

3. Theory

3.1 The Effect of Bad CEO Behavior on Stock Return

The efficient market hypothesis posits the efficiency of a capital market under the assumption that it fully and correctly reflects all relevant information, regarding the determination of stock market prices (Malkiel, 1989). This implies that all publications in regards to CEOs will be reflected in the stock market prices. Specifically, negative news articles in regards to CEOs, will then be directly reflected in a downward fluctuation of the stock market prices.

The signaling theory developed by Spence (1978) is utilized in the process of describing the behavior of two parties (sender and receiver) that have access to different information. The signaling theory assumes that the sender chooses whether and how to communicate that information (signal) (Connelly, Certo, Ireland, & Reutzel, 2011). On the other hand, the receiver has to decide how to interpret the signal (Connelly et al., 2011). According to the signaling theory bad CEO behavior (sender) may serve as a signal to investors (receiver) that the CEO is incapable of leading the firm (Spence, 1978). Furthermore, as illustrated by Hamilton & Zeckhauser (2004), some CEOs receive more media coverage compared to the firm. Consequently, CEOs are not solely the public figure of the company, but its actual representation (Fishman et al., 2014). Subsequently, investors may base their investment decisions on the news publications of CEOs, due to the higher intensity of these articles. Therefore, bad CEO behavior may also serve as a direct signal to investors that a firm is in distress. As a result, the negative news about CEOs may lead to a decrease in the investors' trust (Graham, Harvey, & Rajgopal, 2005). Which in turn, results in a downward pressure on the stock price of the firm.

Extant literature has been devoted to the impact of negative news publications on stock return (Ferguson et al., 2015; Chan, 2003; Tetlock, 2007). The existing literature in regards to the effect of negative news about CEOs on stock return indicates that negative news about CEOs has a negative effect on the stock return (Jory, Ngo, Wang, & Saha, 2015). Furthermore, this negative effect is in line with the existing literature on the effect of negative news about celebrity endorsers on stock return (Louie, Kulik, & Jacobson, 2001; Bartz, Molchanov, & Stork, 2012). The theoretical foundation of the negative news impact is mainly derived from studies focusing on political campaigns. However, research suggests that some marketing practices yield similar principles in relation to political campaigns (Weaver, Lariscy, & Tinkham, 1996). One of these principles is that negative information is more strongly

remembered compared to positive information (Bartels, 2000; Tinkham, Weaver, Lariscy, Soh, & Park, 2004; Finkel & Geer, 1998). According to Weaver, Lariscy & Tinkham (1999), the combination of (a) the greater memorability, (b) longer processing time and (c) the greater complexity of negative information contribute to the presence of a negativity bias. These findings are in line with findings from the literature on consumer behavior and social psychology, which supports the notion that negative information has a stronger effect impact on attitude change compared to positive information, due to the fact that negative information is centrally processed (Ajzen & Fishbein, 1987; Budestein, Houston, & DePaola, 1996). The attitude change as a result of negative information leads to a negative investor sentiment or risk aversion among investors (Tetlock, 2007). Based on the theoretical foundation and the existing literature, the first hypothesis is constructed as follows:

H1: Negative news publications about CEOs have a negative effect on stock return.

3.2 The Impact of Firm Reputation

The expectancy violation theory aids in the prediction and the explanation of the effects of nonverbal behavioral violations of social norms and expectations (Burgoon J. K., 2015). In which positive violations lead to more favorable reactions, and negative violations result in less favorable reactions, compared to negative and positive confirmations (Burgoon J. K., 2015). The role of firm reputation on stock price penalties is derived from the proposition that the firm reputation aids in the process of creating expectations about a firm's performance among investors (Shapiro, 1983). A good firm reputation transfers the association to investors that the firm is performing well, which enhances the investors' expectations of the firm (Rhee & Haunschild, 2006). Whereas, investors do not obtain high expectations of firms with a low reputation. Moreover, the high expectations of firms with a good reputation can be regarded as an implicit promise to investors about firm performance (Rhee & Haunschild, 2006). In regards to this, the better the firm's reputation, the greater the extent to which bad CEO behavior will be perceived by investors as a breach of this implicit promise. As a result, the stock market penalties of bad CEO behavior will be enhanced by a high firm reputation. This can be explained by the fact that investors would react more intensly to events that violate their expectations of high-reputation firms (Burgoon & LePoire, 1993).

The existing literature on the role of firm reputation shows that a high firm reputation can serve as a liability in case of negative events (Rhee & Haunschild, 2006). According to Rhee & Haunschild (2006), firms with a good reputation deteriorate more severly from negative stock price penalties after negative event compared to firms with a lower reputation.

Moreover, Wade, Porac, Pollock & Graffin (2006) claim that the allocation of rewards to a CEO results in an instataneous positive effect on the abnormal returns. However, this positive effect can be inverted and even become negative over time, implying that a high reputation can result in a burden for the CEO and lead to higher expectations (Wade et al., 2006). Based on the theoretical foundation and the existing literature, the second hypothesis is constructed as follows:

H2: Negative news about CEOs has a more negative impact on the abnormal stock return, when the firm has a high reputation compared to a firm with a low reputation.

3.3 The Impact of Media Coverage Intensity

As outlined in section 3.1, the signaling theory can be used to describe behavioral reactions between two parties (sender and receiver), when exposed to different information (Spence, 1978). Based on this theory, high media coverage intensity of bad CEO behavior (sender) may serve as a signal for the severity of the negativity of the CEO behavior to the investors (receiver). The severity of the negative sentiment in the news articles in regards to CEOs can, therefore, decrease the investors' trust in the CEO. As a result, the media coverage intensity of the bad CEO behavior can be utilized by investors as a proxy for the firm's future performances. Consequently, the high intensity of exposure to the bad CEO behavior can, therefore, be associated with diminishing furture performances of the firm, by investors. The loss of investors' trust in combination with the negative associations on future firm performances can exert a downward pressure on the stock market.

The existing literature on media coverage intensity confirms the theoretical foundation. According to Jin and Myers (2006), a crash in stock prices occurs when a large quantity of negative news becomes public in a short time period, especially when this follows a no-news period. Moreover they argue that if the negative news articles are more equally distributed over time, an increase in negative information flows would be associated with a lower stock market crash frequency (Jin & Myers, 2006). The clustering of media reports towards a specific type of news can be theoretically justified by a model constructed by Baron (2006), which describes a news media bias in which a particular event is overemphasized. The overemphasizing of the event is derived from the fact that journalists aim to improve their careers by attracting the attention of the public (Baron, 2006). Mullainathan and Shleifer (2005) justify the media bias from an additional perspective given to information under the behavioral bias, in which readers favor news consistent with their prior knowledge. As stated by Hong and Stein (2007), attention-grabbing information cause an extremely large response in the response of the stock

market to corporate news, due to constraints in the cognitive capabilities of investors. Specifically, an intensified media coverage amplifies the crashes or jumps in the stock market (Aman, 2003). On top of that, Tetlock (2007) concludes that news media content exhibit an immensely pessimistic effect on investors illustrating the negative overreactions on the stock return. Furthermore, Hong and Stein (2007) find a greater overvaluation in the stock market when mass media enhances the disagreement among investors on the understanding of the new information. According to Tetlock (2007), a downward pressure on the stock market occurs as a result of a high intensity of media pessimism. Bartz, Molchanov & Stork (2012) find a more negative effect on abnormal stock return when negative news about celebrity endorsers is moderated by high media attention. In line with the theoretical foundation and the existing literature, the following hypothesis is composed:

H3: Negative news about CEOs has a more negative effect on stock return when the negative news has received a high media coverage intensity compared to a low media coverage intensity.

3.4 The Impact of the Type of News Subject (Private versus Firm-Related)

As described in section 3.1, the signaling theory is utilized to describe the behavior of the sender and the receiver that have both access to different information (Spence, 1978). According to the signaling theory firm-related negative news about CEOs (sender) may serve as a signal to investors (receiver) that the CEO is incapable of controlling the firm (Connelly et al., 2011). Whereas, private-related negative news (sender) may serve as a signal to investors (receiver) that the CEO has issues in the personal environment (Connelly et al., 2011). However, due to the fact that firm-related negative news about CEOs directly signals issues in the corporate environment, whereas private-related negative news about CEOs would only signal investors about issues in the personal environment, it can be hypothesized that investors would more negatively react to firm-related negative news compared to private-related negative news. This would result in a more downward pressure on stock prices, when investors are exposed to negative firm-related news compared to negative private-related news concerning CEOs.

According to Long and Roa (1995), the cost of reported unethical corporate behavior (such as insider trading, bribery, scandal, illegal payment, environmental pollution and employee discrimination) is high, and leads to significant and negative abnormal stock returns. This negative reaction consists of a cumulative and persistent negative wealth drift of approximately one month after the announcement of the misbehavior (Long & Roa, 1995).

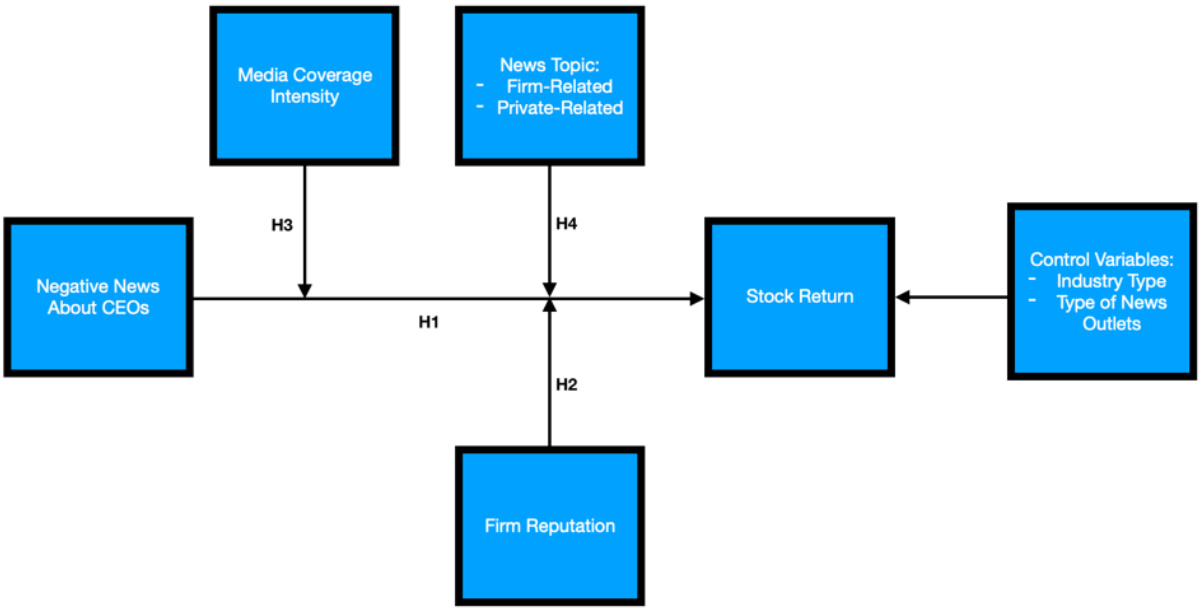
Moreover, research conducted by Jarrell and Peltzman (1985) and Klein and Leffer (1981) finds that the announcement of misconduct also has a negative effect on the firm's costs and operations. Specifically, managers have to divert time from their operations at the firm, to investigate and anticipate on corporate scandals. Furthermore, both suppliers and customers scorn these scandals and terminate business relationships, in order to exhibit their intolerance to scandals (Jarrell & Peltzman, 1985; Klein & Leffer, 1981). Based on the consequential negative effects of corporate scandals involving CEOs on not only the stock return, but also the firm's costs, operations and business relations (Jarrell & Peltzman, 1985; Klein & Leffer, 1981), it is safe to assume that firm-related negative news has a more negative impact than private-oriented negative news. Therefore, the fourth hypotheses is constructed as follows:

H4: Firm-related negative news about CEOs has a more negative impact on stock return compared to private-oriented negative news about CEOs.

3.4 Conceptual Model

Based on the hypotheses derived from the previous sections, a conceptual model was constructed in order to give a clear overview of the scope of this research. Figure 1 illustrates the conceptual model for this study. Furthermore, besides the moderating variables, this study will incorporate the following control variables: type of industry and type of news outlets.

Figure 1. Conceptual Model



4. Methodology

4.1 Data

4.1.1 Data Collection

In the first stage of the data collection, the researcher was provided with a database containing 1691 brands that are active in the US. In the dataset the brands were already linked to the designated industry in which the brand operates. The researcher then supplemented for each brand the database with the company name, if the company was stock listed, the trading abbreviation and if the stocks were traded in the US, by utilizing the Google search algorithm. Secondly, the companies that were not traded in the US were removed from the database, which resulted in a sample of 361 companies. Next, for each of the 361 companies in the sample, the corresponding CEOs in a timeframe of 10 years (01.04.2009-01.04.2019) were retrieved from Google Search including the timeframe in which the CEO was at this position. This resulted in a database containing 628 CEOs. In order to identify the negative events in regards to the CEOs, the decision was made to use the news database Factiva. The decision to use Factiva is derived from the many event studies (e.g. Ba, Lisic, Liu, & Stallaert, 2013; Borah & Tellis, 2014) that incorporated this news database, which has illustrated the validity of the news database. After the decision was made to utilize Factiva, a list of newspapers, magazines and TV broadcasts was composed in order to demarcate the search algorithm in Factiva. Table 2 shows the different news types that were incorporated in this study. Appendix A.1 illustrates the overview of the sources entered in Factiva.

Table 2. Overview of sources used in Factiva

News Type	Sources
Newspapers	USA Today (online and offline)
	New York Times (online and offline)
	Wall Street Journal (online and offline)
	New York Post (online and offline)
Magazines	The Atlantic (online and offline)
	Forbes (online and offline)
	Wired (offline)
TV broadcasts	ABC News
	BBC Monitoring Media
	CBS News
	Fox News
	CNN
	NBC News

Next, the Factiva search algorithm was further demarcated, by implementing a 10-year timeframe (01.04.2009-01.04.2019) in which the news articles had to be obtained. Furthermore, the decision was made to solely search for the keywords in the headline of the

articles, as this would filter out the irrelevant articles that were not focused on the CEOs. After the demarcation of the Factiva search algorithm, a search query for the Factiva database had to be composed. This query was composed of the CEO name. The implementation of the search queries has been quite extensive, as all of the 628 CEOs had to be implemented in the search query manually and one by one. After the search queries were composed, each search query had to be entered in the search algorithm, which resulted in a list of articles from the specified sources, timeframe and the CEO name in the headline. Thereafter, the researcher had to go manually through all the articles in order to identify relevant negative articles in regards to the CEO. Consequently, the relevant negative articles were imputed in a dataset, in which the company name, CEO gender, CEO name, event ID, date of the event, news subject (private or firm-related), a short description of the event and the sources of the events were noted. Furthermore, for each negative event, the news type (newspaper, magazine, TV broadcast or a combination) was imputed and the media coverage intensity was calculated based on the number of sources in which the event appeared. However, for each CEO negative events were selected that occurred in the timeframe that the CEO was at this position. On top of that, not all CEOs appeared in the Factiva search results. Based on the identification of the negative events, 373 events were identified, from 76 firms and 89 CEOs.

The financial data of the 76 firms were retrieved from Yahoo Finance in a timeframe just over 10 years (01.03.2009-01.05.2019). Consequently, this data was merged with the dataset of the negative events. However, many events were not incorporated by matching the event date to the company name, as some events occurred on the weekends. In the financial data retrieved from Yahoo Finance, there was no financial data on the weekends. Therefore, the decision was made to postpone all the events occuring on a Saturday or Sunday, to the next Monday. Still, after postponing the events in the weekends, there were still some events missing due to the fact that the company was either (a) not stock listed on the date of the event or (b) the financial data was not available on Yahoo Finance on the date of the event. The final sample consists of 347 events from 73 firms and 86 CEOs.

4.1.2 Variable Operationalization

This study regarded solely the negative events in regards to CEOs (bad CEO behavior). Therefore, most of the descriptive variables are directly based on negative news articles found in Factiva.

Media Coverage Intensity. The media coverage intensity was measured based on the summation of the news sources that reported the negative event. However, as illustrated by

Appendix A.1 the TV broadcasts contain multiple TV shows under the same name (e.g. ABC News). If the negative event appeared on multiple shows of a single news source (e.g. ABC News: 20/20 and ABC News: Good Morning America), the media coverage intensity was still one for this news source. A distinction was made between the online and the offline publication. Thus, when a negative event was published in both the online as the offline version of the newspaper or magazine, the media coverage for the single source was counted as two (one for the offline version and one for the online version).

Firm Reputation. The Fortune 500 listing of the companies within the sample was utilized as a proxy for firm reputation. The decision to utilize the Fortune 500 listing as a proxy for firm reputation is derived from the many studies that illustrated the validity of this proxy (e.g. Gatzert, 2015; Rhee & Haunschild, 2006). The first step in the operationalization of firm reputation entailed the differentiation between a high and a low firm reputation. The differentiation was achieved by dummy coding, where 1 (high reputation) depicts a firm with a ranking in the Fortune 500 listing and 0 (low reputation) a firm outside of the Fortune 500 listing. However, the Fortune 500 ranking from the year prior to the event was utilized, ensuring that the firm's reputation during the year of the event was used. Moreover, the decision to incorporate the Fortune 500 listing a year prior to the event is derived from the fact that the Fortune 500 listings are composed at the end of the year (Fortune, 2019).

News Subject. In the differentiation process between firm and private-related (negative) events, the researcher studied the negative news articles in relation to the events. To differentiate between these two types of events, dummy coding was used. If the negative event was related to the CEO's activities at the firm, it was coded as 0. Subsequently, if the negative events were related to occurrences of the CEOs' outside of the firm activities, the column was coded as 1. Examples of both private and firm-related events are illustrated by Appendix A.2.

Type of News Outlet. To construct a measure that differentiates between the different types of news outlets, an additional column was added to the dataset. This column was dummy coded in order to distinguish the different type of news outlets. The column was either coded 1, if the news article appeared in multiple news outlets, or 0 if the news article was published in a single news outlet.

Industry Type. As mentioned in section 4.1.1, the researcher was provided with the type of industry in which the firms are present. Based on the provided data, the following seven industries were identified: Fashion & Beauty, Travel & Automotive, Digital Life & Media, Food & Gastronomy, Non-Food, OTC & Healthcare and Services. For analyses purposes, each of the industry types was dummy coded in separate columns. Where 1 expresses the firm's

presence in the industry, and 0 expresses the absence of the firm in the specific industry. An overview of the operationalization of the variables used in the dataset is illustrated in Table 3.

Table 3. Operationalization of Variables

Variable	Type	Explanation
Media Coverage Intensity	Interval	Ranging from 1 to 8 depending on how many sources report on the event
Firm Reputation	Nominal	0 = Low reputation (not included in Fortune 500 listing), 1 = High reputation (included in Fortune 500 listing)
News Subject	Nominal	1 = Private related events, 0 = Firm related event
Type of News Outlet	Nominal	1 = Occurence in multiple news outlets, 0 = Occurence in single news outlet
Industry Type	Nominal	1 = Present in specific industry, 0 = Absent in specific industry

4.3 Event Study

4.3.1 Research Method

An event study approach is used to assess the extent to which bad CEO behavior influences the abnormal stock return. In line with this objective, the event study is the most suitable research method. An event study can be utilized to investigate the extent to which an event generates a change in the abnormal stock return (Sorescu, Warren, & Ertekin, 2017). The event study methodology is based on two assumptions: (1) the stock prices are a representation of all the available information (Sorescu, Warren, & Ertekin, 2017), and (2) the stock prices directly fluctuate when new information is published (Fama E. F., 1970). Based on these assumptions, investors directly adjust their expectations in regards to the firm's future performances, resulting from the publication of new information (Sorescu, Warren, & Ertekin, 2017). Consequently, this change in investors' expectations exert pressure on the firm's stock market prices (Sorescu, Warren, & Ertekin, 2017). The instant fluctuation as a result of the publication of new information fits the purpose of this study. Furthermore, this enables the possibility for the isolation of the expected value that a firm will gain or lose resulting from the revelation of bad CEO behavior to the public.

4.3.2 The Constant-Mean-Return Model

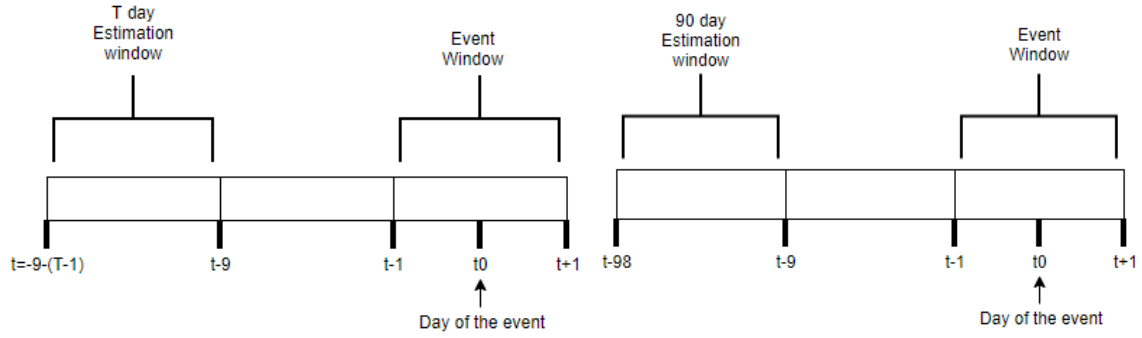
In order to estimate the abnormal returns, the constant-mean-return model is utilized. The decision to utilize the constant-mean-return model among the other models (e.g. market model) is derived from the many studies that incorporated the constant-return-model (e.g. MacKinlay, 1997). Furthermore, Brown and Warner (1980, 1985) and MacKinlay (1997) claim that the constant-mean-return model yield similar results to the more complex models (e.g. market model). The constant-mean-return model assumes the constancy of the mean return over time, whereas the market model is based on the assumption of a linear relationship

between the stock return and the market return (MacKinlay, 1997). The similarity in results between the market model and the constant-mean-model arises from the fact that the variance of the abnormal returns is not diminished by the implementation of a more complex model.

4.3.3 Event and Estimation Window

This study implemented multiple estimation windows and a single event window. The estimation windows incorporated in this study are the 10, 20, 50 and 90-day estimation windows. For illustration purposes, only the 90-day estimation window is elaborated on. The 90-day estimation window, starts 98 days prior to the event and ends 7 days prior to the event window or 8 days prior to the event. For all estimation windows, a event window is used starting one day prior to the event, and ending one day after the event. The derivation of the estimation windows, and the 90-day estimation window with the associated event windows are illustrated in Figure 2.

Figure 2. Event and estimation windows



Abnormal Returns. The abnormal returns are computed by subtracting the normal returns over the estimation window from the actual returns over the event window, which is characterized by the returns of the event window in the absence of the event. For each event (i) and period (t), the following formula is utilized to calculate the abnormal returns:

(1) Abnormal Returns $_{it}$ = Actual Returns $_{it}$ – Expected Returns $_{it}$

$AR_{it} = R_{it} - E(R_{it})$

The constant-mean-return model assumes that the actual returns are depicted by the following formula:

(2) $R_{it} = \mu_i + \delta_{it}$, where $E[\delta_{it}] = 0$, $Var[\delta_{it}] = \sigma^2_{ARi}$

Specifically, the actual returns$_{it}$ are the average returns of the event window (t-1, t+1). The expected returns$_{it}$ are computed according to the constant-mean-return model. Where the expected returns$_{it}$ are the average returns of the estimation windows:

(3) T day estimation window: $E(R_{it}) = \mu_{(t = -9-(T-1),t-9)} + \delta$

90 day estimation window: $E(R_{it}) = \mu_{(t-98,t-9)} + \delta$

For the 90 day estimation window the expected returns$_{it}$ are calculated, as the average returns of t-98 to t-9. Subsequently, the expected returns$_{it}$ for the 100 day estimation window are calculated as the average returns of t-108 to t-9. If equation (2) and (3) are substituted in equation (1), the following formula is derrived to calculate the AR_{it}:

(4) T day estimation window $AR_{it} = (\mu_i + \delta_{it}) - (\mu_{(t = -9-(T-1),t-9)} + \delta)$

90 day estimation window $AR_{it} = (\mu_i + \delta_{it}) - (\mu_{(t-98,t-9)} + \delta)$

4.3.4 Descriptive Statistics

Table 4 provides the descriptive statistics of the variables mentioned in section 4.2.2. It is noticeable that only 27.38% of the events were private-related, compared to 72.62% that were firm-related. Caution is required when interpreting the different industry types for the, due to the low sample size (e.g. only 1.44% of the events are in the OTC & Healthcare industry).

Table 4. Descriptive Statistics

Variables	Description	Source	N	Mean	Max.	Min.	SD
Dependent Variables							
Stock returns	Stock Return of firms in the sample	Yahoo Finance	184636	-4.7676142E-03	1.39435E-01	-1.85358E-01	3.65691241E-02
Abnormal Stock Return 10 day event window	Abnormal Stock return of firms in the Sample with 10 day event window	Yahoo Finance	347	-0.00471473111	0.100536128	-0.142544462	0.022469806275
Abnormal Stock Return 20 day event window	Abnormal Stock return of firms in the Sample with 20 day event window	Yahoo Finance	347	-4.4064624E-03	1.04539E-01	-1.39002E-01	2.14017971E-02
Abnormal Stock Return 50 day event window	Abnormal Stock return of firms in the Sample with 50 day event window	Yahoo Finance	347	-4.5945554E-03	9.15615E-02	-1.34489E-01	2.17474707E-02
Abnormal Stock Return 90 day event window	Abnormal Stock return of firms in the Sample with 90 day event window	Yahoo Finance	347	-4.8929621E-03	9.00352E-02	-1.37785E-01	2.13682654E-02
Moderators							
Media Coverage Intensity	The number of media outlets that report on the event	Press Research	-	1.86E+00	8	1	1.41E+00
Firm Reputation							
High reputation (1)	Dummy for Occurrence	Fortune 500	62.54%	-	-	-	-
Low Reputation (0)	Dummy for Occurrence	Fortune 500	37.46%	-	-	-	-
News Topic							
Private-Related (1)	Dummy for Occurrence	Press Research	27.38%	-	-	-	-
Firm-Related (0)	Dummy for Occurrence	Press Research	72.62%	-	-	-	-
Control Variables							
Type of News Outlet							
Single news outlet (0)	Dummy for Occurrence	Factiva	74.64%	-	-	-	-
Multiple news outlets (1)	Dummy for Occurrence	Factiva	25.36%	-	-	-	-
Industry Type							
Fashion & Beauty	Dummy for Industry Type	-	5.48%	-	-	-	-
Travel & Automotive	Dummy for Industry Type	-	31.70%	-	-	-	-
Digital Life & Media	Dummy for Industry Type	-	39.48%	-	-	-	-
Services	Dummy for Industry Type	-	17.29%	-	-	-	-
Food & Gastronomy	Dummy for Industry Type	-	2.31%	-	-	-	-
Non Food	Dummy for Industry Type	-	2.31%	-	-	-	-
OTC & Healthcare	Dummy for Industry Type	-	1.44%	-	-	-	-

4.4 Cross-Sectional Regression

As stated in section 4.3.2, the constant-mean-return model was used in order to calculate the abnormal returns. Thereafter, a multiple ordinary least squares regression is incorporated in the process of analyzing the data. The multiple ordinary least squares (OLS) regression is a statistical method that is based on the estimation of the linear relationship between one dependent variable (DV) and multiple independent variable (IV) (Hutcheson & Moutinho, 2008). The OLS estimates the relationship between the DV and the IVs by minimizing the sum of squares between the predicted and observed values of the DV (Hutcheson & Moutinho, 2008). In order to perform a multiple ordinary least squares regression, a model is constructed. The main model is illustrated by the following equation:

$$Abnormal\ Stock\ Return = \beta_0 + \beta_1\ Media\ Coverage\ Intensity + \beta_2\ Firm\ Reputation + \beta_3\ News\ Subject + e_i$$

The estimation model allows the possibility to control for the type of news outlet and the type of industry. The estimation model is depicted by the following equation:

$$Abnormal\ Stock\ Return = \beta_0 + \beta_1 Media\ Coverage\ Intensity_i + \beta_2\ Firm\ Reputation_i + \beta_3\ News\ Subject_i + \beta_4\ Type\ of\ News\ Outlet_i + \beta_5\ Fashion\ \&\ Beauty_i + \beta_6\ Travel\ \&\ Automotive_i + \beta_7\ Digital\ Life\ \&\ Media_i + \beta_8\ Services_i + \beta_9\ Food\ \&\ Gastronomy_i + \beta_{10}\ Non\ Food_i + \beta_{11}\ OTC\ \&\ Healthcare_i + e_i$$

5. Results

Before interpreting the results, further demarcation of the dataset was implemented. According to Kerl, Schurg, & Walter (2014), investors face both cognitive and time constraints in their search for information in regards to their investment decisions. Subsequently, this prevents them from the examination of all available information (Kerl et al., 2014). Therefore, identifying potentially influential news articles among a large number of news articles published every day, would involve an unrealistic high search cost (Fang, Peress, & Zheng, 2014). The high search cost can be reduced by media outlets, by intensifying the investors' exposure to a potential influential event by publishing on that matter (Fang et al., 2014). Consequently, the probability of the event being noticed by an investor enhances, which influences investment behavior and will be reflected in the stock market price.

On the other hand, a low media coverage intensity of an event may result in the event being unnoticed by the majority of the investors, due to the limited cognitive capabilities and time constraints of investors.

The signaling theory assumes information asymetry (Spence, 1978). Therefore, the higher the intensity of negative news publications by news outlets in regards to a single event, the higher the degree of news spread. This is reflected by a reduction in information asymetry, which will be reflected in a fluctuation of the stock price. Subsequently, in order to draw valid inferences, the assumption was made that at least two news sources needed to report on an event, to be noticable by the majority of the investors. Therefore, the decision was made to exclude events from the dataset, with a media coverage intensity below two. An overview of the descriptive statistics of the reduced dataset is presented in Appendix A.3.1.

5.1 Event Study Results

The first stage in interpreting the results of the multiple ordinary least squares regression is the examination of the first hypothesis: *Negative news publications about CEOs have a negative effect on stock return* (main effect). As illustrated by Table 5, all estimation windows in the full sample exhibit a negative mean. Furthermore, for all estimation windows in the full sample the negative effects are significant at $p < 0.01$. This confirms the negative effect of bad CEO behavior on stock return for the full sample.

Table 5. Main effect in full sample

Estimation Windows	N	Mean	Std. Deviation	Std. Error Mean	Sig.
10 Day Estimation Window	347	-4.71473111E-03	2.24698063E-02	1.20624240E-03	5.58E-05
20 Day Estimation Window	347	-4.40646244E-03	2.14017971E-02	1.14890866E-03	7.45E-05
50 Day Estimation Window	347	-4.59455543E-03	2.17474707E-02	1.16746540E-03	5.02E-05
90 Day Estimation Window	347	-4.89296214E-03	2.13682654E-02	1.14710859E-03	1.29E-05

a. One-sided t-test for expected sign, two sided t-test otherwise

b. For all estimation windows the expected is negative (-)

As depicted by Table 6, within the sample of events with a media coverage of at least two, all estimation windows express a negative mean. However, solely the main effect for the 90 day estimation window is significant at a p-value below 0.05 (p=0.0464). Therefore, the 90 day estimation window confirms the negative effect of bad CEO behavior on stock returns. As mentioned in section 5.0, the model will be estimated on the reduced sample (media coverage intensity higher than 1). Within this sample, the 90 days estimation window yields the most significant results (p=0.0464). Therefore, the 90 days estimation window will be implemented in the cross-sectional results.

Table 6. Main effect media coverage intensity > 1

Estimation Windows	N	Mean	Std. Deviation	Std. Error Mean	Sig.
10 Day Estimation Window	146	-2.47717460E-03	2.32560571E-02	1.92468498E-03	1.00E-01
20 Day Estimation Window	146	-2.18811575E-03	2.15263556E-02	1.78153387E-03	1.11E-01
50 Day Estimation Window	146	-2.42680914E-03	2.13585948E-02	1.76764988E-03	8.60E-02
90 Day Estimation Window	146	-3.01239173E-03	2.15161589E-02	1.78068998E-03	4.64E-02

a. One-sided t-test for expected sign, two sided t-test otherwise

b. For all estimation windows the expected is negative (-)

5.2 Cross-Sectional Results

5.2.1 Assumptions and Model Fit

In order to check if the coefficients and parameters of the regression model are unbiased[1], the assumptions for the complete model estimation, including all predictor variables were checked. Furthermore, this section entails the examination of the model fit. A basic assumption of the multiple OLS regression requires that the DV is measured on a continuous scale, and the IVs on a continuous or categorical scale (Weisberg, 2013). Besides this assumption, the following assumptions needed to be checked.

Multicollinearity. This assumption tests the extent to which the predictor variables correlate with each other, which could potentially impose a problem, resulting in multiple variables measuring the same underlying construct (Davis, 2013). According to David (2013),

[1] Unbiased model involves that the regression model on average is equal to the population model.

a tolerance factor near 1, and a low variance inflation factor (VIF) not far exceeding 1 is preferable. As illustrated by Appendix A.3.2.1, the tolerance factors are between .734 and .980, and the VIFs are between 1.020 and 1.362, implying that the assumption of no multicollinearity in the data has been met.

Influential Cases. Significant influential cases can express a strong influence on the fit of the regression (Weisberg, 2013). In other words, these cases can negatively affect the regression model. The Cook's D test statistic is used to identify influential cases within the predictor variables (Weisberg, 2013). According to Weisberg (2013), a case with a Cook's D above 1 would influence the regression and could be considered an influential case. Following convention, Cook's D was computed for every event. As depicted by Appendix A.3.2.2, the highest Cook's D value in the dataset is .088. Subsequently, there are no influential cases that bias the regression model.

Independence of Residual Values. This assumption requires the residual terms of two observations to be uncorrelated (i.e. lack of autocorrelation) (Field, 2009). The lack of autocorrelation can be tested by the Durbin-Watson test, which test the correlation between the residuals (Field, 2009). The value for the Durbin-Watson test can take values ranging from 0 (positive correlated) to 4 (negative correlated), in which a value of 2 illustrates that the residuals are uncorrelated (Field, 2009). As depicted by Appendix A.3.2.3, The assumption of the independence of residual values is met (Durbin-Watson = 2.029).

Homoscedasticity. The assumption of homoscedasticity requires the constancy of the variance of the residuals (Field, 2009). As illustrated by Appendix A.3.2.4, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals are heteroscedastic and the assumption of homoscedasticity is not met. Consequently, caution is required in generalizing the findings (Field, 2009).

Normality of Residuals. Based on this assumption, the residuals within the model are required to be random and normally distributed (Field, 2009). To test the normality of the residuals, the Kolmogorov-Smirnov and Shapiro-Wilk test is used. These statistics test whether the residuals are significantly different from a normal distribution (Field, 2009). As shown in Appendix A.3.2.5, both test statistics are significant ($p<0.01$), implying that the distribution differs from a normal distribution. Therefore, the assumption of the normality of residuals is not met. However, according to the central limit theorem big samples ($N\geq30$) tends to have a normal distribution (Field, 2009). Since the sample size of the model used (N=146) exceeds

this threshold, the violation of the normality of residuals assumption would not impose a problem on the generalizability of the findings.

Linearity. Under the assumption of linearity, the mean values of the DV for each increment of the IVs are required to be present along a straight line (Field, 2009). As illustrated by Appendix A.3.2.6, the assumption of linearity is not met. This caused by binary nature of the majority of the variables (i.e. news subject).

Model Fit. The R^2 statistic (.142 or 14.2%) illustrates the proportion of variance in the DV that is explained by the regression model of the sample (Field, 2009). However, the R^2 statistic is often criticized due to the fact that the addition of a predictor variable would always enhance the R^2, irrespective of its true contribution to the model (Miles & Shevlin, 2001). The adjusted R^2 penalizes for the loss of the predictive power by the addition of a predictor variable (Field, 2009). As depicted by Appendix A.3.3, the adjusted R^2 is .078, meaning the predictor variables contribute in the explanation of the model.

As shown in Appendix A.3.4, the assumptions testing for the full sample resulted in the same assumptions being met (not being met). However, as illustrated by Appendix A.3.6, the reduced sample performed better on the assumptions of influential cases, multicollinearity, normality of residuals (not met), independence of residual values and the model fit. Especially, the model fit is interesting, since the adjusted R^2 of reduced sample (0.078) is around 13 times as high compared to the full sample (0.006). This forms another argument that justifies the reduction of the sample.

5.2.2 Estimation results

The multiple OLS regression was estimated on one DV and 11 predictor variables (three moderators and eight control variables). As depicted by Table 7, the multiple OLS regression was estimated both with and without the moderators, to illustrate the contribution of the moderators to the model. The estimated regression with both control and moderating variables yield an adjusted R^2 of 7.83E-02, which is almost twice as high compared to the adjusted R^2 of the regression with only the control variables (3.92E-02). This illustrates the contribution of the moderating variables to the model.

As illustrated by Appendix A.3.7.1, a significant regression equation was estimated ($F(10,135) = 2.230956$, $p < 0.05$), which implies that the estimated regression model exhibits a better fit to the data compared to a model without IVs (Field, 2009). However, for the full sample the regression equation was not significant[2]. Subsequently, this is another argument

[2] $F(10, 336) = 1.223956$, $p < 0.30$

that signifies the justification for the reduction of the sample. An overview of the estimation results is provided in Table 7.

Firm Reputation. In H2, it is hypothesized that negative news about CEOs has a more negative impact on stock return, when the firm has a high reputation compared to a firm with a low reputation. According to the findings of this study, the hypothesized effect is indeed statistically significant (β=-8.69E-03, p=1.70E-02). This implies that a high firm reputation acts as a liability in which the negative effect of negative news on stock return is increased.

Table 7. Estimation Results

	Full Sample N=346						Media coverage>1 N=147					
Adjusted R Square	**6.36E-03**			**6.43E-03**			**3.92E-02**			**7.83E-02**		
Variables	**B**	**Sig.**		**B**	**Sig.**		**B**	**Sig.**		**B**	**Sig.**	
Constant	-5.33E-03	2.00E-02	**	-4.04E-03	1.70E-01		-4.00E-03	3.15E-01		2.01E-03	7.00E-01	
Moderators												
Media Coverage Intensity (-)	-	-		1.58E-04	8.91E-01		-	-		1.71E-04	8.95E-01	
Firm Reputation												
High Reputation (-)	-	-		-1.32E-03	2.99E-01		-	-		-8.69E-03	1.70E-02	**
Low Reputation (+)	Reference Category			Reference Category			Reference Category			Reference Category		
News Subject												
Private-Related (+)	-	-		-4.30E-03	1.03E-01		-	-		-8.00E-03	4.25E-02	**
Firm-Related (-)	Reference Category			Reference Category			Reference Category			Reference Category		
Control Variables												
Type of News Outlet												
Single Outlet	Reference Category			Reference Category			Reference Category			Reference Category		
Combination of outlets	2.00E-03	4.60E-01		2.07E-03	5.80E-01		-6.07E-04	8.74E-01		3.74E-04	9.26E-01	
Industry Type												
Fashion & Beauty	-9.72E-03	7.10E-02	*	-1.05E-02	5.47E-02	*	-1.52E-02	5.72E-02	*	-1.90E-02	1.78E-02	**
Travel & Automotive	Reference Category			Reference Category			Reference Category			Reference Category		
Digital Life & Media	-1.29E-03	6.42E-01		-2.91E-04	9.19E-01		3.96E-03	3.49E-01		7.00E-03	1.04E-01	
Services	5.01E-03	1.45E-01		5.18E-03	1.36E-01		6.51E-03	1.90E-01		7.92E-03	1.12E-01	
Food & Gastronomy	-1.07E-03	8.91E-01		-3.17E-04	9.68E-01		-4.48E-02	3.73E-02	**	-4.38E-02	3.84E-02	**
Non Food	2.23E-03	7.76E-01		2.41E-03	7.61E-01		1.77E-03	8.88E-01		6.45E-03	6.08E-01	
OTC & Healthcare	5.35E-03	5.85E-01		4.89E-03	6.20E-01		5.68E-03	7.13E-01		3.68E-03	8.08E-01	

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

Media Coverage Intensity. The third hypothesis posits that media coverage intensity negatively moderates the focal relationship. However, as illustrated by Table 7, the variable media coverage intensity is insignificant (β=1.71E-04, p=8.95E-01).

News Subject. In H4, it is hypothesized that firm-related negative news about CEOs has a more negative impact on stock return compared to private-oriented negative news about CEOs. Surprisingly, the findings of this study signify a statistically significant effect in the opposite direction. The findings suggest that private-related events have a more negative impact (β=-8.00E-03, p< 0.05) on stock return compared to firm-related events.

Control Variables. Whereas type of news outlet does not significantly influence stock return, industry type does. The first industry that exhibits a significant effect is the fashion & beauty industry (β=-1.90E-02, p< 0.05). This implies that negative news about CEOs has a

more negative effect (-1.90E-02) in the fashion & beauty industry compared to the travel & automotive industry (reference category). The second industry that shows a significant effect is the food & gastronomy industry (β=-4.38E-02, p< 0.05). This finding suggest that negative news in the sample in the context of CEOs has a more negative impact (-4.38E-02) on stock return compared to the travel & automotive industry. However, caution is required when generalizing the significant industry types, due to the low sample in each industry (Appendix A.3.1). An overview of the hypothesis testing is illustrated by Table 8.

Table 8. Hypothesis Testing

Hypothesis	Reference Category	Expected Direction	Beta	Direction Correct	P-value	Sig.	Conclusion
H1: Bad CEO Behavior	-	Negative	-3.01E-03	Yes	4.64E-02	**	Confirmed
H2: Media Coverage Intensity	-	Negative	1.71E-04	No	8.95E-01		Rejected
H3: News Subject (firm vs private)	Firm-related	Positive	-8.00E-03	No	4.25E-02	**	Rejected
H4: Firm Reputation (high vs low)	Low	Negative	-8.69E-03	Yes	1.70E-02	**	Confirmed

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

d. For a confirmed hypothesis, there is still a p*100% chance of a type I error

5.3 Robustness Checks

5.3.1 Fixed Effect Model

The first robustness check incorporated involved a company-specific fixed-effect model. The estimation entailed the addition of company-specific dummy variables, in which each company received its own column and was dummy coded in case of a company-specific event. The regression was run again with all the company-specific variables that were included as predictor variables. The companies were added to the regression in order to control for company-specific effects. As illustrated by Appendix A.4.1, the directional effect of the moderators are similar to the estimated model in section 5.2.2. However, none of the moderating and initial control variables are significant in the estimated company-specific fixed-effect model. Therefore, the findings of this study are not robust against the estimated company-specific fixed-effect model. Interestingly, the adjusted R^2 of the fixed-effect model (.142) is almost twice as high as the adjusted R^2 of the model (.0783) incorporated in this study.

5.3.2 Varying Estimation Windows

To check the robustness of the model, various different estimation windows were tested. The varying estimation windows are used in order to check if the results of this study still hold under different estimation windows. The estimation windows incorporated in the robustness check are illustrated in Table 6. The assessment of assumptions of the varying estimation windows does not deviate from the focal model (90 day estimation window) (see

Appendix A.4.2). At the first stage, all estimation windows yield a negative mean, implying the negative effect of bad CEO behavior on stock return. However, as shown in Table 6, only the 90-day estimation window is significant at a p-value below .05. Furthermore, the 50-day estimation window is significant at a p-value below .10, whereas, the 10 and 20-day estimation window has a p-value higher than .10. This implies that the main effect is not robust against the varying estimation windows.

Examination of the model fit of the various estimation windows depicted by Appendix A.4.3, concludes that all estimation windows yield a positive adjusted R^2. This indicates that the models contain variables that explain variance in abnormal returns. Interestingly, the adjusted R^2 increases, when the estimation window gets narrower. Specifically, the highest adjusted R^2 (1.10E-01) is attributed to the 10-day estimation window, whereas the lowest adjusted R^2 is dedicated to the 90-day estimation window.

At the second stage, the effect size, direction and significance of the predictor variables were examined. As illustrated by Appendix A.4.3, the direction of effects of the varying estimation windows exhibit the same direction as the effects of the predictor variables in the focal model. Interestingly, firm reputation is significant for the models of all estimation windows. Furthermore, the effect size for firm reputation exhibits a more negative effect size[3], for the more narrow estimation window (10 and 20-days). Moreover, it is noticeable that the firm reputation is more significant for the 50 and 20-day estimation window ($p<.01$), compared to the 10-day estimation window and the focal model ($p<.05$). Examination of the variable news subject, concludes that across the different estimation windows private-related news has a significant and more negative effect[4] on abnormal returns. However, this effect is more significant for the focal model and the 20-day estimation window ($p<.05$), compared to the other estimation windows ($p<.10$).

For the control variables, it is noteworthy that for the Fashion & Beauty industry the effect exhibits a more negative trend[5] and that the p-value declines, when the estimation window narrows. Interestingly, within the varying estimation windows (focal model excluded) the Digital Life & Media industry exhibits a significant and less negative effect[5] on the abnormal stock return. Lastly, the Services industry has solely for the 10-day estimation window a significant and less negative effect[5] on the abnormal stock return (β=9.42E-03, $p<.10$).

[3] Caution: This is in relation to the reference category
[4] Caution: This is in relation to the reference category

5.3.3 Market Model

The third robustness check against which the findings of this study are tested, is the market model. The market model is similar to the constant-mean-return model, as on how the abnormal returns were calculated. However, the constant-mean-return model assumes the constancy of the stock returns through time, whereas the market model is more sophisticated and estimates the expected returns based on the market fluctuations (MacKinlay, 1997). See Appendix A.4.4 for the operationalization of the market model.

As mentioned in Appendix A.4.4, the decision was made to incorporate two market models. Both models have an event window that starts one day prior to the event, and ends one day after the event. The estimation windows for the two models are a 100 and 200 day estimation window. However, as depicted by Appendix A.4.4.1, none of the market models are significant at the first stage. Surprisingly, both market models express a contradicting directional effect.

The market models comply with the same assumptions as the focal model, see Appendix A.4.4.2 for an overview.

Next, examination of the adjusted R^2 concludes that both the 100 (-2.31E-02) and 200 (-2.32E-02) day estimation windows yield a negative adjusted R^2 (Appendix A.4.4.3). The negative adjusted R^2 suggests that both models contain predictor variables that do not aid in the explanation of the CAR's variance.

As depicted by Appendix A.4.4.3, the moderating variables of the market models exhibit the same directional effects as the focal model. However, for both the 100 and 200 day estimation window only the moderator firm reputation has a significant effect at a p-value below .10 (β=-5.44E-01 and β=4.01E-01). Even though the firm reputation of both market models are less significant than the focal model, it is noteworthy that the effect size for both market models are at least 46 times more negative for a high firm reputation, compared to the focal model. Lastly, none of the control variables are significant for both estimation windows.

5.3.4 Omitted Variable

The fourth robustness check against which the robustness of the model is tested, is the inclusion of the omitted variable firm size. The firm size is calculated by multiplying the opening price by the volume of outstanding shares. Both the main effect and the assumptions yield similar results, compared to the focal model (see Appendix A.4.5).

As illustrated by Appendix A.4.5.2, the inclusion of firm size increased the adjusted R^2 from 7.83E-02 to 1.07E-01, implicating that firm size contributes in the explanation of the abnormal return's variance.

The predictor variables yield the same directional effect in both models. However, the model with firm size has an effect size for firm reputation, which is less negative and less significant (β=-5.62E-03, $p<.10$). In both models, the effect size and significance for news subject are similar. Surprisingly, the inclusion of firm size, resulted in the significance of the Digital Life & Media industry (β=1.06E-02, $p<.05$), and an increase in significance and negativity of the Fashion & Beauty industry (β=-2.08E-02, $p<.01$). Interestingly, firm size exhibits a significant negative effect (β=-1.71E-12, $p<.05$), implicating that the effect is more negative when the firm size increases. To conclude, the results of this study are robust (except for news subject) against the model with firm size included. Furthermore, the model containing the predictor variable firm size is a better model in explaining the data.

An additional robustness check is provided in Appendix A.4.6.

5.3.5 Endogeneity Issues

Endogeneity within a model, assumes that the model contains an endogenous[5] explanatory (independent) variables (Chenhall & Moers, 2007). Specifically, endogeneity occurs when an independent variable correlates with the error term (Chenhall & Moers, 2007). Endogeneity issues can be present in all studies involving financial and accounting variables (Chenhall & Moers, 2007) or in the field of marketing (Shugan, 2004). The presence of endogeneity can result in faulty conclusions in regards to the theoretical propositions within studies (Chenhall & Moers, 2007). To identify potential endogeneity problems the following issues need to be considered: omitted variables, simultaneity and measurement error.

Omitted Variables. This study did not control for the variables that lead journalist to report about CEOs. According to Hamilton & Zeckhauser (2004), CEO reputation is an essential driver that led journalist to report on CEOs. Nevertheless, this study neglected the variable CEO reputation in the regression model. The omission of the drivers that lead journalists to report on CEOs (e.g. CEO reputation) exhibits the potential to be correlated to the negative media coverage of CEOs, which results in the correlation of the variable negative media coverage to the error term. Subsequently, this imposes the potential for endogeneity.

Simultaneity. Section 5.1 highlights the negative effect of negative CEO news on stock return. On the other hand, news outlets have the tendency to publish news articles when a

[5] Explanation of exogenous and endogenous variables are provided in Appendix A.5

fluctuation in stock price occurs (Peress, 2014). Specifically, negative news has a negative effect on stock return, and the media has the tendency to report on cases that exhibit stock market drops. This simultaneous relationship between negative CEO news and stock return may impose a potential endogeneity issue.

A remedy to both of these types of endogeneity (omitted variable and simultaneity) is an instrumental variable estimation for CEO media coverage, in which media coverage is estimated based on the variables that lead journalist to report about CEOs (e.g. CEO reputation). The predictor variables in the instrumental variable estimation must be exogenous and relevant (Zaefarian et al., 2017), and could be identified based on the Google Trends data for the CEOs. The predicted media coverage can then be used in a Two-Least Squares Estimation.

Measurement Error. The media coverage intensity was determined based on the list of news outlets (see Table 2). However, the insignificance of this variable can be attributed to the fact that there are no zero cases for media coverage intensity. The non-zero cases in this study are derived from the assumption that a media coverage intensity of zero implies that the event did not happen, while in fact the event was not reported by one of the sources implemented in this study. However, negative events could have occurred and be noticed by investors, when not reported on by the news outlets. Examples of this, are sources outside of the sources incorporated in the study or through sources besides news outlets. Therefore, this imposes the threat of a measurement error.

A solution to this type of endogeneity is an instrumental variable estimation for media coverage intensity, in which media coverage intensity is estimated on predictor variables that either leads news outlets to publish on the same topic, or publish in a higher intensity. Next, the predicted media coverage intensity can be used in a Three-Least Squares estimation.

Secondly, the initial sample of brands based on which the companies were determined, were provided to the researcher. However, no information in regards to the collection and sampling techniques of these brands were provided to the researcher, which could impose the threat of a selection bias, and results in a measurement error. A remedy to this measurement error is the utilization of a random sample.

Lastly, the collection of negative news articles and the classification of the news articles in private and firm-related articles, imposes the potential for measurement error and endogeneity. First, the collection of negative news articles were subjected to the researcher's opinion of the definition of negativity. Second, the classification of the negative news articles were again, subjected to the researcher's definition of private and firm-related. Both the

collection and classification of the news articles enables the possibility for measurement error and endogeneity. To cope with this measurement error, an inter-rater reliability test can be used, to assess the identification and classification of the negative news articles.

6. Discussion

6.1 Discussion of Findings

This study examines the effect of bad CEO behavior, as reflected by negative CEO, news on stock return, and the extent to which this relationship is moderated by firm reputation, media coverage intensity and news subject. While prior research examined the effect of negative firm-level news on stock return (e.g. Ferguson et al., 2007), no research has been conducted on the level of CEOs. To investigate this matter an event study was conducted.

6.2 Discussion

The results of this study, confirms the first hypothesis (main effect) which posits that, *negative news publications about CEOs have a negative effect on stock return*. Specifically, this study has illustrated that within the sample negative news about CEOs indeed has a negative effect on stock return (β=-3.01E-03, $p < 0.05$). The confirmation of the results could be attributed to both the market efficiency hypothesis and the signaling theory. The market efficiency hypothesis suggests the efficiency of a capital market under the assumption that it fully and correctly reflects all relevant information, which is incorporated in the determination of the stock price (Malkiel, 1989). This implies that negative CEO news would be directly incorporated in the stock price, exerting a downward pressure. According to the signaling theory, bad CEO behavior may serve as a signal to investors that the CEO is incapable of leading the firm. Furthermore, bad CEO behavior can also serve as a direct signal to investors that a firm is in distress, resulting from the recent development that CEOs have become the actual representation of the company (Fishman et al., 2014). Consequently, this leads to a decrease in investors' trust (Graham, Harvey, & Rajgopal, 2005), reflected in a downward pressure on the stock price.

The second hypothesis investigated in this study postulates that, *negative news about CEOs has a more negative impact on the abnormal stock return, when the firm has a high reputation compared to a firm with a low reputation.* The results statistically confirms this hypothesis within the sample (β=-8.69E-03, $p < 0.05$), implicating that the effect is more negative when firm has a high reputation. The confirmation of the hypothesis could be ascribed to the expectancy violation theory (Burgoon J. K., 2015), where a high firm reputation enhances the investors' expectations of firm performance (Rhee & Haunschild, 2006). The high reputation can therefore be regarded as an implicit promise to investors' of firm performance (Rhee & Haunschild, 2006). Bad CEO behavior imposes a more severe breach of the implicit promise for high reputation compared to low reputation firms (Burgoon & LePoire,

1993). Consequently, a breach of the implicit promise in case of a high reputation would be reflected in a more severe downward pressure on stock prices, compared to a similar breach for a low reputation firm.

The results rejected the third hypothesis, which posited that *negative news about CEOs has a more negative effect on stock return when the negative news has received a high media coverage intensity compared to a low media coverage intensity*. This contradicting result could potentially be attributed to the limited attention hypothesis, which implies that investors have the tendency to trade stocks that are covered by the mass media, instead of stocks not covered by the mass media (Fang, Peress, & Zheng, 2014). This tendency is derived from the mass media's ability to lower the search cost, by drawing attention to the covered stocks (Fang, Peress, & Zheng, 2014). Because this trading behavior is stimulated by a shortage of cognitive resources of investors, instead of superior information, it is associated with inferior investment decisions (Fang, Peress, & Zheng, 2014). Another potential argument for the contradicting results could be attributed to the mere exposure effect. The mere exposure effect entails the positive attitudinal change as a result of repeated exposure to stimuli (information) (Fang, Singh, & Ahluwalia, 2007). In other words, the investors' mere exposure to negative news articles could potentially result in less negative (more positive) attitudes towards the information, which would reduce the negative response towards the negative events. Lastly, given that news outlets tend to write news articles that are in line with the consumers' goal of reading (i.e. entertainment) (Hamilton & Zeckhauser, 2004), a high media coverage intensity would not necessarily indicate the severity of the event, but rather implies that an article is more entertaining to read.

The fourth hypothesis postulates that, *Firm-related negative news about CEOs has a more negative impact on stock return compared to private-oriented negative news about CEOs.* Interestingly, the results illustrates a statistically significant effect in the opposite direction (β=-8.00E-03, $p<0.05$), implying that private-oriented news about CEOs has a more negative effect on stock return. The unexpected findings could potentially be attributed to the expectancy violation theory. Because investors are more familiar with firm-related events, negative firm-related events are to some extent expected and accounted for in the investors' investment decisions and are less of a surprise. Furthermore, some of the firm-related events (e.g. negative earnings articles) can be predicted by investors based on research and knowledge. However, negative private-related events in regards to CEOs, a more difficult to predict by investors due to the unfamiliarity of these events (Huberman, 2001). The degree of familiarity of events by investors can be illustrated by the distribution of events (28.08% private-related vs 71.92%

firm-related events). Because investors are less anticipated on private-related events their expectations are violated to a larger extent in case of negative news, compared to negative firm-related events (Burgoon J. K., 2015). To understand the drivers of this contradicting results, further classification of the private-related events into sexual harassment, health problems and others were incorporated[6]. As illustrated by Appendix A.3.7.3, sexual harassment events have the most negative significant effect (β=-2.98E-02, $p<0.05$) on stock return. This is in line with the findings of Burgoon (2015), who argues that negative behavioral violations of the social norms and expectations result in more negative outcomes. Another explanation for the contradicting results could be derived from a blameworthiness perspective. Negative firm-related events are not solely attributed to the CEO, as external factors can influence the blameworthiness of the event (e.g. an oil leak after bad weather conditions). However, negative private-related events in regards to the CEO, can be solely attributed to the CEO, and the blameworthiness lies solely with the CEO, which highlights the central role of the CEO. In line with literature on celebrity endorsement, the higher the blameworthiness of celebrity endorsers in case of a negative event, the more negative effect on stock return (Louie et al., 2001). Subsequently, due to the similarities between CEOs and celebrity endorsers (See Section 2.3), this argument could provide a valid explanation for the contradicting results.

6.3 Managerial Implications

The results of this study illustrates the devastating effect of bad CEO behavior on stock return. To gain an understanding in the magnitude and the implications of this devastating effect, the financial magnitude within the sample of the main effect and significant moderators were calculated. The operationalization and the results of the financial magnitude analysis are provided in Appendix A.6.

The total loss on the stock market as a result of negative CEO news is more than 18 billion dollars. This is an average loss of more than 462 million dollars per firm. The losses that firms suffer as a result of bad CEO behavior has catastrophic consequences for the firms, when considering the fact that the average market capitalization within the sample is around 153 billion dollars (loss of 0.30%). This highlights the critical role of negative CEO news.

For firms with a high reputation, the average loss on the stock market for high reputation firms is more than 883 million dollars, which is comparable to a loss of around 0.58%. Surprisingly, for low reputation firms, negative CEO news resulted in an average gain on the stock market of more than 450 million dollars. This interesting finding could be

[6] Caution is required when generalizing the findings, due to the low sample size in each category

potentially attributed to the popular wisdom stating "any publicity is good publicity". For low reputation firms, this could imply that negative CEO news enhances the firm awareness, which increases the likelihood of firm's being noticed and their stocks being traded (Sorensen & Rasmussen, 2004; Berger, Sorensen, & Rasmussen, 2010). The results are particularly interesting for firms that exhibit growth in their reputation, as the transition from a low to high reputation would result in an average loss of over 1.33 billion dollars[7], in case of negative CEO news.

The news subject has illustrated its significant moderating effect on the focal relationship. However, the news subject exhibited a significant effect in the opposite direction as hypothesized, in which private-related news has a more negative effect on stock return compared to firm-related. The average loss on the stock market for negative private-related news is around 1.35 billion dollars (-0.80%), compared to a loss of 117 million dollars (0.08%) for negative firm-related news. This emphasizes the non-negligibility of firm, and especially private-related negative news by managers.

The negative effect of bad CEO behavior is especially prevalent in the Fashion & Beauty industry, with an average loss on the stock market of 3.75 billion dollars. This is no surprise, as this industry is characterized by symbolic consumption, appearance and status (Banister & Hogg, 2004; Ciarniene & Vienazindiene, 2014). Similarly, with an average loss on the stock market of 7.55 billion dollars, the negative CEO news exhibits a strong negative effect in the Food & Gastronomy industry. This is no surprise, as negative CEO news could signal consumers about the quality of the products. In particularly, these low perception of food quality may be associated with safety hazards.

6.4 Limitations and Future Research

In the context of the popular wisdom "no research is perfect research", this study imposes limitations, and therefore recommendations for future research.

First of all, the expected returns within this study were calculated based on the constant-mean-return model, which is the least complex model for the expected return estimation. For the robustness check, the market model was incorporated, which is a more complex model (by adding the market factor). However, the results of this study were not robust against the market model. Ideally, future research should aim for a more complex estimation model, like the Fama-French four or five-factor model. These models adjust for additional variables that influence stock return (e.g. risk factors, momentum and profitability) (Fama & French, 2015).

[7] The difference between a gain of 450 million (low reputation) and a loss of 882 million (high reputation)

Secondly, the unknown origins of the sample of brands, based on which the companies were identified, imposes a threat to selection bias. This could affect the generalizability of the findings. Therefore, future research could replicate this study by using a random sample from the total population of firms stock listed in the US, as well as in different part of the world.

Thirdly, within the study confounding events were not controlled for. Other events that influence stock return could have occurred close to the events examined in this study. These confounding events could potentially reduce the reliability of the findings, by overstating or understating the effect strength.

Fourthly, as discussed in the section endogeneity issues, both the identification and the classification of the negative CEO news articles were subjected to the researcher's opinion of the definition of negative news and firm and private-related news. This could potentially lead to a measurement error. Future research could replicate this study by using an inter-rater reliability test to assess the identification and classification of negative CEO news. This would minimize the measurement error derived from the researcher's opinion.

Fifthly, as discussed in section 5.3.5, the independent variable (negative CEO news) potentially suffers from endogeneity issues (omitted variable bias and reverse causality). To cope with these issues, future research should investigate the variables that lead journalist to report about CEOs (e.g. CEO reputation). Next, an instrumental variable estimation can be used to predict CEO media coverage, which can be used in a Two-Least Squares Estimation. Moreover, another potential endogeneity issue within this study originates from the moderating variable media coverage intensity. Future research could solve this form of endogeneity by the extension of news outlets and news mediums, or by using an instrumental variable estimation for media coverage intensity. Next, the predicted variable for media coverage can be used in a Three-Least Squares estimation. Furthermore, the operationalization of the variable could also impose a problem. As mentioned in section 4.2.1, the appearance of an event on multiple TV broadcasts of a single TV channel was counted as only one additional media coverage intensity, instead of two or three (depending on the number of shows).

This study uncovered the devastating effect of bad CEO behavior on stock return, and the extent to which this relationship is influenced by the significant moderators (news subject and firm reputation). Future research should aim to investigate drivers and methods (e.g. apology statements) to offset or reduce this negative effect on stock return. Furthermore, research should investigate this under the conditions of the significant moderators. Moreover, future research could control for the severity of the negative CEO news. This could potentially aid and broadens the understanding of the negative effect of bad CEO behavior on stock return.

6.5 Conclusion

CEOs have increasingly been under scrutiny by the media. This study investigated the effect of bad CEO behavior, as reflected by negative CEO news, on stock returns, and the extent to which this relationship is moderated by firm reputation, media coverage intensity and news subject. While extant research examined the effect of negative firm-level news on stock return, no research has been conducted on the level of CEOs. Using an event study, the data confirmed that bad CEO behavior decreases stock returns. While a low firm reputation decreases the effects (positively moderates) on the focal relationship, a high reputation and news subject (private and firm-related) negatively influences the focal relationship.

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Appendix

A.1 Overview of Sources Entered in Factiva

Table 9. Overview of Sources in Factiva

News Type	Source	Source in Factiva
Newspapers	USA Today (online and offline)	USA Today
		USA Today Magazine
		USA Today Online
		USA Today (online)
	New York Times (online and offline)	The New York Times
		NYTimes.com Feed
		International New York Times
	Wall Street Journal (online and offline)	The Wall Street Journal
		The Wall Street Journal Online
	New York Post (online and offline)	New York Post
		New York Post (online)
Magazines	The Atlantic (online and offline)	The Atlantic
		The Atlantic (online)
	Forbes (online and offline)	Forbes
		Forbes.com
	Wired (offline)	Wired
TV broadcasts	ABC News	ABC News: 20/20
		ABC News: Good Moring America
		ABC News: World News Tonight with David Muir
		ABC News: Nightline
		ABC News: Special Report
		ABC News: This Week
		ABC News: World News Sunday
		ABC News: World News Saturday
		ABC News (online)
	BBC Monitoring Media	BBC Monitoring Media
	CBS News	CBS News: 48 Hours Mystery
		CBS News: 60 Minutes
		CBS News: CBS This Morning
		CBS News: Face the Nation
		CBS News (online)
	Fox News	Fox News Channel: The Story with Martha MacCallum
		Fox News Channel: Tucker Carlson Tonight
		Fox News Channel: Fox News Sunday
		Fox News: Hannity
		Fox News: Live Event
		Fox News: Special Report with Brett Baier
		Fox News: The Five
		Fox News: The Ingraham Angle
		Fox News: Your World w/ Neil Cavuto
	NBC News	NBC News: Dateline NBC
		NBC News: Nightly News
		NBC News: Meet The Press
		NBC News: Today
	CNN	CNN 10
		CNN International: News Stream
		CNN International: Quest Means Business
		CNN Wire
		CNN: Anderson Cooper 360
		CNN: CNN Newsroom
		CNN: Cuomo Prime Time
		CNN: Early Start
		CNN: Erin Burnett OutFront

A.2 Examples of Private and Firm-Related Events

A.2.1 Private-Related Events

A.2.1.1 Example Jeff Bezos Evacuated for Kidney Stones

Ecuador navy: Jeff Bezos evacuated off Galapagos for treatment

By Elwyn Lopez CNN

302 words
5 January 2014
00:05
CNN Wire
CNNWR
English

(CNN) -- Amazon.com founder Jeff Bezos was flown off the Galapagos Islands on an Ecuadorian navy helicopter, an evacuation that happened because the entrepreneur was suffering from renal colic, navy authorities said.

A Galapagos Navy unit said in a press release that Bezos' condition developed while on a tourist cruise near Santa Cruz Island. Daniel Ginez Villacis, a regional coast guard official, ordered that a helicopter fly him from there to Baltra Island.

Lt. Pablo Abarca, a spokesman with the Ecuadorian Navy, told CNN that Bezos was transported on a Bell 430 helicopter on New Year's Day. The force has an operative unit on the Galapagos Islands, according to Abarca.

According to the official press release, Bezos, 49, was then to fly to the United States, where he'd undergo emergency surgery.

Amazon did not immediately respond to CNN's request Saturday for comment.

Renal colic is marked by severe pain associated with kidney stones.

According to a National Institutes of Health website, kidney stones can pass naturally or be treated with procedures such as shock wave lithotripsy, ureteroscopy (a long tubelike instrument that's inserted through a person's urethra to break stones with lasers) and percutaneous nephrolithotomy (a thin instrument is inserted through a person's back directly into the kidney).

Bezos is one of the world's most renowned and wealthy businessmen: In 2012, Fortune magazine named the Amazon CEO its Businessperson of the Year, citing its Amazon Web services, Kindle creation in addition to its wildly successfully core business as an online retailer.

More recently, he's ventured into other fields as well -- including buying the Washington Post Company, including its namesake paper, last year.
CNN's Greg Botelho contributed to this report.

A.2.1.2 Example Elon Musk Smokes Weed During Podcast

Elon Musk apparently smoked marijuana in live podcast appearance with Joe Rogan

Nathan Bomey
Nathan Bomey
488 words
7 September 2018
USA Today Online
USATONL
n/a
English

Tesla CEO Elon Musk appeared to smoke marijuana briefly on camera during a podcast appearance, fueling concern among critics who say his behavior is becoming increasingly concerning and erratic.

Separately, Tesla revealed that its chief accounting officer has resigned after less than a month on the job, raising further concerns about the company's leadership stability.

Concerned investors drove Tesla's stock price down 5 percent to $265. 22 as of 12:12 p. m. on Friday.

In a wide-ranging interview with comedian Joe Rogan that was livestreamed, Musk took a puff from what the popular podcast host described as "marijuana inside of a tobacco. "

"You ever had that?" Rogan asked in the podcast late Thursday in the Pacific time zone.

"Yeah, I think I tried one once," Musk replied.

Rogan found Musk's response dubious. "You probably can't because of stockholders, right?"

"I mean, it's legal right?" Musk said.

Recreational marijuana use is legal under California law, but federal law still considers it a crime.

"Totally legal," Rogan responded, handing Musk the joint. "How does that work? Do people get upset at you if you do certain things?"

Musk said nothing but puffed.

The exchange, which came near the end of an interview that lasted more than 2½ hours, illustrates Musk's generally carefree approach.

Critics say that his behavior has become reckless and that Musk should focus on running Tesla, which is facing intense pressure to speed up production of electric vehicles. They say his questionable public persona culminated in his dubious claim on Twitter last month that he had "funding secured" to take Tesla private. The U. S. Securities and Exchange Commission is now investigating that assertion, and Musk quickly backtracked on the plan.

Tesla Chief Accounting Officer Dave Morton resigned Tuesday, according to a Tesla public filing Friday morning.

"Since I joined Tesla on August 6th, the level of public attention placed on the company, as well as the pace within the company, have exceeded my expectations," Morton said in a statement released by Tesla. "As a result, this caused me to reconsider my future. I want to be clear that I believe strongly in Tesla, its mission, and its future prospects, and I have no disagreements with Tesla's leadership or its financial reporting. "

Tesla has long faced frequent executive turnover as the company faces intense pressure to succeed. Musk has defended the pressure-cooker atmosphere as necessary to preserve the company.

Supporters say Musk is a brilliant innovator and leader who has succeeded specifically because of his willingness to buck convention in an industry that's stuck in its ways.

Tesla representatives were not immediately available for comment Friday morning.

Shares of Tesla shares have declined more than $100 after the go-private dalliance.

Follow USA TODAY reporter Nathan Bomey on Twitter @NathanBomey.

A.2.2.1 Example Tony Hayward under Fire after Oil Leak

Profile: President Obama visits Louisiana and speaks about oil leak; BP CEO Tony Hayward discusses efforts to stop the leak

1240 words
3 May 2010
NBC News: Today
TODA
English

MEREDITH VIEIRA, co-host:

By some estimates, as much as 25,000 barrels of oil per day could now be leaking into the sea, and this morning a new fishing ban has been put into place. NBC's Lester Holt is in Venice, Louisiana, with more.

Lester, good morning.

LESTER HOLT reporting:

Meredith, good morning. The president was pretty blunt. He said this leak could seriously damage the economy and the environment and extend for a very long time. And those who fish and make their living in the gulf are already learning that firsthand. Cleanup ships are hoping to get back into action today after 30 mile an hour winds and high seas kept them at anchor in the Mississippi River over the weekend. But they won't have much company in the gulf. The government has announced a 10-day commercial and sport fishing ban across a huge section of gulf waters from Louisiana to parts of western Florida.

Unidentified Man #1: We live in the greatest estuary in the world.

HOLT: Right.

Man #1: And our estuary right now is in very, very grave danger of being, you know, possibly decimated, you know.

HOLT: Fishermen, their livelihoods now threatened by the oil, found a sympathetic ear from President Obama, who visited the region on Sunday.

President BARACK OBAMA: We got a bunch of different tasks. The most important one is how do we plug this hole?

HOLT: The president also met with Coast Guard officials and he defended the government's response to the disaster.

Pres. OBAMA: I want to emphasize, from day one we have prepared and planned for the worst even as we hoped for the best.

HOLT: Analysts estimate the bill for the oil disaster could exceed $14 billion. For its part BP, owner of the destroyed oil platform, says it too is doing all it can, but saying a solution is still weeks off and blaming equipment failure for the runaway leak. Charter boat captain James Peters, who took us downriver toward the gulf, says everyone is bracing for the next chapter, when the oil starts coating the shoreline.

Mr. JAMES PETERS: You know, it's very emotional for us. This is, you know, could be, you know, the biggest tragedy for this area. You know, I mean, oil could just obviously demo our coastline.

HOLT: We've come about as far as we can safely in a small boat because of the state of the seas. This is the mouth of the Mississippi River where it meets the Gulf of Mexico. We're on the west side of the river here. And thankfully, no signs of oil. But they know it is creeping closer. And with the potential loss of work to follow, many fishermen are turning to the company blamed for the disaster, signing up over the weekend for paid volunteer jobs with BP, cleaning up the spill.

Unidentified Man #2: I don't want to, but we have no choice. Either go to work for them or starve.

HOLT: And experts who are tracking the slick say it's destined to head toward Alabama and Florida. And, Meredith, in the meantime, BP continues to work several strategies to cap the main leak and two others continuing to spew oil into the gulf this morning.

VIEIRA: Lester Holt, thank you very much.

Tony Hayward is British Petroleum's CEO.

Mr. Hayward, good morning to you.

Mr. TONY HAYWARD (CEO, British Petroleum): Good morning, Meredith. Thank you for the opportunity to talk with you.

VIEIRA: Not at all. Over the weekend, President Obama said that he holds BP accountable for this spill and any damage that results from it. Does the buck stop at your desk?

Mr. HAYWARD: Well, we weren't--it wasn't our accident, but we are absolutely responsible for the oil, for cleaning it up, and that's what we intend to do.

VIEIRA: How can it not be your accident, sir?

Mr. HAYWARD: We're working very hard to--well, the drilling rig was a translation drilling rig. It was their rig and their equipment that failed, run by their people with their processes. But our responsibility is the oil, and the responsibility is ours to clean it up. And that's what we're doing. We have a massive operation ongoing here on three fronts: in the subsea, on the surface and, if necessary, on the shore.

VIEIRA: What is the worst-case scenario?

Mr. HAYWARD: The subsea work--the worst-case scenario is that we would need to contain this for two to three months whilst a relief well is drilled. We are working on two other options that would bring the leak to closure earlier. The first is operate working on the blowout preventer, that's the big valve at the top of the well which for some reason has failed. We have eight submersible robots working on that. That is like conducting heart surgery 5,000 feet beneath the sea. The second intervention is to construct a collection device. It's like the hood of your oven that would sit over the leak; it would then be channeled to the surface where we could deal with it.

VIEIRA: Mr. Hayward...

Mr. HAYWARD: That is ongoing. That will be in the field in seven to eight days' time.

VIEIRA: Mr. Hayward, let me ask you. A week ago you said you were confident that this spill could be contained, and at that point BP estimated there was about 1,000 barrels a day of oil was spilling into the gulf. Now the Obama administration is worried that that could--number could reach 100,000 barrels a day. Why was your company so slow in recognizing the scope of the problem, or do you think it was?

Mr. HAYWARD: I don't think we were. We have been planning for the worst ever since this thing came about. We have an enormous operation deployed on the surface to contain it: 100 ships, 20 major skimmers. We're dispersing--deploying dispersant through the use of Hercules C-130 planes. And for the first time ever in the industry, we are deploy--applying dispersant at the seabed, which appears to be having a significant impact...

VIEIRA: You...

Mr. HAYWARD: ...in limming--limiting the oil that gets to the surface.

VIEIRA: Mr. Hayward, you say...

Mr. HAYWARD: So we have an enormous operation ongoing.

VIEIRA: Right. You say you were planning for the worst, but in a plan that you filed with the government, the American government, US government last year, you said it was unlikely that something like this would ever happen.

Mr. HAYWARD: Well, that is indeed true, Meredith. This is--what has failed here is the ultimate safety device on a drilling rig. There are many barriers of protection that

you have to go through before you get to this. It isn't designed to not fail. It is unprecedented in our industry for this sort of failure.

VIEIRA: BP CEO Tony Hayward, thank you so much. Good luck with your efforts.

Mr. HAYWARD: Thank you.

VIEIRA: So many people are counting on them.

It is 7:17 and with more, here's Matt.

MATT LAUER, co-host:

All right, Meredith, thank you very much.

A.2.2.2 Example Lufthansa Chief Carsten Spohr under Spotlight after Germanwings Crash

THE WALL STREET JOURNAL.

World

Lufthansa Chief Carsten Spohr Under Spotlight After Germanwings Crash; CEO faces questions about what company knew about co-pilot Andreas Lubitz's condition

Robert Wall

By Robert Wall

881 words
1 April 2015
22:20
The Wall Street Journal Online
WSJO
English

Scrutiny of Deutsche Lufthansa AG ratcheted higher in the wake of disclosures that Germanwings Flight 9525's co-pilot told a Lufthansa flight school years ago about his struggle with depression.

Lufthansa Chief Executive Carsten Spohr , on the job less than a year, had already faced pressure from inside the company over a cost-cutting drive he had been implementing, triggering expensive labor strife. Mr. Spohr, a former Lufthansa pilot himself, now faces questions about what the company knew, and when, about the medical condition of Andreas Lubitz, the co-pilot whom prosecutors accuse of intentionally crashing the plane into the French Alps, killing all 150 aboard.

"It's at times like this that chief executives' careers are either made or broken," said Jonathan Hemus, managing director of Birmingham, England-based crisis consultancy Insignia Communications. "What Lufthansa and Germanwings do now will determine Lufthansa 's future, not the fact that the plane crashed in the first place."

Mr. Spohr and Lufthansa have repeatedly declined to comment about the airline's crisis management, saying they were focused on dealing with the crash. Lufthansa 's supervisory board, through a spokesman, said dealing with the disaster was an issue for management and declined to comment on the chief executive's handling of the situation.

The crash, Lufthansa's biggest crisis in decades, came as it planned to celebrate its 60th anniversary this month. Earlier this week, Mr. Spohr canceled an anniversary celebration scheduled for later in April. Lufthansa said it would instead broadcast a memorial for victims of the crash from Cologne's cathedral. On Wednesday, Mr. Spohr and the chief executive of Germanwings flew to the scene of the crash in southern France and laid flowers at a memorial to the victims.

Other airline chiefs have recently failed to weather management challenges triggered by in-flight disasters. Malaysia Airlines Chief Executive Ahmad Jauhari Yahya said he would step down this month, after employees complained they hadn't been consulted about a turnaround plan he announced in the wake of its two high-profile

disasters last year. One jet mysteriously vanished on its way from Kuala Lumpur to Beijing; another was shot down over war-torn eastern Ukraine. His replacement, former Aer Lingus chief executive Christoph Müller, takes over on May 1.

Air France-KLM SA Chief Executive Pierre-Henri Gourgeon, who ran the airline when Flight 447 crashed into the Atlantic in 2009, left the company two years later. Soon after the crash, the airline sent a memo to staff warning that pilots were disregarding safety procedures, a move that strained relations with pilots and dogged Mr. Gourgeon as he tried to implement a turnaround similar to Lufthansa 's current effort.

Mr. Spohr confronts the crisis with some advantages other airline CEOs might lack. Lufthansa has an exemplary safety record over its six decades of flying. Its last fatal crash was more than two decades ago.

And while the carrier's finances have been strained recently amid new competition and recent labor strife, its balance sheet is relatively robust. The latest disclosure isn't likely to alter Lufthansa 's liability in the crash, or its insurers' willingness to pay. The airline estimated total liability so far at about $300 million earlier this week.

Lufthansa 's privileged position at the heart of Germany Inc. also insulates Mr. Spohr somewhat. Germans—and many international fliers—have long embraced the airline as a standard-bearer for safe and efficient air travel. The Lufthansa board, German regulators, the government and German media have all appeared content to refrain from rushing to judgment or publicly demanding quick answers.

Immediately after the crash, Mr. Spohr said no screening process would be foolproof and committed to reviewing the company's processes based on what the crash probe discovered.

Mr. Spohr's response, said Andrew Charlton, managing director of Geneva-based consulting firm Aviation Advocacy, has so far shown a “mature, responsible, focused understanding of how the industry and process work."

Late Tuesday, Lufthansa said it had found emails documenting an “episode of severe depression" that the co-pilot, 27 years old at the time of last week's crash, sent to a Lufthansa flight school when he was undergoing pilot training.

Lufthansa and the global airline industry largely rely on self-disclosure and on doctors—who often aren't required to turn over details about their subjects—to monitor mental-health problems. That makes it hard to determine what specific information the company had about Mr. Lubitz, and whether it erred by letting him finish training and later fly commercial jets.

Lufthansa said it has complied with all protocols to vet the co-pilot's medical health. Mr. Spohr has said medical authorities in charge of screening Mr. Lubitz had endorsed him as fit to fly. The co-pilot “was 100% airworthy without any restrictions, without any conditions," Mr. Spohr said days after the crash.

Write to Robert Wall at robert.wall@wsj.com

Corrections & Amplifications

The photo of Lufthansa CEO Carsten Spohr was taken on Wednesday. An earlier version of this article incorrectly said the photo was taken March 28.

A.3 Results

A.3.1 Descriptive Statistics of the Reduced Dataset (Media Coverage > 1)

The reduction of the sample resulted in a final sample of 45 CEOs from 39 different companies. An overview of the descriptive statistic is illustrated by Table 10.

Table 10. Descriptive Statistics Reduced Dataset

Variables	Description	Source	N	Mean	Max.	Min.	SD
Dependent Variables							
Stock returns	Stock Return of firms in the sample	Yahoo Finance	146	-5.0192098E-03	1.09886E-01	-1.35213E-01	3.60938862E-02
Abnormal Stock Return 10 day event window	Abnormal Stock return of firms in the Sample with 10 day event window	Yahoo Finance	146	-0.00247717460	0.100536128	-0.068104920	0.023256057087
Abnormal Stock Return 20 day event window	Abnormal Stock return of firms in the Sample with 20 day event window	Yahoo Finance	146	-2.1881157E-03	1.04539E-01	-6.50574E-02	2.15263556E-02
Abnormal Stock Return 50 day event window	Abnormal Stock return of firms in the Sample with 50 day event window	Yahoo Finance	146	-2.4268091E-03	9.15615E-02	-6.71696E-02	2.13585948E-02
Abnormal Stock Return 90 day event window	Abnormal Stock return of firms in the Sample with 90 day event window	Yahoo Finance	146	-3.0123917E-03	9.00352E-02	-6.65429E-02	2.15161589E-02
Moderators							
Media Coverage Intensity	The number of media outlets that report on the event	Press Research	-	3.05E+00	8	2	1.50E+00
Firm Reputation							
High reputation (1)	Dummy for Occurrence	Fortune 500	68.49%	-	-	-	-
Low Reputation (0)	Dummy for Occurrence	Fortune 500	31.51%	-	-	-	-
News Subject							
Private-Related (1)	Dummy for Occurrence	Press Research	28.08%	-	-	-	-
Firm-Related (0)	Dummy for Occurrence	Press Research	71.92%	-	-	-	-
Control Variables							
Type of News Outlet							
Single news outlet (0)	Dummy for Occurrence	Factiva	39.73%	-	-	-	-
Multiple news outlets (1)	Dummy for Occurrence	Factiva	60.27%	-	-	-	-
Industry Type							
Fashion & Beauty	Dummy for Industry Type	-	6.16%	-	-	-	-
Travel & Automotive	Dummy for Industry Type	-	39.04%	-	-	-	-
Digital Life & Media	Dummy for Industry Type	-	32.19%	-	-	-	-
Services	Dummy for Industry Type	-	18.49%	-	-	-	-
Food & Gastronomy	Dummy for Industry Type	-	0.68%	-	-	-	-
Non Food	Dummy for Industry Type	-	2.05%	-	-	-	-
OTC & Healthcare	Dummy for Industry Type	-	1.37%	-	-	-	-

A.3.2 Assumption Testing

A.3.2.1 Multicollinearity

Table 11. Collinearity Statistics

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.006	.006		-1.028	.306		
	MediaCoverage	.000	.001	.012	.133	.895	.785	1.274
	FirmRelated	.008	.004	.168	2.048	.043	.948	1.055
	FashionBeauty	-.019	.008	-.213	-2.398	.018	.803	1.245
	DigitalLifeMedia	.007	.004	.152	1.638	.104	.734	1.362
	Services	.008	.005	.143	1.602	.112	.793	1.261
	FoodGastronomy	-.044	.021	-.168	-2.091	.038	.980	1.020
	NonFood	.006	.013	.043	.515	.608	.924	1.083
	OTCHealthcare	.004	.015	.020	.243	.808	.942	1.061
	Firmreputationtop500	-.009	.004	-.188	-2.142	.034	.824	1.214
	CombinationAnalysis	.000	.004	.009	.093	.926	.746	1.341

a. Dependent Variable: AbnormalReturns90dwindow111

Table 12. Correlations Matrix

Correlations

		AbnormalReturns90dwindow111	MediaCoverage	FirmRelated	FashionBeauty	DigitalLifeMedia	Services	FoodGastronomy	NonFood	OTCHealthcare	Firmreputationtop500	CombinationAnalysis
Pearson Correlation	AbnormalReturns90dwindow111	1.000	-.044	.130	-.194	.085	.114	-.180	.004	.026	-.099	.010
	MediaCoverage	-.044	1.000	.033	-.009	-.084	.006	.052	-.102	-.083	.212	.394
	FirmRelated	.130	.033	1.000	.097	-.189	.101	.052	-.017	.074	-.030	-.040
	FashionBeauty	-.194	-.009	.097	1.000	-.177	-.122	-.021	-.037	-.030	-.255	-.258
	DigitalLifeMedia	.085	-.084	-.189	-.177	1.000	-.328	-.057	-.100	-.081	.152	-.070
	Services	.114	.006	.101	-.122	-.328	1.000	-.040	-.069	-.056	.133	.026
	FoodGastronomy	-.180	.052	.052	-.021	-.057	-.040	1.000	-.012	-.010	.056	.067
	NonFood	.004	-.102	-.017	-.037	-.100	-.069	-.012	1.000	-.017	.098	-.080
	OTCHealthcare	.026	-.083	.074	-.030	-.081	-.056	-.010	-.017	1.000	-.047	-.145
	Firmreputationtop500	-.099	.212	-.030	-.255	.152	.133	.056	.098	-.047	1.000	.142
	CombinationAnalysis	.010	.394	-.040	-.258	-.070	.026	.067	-.080	-.145	.142	1.000
Sig. (1-tailed)	AbnormalReturns90dwindow111	.	.300	.058	.009	.154	.085	.015	.481	.378	.117	.452
	MediaCoverage	.300	.	.346	.455	.157	.471	.265	.110	.160	.005	.000
	FirmRelated	.058	.346	.	.123	.011	.112	.267	.420	.189	.359	.315
	FashionBeauty	.009	.455	.123	.	.016	.071	.399	.328	.359	.001	.001
	DigitalLifeMedia	.154	.157	.011	.016	.	.000	.246	.115	.165	.034	.201
	Services	.085	.471	.112	.071	.000	.	.318	.204	.250	.055	.377
	FoodGastronomy	.015	.265	.267	.399	.246	.318	.	.443	.453	.250	.209
	NonFood	.481	.110	.420	.328	.115	.204	.443	.	.419	.119	.169
	OTCHealthcare	.378	.160	.189	.359	.165	.250	.453	.419	.	.287	.040
	Firmreputationtop500	.117	.005	.359	.001	.034	.055	.250	.119	.287	.	.043
	CombinationAnalysis	.452	.000	.315	.001	.201	.377	.209	.169	.040	.043	.
N	AbnormalReturns90dwindow111	146	146	146	146	146	146	146	146	146	146	146
	MediaCoverage	146	146	146	146	146	146	146	146	146	146	146
	FirmRelated	146	146	146	146	146	146	146	146	146	146	146
	FashionBeauty	146	146	146	146	146	146	146	146	146	146	146
	DigitalLifeMedia	146	146	146	146	146	146	146	146	146	146	146
	Services	146	146	146	146	146	146	146	146	146	146	146
	FoodGastronomy	146	146	146	146	146	146	146	146	146	146	146
	NonFood	146	146	146	146	146	146	146	146	146	146	146
	OTCHealthcare	146	146	146	146	146	146	146	146	146	146	146
	Firmreputationtop500	146	146	146	146	146	146	146	146	146	146	146
	CombinationAnalysis	146	146	146	146	146	146	146	146	146	146	146

A.3.2.2 Assumption of Influential Cases

Table 13. Cook's Distance

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Cook's Distance	145	.00000	.08800	.0065438	.01388624
Valid N (listwise)	145				

A.3.2.3 Assumption of Independence of Residual Values

Table 14. Model Fit and Durbin-Watson

Model Summary[b]

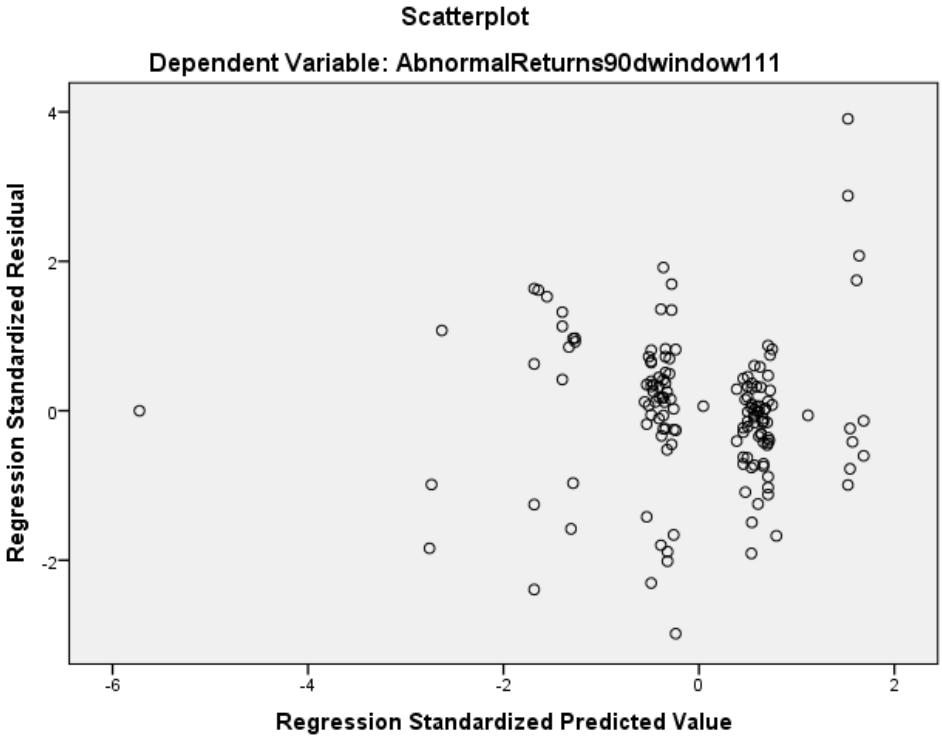
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.377[a]	.142	.078	2.065719E-2	2.029

a. Predictors: (Constant), CombinationAnalysis, Services, FoodGastronomy, NonFood, FirmRelated, OTCHealthcare, Firmreputationtop500, FashionBeauty, MediaCoverage, DigitalLifeMedia

b. Dependent Variable: AbnormalReturns90dwindow111

A.3.2.4 Assumption of Homoscedasticity

Figure 3. Scatterplot Assumption Test Homoscedasticity



A.3.2.5 Assumption of the Normality of the Residuals

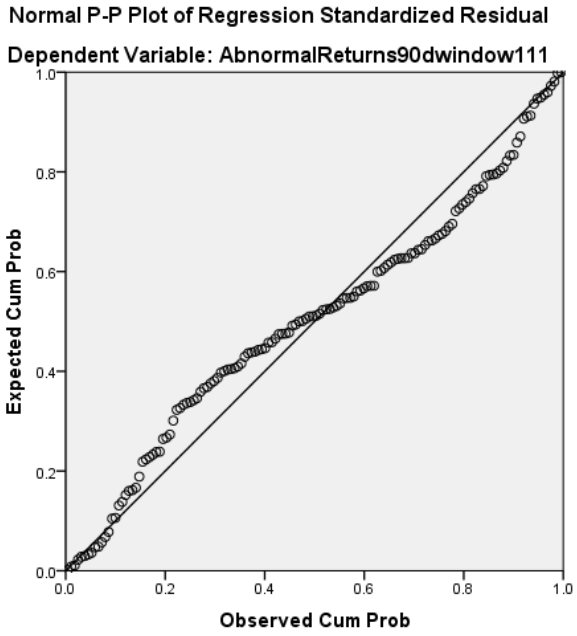
Table 15. Normality Statistics

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AbnormalReturns90dwindow111	.141	146	.000	.889	146	.000

a. Lilliefors Significance Correction

Figure 4. Normality Plot



A.3.2.6 Assumption of Linearity

Figure 5. Linearity Plot Media Coverage Intensity

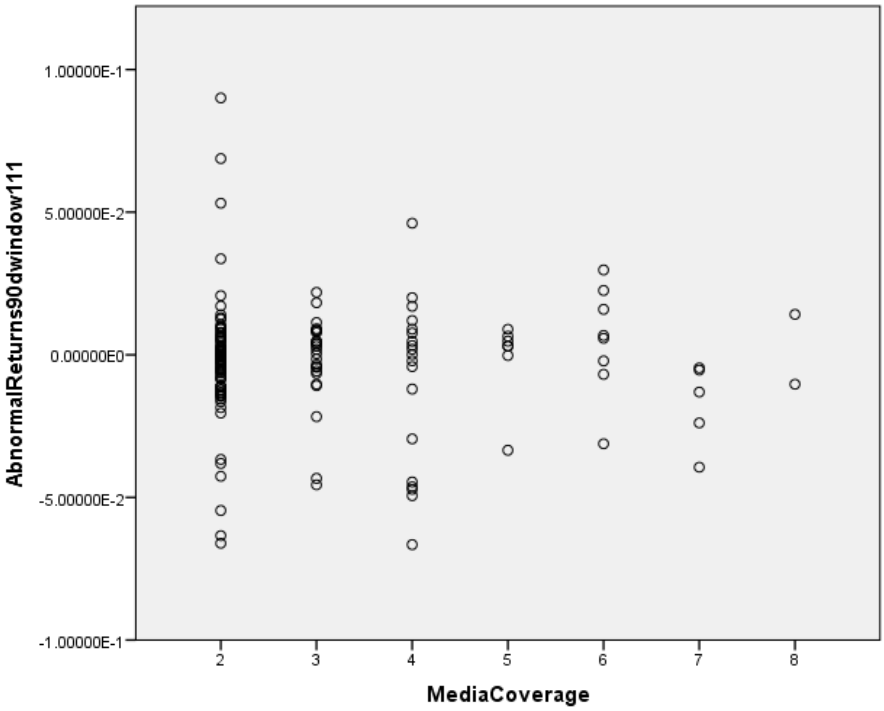


Figure 6. Linearity Plot News Subject

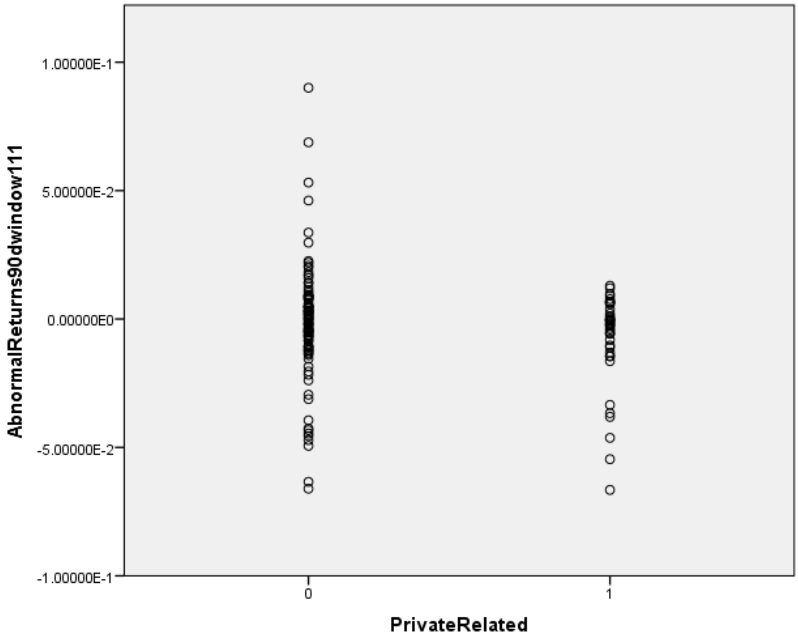


Figure 7. Linearity Plot Fashion & Beauty Industry

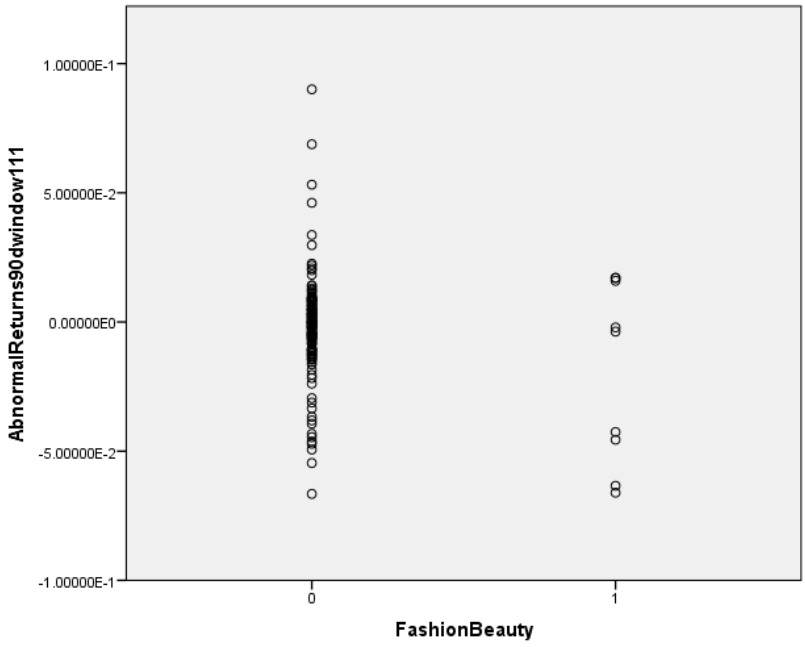
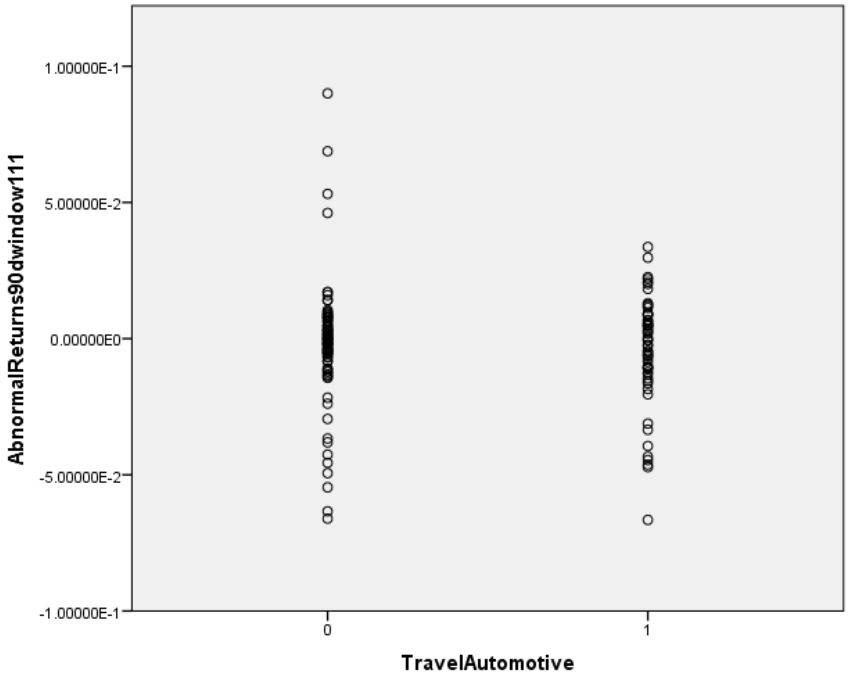


Figure 8. Linearity Plot Travel & Automotive Industry



Firgure 9. Linearity Plot Digital Life & Media Industry

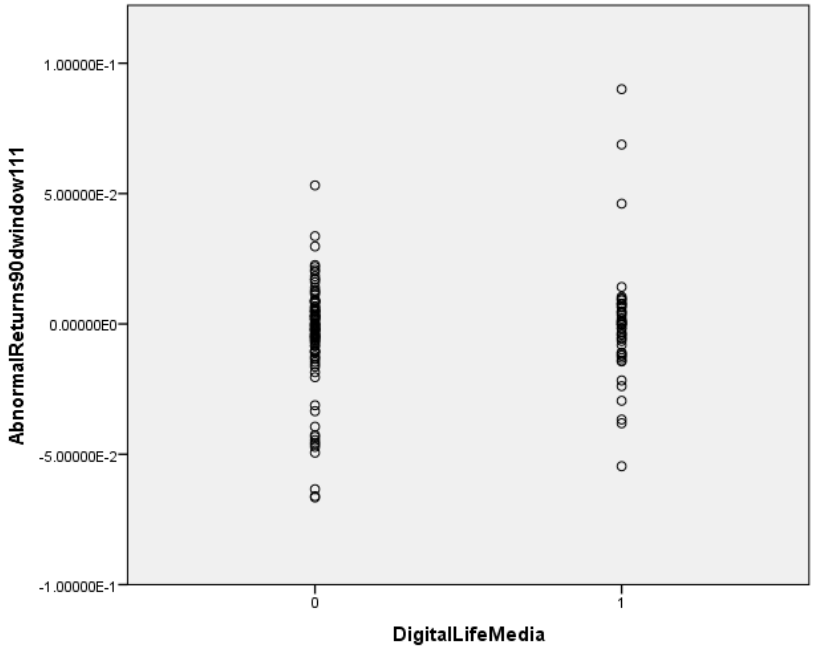


Figure 10. Linearity Plot Services Industry

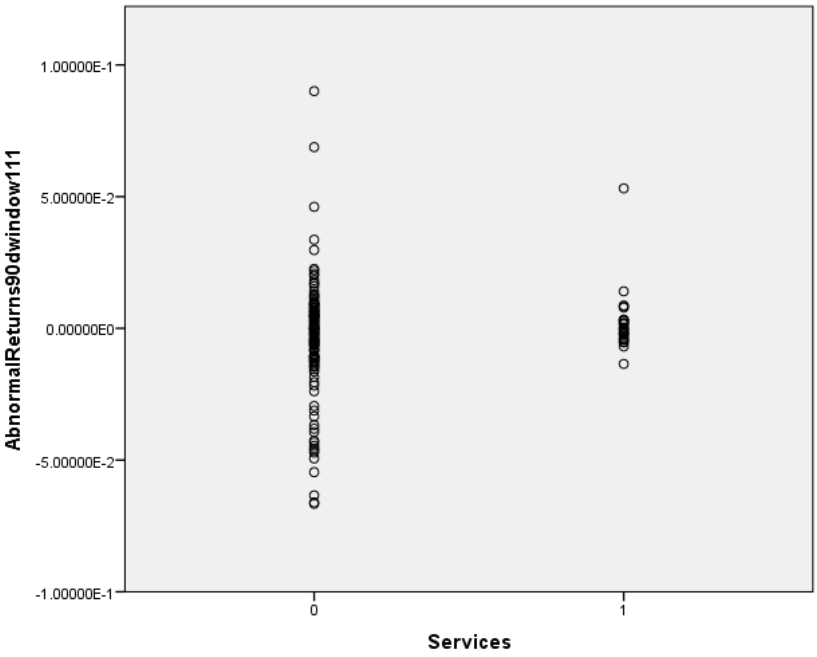


Figure 11. Linearity Plot Food & Gastronomy Industry

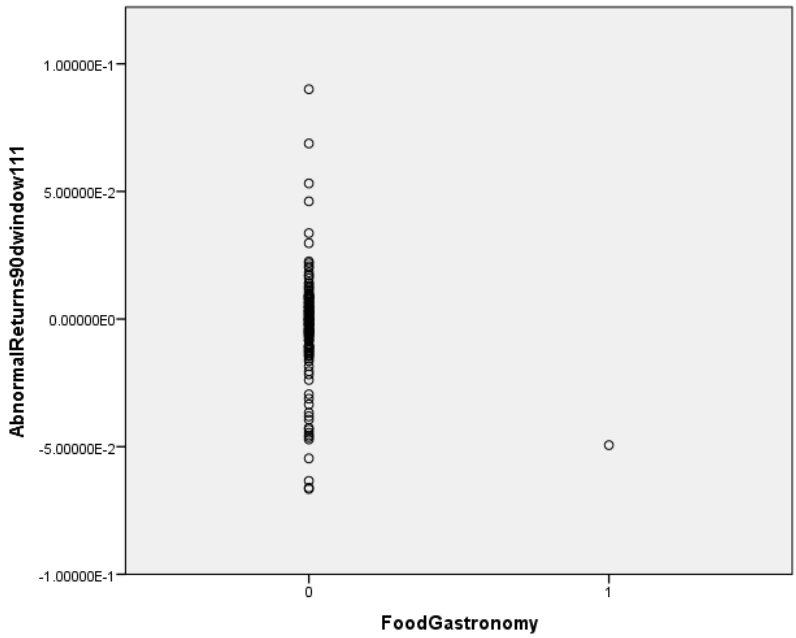


Figure 12. Linearity Plot Non-Food Industry

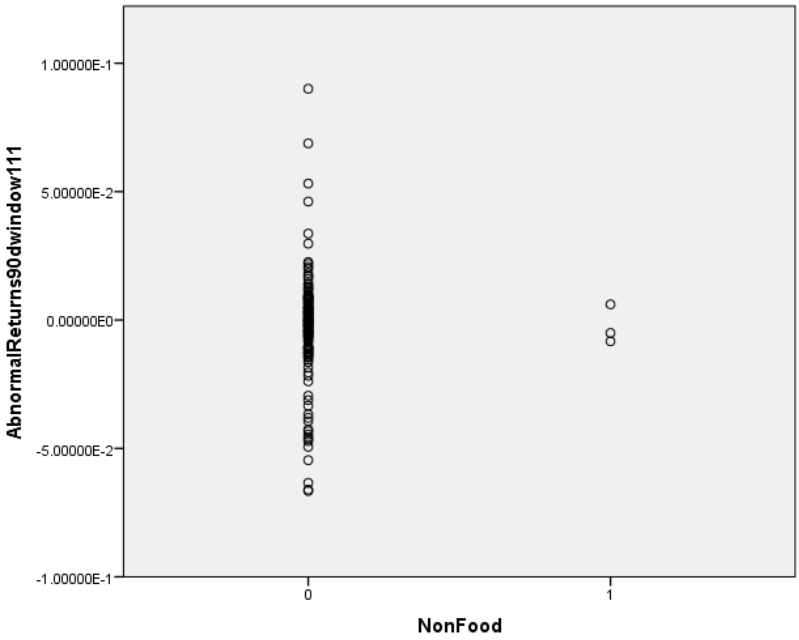


Figure 13. Linearity Plot OTC & Healthcare Industry

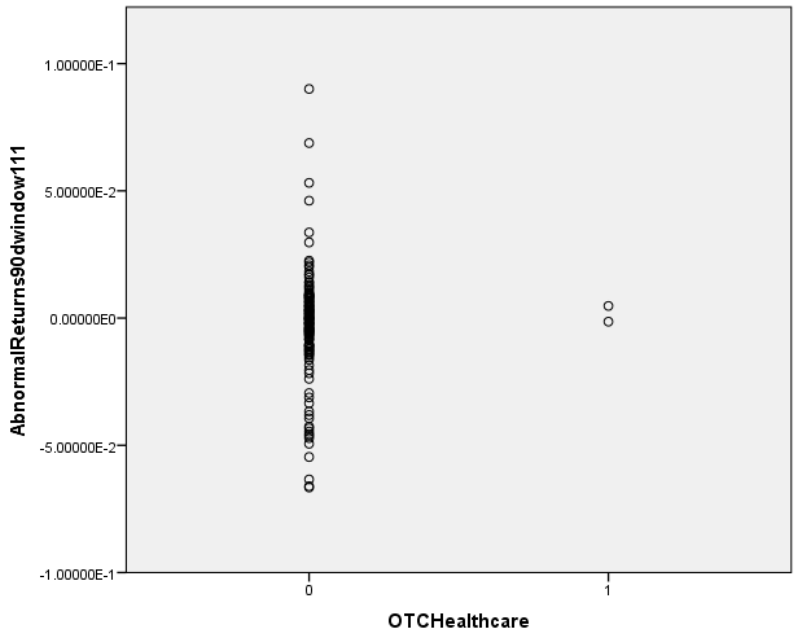


Figure 14. Linearity Plot Firm Reputation

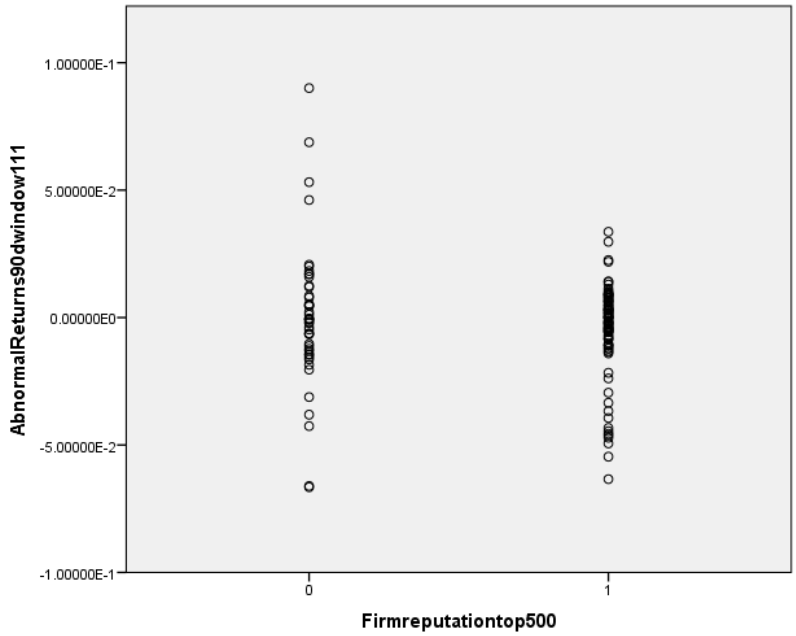
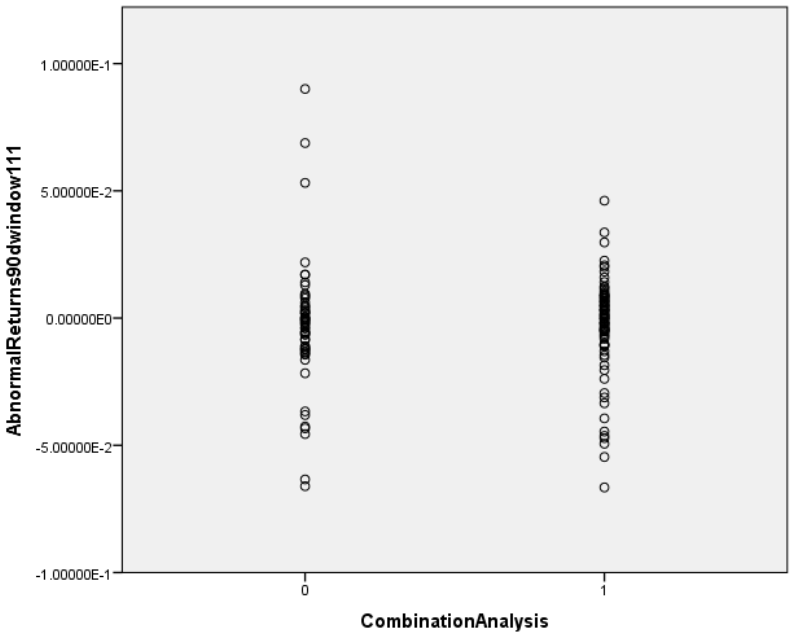


Figure 15. Linearity Plot Type of News Outle



A.3.3 Model Fit

Table 16. Model Fit Statistic

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.377[a]	.142	.078	2.06571873E-002

A.3.4 Assumption Testing Full Sample

A.3.4.1 Multicollinearity

Table 17. Collinearity Statistics Full Sample

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.004	.003		-1.375	.170		
	MediaCoverage	.000	.001	.010	.137	.891	.500	1.998
	PrivateRelated	-.004	.003	-.090	-1.634	.103	.950	1.053
	FashionBeauty	-.010	.005	-.111	-1.928	.055	.860	1.163
	DigitalLifeMedia	.000	.003	-.007	-.102	.919	.666	1.501
	Services	.005	.003	.092	1.493	.136	.761	1.314
	FoodGastronomy	.000	.008	-.002	-.040	.968	.943	1.061
	NonFood	.002	.008	.017	.304	.761	.928	1.078
	OTCHealthcare	.005	.010	.027	.496	.620	.949	1.054
	Firmreputationtop500	-.001	.002	-.030	-.528	.598	.894	1.118
	CombinationAnalysis	.002	.004	.042	.554	.580	.496	2.016

a. Dependent Variable: AbnormalReturns90dwindow111

Table 18. Correlation Matrix Full Sample

Correlations

		AbnormalReturns90dwindow111	MediaCoverage	PrivateRelated	FashionBeauty	TravelAutomotive	DigitalLifeMedia	Services	FoodGastronomy	NonFood	OTCHealthcare	Firmreputationtop500	CombinationAnalysis
Pearson Correlation	AbnormalReturns90dwindow111	1.000	.035	-.092	-.113	.011	-.051	.110	-.009	.015	.028	-.003	.056
	MediaCoverage	.035	1.000	-.005	.014	.154	-.128	.022	-.054	-.054	-.040	.167	.693
	PrivateRelated	-.092	-.005	1.000	-.091	-.071	.192	-.076	.035	-.051	-.074	.061	.028
	FashionBeauty	-.113	.014	-.091	1.000	-.164	-.194	-.110	-.037	-.037	-.029	-.154	-.111
	TravelAutomotive	.011	.154	-.071	-.164	1.000	-.550	-.311	-.105	-.105	-.082	-.151	.201
	DigitalLifeMedia	-.051	-.128	.192	-.194	-.550	1.000	-.369	-.124	-.124	-.098	.138	-.118
	Services	.110	.022	-.076	-.110	-.311	-.369	1.000	-.070	-.070	-.055	.071	.031
	FoodGastronomy	-.009	-.054	.035	-.037	-.105	-.124	-.070	1.000	-.024	-.019	-.040	-.045
	NonFood	.015	-.054	-.051	-.037	-.105	-.124	-.070	-.024	1.000	-.019	.079	-.045
	OTCHealthcare	.028	-.040	-.074	-.029	-.082	-.098	-.055	-.019	-.019	1.000	.044	-.070
	Firmreputationtop500	-.003	.167	.061	-.154	-.151	.138	.071	-.040	.079	.044	1.000	.136
	CombinationAnalysis	.056	.693	.028	-.111	.201	-.118	.031	-.045	-.045	-.070	.136	1.000
Sig. (1-tailed)	AbnormalReturns90dwindow111	.	.261	.044	.017	.422	.172	.020	.433	.392	.303	.481	.148
	MediaCoverage	.261	.	.461	.396	.002	.009	.339	.160	.160	.229	.001	.000
	PrivateRelated	.044	.461	.	.045	.093	.000	.080	.259	.171	.084	.127	.299
	FashionBeauty	.017	.396	.045	.	.001	.000	.020	.246	.246	.295	.002	.019
	TravelAutomotive	.422	.002	.093	.001	.	.000	.000	.026	.026	.063	.002	.000
	DigitalLifeMedia	.172	.009	.000	.000	.000	.	.000	.010	.010	.035	.005	.014
	Services	.020	.339	.080	.020	.000	.000	.	.096	.096	.152	.095	.281
	FoodGastronomy	.433	.160	.259	.246	.026	.010	.096	.	.331	.365	.230	.200
	NonFood	.392	.160	.171	.246	.026	.010	.096	.331	.	.365	.070	.200
	OTCHealthcare	.303	.229	.084	.295	.063	.035	.152	.365	.365	.	.209	.095
	Firmreputationtop500	.481	.001	.127	.002	.002	.005	.095	.230	.070	.209	.	.005
	CombinationAnalysis	.148	.000	.299	.019	.000	.014	.281	.200	.200	.095	.005	.
N	AbnormalReturns90dwindow111	347	347	347	347	347	347	347	347	347	347	347	347
	MediaCoverage	347	347	347	347	347	347	347	347	347	347	347	347
	PrivateRelated	347	347	347	347	347	347	347	347	347	347	347	347
	FashionBeauty	347	347	347	347	347	347	347	347	347	347	347	347
	TravelAutomotive	347	347	347	347	347	347	347	347	347	347	347	347
	DigitalLifeMedia	347	347	347	347	347	347	347	347	347	347	347	347
	Services	347	347	347	347	347	347	347	347	347	347	347	347
	FoodGastronomy	347	347	347	347	347	347	347	347	347	347	347	347
	NonFood	347	347	347	347	347	347	347	347	347	347	347	347
	OTCHealthcare	347	347	347	347	347	347	347	347	347	347	347	347
	Firmreputationtop500	347	347	347	347	347	347	347	347	347	347	347	347
	CombinationAnalysis	347	347	347	347	347	347	347	347	347	347	347	347

A.3.4.2 Assumption of Influential Cases

Table 19. Cook's D Statistic Full Sample

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Cook's Distance	347	.00000	.08371	.0027609	.00778723
Valid N (listwise)	347				

A.3.4.3 Assumption of Independence of Residual Values

Table 20. Model Fit and Durbin-Watson Test Statistics

Model Summary[b]

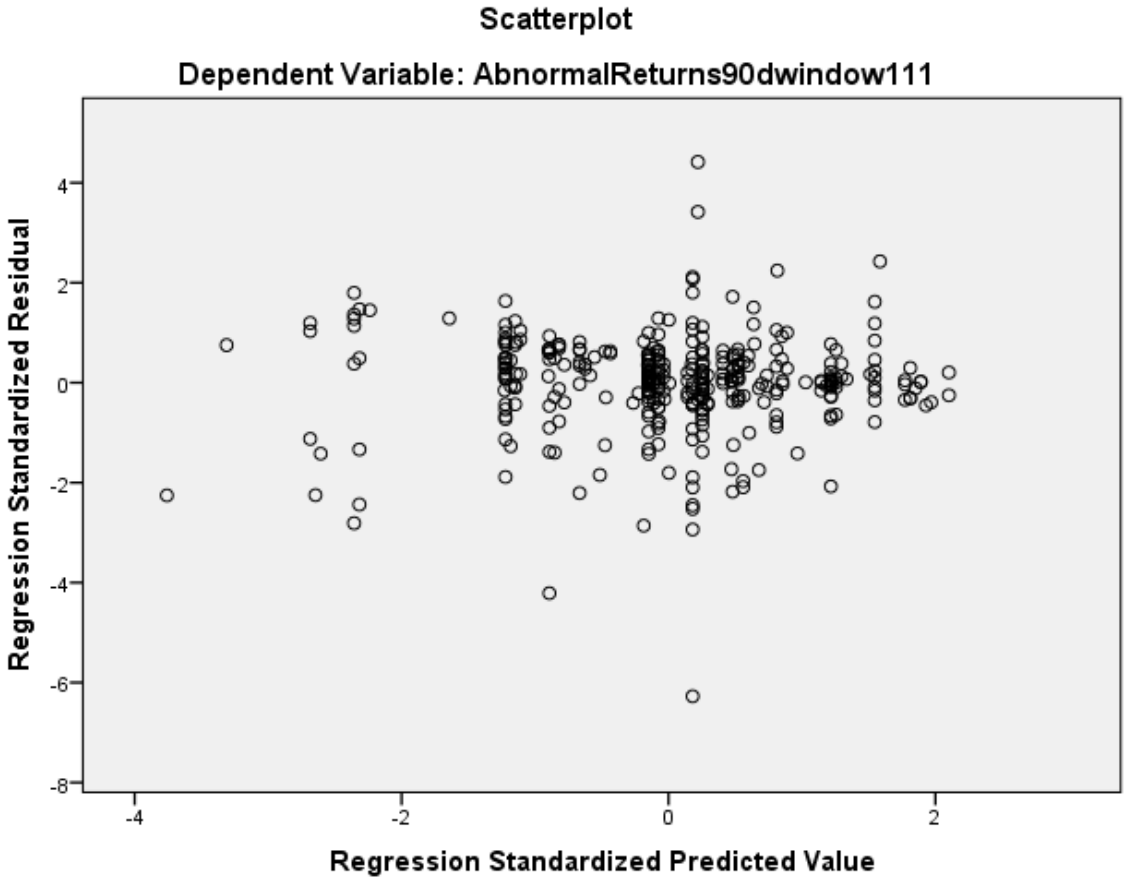
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.187[a]	.035	.006	2.129944E-2	2.114

a. Predictors: (Constant), CombinationAnalysis, PrivateRelated, FoodGastronomy, NonFood, OTCHealthcare, Services, Firmreputationtop500, FashionBeauty, TravelAutomotive, MediaCoverage

b. Dependent Variable: AbnormalReturns90dwindow111

A.3.4.4 Assumption of Homoscedasticity

Figure 16. Scatterplot Homoscedasticity Assumption



A.3.4.5 Assumption of the Normality of the Residuals

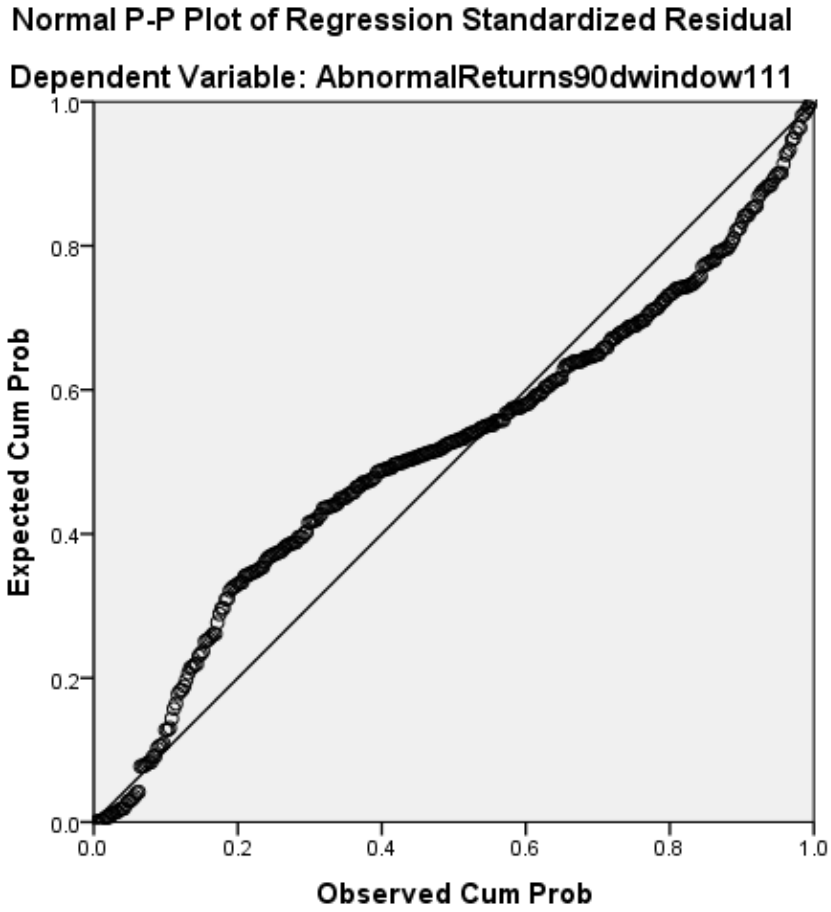
Table 21. Normality Statistics Full Sample

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AbnormalReturns90dwindow111	.140	347	.000	.876	347	.000

a. Lilliefors Significance Correction

Figure 17. Normality Plot



A.3.4.6 Assumption of Linearity

Figure 18. Linearity Plot Media Coverage Intensity

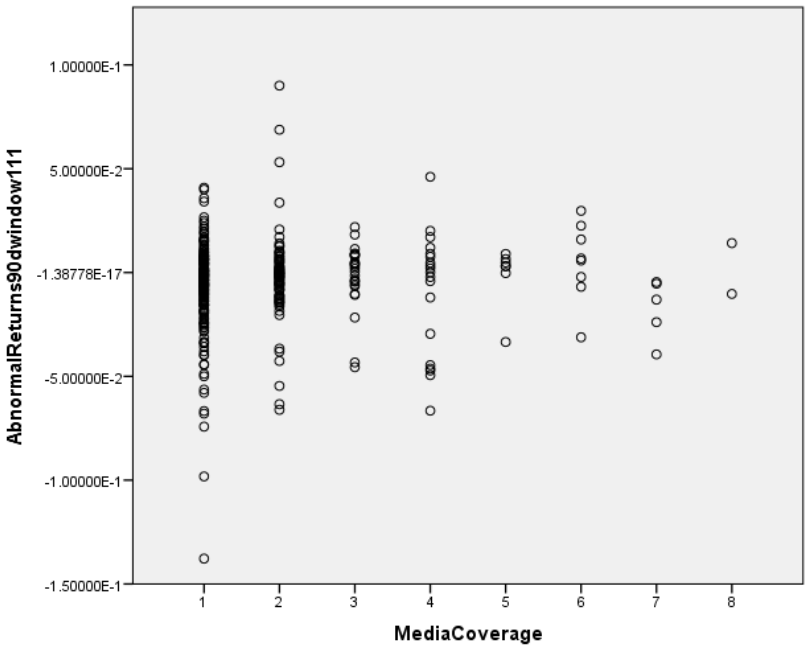


Figure 19. Linearity Plot News Subject

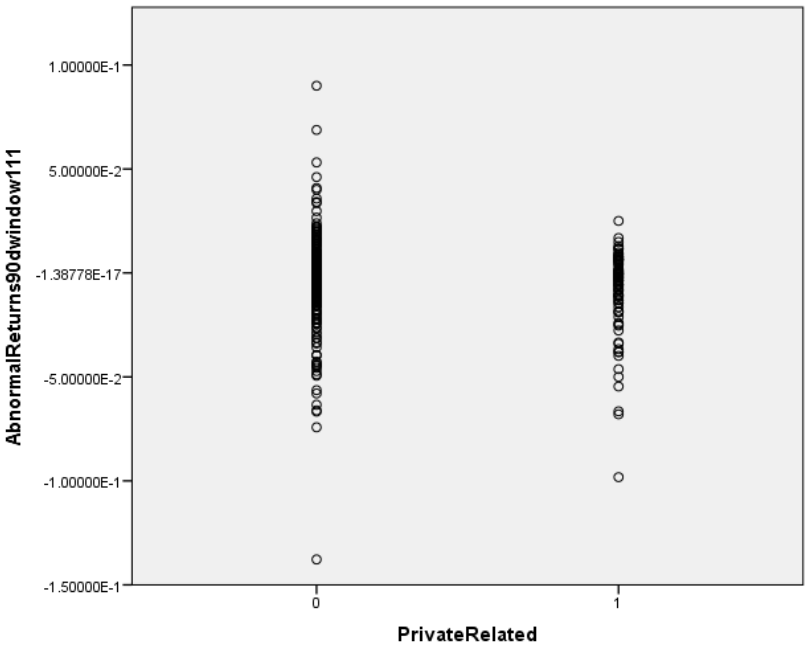


Figure 20. Linearity Plot Fashion & Beauty Industry

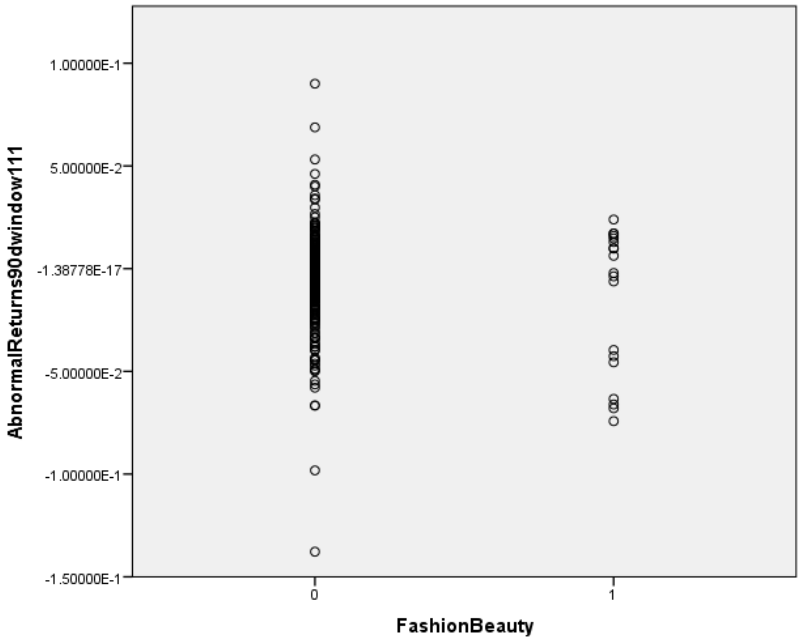


Figure 21. Linearity Plot Travel & Automotive Industry

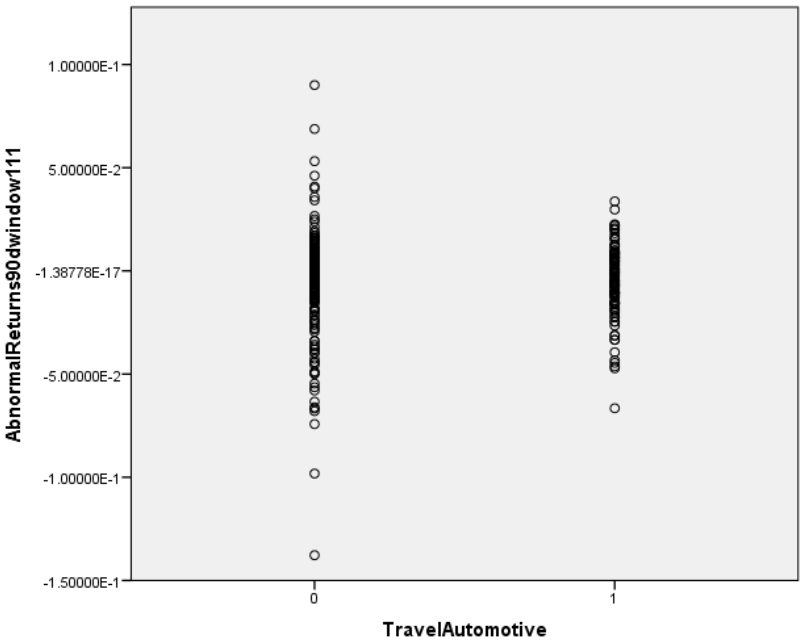


Figure 22. Linearity Plot Digital Life & Media Industry

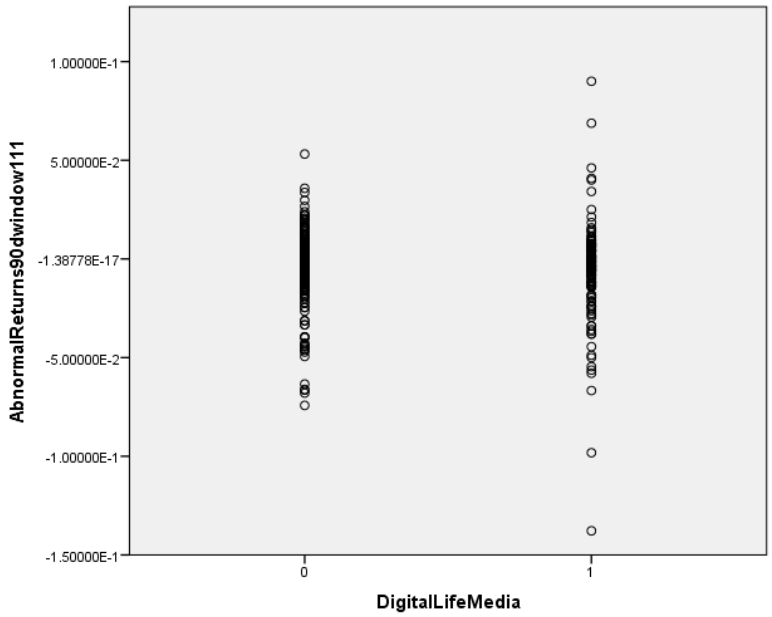


Figure 23. Linearity Plot Services Industry

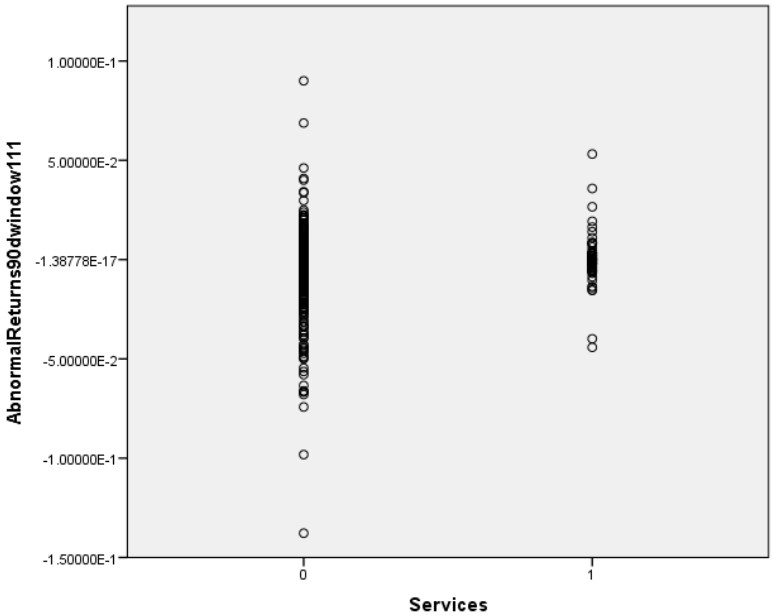


Figure 24. Linearity Plot Food & Gastronomy Industry

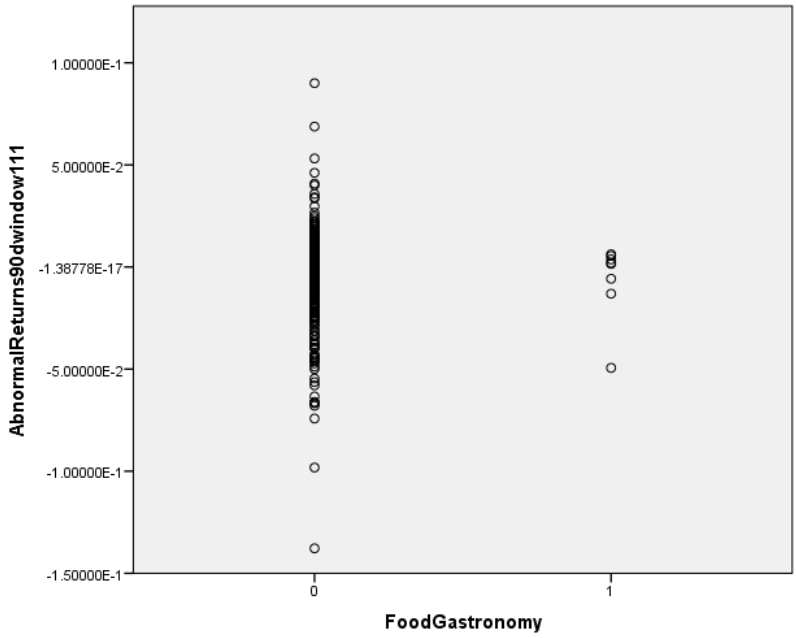


Figure 25. Linearity Plot Non-Food Industry

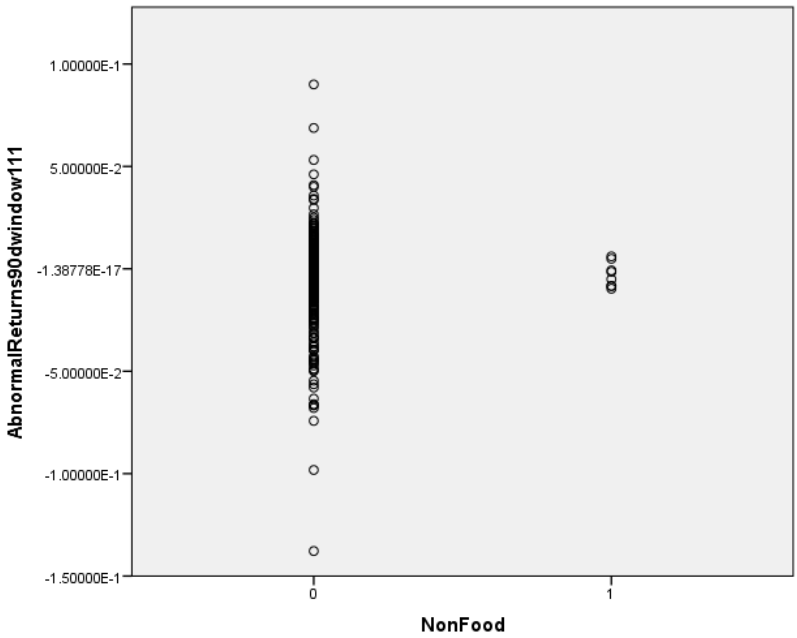


Figure 26. Linearity Plot OTC & Healthcare Industry

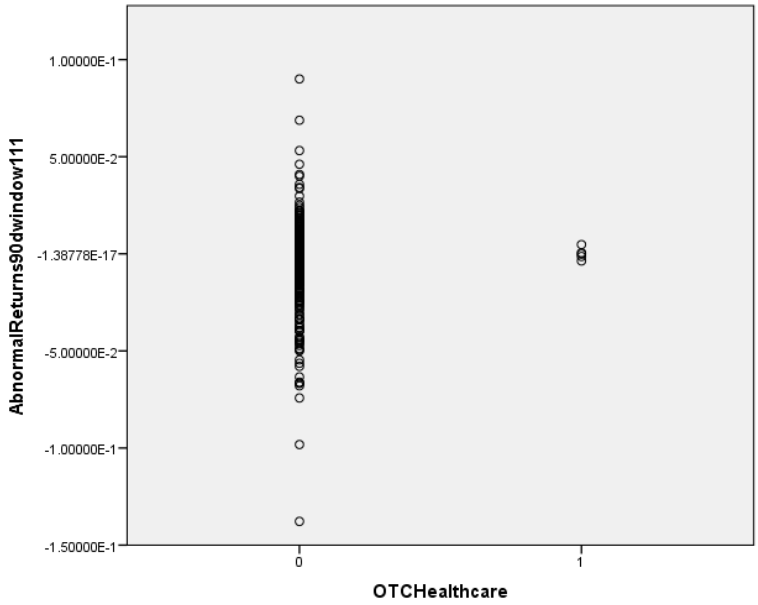


Figure 27. Linearity Plot Firm Reputation

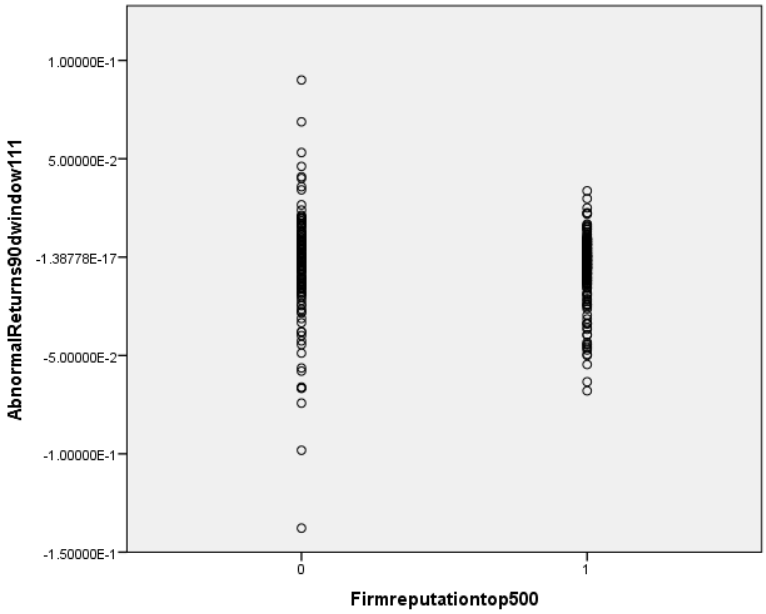
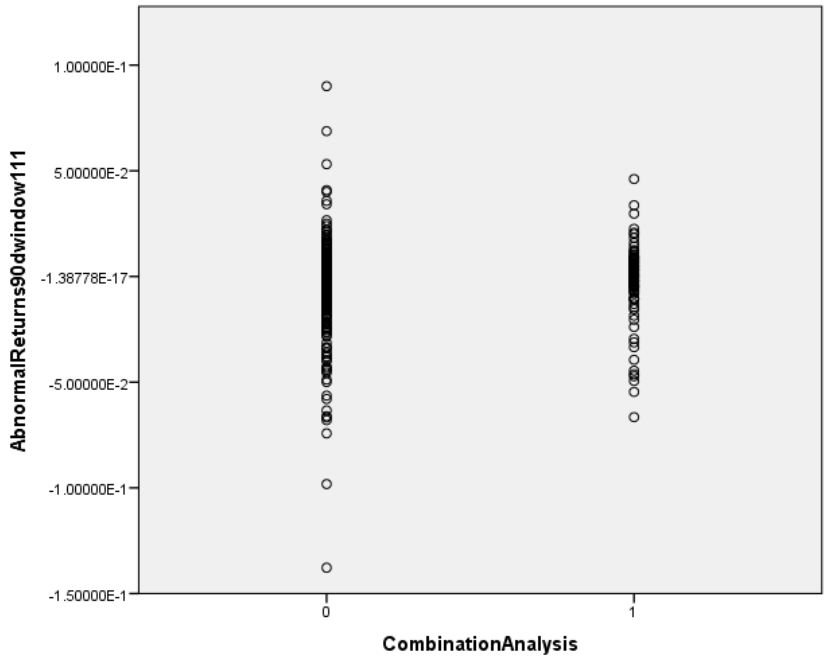


Figure 28. Linearity Plot Type of News Outlet



A.3.5 Model Fit Full Sample

Table 22. Model Fit Full Sample

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.187[a]	.035	.006	2.129944E-2	2.114

a. Predictors: (Constant), CombinationAnalysis, PrivateRelated, FoodGastronomy, NonFood, OTCHealthcare, Services, Firmreputationtop500, FashionBeauty, TravelAutomotive, MediaCoverage

b. Dependent Variable: AbnormalReturns90dwindow111

A.3.6 Comparison Assumption and Model Fit (Reduced vs Full Sample)

Table 23. Comparisons of Assumptions

Sample	Full	Reduced
N	347	146
Min VIF	1.053	1.020
Max VIF	2.016	1.362
Min Tolerance Factor	0.496	0.734
Max Tolerance Factor	0.950	0.980
Max Cook's D	0.08371	0.08800
Durbin-Watson	2.114	2.029
Sig. Kolmogorov-Smirnow	3.74E-18	1.51E-07
Sig. Shapiro-Wilk	4.40E-16	4.80E-09
Adj. R-Squared	0.006	0.078

A.3.7 Estimation Results

A.3.7.1 Estimation Results Reduced Sample

Table 24. Model Summary Reduced Sample

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.377[a]	.142	.078	2.06571873E-002

Table 25. Regression Statistics Reduced Sample

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.010	10	.001	2.231	.019[b]
	Residual	.058	135	.000		
	Total	.067	145			

Table 26. Estimation Results Reduced Sample

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.002	.005		.386	.700
	MediaCoverage	.000	.001	.012	.133	.895
	PrivateRelated	-.008	.004	-.168	-2.048	.043
	FashionBeauty	-.019	.008	-.213	-2.398	.018
	DigitalLifeMedia	.007	.004	.152	1.638	.104
	Services	.008	.005	.143	1.602	.112
	FoodGastronomy	-.044	.021	-.168	-2.091	.038
	NonFood	.006	.013	.043	.515	.608
	OTCHealthcare	.004	.015	.020	.243	.808
	Firmreputationtop500	-.009	.004	-.188	-2.142	.034
	CombinationAnalysis	.000	.004	.009	.093	.926

A.3.7.2 Estimation Results Full Sample

Table 27. Model Fit Full Sample

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.187[a]	.035	.006	2.12994440E-002

Table 28. Regression Statistics Full Sample

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.006	10	.001	1.224	.274[b]
	Residual	.152	336	.000		
	Total	.158	346			

Table 29. Estimation Results Full Sample

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.004	.003		-1.375	.170
	MediaCoverage	.000	.001	.010	.137	.891
	PrivateRelated	-.004	.003	-.090	-1.634	.103
	FashionBeauty	-.010	.005	-.111	-1.928	.055
	DigitalLifeMedia	.000	.003	-.007	-.102	.919
	Services	.005	.003	.092	1.493	.136
	FoodGastronomy	.000	.008	-.002	-.040	.968
	NonFood	.002	.008	.017	.304	.761
	OTCHealthcare	.005	.010	.027	.496	.620
	Firmreputationtop500	-.001	.002	-.030	-.528	.598
	CombinationAnalysis	.002	.004	.042	.554	.580

A.3.7.3 Further Specification of Private-Related Events

Table 30. Specifitcation of Private-Related Events

Adjusted R Square	**8.60E-02**			
Variables	**B**	**Sig.**		**N**
Constant	1.31E-03	8.02E-01		-
Moderators				
Media Coverage Intensity (-)	2.41E-04	8.51E-01		-
Firm Reputation				
High Reputation (-)	-9.18E-03	1.25E-02	**	68.49%
Low Reputation (+)	Reference Category			31.51%
News Subject				
Sexual Harrassment (+)	-2.98E-02	2.24E-02	**	2.05%
Health Problems (+)	-6.66E-03	5.34E-01		2.74%
Other (+)	-6.32E-03	1.33E-01		23.29%
Firm-Related (+)	Reference Category			71.92%
Control Variables				
Type of News Outlet				
Single Outlet	Reference Category			39.73%
Combination of outlets	1.37E-03	7.38E-01		60.27%
Industry Type				
Fashion & Beauty	-1.87E-02	1.93E-02	**	6.16%
Travel & Automotive	Reference Category			39.04%
Digital Life & Media	7.17E-03	9.58E-02	*	32.19%
Services	7.90E-03	1.18E-01		18.49%
Food & Gastronomy	-4.39E-02	3.73E-02	**	0.68%
Non Food	1.44E-02	2.79E-01		2.05%
OTC & Healthcare	4.48E-03	7.67E-01		1.37%

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

A.4 Robustness Checks

A.4.1 Fixed Effect Model (Company Specific)

Table 31. Model Fit Fixed Effect Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.627[a]	.393	.145	1.98893897E-002

Table 32. Regression Statistics Fixed Effect Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.026	42	.001	1.588	.031[b]
	Residual	.041	103	.000		
	Total	.067	145			

Table 33. Estimation Results Fixed Effect Model

	Focal Model			Fixed Effect Model		
Adjusted R Square	**7.83E-02**			**1.45E-01**		
Variables	**B**	**Sig.**		**B**	**Sig.**	
Constant	2.01E-03	7.00E-01		-5.43E-03	4.22E-01	
Moderators						
Media Coverage Intensity (-)	1.71E-04	8.95E-01		-3.76E-04	7.78E-01	
Firm Reputation						
High Reputation (-)	-8.69E-03	1.70E-02	**	-8.03E-04	4.50E-01	
Low Reputation (+)	Reference Category			Reference Category		
News Subject						
Private-Related (+)	-8.00E-03	4.25E-02	**	-5.59E-03	2.15E-01	
Firm-Related (-)	Reference Category			Reference Category		
Control Variables						
Type of News Outlet						
Single Outlet	Reference Category			Reference Category		
Combination of outlets	3.74E-04	9.26E-01		3.88E-03	3.94E-01	
Industry Type						
Fashion & Beauty	-1.90E-02	1.78E-02	**	-	-	
Travel & Automotive	Reference Category			Reference Category		
Digital Life & Media	7.00E-03	1.04E-01		-	-	
Services	7.92E-03	1.12E-01		-	-	
Food & Gastronomy	-4.38E-02	3.84E-02	**	-	-	
Non Food	6.45E-03	6.08E-01		-1.31E-03	9.49E-01	
OTC & Healthcare	3.68E-03	8.08E-01		-	-	

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

A.4.2 Varying Estimation Windows Assumptions

This section entails a brief discussion of the multiple OLS regression assumptions for the varying estimation windows. The predictor variables and the DV are measured in a similar manner as the focal model. Therefore, the assumptions of no multicollinearity, linearity are the same as the focal model.

A.4.2.1 Assumptions 10-Day Estimation Window

Independence of Residuals. As mentioned in section 5.2.1, the Durbin-Watson test statistic requires a value close to two, in order for the assumption to be met. As shown in the Table below, the Durbin-Watson test statistic is 2.089, which implies that the assumption has been met.

Influential Cases. The Cook's D identifies the influential outliers within the predictor variables (Weisberg, 2013). According to Weisberg (2013), a case with a Cook's D above 1 would influence the regression, and could be considered an influential case. As depicted by the table below, the highest Cook's D value in the dataset is .076. Subsequently, there are no influential cases that bias the regression model. Therefore, the assumption is met.

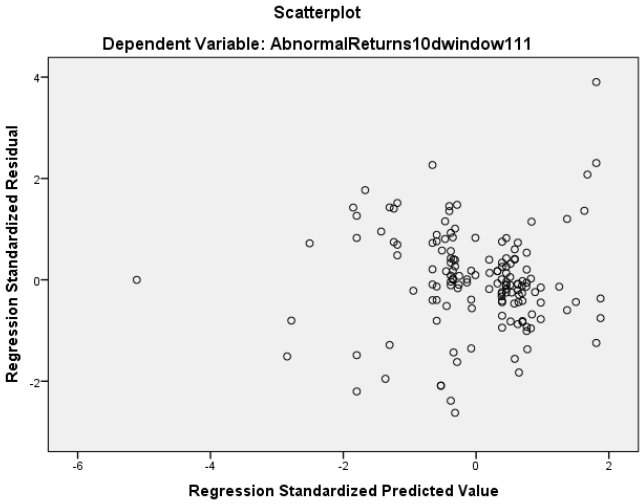
Normality of the Residuals. To test the normality of the residuals, the Kolmogorov-Smirnov and Shapiro-Wilk test is used. These test statistics test whether the residuals are significantly different from a normal distribution (Field, 2009). As shown in the table below, both test statistics are significant ($p<0.001$), implying that the distribution differs from a normal distribution. Therefore, the assumption is not met.

Table 34. Assumptions 10-Day Estimation Window

Test Statistic	Value
Durbin-Watson	2.089292
Max. Cooks D	0.087762
Kolmogorov-Smirnov	6.00E-06
Shapiro-Wilk	4.18E-08

Homoscedasticity. The assumption of homoscedasticity requires the constancy of the variance of the residuals (Field, 2009). As illustrated by the scatterplot below, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals heteroscedastic and the assumption of homoscedasticity is not met.

Figure 29. Scatterplot Homoscedasticity



A.4.2.2 Assumptions 20-Day Estimation Window

Independence of Residuals. As shown in the table below, the Durbin-Watson test statistic is 2.044, which is close to the value two. This signifies that the assumption has been met.

Influential Cases. The highest value of the Cook's D statistic in the 20 day estimation window is .117, implicating that the assumption has been met.

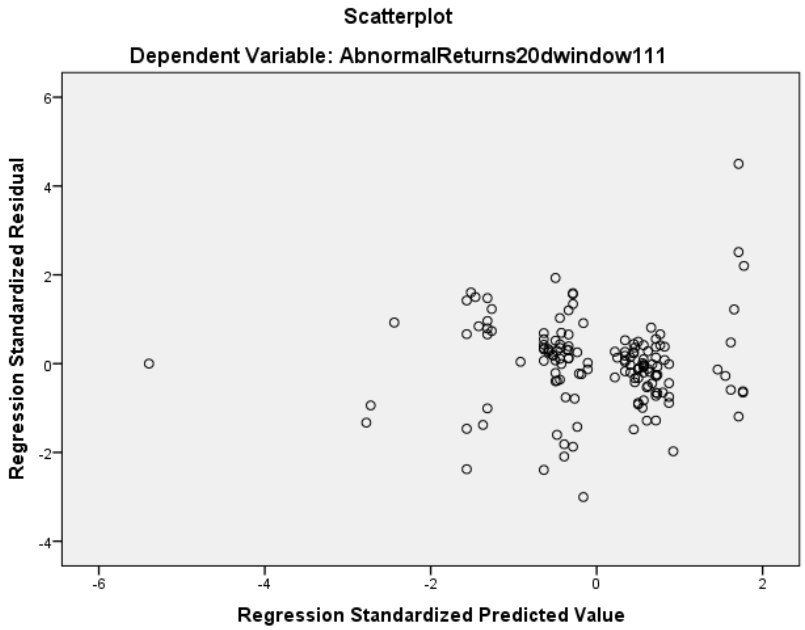
Normality of the Residuals. As illustrated by the table below, both the Kolmogorov-Smirnov and the Shapiro-Wilk test statistic are significant at p<.001. Therefore, the assumption has not been met.

Table 35. Assumptions 20-Day Estimation Window

Test Statistic	Value
Durbin-Watson	2.043955
Max. Cooks D	0.116751
Kolmogorov-Smirnov	4.63E-08
Shapiro-Wilk	1.24E-09

Homoscedasticity. As illustrated by the scatterplot below, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals heteroscedastic and the assumption of homoscedasticity is not met.

Figure 30. Scatterplot Homoscedasticity



A.4.2.3 Assumptions 50-Day Estimation Window

Independence of Residuals. As shown in the table below, the Durbin-Watson test statistic is 2.044, which is close to the value two. This means that the assumption has been met.

Influential Cases. The highest value of the Cook's D statistic in the 20 day estimation window is .117, which suggests that the assumption has been met.

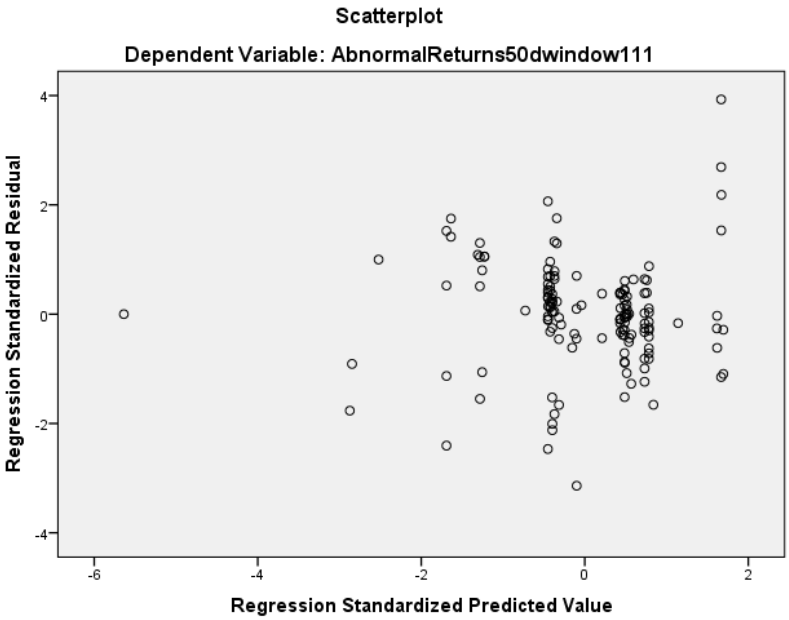
Normality of the Residuals. As illustrated by the table below, both the Kolmogorov-Smirnov and the Shapiro-Wilk test statistic are significant at p<.001. Therefore, the assumption has not been met.

Table 36. Assumptions 50-Day Estimation Window

Test Statistic	Value
Durbin-Watson	2.045943
Max. Cooks D	0.08906
Kolmogorov-Smirnov	2.52E-08
Shapiro-Wilk	2.59E-09

Homoscedasticity. As illustrated by the scatterplot below, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals heteroscedastic and the assumption of homoscedasticity is not met.

Figure 31. Scatterplot Homoscedasticity



A.4.3 Varying Estimation Windows Results

Table 37. Varying Estimation Window Estimation Results

	10 Day Estimation			20 Day Estimation			50 Day Estimation			90 Day Estimation		
Adjusted R Square	**1.10E-01**			**9.69E-02**			**9.16E-02**			**7.83E-02**		
Variables	**B**	**Sig.**		**B**	**Sig.**		**B**	**Sig.**		**B**	**Sig.**	
Constant	2.01E-03	5.85E-01		4.40E-03	3.95E-01		3.70E-03	4.72E-01		2.01E-03	7.00E-01	
Moderators												
Media Coverage Intensity (-)	6.10E-04	6.56E-01		4.50E-04	7.25E-01		2.26E-04	8.59E-01		1.71E-04	8.95E-01	
Firm Reputation												
High Reputation (-)	-1.01E-02	1.03E-02	**	-1.04E-02	5.37E-03	***	-9.92E-03	7.16E-03	***	-8.69E-03	1.70E-02	**
Low Reputation (+)	Reference Category			Reference Category			Reference Category			Reference Category		
News Subject												
Private-Related (+)	-8.04E-03	5.48E-02	*	-8.40E-03	3.17E-02	**	-7.42E-03	5.61E-02	*	-8.00E-03	4.25E-02	**
Firm-Related (-)	Reference Category			Reference Category			Reference Category			Reference Category		
Control Variables												
Type of News Outlet												
Single Outlet	Reference Category			Reference Category			Reference Category			Reference Category		
Combination of outlets	-2.95E-03	4.93E-01		-1.36E-03	7.35E-01		-4.42E-04	9.12E-01		3.74E-04	9.26E-01	
Industry Type												
Fashion & Beauty	-2.40E-02	5.03E-03	***	-2.09E-02	8.61E-03	***	-2.08E-02	8.84E-03	***	-1.90E-02	1.78E-02	**
Travel & Automotive	Reference Category			Reference Category			Reference Category			Reference Category		
Digital Life & Media	1.07E-02	1.98E-02	**	7.20E-03	9.10E-02	*	7.42E-03	8.03E-02	*	7.00E-03	1.04E-01	
Services	9.42E-03	7.53E-02	*	7.76E-03	1.16E-01		7.44E-03	1.29E-01		7.92E-03	1.12E-01	
Food & Gastronomy	-4.41E-02	4.96E-02	**	-4.30E-02	4.01E-02	**	-4.40E-02	3.50E-02	**	-4.38E-02	3.84E-02	**
Non Food	5.27E-03	6.93E-01		4.78E-03	7.01E-01		5.10E-03	6.80E-01		6.45E-03	6.08E-01	
OTC & Healthcare	5.32E-03	7.41E-01		5.04E-03	7.38E-01		2.99E-03	8.41E-01		3.68E-03	8.08E-01	

a. Notes: * p < .10, ** p < .05, *** p < .01

b. One-sided t-test for expected sign, two-sided t-test otherwise

A.4.4 Market Model

Within the market model, the actual returns are calculated in a similar manner as the actual returns in the constant-mean return model. The actual returns (R_{it}) in the market model are calculated as follows:

$$R_{it} = \frac{SP_t - SP_{t-1}}{SP_{t-1}}$$

Where SP_t is the closing price at t and SP_{t-1} is the closing price of the day before SP_t. The abnormal returns (AR_t) in the market model are also calculated in a similar way compared to the constant-mean return model, where the abnormal returns are calculated according to the following formula:

$$AR_{it} = R_{it} - ER_{it}$$

Where ER_t are the expected returns at time t. However, the calculation of the ER_t differs from the constant-mean return model, as the market model accounts for the fluctuations of the market (MacKinlay, 1997). Consequently, this removes the variance attributed to the fluctuations in the stock market, which results in an enhanced ability to identify the effects of the events (Cable & Holland, 1999). In order to predict the ER_t, the data from the S&P 500 was incorporated in the dataset. The S&P 500 is a US stock index that is known in academic research for being a reliable proxy for the fluctuations in the US stock market (Anderson & Reeb, 2003; Ranco et al., 2015). The expected returns in the market model are calculated as follows:

$$ER_{it} = \alpha_i + \beta_i * R_{it} + \varepsilon_{it}$$

Where α_i is the intercept of the firm-specific and the reference market over the estimation window. The regression coefficient β_i sensitivity measurement of the actual returns on the reference market (S&P 500). The last component of the equation is ε_{it}, which represents the error term with a finite variance and an expectation of zero.

In order to use the formula the decision had to be made in regards to which estimation windows to incorporate for the robustness check. To provide a more extensive robustness check, the decision was made to incorporate a 100 and 200 day estimation window, which are commonly used estimation windows. Next, according to Sorescu et al. (2017), the event window for a market model requires to start at least one day prior to the event, in order to account for leakage. Furthermore, Sorescu et al. (2017) argues that the event window needs to incorporate at least one day after the event, in order to control for the dispersion of information. Therefore, the decision was made to include an event window for both estimation windows, of one day prior to the event to one day after the event.

Because the event window includes multiple days, the abnormal needs to be accumulated across the event window, in order to derive the cumulative abnormal returns (CAR) (Sorescu et al., 2017). The CAR depicts the total incremental gain or loss of the firm associated with the event (Sorescu et al., 2017), and is illustrated by the following formula:

$$CAR_i(t_{-1}, t_1) = \sum_{t=t_{-1}}^{t_1} AR_{i,t}$$

A.4.4.1 Main Effects

As illustrated by the table below, none of the main effects in the market model are significant. Interestingly, both estimation windows in the market model exhibit a positive mean. The positive means within the market model exhibit a tendency (but insignificant) in the data that bad CEO behavior would potentially have a positive effect on stock return. Furthermore, it is noticeable that the sample size decreases in the market model, this is attributed to the fact that for some dates, the S&P 500 index was not available.

Table 38. Main Effect Market Model

Models	N	Mean	Std. Deviation	Std. Error Mean	Sig.
Focal Model (90 Day Constant-Mean)	146	-3.01E-03	2.15E-02	1.78E-03	4.64E-02
CAR 200 Days Estimation Window	144	1.01E-01	1.23E+00	1.02E-01	3.24E-01
CAR 100 Days Estimation Window	144	1.38E-01	1.67E+00	1.39E-01	3.24E-01
a. One-sided t-test for expected sign, two sided t-test otherwise					

Next, the assumption testing of the different estimation windows are discussed. However, due to the binary nature of the predictor variables the assumption of linearity is not tested, as this would yield similar results to the assumption of the focal model. Furthermore, within the multiple OLS, the same predictor variables will be used as in the focal model. Therefore, the assumption of no multicollinearity will not be tested, as again this would result in the same outcome as for the focal model.

A.4.4.2 Assumption Testing

A.4.4.2.1 Assumptions 100-Day Estimation Window

Independence of Residuals. As shown in the table below, the Durbin-Watson test statistic is 1.921, which is close to the value two. This signifies that the assumption has been met.

Influential Cases. The highest value of the Cook's D statistic in the 20 day estimation window is .727, implicating that the assumption has been met.

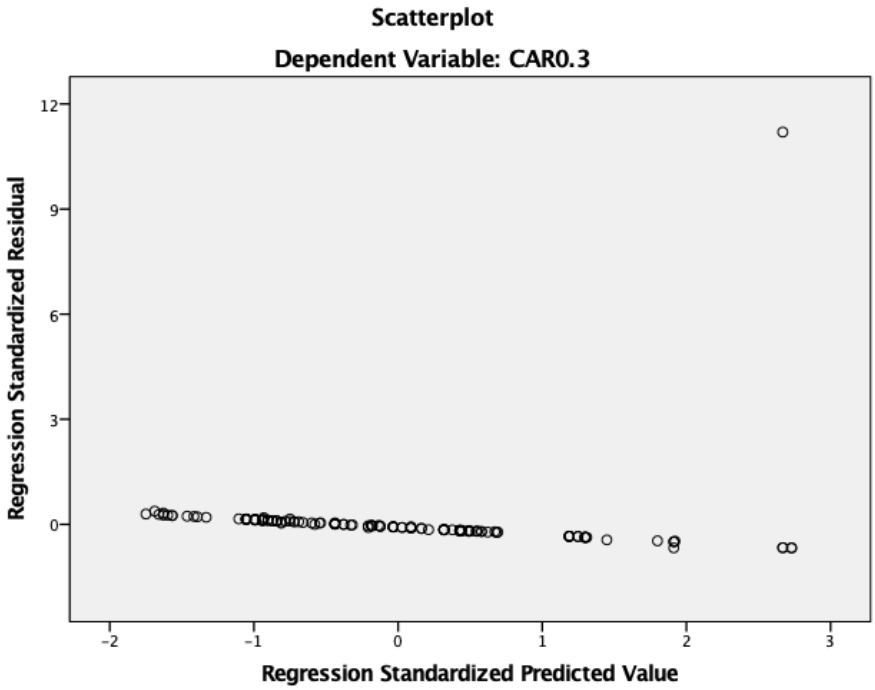
Normality of the Residuals. As illustrated by the table below, both the Kolmogorov-Smirnov and the Shapiro-Wilk test statistic are significant at p<.001. Therefore, the assumption has not been met.

Table 39. Market Model 100-Day Assumptions

Test Statistic	Value
Durbin-Watson	1.921076
Max. Cooks D	0.727376
Kolmogorov-Smirnov	3.86E-100
Shapiro-Wilk	3.19E-26

Homoscedasticity. As illustrated by the scatterplot below, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals heteroscedastic and the assumption of homoscedasticity is not met.

Figure 32. Scatterplot Homoscedasticity



A.4.4.2.2 Assumptions 200-Day Estimation Window

Independence of Residuals. As shown in the table below, the Durbin-Watson test statistic is 1.922, which is close to the value two. This signifies that the assumption has been met.

Influential Cases. The highest value of the Cook's D statistic in the 20 day estimation window is .727, implicating that the assumption has been met.

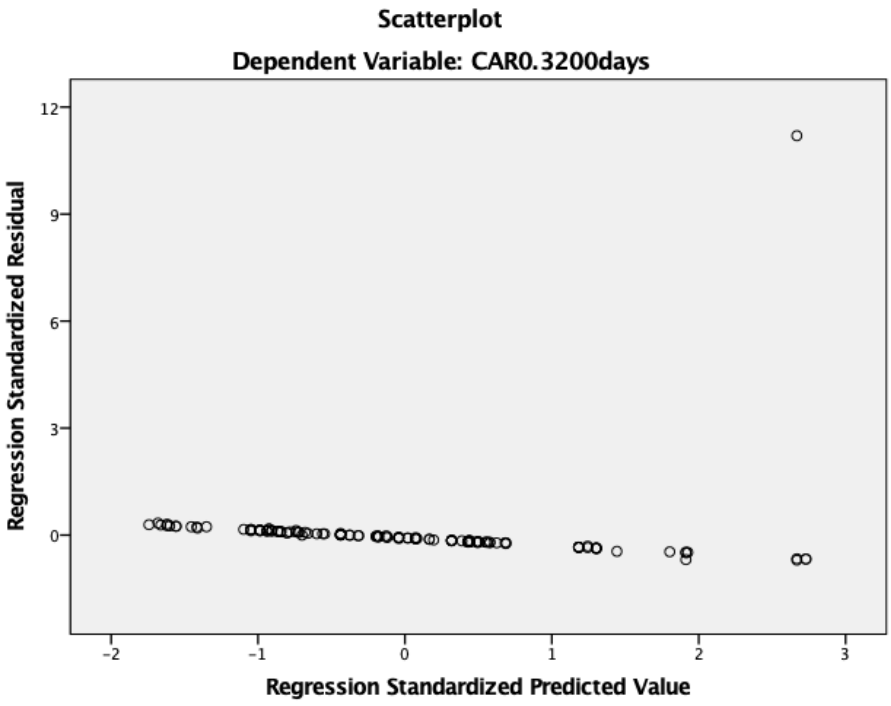
Normality of the Residuals. As illustrated by the table below, both the Kolmogorov-Smirnov and the Shapiro-Wilk test statistic are significant at p<.001. Therefore, the assumption has not been met.

Table 40. Market Model 200-Day Assumptions

Test Statistic	Value
Durbin-Watson	1.92223
Max. Cooks D	0.727377
Kolmogorov-Smirnov	1.50E-106
Shapiro-Wilk	3.24E-26

Homoscedasticity. As illustrated by the scatterplot below, the dots of the plot with the standard residuals (y-axis) against the standardized predicted values (x-axis), are not randomly distributed. Therefore, the variance of the residuals heteroscedastic and the assumption of homoscedasticity is not met.

Figure 33. Scatterplot Homoscedasticity



A.4.4.3 Market Model Estimation Results

Table 41. Market Model Estimation Results

	CAR 100 Day Estimation			CAR 200 Day Estimation			90 Day Estimation (Focal)		
Adjusted R Square	**-2.31E-02**			**-2.32E-02**			**7.83E-02**		
Variables	**B**	**Sig.**		**B**	**Sig.**		**B**	**Sig.**	
Constant	5.69E-01	1.89E-01		4.19E-01	1.89E-01		2.01E-03	7.00E-01	
Moderators									
Media Coverage Intensity (-)	2.23E-02	8.32E-01		1.66E-02	8.31E-01		1.71E-04	8.95E-01	
Firm Reputation									
High Reputation (-)	-5.44E-01	5.35E-02	*	-4.01E-01	5.32E-02	*	-8.69E-03	1.70E-02	**
Low Reputation (+)	Reference Category			Reference Category			Reference Category		
News Subject									
Private-Related (+)	-2.78E-01	3.96E-01		-2.04E-01	3.97E-01		-8.00E-03	4.25E-02	**
Firm-Related (-)	Reference Category			Reference Category			Reference Category		
Control Variables									
Type of News Outlet									
Single Outlet	Reference Category			Reference Category			Reference Category		
Combination of outlets	-3.19E-01	3.40E-01		-2.34E-01	3.43E-01		3.74E-04	9.26E-01	
Industry Type									
Fashion & Beauty	-4.43E-01	4.97E-01		-3.32E-01	4.90E-01		-1.90E-02	1.78E-02	**
Travel & Automotive	Reference Category			Reference Category			Reference Category		
Digital Life & Media	5.03E-01	1.55E-01		3.69E-01	1.57E-01		7.00E-03	1.04E-01	
Services	5.54E-02	8.91E-01		3.82E-02	8.98E-01		7.92E-03	1.12E-01	
Food & Gastronomy	1.30E-01	9.40E-01		6.08E-02	9.62E-01		-4.38E-02	3.84E-02	**
Non Food	1.27E-01	9.01E-01		9.44E-02	9.01E-01		6.45E-03	6.08E-01	
OTC & Healthcare	-3.38E-01	7.85E-01		-2.47E-01	7.87E-01		3.68E-03	8.08E-01	

a. Notes: * p < .10, ** p < .05, *** p < .01

b. One-sided t-test for expected sign, two-sided t-test otherwise

A.4.5 Omitted Variable

The main effect of the multiple OLS regression with the inclusion of the variable firm size yield the same results as the main effect for the focal model (see Table 6). The assumption testing for the new model is illustrated below.

A.4.5.1 Omitted Variable Assumptions

Influential Cases. As shown in the table below, the highest value of the Cook's D statistic in the 20 day estimation window is .727, implicating that the assumption has been met.

Table 42. Omitted Variable Assumptions

Test Statistic	Value
Durbin-Watson	1.998625
Max. Cooks D	8.89E-02

Multicolinearity. As illustrated by the table below, the tolerance factors are between .590 and .974, and the VIFs are between 1.027 and 1.696, implying that the assumption of no multicollinearity in the data has been met. However, the model shows a stronger tendency for multicolinearity compared to the focal model.

Table 43. Collinearity Statistics Omitted Variable

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.002	.005		.426	.671		
	MediaCoverage	.001	.001	.046	.512	.609	.764	1.309
	Firmreputationtop500	-.006	.004	-.122	-1.337	.183	.742	1.347
	PrivateRelated	-.008	.004	-.161	-2.002	.047	.947	1.057
	CombinationAnalysis	.001	.004	.020	.225	.823	.744	1.345
	FashionBeauty	-.021	.008	-.234	-2.658	.009	.795	1.257
	DigitalLifeMedia	.011	.004	.231	2.368	.019	.645	1.550
	Services	.005	.005	.082	.895	.372	.728	1.374
	FoodGastronomy	-.048	.021	-.183	-2.305	.023	.974	1.027
	NonFood	.002	.012	.016	.199	.842	.906	1.104
	OTCHealthcare	.002	.015	.014	.168	.867	.941	1.063
	FirmSizeopeningXvolume	-1.710E-12	.000	-.237	-2.319	.022	.590	1.696

A.4.5.2 Estimation Results

The estimation results for the focal model and the model with firm size included, is illustrated by the table below.

Table 44. Estimation Results Omitted Variable

	Focal Model			Model with Omitted Variable		
Adjusted R Square	**7.83E-02**			**1.07E-01**		
Variables	**B**	**Sig.**		**B**	**Sig.**	
Constant	2.01E-03	7.00E-01		2.18E-03	6.71E-01	
Moderators						
Media Coverage Intensity (-)	1.71E-04	8.95E-01		6.58E-04	6.09E-01	
Firm Reputation						
High Reputation (-)	-8.69E-03	1.70E-02	**	-5.62E-03	9.17E-02	*
Low Reputation (+)	Reference Category			Reference Category		
News Subject						
Private-Related (+)	-8.00E-03	4.25E-02	**	-7.70E-03	4.73E-02	**
Firm-Related (-)	Reference Category			Reference Category		
Control Variables						
Type of News Outlet						
Single Outlet	Reference Category			Reference Category		
Combination of outlets	3.74E-04	9.26E-01		8.95E-04	8.23E-01	
Industry Type						
Fashion & Beauty	-1.90E-02	1.78E-02	**	-2.08E-02	8.83E-03	***
Travel & Automotive	Reference Category			Reference Category		
Digital Life & Media	7.00E-03	1.04E-01		1.06E-02	1.93E-02	**
Services	7.92E-03	1.12E-01		4.55E-03	3.72E-01	
Food & Gastronomy	-4.38E-02	3.84E-02	**	-4.77E-02	2.27E-02	**
Non Food	6.45E-03	6.08E-01		2.49E-03	8.42E-01	
OTC & Healthcare	3.68E-03	8.08E-01		2.50E-03	8.67E-01	
Firm Size	**-**	**-**		**-1.71E-12**	**2.19E-02**	**

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

A.4.6 Robustness Check: Model With and Without Control Variables

The last robustness check incorporated in this study is the comparison of the focal model to a model containing only the moderating variables. The main effect for both models yield the same results, and are therefore significant (see Table 6). Furthermore, the assumptions for the model without control variables comply with the assumptions of the focal model.

As illustrated by Table 45, the adjusted R^2 of the model containing only moderators is more than ten times lower compared to the focal model. This implies that the moderators, in absence of the control variables do not contribute to a large extent to the explanation of the variance in the abnormal returns. None of the moderators are significant at the second stage. Interestingly, media coverage intensity exhibits an effect in the opposite direction. To conclude, the results of this study are solely robust to the model containing only moderators at the first stage.

Table 45. Estimation Results With and Without Control Variables

	Focal Model			Only Moderators		
Adjusted R Square	**7.83E-02**			**6.32E-03**		
Variables	**B**	**Sig.**		**B**	**Sig.**	
Constant	2.01E-03	7.00E-01		2.80E-03	5.44E-01	
Moderators						
Media Coverage Intensity (-)	1.71E-04	8.95E-01		-4.17E-04	3.66E-01	
Firm Reputation						
High Reputation (-)	-8.69E-03	1.70E-02	**	-4.11E-03	1.48E-01	
Low Reputation (+)	Reference Category			Reference Category		
News Subject						
Private-Related (+)	-8.00E-03	4.25E-02	**	-6.15E-03	1.22E-01	
Firm-Related (-)	Reference Category			Reference Category		
Control Variables						
Type of News Outlet						
Single Outlet	Reference Category			Reference Category		
Combination of outlets	3.74E-04	9.26E-01		-	-	
Industry Type						
Fashion & Beauty	-1.90E-02	1.78E-02	**	-	-	
Travel & Automotive	Reference Category			Reference Category		
Digital Life & Media	7.00E-03	1.04E-01		-	-	
Services	7.92E-03	1.12E-01		-	-	
Food & Gastronomy	-4.38E-02	3.84E-02	**	-	-	
Non Food	6.45E-03	6.08E-01		-	-	
OTC & Healthcare	3.68E-03	8.08E-01		-	-	

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

A.5 Endogenous and Exogenous Variables

In the process of understanding the concept of endogeneity, it is crucial to understand the concept of endogenous and exogenous variables. The difference between endogenous and exogenous variables are derived from the origins of the variables (Chenhall & Moers, 2007). Endogenous variables are variables that are determined within the context of the model, whereas, exogenous variables are variables that influence the values of endogenous variables (Chenhall & Moers, 2007). However, the values of exogenous variables are determined outside of the model (Chenhall & Moers, 2007). The explained (dependent) variable is always endogenous since it is correlated with the error term, whereas, explanatory variables are not by definition endogenous (Chenhall & Moers, 2007).

A.6 Financial Magnitude

The financial magnitude is calculated based on the market capitalization of the 39 companies in the sample. The total loss of market capitalization within the sample is illustrated by Table 46

Table 46. Market Capitalization and Loss

Number of Companies	39
Total Market Capitalization	$5,985,680,000,000.00
Average Market Capitalization	$153,478,974,358.97
Loss Abnormal Returns (Main Effect Strength)	-0.003012
Total Loss	-$18,028,868,160.00
Total Average Loss	**-$462,278,670.77**

To illustrate the effect of the individual moderators on the stock market, the estimated regression is used. Table 47 illustrates the beta coefficients and the associated mean value for each single variable used in the multiple OLS.

Table 47. Estimation Results and Associated Mean Values

Variables	B	Sig.		Mean
Main Effect	-0.003012	0.04642550		-
Constant	0.002007	0.700283		-
Moderators				
Media Coverage Intensity (-)	0.000171	0.894512		3.054795
Firm Reputation				
High Reputation (-)	-0.008685	0.017002	**	0.68493151
Low Reputation (+)	Reference Category			
News Subject				
Private-Related (+)	-0.008003	0.042522	**	0.28082192
Firm-Related (-)	Reference Category			
Control Variables				
Type of News Outlet				
Single Outlet	Reference Category			
Combination of outlets	0.000374	0.926416		0.60273973
Industry Type				
Fashion & Beauty	-0.019021	0.017830	**	0.06164384
Travel & Automotive	Reference Category			
Digital Life & Media	0.006995	0.103748		0.32191781
Services	0.007922	0.111539		0.18493151
Food & Gastronomy	-0.043777	0.038434	**	0.00684932
Non Food	0.006454	0.607606		0.02054795
OTC & Healthcare	0.003680	0.808472		0.01369863

a. Dependent variable: Abnormal Returns (90 day estimation window)

b. Notes: * p < .10, ** p < .05, *** p < .01

c. One-sided t-test for expected sign, two-sided t-test otherwise

Next, the Beta coefficients are substituted in the regression estimation, which is illustrated by the following equation:

$$Abnormal\ Stock\ Return = 0.002007 + 0.000171 * Media\ Coverage\ Intensity_i + -0.008685 * Firm\ Reputation_i + -0.008003 * News\ Subject_i + 0.000374 * Type\ of\ News\ Outlet_i + -0.019021 * Fashion\ \&\ Beauty_i + 0.006995 * Digital\ Life\ \&\ Media_i + 0.007922 * Services_i + -0.043777 * Food\ \&\ Gastronomy_i + 0.006454 * Non\ Food_i + 0.00368 * OTC\ \&\ Healthcare_i + e_i$$

Thereafter, each variable is substituted by the associated mean value for the variables[8]. For each significant moderating variable the mean value is then substituted one by one for the value of interest (e.g. 1 for private-related news, and 0 for firm-related news), to illustrate the difference in loss on the stock market. For illustration purposes, the difference in magnitude for private versus firm-related news is shown below:

Firm-related news loss in abnormal returns

0.002007 + 0.000171*3.054795 + -0.008685*0.68493151 + -0.008003*0 + 0.000374* 0.60273973 + -0.019021*0.06164384 + 0.006995*0.32191781 + 0.007922*0.18493151 + -0.043777*0.00684932 + 0.006454*0.02054795 + 0.003680*0.01369863 = -0.000766335791739999

Firm-related Average Loss on the Stock Market

-0.000766335791739999 * $153,478,974,358.97 = $-117,616,431.33

Private-related news loss in abnormal returns

0.002007 + 0.000171*3.054795 + -0.008685*0.68493151 + -0.008003*1 + 0.000374* 0.60273973 + -0.019021*0.06164384 + 0.006995*0.32191781 + 0.007922*0.18493151 + -0.043777*0.00684932 + 0.006454*0.02054795 + 0.003680*0.01369863 = -0.00876933579174

Private-related Average Loss on the Stock Market

-0.00876933579174 * $153,478,974,358.97 = $-1,345,908,663.13

Difference in Magnitude Private versus Firm-Related News

$-1,345,908,663.13 - $-117,616,431.33 = $-1,228,292,231.79

As depicted above, private-related news has shown a difference in loss of $-1,228,292,231.79 compared to firm-related news, illustrating the devastating effect of private-related news. An overview of the financial magnitude of the significant moderating variables is shown in Table 48.

[8] If the mean values are substituted in the equation, the solution to the equation equals the effect size of the main effect.

Table 48. Financial Magnitude of Moderating Variables

Variable	Abnormal Return	Loss/gain on Total Stock Market	Average Loss on Stock Market
Firm Reputation			
High Reputation	-0.00575012345315	$ -34,418,398,951.05	$ -882,523,050.03
Low Reputation	0.00293487654685	$ 17,567,231,848.95	$ 450,441,842.28
Δ Firm Reputation	-0.00868500000000	$ -51,985,630,800.00	$ -1,332,964,892.31
News Subject			
Private-Related	-0.00876933579174	$ -52,490,437,861.90	$ -1,345,908,663.13
Firm-Related	-0.00076633579174	$ -4,587,040,821.90	$ -117,616,431.33
Δ News Subject	-0.00800300000000	$ -47,903,397,040.00	$ -1,228,292,231.79

Besides the moderating variables, the multiple OLS regression has shown the significance of two industry types (Fashion & Beauty and Food & Gastronomy industry). The industry specific financial magnitude is illustrated by Table 49.

Table 49. Financial Magnitude Different Industries

Industry Type	Abnormal Return	Loss on Total Stock Market	Average Loss on Stock Market
Fashion & Beauty	-0.0244622533861	$ -146,423,220,848.05	$ -3,754,441,560.21
Food & Gastronomy	-0.0492182533861	$ -294,604,714,928.05	$ -7,553,967,049.44

A complete overview of the financial magnitude for the significant predictor variables is illustrated by Figure 34.

Figure 34. Overview of the Financial Magnitude