2021

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Journal of Forensic and Investigative Accounting
Volume 13: Issue 3, Special Issue 2021

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Introduction

Capital markets suppliers are exposed to governmental allegations of wrongdoings of the organizations in which they are invested. Such is the case with Foreign Corrupt Practices Act (FCPA) violations (under Section 13 of the Securities and Exchange Commission Act and the FCPA). Academic researchers argue that bribery accusations depress the market value of firms (e.g., Sampath, Gardberg, and Rahman, 2018; Persons, 2019). Their conclusions mainly rely on the economic and reputational effects involved in the investigation. In terms of economics, the argument focus on placing the expected financial underperformance from the associated legal fines. Models observing firms' reputational value suggest that stocks prices downturns are consequence of the present value of forthcoming social rejection (e.g., Fombrun and Foss, 2004). However, counterintuitive findings conclude positive present values of the involved firms (Karpoff, Lee, and Martin, 2014). This manuscript concentrates on unraveling the securities' mispricing by introducing the influence of financial analysts as potential phenomenon explanation.

In general, corporate wrongdoings has not proven to cause securities mispricing. For example, after financial statements frauds, firms' present and market value results both negative (e.g., Amiram et al., 2018; Armour, Mayer, and Polo, 2017; Karpoff, Lee, and Martin, 2008).

Corporate environmental damages also depress securities' returns and present valuations (Karpoff, Lott, and Wehrly, 2005). In these both misconducts, the capital markets penalties and negative present values conclude shareholders and stakeholders disapproval to the firms' behavior.

The main study motivation is explaining the potential mispricing concerning declines in the value of securities and the upwards in firms' present value. Although limited evidence for analysts causing this abnormality exists, academic models focused on mispricing argue that they could also be a source of securities pricing interference (Stambaugh and Yuan, 2017). This is because analysts could act as nonfinancial influence (with their own motivations) as information intermediaries between firms' behavior and investors (e.g., Stambaugh and Yuan, 2017; Hou, Mo, Xue, and Zhang, 2019). The most remarkable example suggest that the corporate sustainability efforts and the investors' response is positively mediated by these professionals without positive abnormal present values (Luo, Wang, Raithel, and Zheng, 2015). This manuscript expands that theoretical approach by introducing the influential power of analysts in FCPA violations to explain possible mispricing in securities. Consequently, the main research question of the manuscript is, could analysts' involvement moderate or mediate the economic and social penalties over the capital markets response in explaining potential mispricing?

Formally, the main research hypotheses in this manuscript are the positive moderation and/or mediation effects of analysts' revised recommendations, issued as consequence of FCPA press releases, between the economic and reputational penalties over the securities' performance. The theoretical approach behind the hypotheses relies on both the efficiency of the markets and reputational principles, enriched by including some of the fundamentals of behavioral finance for understanding the effect of analysts as financial advisors. To test these, and because the exact published date is known, the research design applies a statistical methodology that combines the Fama-French event-study with Ordinary-Least-Squares (OLS). The used data is a publicly available set that comprehends the market response–as dependent observation, economic and reputational penalties–as independent observations, and analysts' revised recommendations–for testing mediation and

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moderation. Widely accepted variables serve as model controls i to enhance the quality of the findings. Finally, a supplementary statistical analysis enriches the robustness of the drawn conclusions.

Literature Review and Hypotheses Development

The theoretical foundation relies on elaborating the key determinants for supporting the guidance of financial analysts as intermediaries of the market response after FCPA press communications. In principle, bribery allegations, once known, should promote the disapproval of shareholders and stakeholders widely as a corporate failure practice. Although empirical evidence suggests that corporate violations provokes investors' outrage once authorities release the information (e.g., Sampath et al., 2018), signs of mispricing held by a profitable positive firms' present value exists (Karpoff, Lee, and Martin, 2014). Also, there are no indicators of substantial financial performance differences compared to their peers—free of event (Persons, 2019). This section reconciles the mispricing inconsistency by arguing that analysts' revised advice could act as moderator (causing the mispricing) and/or mediator (aiding the value of securities) to investors' response. This result is achieved by first, elaborating on the known effects of the economic and reputational penalties over the capital markets, and finalizes by theorizing the analysts' influence as moderators and mediators in the stockholders' returns.

Authorities' press releases have the purpose of informing society of the charged allegations against possible violations to Section 13 of the SEC Act. In the document, governmental officials reveal the corporate failures found during their corruption investigation. Accusations often state internal accounting controls and recordkeeping violations, failures to address corruption risks, money laundry and depending on the severity, financial statements fraud. Details also include an estimate of the dishonest amount and the restitution penalties and disgorgements that had to be paid by firms to avoid jury trial. In most cases, firms accept a settlement fine without accepting or denying the charges to seize further (and possibly prolonged) public exposition and subsequent unexpected costs—such as reputational or social penalties (Koehler, 2009).

Economic Penalties

To appoint the distinction between reputation and economic penalties, this theorization process arrays the securities' market downturn as consequence of the legal fines. Principles of markets efficiency state a positive relationship concerning new information and share prices (Fama, 1991). Financial news, whether "good" or "bad," provides participants with expected facts about firms' performance. Stock prices then react to such releases in anticipation of the financial results that will eventually take effect. In general, "good" news promotes positive variations in the forecasts and "bad" news warrants negative variations. Therefore, economic events justify changes in shares returns.

Widely accepted empirical evidence supports the efficiency in the markets after corporate wrongdoings. For example, Armour, Mayer, and Polo, (2017) argues that corporate wrongdoings announced in authorities' press releases containing legal penalties depress firms' market value once the document is issued. Sustainability failures with associated penalties also provokes a decline in stock returns (Kruger, 2014). Karpoff et al. (2005) found that ecological damage attributed to corporations depressed securities returns in the magnitude of the incurred penalties without any reputational penalties. In financial statements fraud, associated penalties represent a substantial component in stocks pricing adjustments to anticipate financial downturns (Karpoff et al., 2008). This evidence exemplify the negative effects in stockholders returns as consequence of economic penalties of corporate failures imposed by authorities.

In FCPA violations, authorities' releases contains the financial component expressing the sanction that firms must pay (Persons, 2019). These economic fines represent information that will subsequently affect the profitability of the firms. In waiting for unexpected underperformance (as a component of market efficiency principles), stock price forecasts anticipate abnormal losses. Securities variation after FCPA sanctions, a downturn in this case, is also be observed as a financial response in a two-day horizon (Sampath et al., 2018).

Reputational Penalties

In the reputational realm, a vast amount of academic literature emphasizes the fragility of the bond between investors and corporations with regard to firms' wrongdoings (e.g., Fombrun and Foss, 2004; Gertsen, Van Riel, and Berens, 2006; Gillespie and Dietz, 2009; Hennes, Leone, and Miller, 2008; Heugens, Van Riel, and Van Den Bosch, 2014; Ho, 2005). The reputational models usually grounds social judgments, firms' behavior, and investors' preferences. Investors make portfolio decisions using not only a financial but also a nonfinancial rationale. As individuals, there is a tendency to calibrate investment portfolio decisions based on measures such as ethics, trust, or beliefs (e.g., Anderson and Frankle, 1980; Fombrun and Shanley, 1990; Grinblatt and Keloharju, 2001; Harris and Raviv, 1993). Anderson and Frankle (1980)

find evidence of abnormal positive market returns for firms that voluntarily disclose social endeavors. Abnormal market rewards are associated to firms with a social reputable corporate name (Black, Carnes, and Richardson, 2000). This value-added occurs because investors create emotional attachments associated with firms' socially accepted behaviors (Fombrun and Shanley, 1990; Pfarrer, Pollock, and Rindova, 2010).

Yet, scholarly literature also documents the delicacy of the bond between stockholders and their investments with regard to corporate wrongdoings. Similar to the reputational value creation, losses reflect condemnation of firms and their executives' behavior. Karpoff and Lott (1993) offer the most compelling evidence in terms of reputational loss and investor flight; stock returns from firms scrutinized for alleged criminal behavior suffer little due to the economic penalty, but significantly because of investors' judgments. Subsequent studies consistently show similar results regarding wrongdoers. For example, reputational losses due to corporate wrongdoing in the United Kingdome depresses not only firms' market value but also stakeholders' interactions as sign of disapproval (Armour et al., 2017).

Negative reputation wrongdoings as a concept can be quite extensive in the investors' mindsets. Executives' indiscretions enrich this list by promoting a negative securities market response (Cline, Walkling, and Yore, 2018). Financial statements have a combination of reputational and economic effect in explaining the response. Preponderantly, reputational punishments could explain up to 80 percent of the abnormal market losses as indicator of the perceived breach of trust in the ability to satisfy the demand for quality in the accounting information realm (Fich and Shivdasani, 2007; Karpoff et al., 2008; Palmrose, Richardson, and Scholz, 2004).

In FCPA violations, the reputational penalty in the trading tables is substantially more pronounced than the paid sanctions in explaining downturns the day of the release (Sampath et al., 2018). Bribery violation effects have a quite similar reaction in the lens of investors. Sampath et al., (2018) suggests that these penalties are consequence of firms provoking investors' indignation. Consequently, in the reputational arena, authorities' press releases informing bribery has negative effect in securities' performance as a combination of the repudiation of investors to corporate wrongdoings.

Analysts' Involvement

Financial analysts may represent the single most important source to capital markets in terms of investors' decisions (Brennan, Jegadeesh, and Swaminathan, 1993). The daily task of these professionals is to analyzing current firms' and securities' values versus a potential future performance. From their analysis, they issue forecasting opinions representing plausible predictions (Brennan, Jegadeesh, and Swaminathan, 1993; Brennan and Subrahmanyam, 1995). As market participants, they use their experience, their private access to information about firms, and their experienced skills to increase the accuracy of their opinions (Ivković and Jegadeesh, 2004). The consequences of their opinions, as mediators, contribute to faster stock prices adjustments (Brennan et al., 1993). They also reduce transaction costs between the market participants (Brennan and Subrahmanyam, 1995). Discrepancies in their predictions about firms' news are relatively few and uncommon (Ivković and Jegadeesh, 2004).

This theoretical support relies on the role of financial analysts as information intermediaries acting as moderators or mediators between firms' behavior and capital providers. Academic literature has suggested both type of influences. The difference mostly depends on the context where analysts' advice is needed: in specific, the guidance of their revised predictions. Clement and Tse (2003) argue that changes in analysts' opinions represent the revised expectations of their original predictions regarding the future of firms' financial performance. The relevance of these revisions represents the most consulted reference from investors on a traditional trading-day basis (Bradley, Clarke, Lee, and Ornthanalai, 2014).

In financial models, analysts acting as moderators explain their influence on investors of one single type of recommendation (for example, the recommendation of investing and selling). Stickel (1995) finds that the demand of stocks is greatly moderated by analysts' recommendations of buying or selling. Share prices adapt variations in the demanded quantity to adjust the market preferences. A similar example of moderation occurs when the covering analyst exhibit consensus in their opinions about firms' performance accentuating the market response (Kadous, Mercer, and Thayer, 2009). High dissonance among analysts lacks explanatory power over the market response. In both cases, the presence of these financial analysts amplifies (and possibly reverts) the relationship between firms' characteristics or behavior and investors' response. Noteworthy, the observed mispricing is transitory because of the unjustified market valuations.

In terms of mediation, literature has also provided some empirical evidence about the role of these professionals. For example, analysts' influence positively mediate the relationship between corporate sustainability efforts and the investors' response (Luo, Wang, Raithel, and Zheng, 2015). Wang and Jiang (2019) connects financial analysts' advice

concerning firms' name (reputation) and financial performance, with market reaction. The explanation of this phenomenon (as found in Clement and Tse, 2003) is because analysts acquire more relevance to market participants under highly subjective (and arguable) events in absence of timely (and reliable) financial data.

Yet, the type of influence exercised by the revised opinions as consequence of FCPA press releases remain unclear in terms of whether they act as moderators or mediators. Whether they moderate or mediate the relationship between the markets and firms' behavior, could explain the argued securities' mispricing. Analysts' opinions moderating the market response would explain mispriced shares compared to firms' performance because of the amplified effect of the economic and reputational penalties over the price of the stocks (Kadous, Mercer, and Thayer, 2009). Analysts acting as mediators would instead infer that they are aiding to the securities pricing equilibrium anticipating new levels of uncertainty (Brennan et al., 1993). In summary and as mentioned above, because academic models poses the influence of analysts in equally terms as moderators or mediators, this manuscript hypotheses reconcile such notions by theorizing both plausible effects to present the following two study hypotheses:

H_1. Analysts' revised opinions positively moderate the effects of the (a) economic and (b) reputational penalties on the capital market response.

H_2. Analysts' revised opinions positively mediate the effects of the (a) economic and (b) reputational penalties on the capital market response.

Data, Variables, and Methodology

This study analyzes and explores the type of influence of financial analysts over the capital markets suppliers when their covered firms faced and dealt with authorities FCPA investigations. To do so, the data extraction comes from the public archives: the official Press Releases issued by the Security and Exchange Commission. To sample these, the study only examined investigations between 2007 and 2018 in which firms were directly liable. In such period, authorities documented 145 violations; however, not all the cases qualify for the purpose of this inquiry. The selection criteria to avoid the potential issues in the dataset assortment mentioned in Karpoff, Koester, Lee, and Martin (2017) enrich the analyzed data for valid cases. The sampling process was as follows:

(1) Only publicly listed firms in the U.S. securities markets (NYSE and NASDAQ) were cited;

(2) A period of one fiscal year had to have elapsed since before and after the event;

(3) Firms disclosing any information prior the release to the market using 8-K forms or any other via were excluded;

(4) At least one analyst had to have been covering the company at the time of the event;

(5) Every event must have been covered by the media or be reproduced on the Internet.

From the hand-collected documents, the clustered data includes firms' names, public releases dates, and the associated penalties. Any additional information regarding the follow-ups from the original accusations was gathered to track the original press date. The valid number of collected cases for the study was 124 firms.

Model Variables

This study explores capital market response to the FCPA press releases information as corporate misconduct. Cumulative abnormal returns (CAR) operate as dependent observation applying the Fama-French three-factor model based on the originally known incident date (Fama and French, 1993). This includes the three- and eight-day horizons with no missing values, forecast with data from 100 observations before the event. Such operationalization is deemed adequate for analyzing outcomes of stockholders' returns as a sign of investors' perception to certain events (Karpoff et al., 2014). CAR values are available in the WRDS Event Study Data Analysis.[1]

The measurement of the economic penalty as a variable is the final amount attributable only to the violation (*Fines*) with zero used to indicate the absence of any economic reprimand. The economic penalty measurement is consistent with

[1] For obtaining the CAR values, the dataset find in WRDS estimate the abnormal returns on any given share by removing the systemic return and a random factor in any given time horizon around a specific date (Cowan, 1993).

previously stated literature to measure the value attributable to the incurred penalties (Karpoff, Lee, and Martin, 2014). To account for outliers, the data was transformed using the Windsorized methodology (Tukey, 1977).

The reputational penalty is measured using the dichotomous variable FCPA that encapsulates those firms with the bribery allegations (*FCPA*=1 if event; 0 otherwise). The group of firms absent of the allegations are a control group of firms free of any FCPA accusations. The control group represents an equal industrial comparable set of firms (Bhojraj and Lee, 2002). The selection criteria for a firm to be considered as a peer follows the six-digit Standard Industry Classification code to find equivalent competitors in the market. The peer company is, at the time of the event, the closest firm in their industry in size (in terms of total assets). This allows a reasonable estimate that measures the reputational cost of those firms involved in such allegations compared to those firms without the FCPA investigations characteristics following the research design approach presented in Sampath et al., (2018).

Stickel (1995) finds that stock prices are greatly influenced, not only by analysts' recommendations to buy or sell, but also by changes to such recommendations over time. To measure mediation and/or moderation, this study applies the change in analysts' revised opinions in regard to their covered firms before and after the authorities press release and merged into a single database ($\Delta Opinion$=Analysts' opinions $_{t=1}$ - Analysts' opinions in $_{t=-1}$). Such information is accessible in the I/B/E/S database. Data sources include monthly recommendations without any missing values. The previously mentioned computational information is available in the COMPUSTAT database. The database, however, has an important limitation. Opinions measurements represent an average monthly scale from 1 to 5 of the analysts covering the company, where "5" represents highly recommended to invest and "1" represents highly recommended to sell.[2] Appendix I enlists the research variables, a brief description, and their measurement.

Study Controls

To account for non-theorized effects over the variables of study (in this case, the stocks' abnormal returns), the empirical model controls for firm-specific attributes and, industry performance that are traditionally observable in capital markets' response literature (Dechow, Hutton, Kim, and Sloan, 2012; Karpoff et al., 2014; Wang, 2011). Firm attributes include size, using annual data of total assets (*Assets*), changes in the size (ΔTA) and in profits (ΔNI), profitability measures such as Return on Assets and Return on Equity (*ROA* and *ROE*), and Tobin's Q (*TobinsQ*). Industry performance indicators control for a systemic environment during the event period. Industry controls encompass changes in profits (ΔNI_{SPInd}) and industry Return on Equity (ΔROE_{SPInd}).

Controls are measured on an annual basis. Capital markets response to annual financial information has stronger effect than quarterly release information (Beaver, 1968). Stockholders expect that earnings variation from one year to another will be consistent in their predictions. Quarterly releases inform partial achievements of the yearly forecasts. As time passes, the cumulative effect of the partial earnings is gradually contrasted by market participants with their original expectations up to the final annual information (Dechow, 1994). Then, the overall effect due to a full financial period can be studied along with the capital market short-term response, analysts' revised opinions, and penalties.[3] Therefore, the annual financial indicators that benchmark an overall expectation can be analyzed with short-term data such as the market response and the studied variables. By selecting the aforementioned control variables, this design maximizes the likelihood of abstracting any revisions referred to the original financial expectations.

Methodology

Once completed the sample, the applicable methodology to tests the two confronting hypotheses: the influence of analysts' advice acting as (H_1) moderators or (H_2) mediators between the reputational and economic penalties over firms market value as consequence of authorities issuing press releases informing corporate FCPA violations. Hayes (2012) argues that both effects (mediation and moderation) in an empirical causal model can be tested using the computational tool PROCESS in the software SPSS. The statistical reasoning is bound on the testability of both direct and indirect effects in

[2] The limitation is that press releases may occur on any day of the 30-days month. For example, it is possible that the official release occurs nearby the end of the month with certain average values that can be related to the event effect, but the event can also happen in the middle of the month with lower values towards the end. This limitation is acceptable because the measurement of the recommendations variables does not consider magnitude, only a decrease or increase from one point in time to another.

[3] For example, between two financial periods there is a market expectation of X% growth (decrease). As consequence of partial events in the timeframe, participants revised their expectations of firms achieving the X% goal.

mediation[4] and the conditional (direct and indirect) effects in moderation[5] models for predicting unidirectional effects of explanatory variables over a dependent observation. By applying this methodology, it is also possible estimating the directionality of the regress coefficients of the causal variables with their mediation and/or moderation variables (Hayes, 2012).

This methodology starts with an OLS statistical approach consistent with the empirical model found in Karpoff et al., (2014). The theorization process first estimates the observed variables (FCPA and $Fines$) individually. Then, the control variables enrich the testing process. The basic empirical model is as follows:

$$CAR_{t=(3,8).j} = \beta_j + \lambda_1 FCPA_j + \lambda_2 Fines_j + \lambda_3 Assets_j + \lambda_4 \Delta TA_j + \lambda_5 \Delta NI_j + \lambda_6 ROE_j + \lambda_7 ROA_j + \lambda_8 TobinsQ_j + \lambda_9 \Delta NISPInd_j + \lambda_{10} ROESPInd_j + \varepsilon_j \ldots (1)$$

Hypothesis H_1 predicts that analysts' revised advice (*ΔOpinion*) positively moderate the causal effects of the capital markets response (CAR_3 and CAR_8) from the reputational cost (*FCPA*) and the economic penalties (*Fines*) during FCPA press releases violations. To test this, Hayes (2012) argues as necessary condition that the regressed coefficients of the moderation effects (*FCPAXΔopinion* and *FinesXΔOpinion*) have to be statistically significant with the theorized directionality (positive in this case). Noteworthy, the causal relationship between the moderators and the independent variables does not require the coefficients to have statistical significance. A bootstrapped technique applying PROCESS 3.5 in SPSS test for moderation (Hayes, 2012).

Alternatively, hypothesis H_2 predicts the mediation effects of analysts' revised opinions (*ΔOpinion*) between the reputational costs (*FCPA*) and economic penalties (*Fines*) to explain the capital markets response to the authorities' press releases regarding FCPA violations. Three necessary conditions test mediation (e.g., Kenny, 2008; Preacher and Hayes, 2004). Regressed coefficients from the direct effects with the explanatory variables (*FCPA* and *Fines*) and the mediator (*ΔOpinion*) must have statistical significance over the dependent variable (CAR_3 and CAR_8). Then, the indirect effect (*FCPAXΔopinion* and *FinesXΔOpinion*) must also be significant with respect to the dependent observation (CAR_3 and CAR_8). Third, all paths concerning the independent observations (*FCPA* and *Fines*) and the mediator (*ΔOpinion*) should indicate statistical significance. These conditional paths are tested also using the software tool PROCESS 3.5 in SPSS (Hayes, 2012).

Validity

To address validity issues, and because of the OLS multi-group analysis, a nonparametric Chi-square test between groups (FCPA and control group) reveals differences in abnormal stock returns and the explanatory variables. The usage of Chi-square tests help to address potential selection bias (Franke, Ho, and Christie, 2012). In addition, a supplementary analysis tests with a random dependent variable tests potential endogeneity issues and model stability. Roberts and Whited (2013) finds replacing the predicting with a stochastic variable is useful in assessing model causality and specification. These two tests results, parametric and nonparametric, are presented at the end of the results section.

Results

Table 1 displays the key statistics from 2007 to 2018 data. In terms of the economic penalties, the final sample revealed a total governmental collection from penalties of $10.5 billion as consequence of the 124 FCPA violations. On average, each organization paid $84.76 million to end the investigation. Authorities collected in 2016 the largest amount of penalties in the twelve-year period ($2.7 billion) while the minimum amount occurred in 2014 ($138.6 million). The highest peak of the press releases (19 cases) occurred in 2016 while a minimum (6 cases) of happened in 2009. Noteworthy, there is no statistical evidence that the number of cases and the collection of fines are growing nor decreasing in the studied timeframe. [See Table 1, pg. 451]

In terms of the capital market returns, the 124 cases present mix results (positive and negative values). The examination entails using the Fama-French three-factor-model to estimate the dependent variables CAR_3 and CAR_8 (Fama and French, 1993), as well as the Patell Z Event Test statistic to reveal the date when the market truly responded (Binder, 1998). Panels A and B in Table 2 report the mean and cumulated total abnormal returns with statistical values surrounding

[4] In mediation models, the mediator first is estimated using the formula: $M=i_m+a_1X+e_M$. Then, the model tests the regress coefficients (including the mediator regression coefficient) using the formula: $Y=i_y+c'_1X+b_1M+e_y$.

[5] Hayes (2012) tests the regression coefficients applying a bootstrap technique with the equation: $Y=i+c_1X+c_2M+c_3XM+e_y$.

the release time horizon and results from the Patell Z statistic. Figures 1 and 2 offer a visual representation of the event methodology results.[6] [See Table 2, pg. 452 and Figure 1 and 2, pg. 458]

In average, the variable CAR_3 has a positive value (M=.38%, SD=4.5%). Once partitioned results into negative and positive, results indicate that 60 cases had abnormal values lower than zero (M=-2.84%). The rest of the cases (64) presented positive abnormal returns (M=3.23%). Figure 3 displays the distribution of the CAR_3 per observed firm (lowest to highest). [See Figure 3, pg. 459]

The variable CAR_8 present similar a distribution as presented in Figure 4. The average abnormal response of the full sample is positive (M=.96%, SD=7.14%). Split data into positive and negative shows 60 cases with a negative reaction (M=-4.65%) and 64 with values higher than zero (M=5.51%). Findings in the two horizons state that in half of the releases securities gained values after the events. [See Figure 4, pg. 459]

Pearson's correlation coefficient references across variables are displayed in Table 3. Noteworthy, there is statistically significant correlation in CAR_3 and CAR_8 with the independent variable *FCPA* and *Fines*. The correlation amid the variable *ΔOpinion* has statistical significance with *FCPA* and *Fines* (and not with CAR_3 and CAR_8). [See Table 3, pg. 453]

Baseline Results

From the OLS methodology, empirical model findings are consistent with previous literature (e.g., Karpoff et al., 2014; Sampath et al., 2018). Models 1 to 3 presented in Panel A in Table 4 show the multivariate results for the three-day horizon. The reputational and economic penalties statistically explain the market reaction in the three-day window (p-value<.05) –models results columns 1 to 3. With respect to the eight-day window as shown in Panel B in Table 5, explanatory variables (*FCPA and Fines*) have also statistical significance (p-value<.05) –models 1 to 6. [See Table 4, pg. 453–454]

Hypothesis 1 Results

Hypothesis 1 tests for the moderating effect of analysts' revised opinions. Applying the bootstrapping methodology for testing moderation, there is evidence for arguing statistical significance. Model 1 presented in Table 5 displays the influence of analysts moderating the reputational penalties (*FCPAXΔOpinion*) with positive statistical significance in the three-day horizon (b=.114; p-value<.05). The moderating effect in the eight-day window lacks statistical significance (p>.05) as shown in model 3 of Table 5. Economic penalties lack of moderation significant indicators in both timeframes—models 2 and 4 in Table 5, (*FinesXΔOpinion*: p-value<.05).

Preacher and Hayes (2004) argue that moderation exists in presence of statistically significant values in the interaction term using a bootstrap methodology. In such case, the interaction variable for the reputational penalties (*FCPAXΔOpinion*) results significant in the three-day window meanwhile the economic penalty did not comply with the moderation condition (*FinesXΔOpinion*). Based on these indicators, hypothesis 1 is fully supported in the three-day horizon for the (a) reputational penalties and not for the (b) economic penalties. This suggests that the influential power of analysts moderates the reputational, and not the economic, penalties from the capital markets in the short window after the event. [See Table 5, pg. 455]

Hypothesis 2 Results

The second hypothesis states the mediation role of analysts' revised opinions in the market response after the FCPA details are revealed. Preacher and Hayes (2004), argue that using direct and indirect paths testing technique, three conditions have to be meet for arguing mediation: (1) direct paths from the independent variables to the mediators must be significant; (2) direct path from the mediator to the independent variable also must have statistical significance; (3) and the indirect path need to satisfy the significant condition. In this sense, Table 6 presents in Panels A, B, and C the results for the three conditions for mediation. [See Table 6, pg. 456]

Panel A in Table 6 contains the direct paths results concerning the independent variables (*FCPA* and *Fines*) and the mediator (*ΔOpinion*). Findings show statistically significant evidence that the reputational and economic penalties (*FCPA* and *Fines* -independently) have both positive and significant coefficients (b>0; p-value<.05) to explain the revised opinions

[6] Noteworthy, the control group lacks statistical significance surrounding the FCPA release of their peer group (Patel Z<1.9).

(*ΔOpinion*), as displayed in models 1 to 2 Panel A Table 6. This information satisfies the first mediation condition of a statistically significant path between the independent variable and the mediators (Preacher and Hayes, 2004).

Condition 2 focus on the direct effects in the mediator and the independent variables. Results in models 1 to 6 indicate that, analysts revised opinions lack of statistical significance (p-value>.05). These results indicate that the mediator variable (*ΔOpinion*) does not explain the independent variables the market response (CAR_3 and CAR_8). This finding suggest that mediation does not exist because of the lack of statistical power between the mediator and the observed dependent variable.

The third condition results are presented in Panel C in Table 6. In this case, results from the indirect effects are statistically significant (p-value<.05) for the economic and reputational penalties, the mediator (*ΔOpinion*) and the dependent observations (CAR_3 and CAR_8). Although condition 3 for arguing mediation is statistically significant, results from the direct effects (condition 2) lack of statistical reliability. Based on these results, hypothesis 2 cannot be supported because the path between the analyst's reactions does not help to explain the relationship concerning the economic and reputational penalties as independent variables and the market response.

Validity Results

In order to analyze the accuracy and consistency of the findings, the dataset was subject to supplemental validity examinations. The analysis first, tests the variance distributions to address the homogeneity assumptions among groups. The second examination checks any potential endogeneity issues between the independent variables and the capital market responses. Finally, a model's stability test supports the consistency of the findings.

The first validity test analyzes the homogeneity assumptions across groups. The analysis focuses on whether the capital market responds differently concerning the study and the control groups. One-way ANOVA test allows the examination of the variances distributions (Brown and Forsythe, 1974). Test results presented in Table 7 do not indicate a violation of the homogeneity assumption of unequal variability in the two-time horizons (three-day and eight-day windows) between the observed and control groups (p-value>.1). However, the percentage of variability explanation is less than 10 percent given the two groups ($\eta 2<.1$). This information suggests that the variability distribution of capital markets' responses is similar among the observed and control groups, but not because of facing an FCPA event. These results indicate that the pursuance of a deeper explanation as to the responses to the capital markets seems logical. [See Table 7, pg. 457]

Analysts' revised opinions were subject to the equality in the variance test to evaluate whether or not the opinions' variability distributions differ because of the event. Results from constraining the grouping variable by the study and the control groups indicate uneven variability (p-value<.05) as presented in Table 8 (Panel A). Also, in both group cases, the explanatory power of their variability has no statistical significance (p-value>.1) with less than 2 percent. This information argues that the variances distribution of analysts' recommendations differs across groups, which is consistent with the OLS results. Therefore, it is possible to argue that analysts change their expectations differently because firms were accused of a wrongdoing compared to the distribution of analysts' covering the non-event firms. In other words, analysts in their revised expectations perceived the misconduct differently than the non-event firms.

Hypothesis testing results indicate the statistical power of analysts helping the capital markets to invest after the studied event; however, a plausible argument could suggest that analysts' recommendations may be triggered by observing the stock returns instead of by analyzing the expected firms' financial performance. To address potential endogeneity issue, a logistic regression analysis focuses on understanding whether there could be a potential influence that not only stock returns, but also economic penalties, may exercise over analysts' recommendations. This analysis is performed by replacing the dependent variable as the variable *ΔOpinion* and as pseudo-independent variables CAR_3, CAR_8, economic and reputational penalties. Statistical results in Table 7 dissipate the potential issue. As expected, the model contains limited explanatory power (Pseudo-R^2=.030) and the pseudo-independent variables have no statistical significance to explain the behavior of analysts (p-values>.05). Therefore, the originally designed empirical model hardly suggests endogeneity issues with the variables dynamics. [See Table 8, pg. 457]

Lastly, a supplemental analysis tests the robustness of the empirical model's stability by changing the abnormal returns variables with a random alternative (Moulton, 1986). The unrelated variable "change in assets in the SandP500 index" replaces the dependent variables (CAR_3 and CAR_8). Results in Table 9, columns 1 and 2, indicate that the influence of the independent and control variables to explain the random variable is absent (p-values>.05). The significant result (p-

value<.05) occurs only within the control variable the standard and poor's industrial return on equity (ROE_{SPInd}) This information suggests the baseline empirical model has reasonable statistical stability. [See Table 9, pg. 457]

Discussion

In an effort to understand an observed academic phenomenon (securities' mispricing) once authorities informed society about firms' FCPA violations, compelling results from public archives offer a plausible explanation. Statistical evidence suggest that the revised opinion of financial analysts moderate, rather than mediate, the causal relationship between the reputational, and not economic, penalties to the markets. This moderation effect lasts only in the short period (three-day window only) after the publication.

These findings could have several implications to the capital market literature in terms of financial analysts' role during a specific corporate violation. The revised opinions by themselves lack explanatory power of the market response under FCPA violations. This result is contrary to the traditional analysts' literature where these professionals would serve as intermediaries (mediators) between firms' behavior and investors under normal business circumstances (e.g., Brennan, Jegadeesh, and Swaminathan, 1993; Clement and Tse, 2003; Bradley, et al., 2014). Instead, when firms face bribery charges, they exercise a moderating effect to capital providers of the reputational penalties from society. Kadous, Mercer, and Thayer (2009) finds similar influence of analysts when their opinions are highly divided. For investors, opinions when they are contradictory (Kadous, Mercer, and Thayer, 2009), or under a highly arguable social phenomenon (such as the information content of FCPA press release), lack of the informational power that could aid the market in promoting securities' pricing. However, their advice connects with the social outrage of society to accentuate the reputational penalties.

Analysts' influence could explain the stock prices anticipate downturns in both profitability because of the economic penalties and the reputational fines–social rejection effect. Empirical evidence supports this approach. The economic cost from legal fines also partially explains the downturn (Karpoff et al., 2008). Sampath et al. (2018) adds two-days reputational cost on shares value. Armour, Mayer, and Polo (2017) document that the market response is a combination of both economics and reputations (with the latter containing a tendency to be substantially larger than the paid fines after the authorities' press release). Findings in the manuscript suggest that the difference in the shares values between both, economic and reputational penalties could be accounted to the revised expectations of financial analysts considering the moderation effect is limited only to the reputational penalties.

What remains unexplored as consequence of this research findings, the understanding of analysts' motivations to follow the social outrage in their opinions. This problem is because their revised expectations are not based on the economic and legal fines paid by firms to overcome the event. On the contrary, it is to future endeavors to untangle which firms' characteristics or economic context explain the change in their opinions in a sense that capital market suppliers will pay the reputational backlash from their professional advice.

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Appendix I: Description of the Model Variables

Variable	Description	Measurement
CAR_3	Cumulative Abnormal Returns in +/- 3 days before the event	Event Study
CAR_8	Cumulative Abnormal Returns in +/- 8 days before the event	Event Study
FCPA	Binary grouping variable [1 = FCPA violations, 0=no FCPA violations]	Binary
Fines	Amount agreed by firms to settle the investigation	USD million
ΔOpinion	Change in the Analysts' recommendation [5 full upgrade, 1 full downgrade] $Opinion_{t=1} - Opinion_{t=0}$	Scale
Assets	Total Assets before the FCPA event	USD millions
ΔTA	Change in total assets from before and after the event	USD millions
ΔNI	Change in total income from before and after the event	USD millions
ROE	Annual Return on Equity before the event	Percentage
ROA	Return on Assets before the event	Percentage
Tobins' Q	Firms' value estimation of the sum of total assets plus the market value minus the book value divided by total assets	Ratio
ΔNI_{SPInd}	Change in total income of the SP Industrial index before and after the event	USD million
ΔROE_{SPInd}	Industrial index Return on Equity before the event	Percentage

Table 1: Key Statistics

Panel A: FCPA violations by Case, Penalties and Year		
Year	# of Corruption Cases	Fines U.S. dollars (millions)
2007	8	139.60
2008	7	1,655.53
2009	6	42.79
2010	16	1,327.25
2011	12	286.35
2012	8	152.30
2013	8	747.85
2014	7	138.60
2015	8	585.30
2016	19	2,771.34
2017	8	789.10
2018	17	1,873.94
Total	124	10,509.95
Mean	12	84.76
SD	4.3	2,289.40

Panel B: Key Statistics			
	Mean	SD	N
CAR_3	.004	.046	124
CAR_8	.010	.072	124
ΔOpinion	.177	.411	124
Assets (millions)	77,834	270,705	124
ΔTA (millions)	3,982	20,617	124
ΔNI (millions)	-244	2,612	124
ROE	.103	.231	124
ROA	.051	.073	124
Tobins' Q	1.094	.508	124
ΔNI_{SPInd}	8.936	17.898	124
ROE_{SPInd}	.162	.017	124

Table 2: Event Study Results of Capital Market Responses

Panel A: Three-day Event Window						
	FCPA Press Release Group			Control Group		
Event-window	Mean Abnormal Return	CAR	Patell-Z	Mean Abnormal Return	CAR	Patell-Z
-3	-.116%	-.116%	.010	-.279%	-.279%	-1.396
-2	.044%	-.072%	1.609	-.487%	-.766%	-1.210
-1	**.535%**	**.463%**	**2.043**	-.008%	-.774%	-.593
0	.078%	.542%	.863	-.168%	-.941%	-1.102
1	.099%	.641%	-.311	.227%	-.714%	1.103
2	.020%	.662%	-.436	-.192%	-.907%	-.606
3	**-.268%**	**.387%**	**-2.061**	-.076%	-.983%	-.667

Panel B: Eight-day Event Window						
	FCPA Press Release Group			Control Group		
Event window	Mean Abnormal Return	CAR	Patell-Z	Mean Abnormal Return	CAR	Patell-Z
-8	-.205%	-.205%	-.472	.313%	.313%	1.680
-7	.125%	-.080%	.465	-.171%	.142%	-.290
-6	.132%	.053%	-.505	.338%	.481%	.757
-5	-.168%	-.116%	-.185	-.211%	.269%	-.632
-4	.070%	-.045%	1.349	-.376%	-.107%	-1.482
-3	-.105%	-.150%	.029	-.282%	-.389%	-1.441
-2	.051%	-.099%	1.700	-.505%	-.894%	-1.295
-1	**.531%**	**.431%**	**1.947**	-.003%	-.897%	-.535
0	.058%	.490%	.716	-.150%	-1.047%	-.986
1	.093%	.582%	-.212	.240%	-.806%	1.126
2	.049%	.632%	-.211	-.208%	-1.015%	-.522
3	**-.263%**	**.369%**	**-1.827**	-.104%	-1.119%	-.744
4	.421%	.790%	1.455	.073%	-1.046%	.406
5	.197%	.987%	1.421	-.337%	-1.383%	-.690
6	.148%	1.135%	1.111	-.368%	-1.751%	-1.390
7	-.001%	1.134%	.443	**-.769%**	**-2.520%**	**-3.231**
8	.070%	1.204%	1.369	**-.471%**	**-2.990%**	**-2.569**

Bold numbers represent statistical significance higher than 90% confidence (2-tailed) using a Patell-Z statistic as an approximation of a t-statistic.

Table 3: Pearson's Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
CAR_3	1												
CAR_8	.633**	1											
FCPA	.145*	.225**	1										
Fines	.173*	.185*	.272**	1									
ΔOpinion	.093	.123	.177*	.237**	1								
Assets	.005	.071	.047	.140	.002	1							
ΔTA	.002	.090	.137	.112	.013	.563**	1						
ΔNI	.043	.117	.087	.151*	.079	.546**	.296**	1					
ROE	.118	.143	.125	.035	.107	-.007	-.003	.020	1				
ROA	.081	.134	.152*	-.021	.305**	-.011	-.001	.204**	.292**	1			
Tobins'Q	-.019	-.139	-.064	-.148*	-.010	-.172*	-.053	-.062	.103	.316**	1		
ΔNI_{SPInd}	-.002	.016	.048	-.002	.017	.072	.115	.084	-.061	-.021	-.076	1	
ΔROE_{SPInd}	.092	.143*	.671**	.112	.129	.043	.081	.121	.125	.284**	.010	.398**	1

**= Correlation is significant at the .01 level (2-tailed); *= Correlation is significant at the .05 level (2-tailed).

Table 4: OLS Results
Panel A: OLS Results—Reputational and Economic Penalties in the Three-day Window

	1			2			3			4			5			6		
	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_3	SE	P-value
FCPA	**.145**	.006	**.048**				**.105**	.007	**.160**	.151	.010	.163				**.101**	.010	**.045**
Fines				**.173**	.000	**.018**	**.144**	.000	**.055**				**.163**	**.000**	**.033**	.146	.000	.063
Assets										-.012	.000	.910	-.025	.000	.806	-.018	.000	.860
ΔTA										-.021	.000	.815	-.011	.000	.906	-.023	.000	.799
ΔNI										.033	.000	.715	.018	.000	.846	.018	.000	.847
ROE										.095	.004	.225	.093	.004	.226	.090	.004	.242
ROA										.045	.035	.603	.044	.035	.609	.050	.035	.563
Tobins'Q										-.033	.005	.680	-.024	.005	.763	-.018	.005	.819
ΔNI_{SPInd}										.012	.000	.894	-.018	.000	.830	.010	.000	.911
ΔROE_{SPInd}										-.040	.208	.739	.056	.147	.509	-.021	.207	.862
R^2	.016			.025			.030			.035			.049			.054		
F							**3.875**		**.022**	.715		.695	1.020		.425	1.002		.444

*Bold numbers represent p-values<.05.

Panel B: OLS Results—Reputational and Economic Penalties in the Eight-day Window

	1			2			3			4			5			6		
	CAR_8	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value
FCPA	**.225**	.011	**.002**				**.189**	.012	**.011**	**.214**	.016	**.041**				**.176**	.017	**.049**
Fines				**.185**	.000	**.011**	**.134**	.000	**.071**				**.139**	**.000**	**.049**	**.109**	.000	**.035**
Assets										-.032	.000	.750	-.049	.000	.623	-.037	.000	.713
ΔTA										.053	.000	.544	.074	.000	.397	.052	.000	.553
ΔNI										.067	.000	.445	.056	.000	.530	.055	.000	.530
ROE										.104	.007	.167	.106	.007	.159	.101	.007	.179
ROA										.131	.061	.120	.124	.061	.140	.135	.061	.109
Tobins'Q										**-.174**	.009	**.025**	**-.172**	**.009**	**.027**	**-.162**	**.009**	**.036**
ΔNI_{SPInd}										.019	.000	.825	-.030	.000	.702	.017	.000	.839
ΔROE_{SPInd}										-.067	.359	.565	.082	.257	.321	-.052	.359	.651
R^2	.046			.029			.057			.060			.057			.066		
F							**6.674**		**.002**	**2.334**		**.016**	**2.257**		**.020**	**2.325**		**.014**

*Bold numbers represent p-values<.05.

Table 5: Hypothesis 1 Results—Moderation test

	1			2			3			4		
	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value
Intercept	**-.010**	.005	**.033**	-.004	.003	.213	**-.026**	.008	**.002**	**-.013**	.006	**.031**
FCPA	.011	.006	.091				**.033**	.012	**.004**			
Fines				.001	.000	.329				**.000**	.000	**.042**
ΔOpinion	-.045	.006	.178	.012	.023	.590	.043	.060	.469	.052	.041	.203
FCPAXΔOpinion (H_{1a})	**.114**	.044	**.010**				.005	.079	.954			
FinesXΔOpinion (H_{1b})				.000	.000	.491				-.000	.000	.479
R^2	.060			.035			.058			.044		
F	**3.923**		**.010**	2.246		.085	**3.771**		**.012**	**2.796**		**.042**

*Bold numbers represent p-values<.05.

Table 6: Hypothesis 2 Results—Mediation Test
Panel A: Direct Effects Test—IV's to Mediator (Condition 1)

	1			2			3		
Direct effects	*ΔOpinion*	SE	P-value	*ΔOpinion*	SE	P-value	*ΔOpinion*	SE	P-value
FCPA	**.177**	.021	**.015**				.121	.022	.102
Fines				**.021**	.000	**.001**	**.204**	.000	**.006**
R^2	.031			.051			.070		
F							**6.937**		**.001**

Panel B: Direct Effects Test—IV's and Mediator (ΔOpinion) to Market Response (Condition 2)

	1			2			3			4			5			6		
Direct effects	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value
FCPA	.132	.007	.074				.100	.007	.187	**.210**	.012	**.004**				**.181**	.012	**.016**
Fines				**.160**	.000	**.033**	.136	.000	.078				**.165**	.000	**.027**	.121	.000	.110
ΔOpinion	.070	.022	.345	.055	.022	.459	.043	.022	.563	.086	.039	.236	.084	.040	.258	.063	.039	.397
R^2	.015			.022			.026			.048			.031			.056		
F	2.433		.091	**3.139**		**.046**	**2.686**		**.048**	**5.785**		**.004**	**3.954**		**.021**	**4.683**		**.004**

Panel C: Indirect effects Test IV's to Mediator (ΔOpinion) to Market Response (Condition 3)

	1			2			3			4		
Indirect effects -> ΔOpinion	CAR_3	SE	P-value	CAR_3	SE	P-value	CAR_8	SE	P-value	CAR_8	SE	P-value
FCPA	**.012**	.004	**.002**				**.015**	.007	**.032**			
Fines				**.001**	.000	**.012**				**.002**	.000	**.035**

*Bold numbers represent p-values<.05.

Table 7: Homogeneity and Between-Subjects Results
Homogeneity and Between-Subjects Results

Panel A. by Study and Control Groups						
	Levene's df	P-value	R^2	F (1,246)	P-value	η^2
CAR_3	.003	.956	.021	**3.973**	.048	.021
CAR_8	.241	.624	.051	**9.935**	.002	.051
ΔOpinion	**7.157**	.008	.019	3.558	.061	.019

*Bold numbers represent p-values<.05.

Table 8: Logistics Endogeneity Test
Logistic Endogeneity Test

	Unstandardized Beta	SE	P-value
Fines	-.003	.002	.217
CAR_3	.055	5.002	.991
CAR_8	4.850	3.027	.109
Random % of prediction of ΔOpinion	74.5		
Specified % of prediction of ΔOpinion	74.5		
Pseudo-R^2	.030		

*Bold numbers represent p-values<.05.

Table 9: Robustness Test Results
Robustness Test Results

	(1)				(2)			
	ΔAssetsSP500	SE	P-value	VIF	ΔAssetsSP500	SE	P-value	VIF
FCPA	.092	39.898	.415	2.480	-	-	-	-
Fines	-.004	.124	.958	1.220	.068	.162	.513	1.208
ΔOpinion	.044	29.753	.556	1.057	.096	51.766	.325	1.057
Assets	.025	.000	.802	1.886	.044	.000	.737	1.970
ΔTA	.068	.001	.483	1.822	.068	.001	.603	1.894
ΔNI	-.003	.000	.963	1.012	-.089	.008	.364	1.075
ROE	.003	15.853	.974	1.176	-.086	119.342	.493	1.771
ROA	-.013	141.886	.867	1.248	.126	412.222	.356	2.085
Tobins'Q	.090	20.492	.253	1.191	.164	49.137	.152	1.449
ΔNI_{SPInd}	.105	.879	.239	1.530	.125	1.585	.333	1.875
ΔROE_{SPInd}	**.339**	880.112	.005	2.764	**.388**	1598.694	.003	1.808
N	248				124			
R^2	.212				.274			
F	**33.350**		.000		**7.210**		.000	

*Bold numbers represent p-values<.05.

Figure 1: Average Cumulative Abnormal Returns Three-Day Window

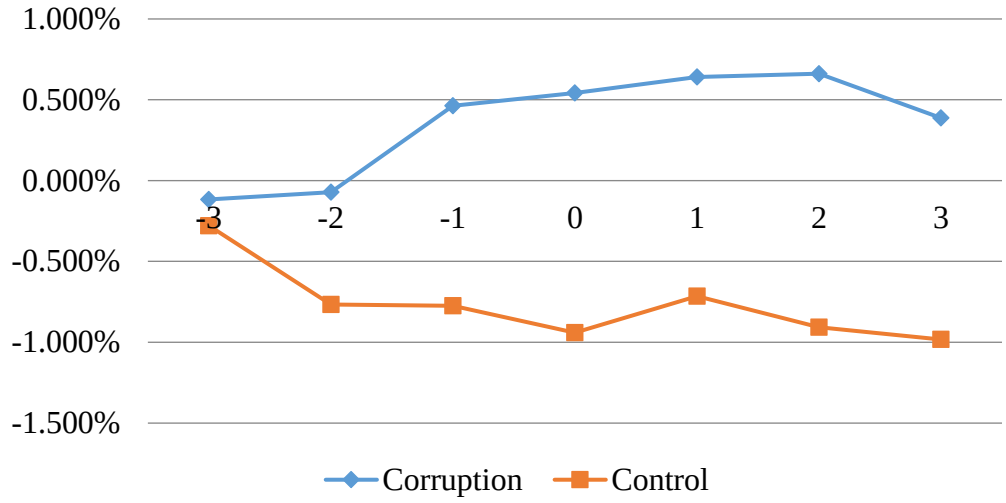

Figure 2: Average Cumulative Abnormal Returns Eight-Day Window

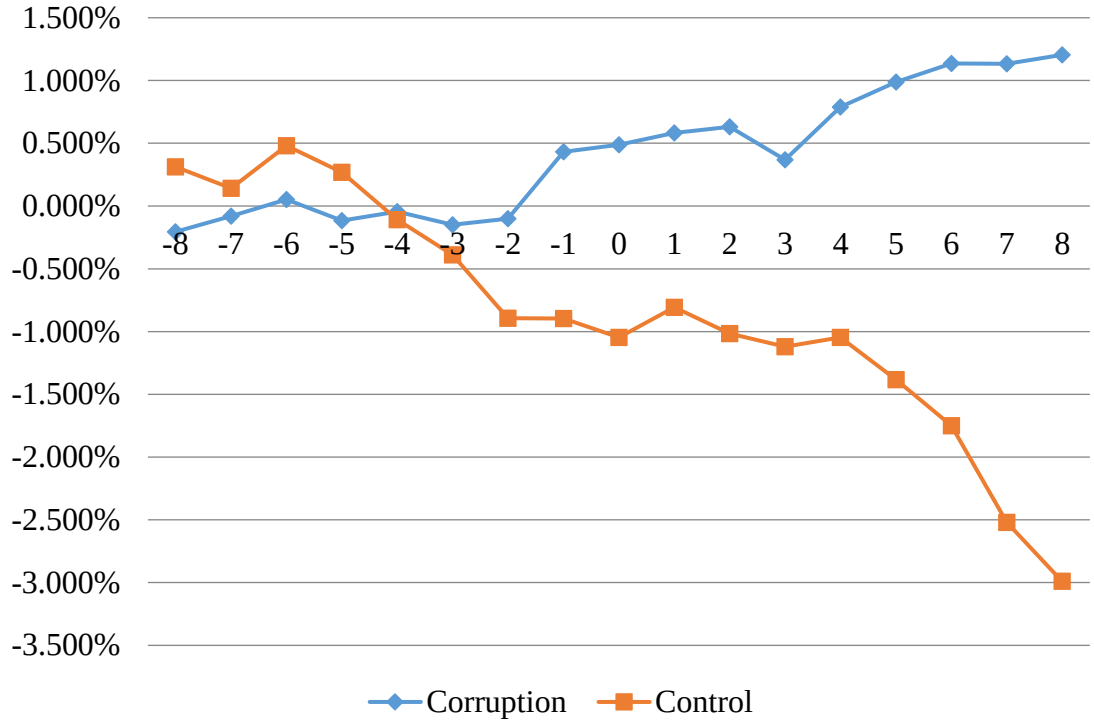

Figure 3: CAR_3 per case of FCPA Press Release Case

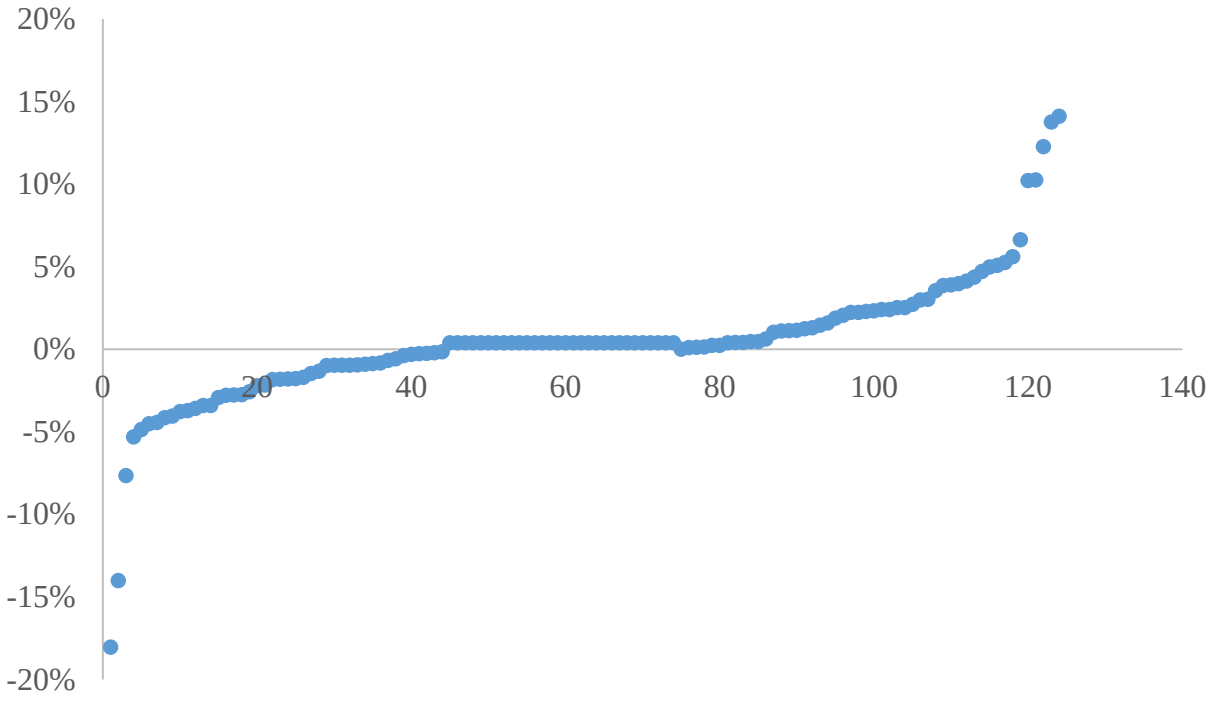

Figure 4: CAR_8 per case of FCPA Press Release