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THE IMPORTANCE OF POLITICS IN ANALYZING STOCK MARKET REACTION TO U.S. COMPANIES' MISCONDUCTS: AN EVENT STUDY

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Abstract

This paper addresses the noteworthy relevance of U.S. Politics in explaining the impact of corporate misconducts on stock returns. Using a database of regulatory violations in the U.S., the Event Study framework was employed to quantify, for each misbehavior, the resultant effect on the felonious firm's stock. Those effects were then regressed on focal dummy variables, mirroring the acting political landscape. Ultimately, it is proven misconducts happening under one party control of both Executive and Legislative branches tended to result in higher stock returns than if there is division of any sort. This research is among the first attempts to directly relate regulatory violations and Politics.

Key Words: Politics, Corporate Misconducts, Event Study, Abnormal Stock Returns

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1. Introduction

This work project aims to further complement the research field that analyses the connection between Finance and Politics. It provides empirical evidence suggesting the stock market reacts differently to U.S. firms' misconducts based on Political Cycles, which for this purpose are defined by the party controlling the Presidency and/or the bicameral U.S. Congress. A company being sued or finned in the course of performing its operational activities is rather common in the corporate environment, making it highly relevant for investors to understand all the factors that depict possible subsequent stock price variations.

Ever since the U.S. Government passed the first antitrust law in 1890 (FTC 2013), starting its increasingly active role in monitoring business, intellectuals hold two opposing views in approaching firm regulation. One side claims firm compliance with those laws diminishes gainful business opportunities and innovation that would benefit the whole society, while the other defends the importance of those rules in limiting financial fraud and harmful activities of companies towards consumers, workers, other competitors and even the environment. These differing approaches are also evident amongst the two major U.S. political parties. The Democratic Party platform promotes a great Government evolvement in business by eliminating tax loopholes, demanding a higher transparency in company accounting (Peters & Wooley 2004) and limiting concentration of economic power, which ensures fairness for all stakeholders evolved in the competitive markets (Cuomo 2003, 66). Alternatively, the Republican Party (GOP) endorses a more relaxed Government intervention in firm's activities through a regular assessment and discontinuation of regulative measures deemed outdated and costly to the economy, as well as the implementation of lower corporate tax rates, considered key not to impair job creation (Peters & Wooley 2012).

The mentioned differences in ideology clearly set the adoption of different policies depending on the party controlling the branches of Government. It may be predictable that there shall be more documented company misconducts under Democratic leaderships than in Republican ones. However, it is not straightforward to infer if the party controlling Government influences how the stock market will respond to a recorded violation, with or without monetary penalty. This project contributes to understand this inquiry by using an Event Study approach to access whether stock price deviations of lawbreaking companies are significant and then if those deviations can be explained by the composition of the presiding Government.

This paper is organized as follows: in the next part (Section 2) it is presented a brief oversight of the theoretical foundations behind the Event Study framework, as well as past research done on both the impact of corporate misconducts and the studied connection between Politics and Finance. Those readings inspired the draft of two hypotheses (A and B) to be tested. Then, in Sections 3 and 4, it is prudently described the methodology adopted to address the mentioned research proposal and the sources of data used, respectively. Afterwards, the results obtained are presented and discussed in Section 5, along with its significance and robustness assessment. Finally, the work project concludes with Section 6, in which the relevant findings are summarized, the limitations of the research are described and suggestions for future studies are proposed.

2. Hypothesis and Related Literature

(Fama 1970) drafted the Efficient Market Hypothesis (EMH), one cornerstone of financial theory, defending that asset prices fully reflect all available information. According to the semi-strong form of efficiency, this includes all news and situations publicly disclosed. That data is rapidly incorporated, prompting investors' reactions that result in price deviations, and yielding returns for asset holders. This constitutes the theoretical basis behind Event Studies (MacKinlay

1997), which portray a certain occurrence, ranging from a firm's dividend announcement to a natural catastrophe, and access its impact on stock prices. It employs the concept of Abnormal Returns (ARs), detailed as the price variations exclusively attributed to the consequences of the event. The significance of ARs can be accessed not only on the day of the event, but also a certain number of days before and/or after its occurrence. The decided timespan to be analyzed is called the event window and the sum of the ARs during this period is the Cumulative Abnormal Return (CAR). (Chen & Siems 2004) point out when investors react positively to a certain event, the ARs of the event window should be positive, while if the opposite occurs, those would be negative. In the next section, it will be discussed how to properly estimate ARs.

There is an extensive literature that uses Event Studies as the methodology to derive interesting conclusions. For example, (Škrinjarić & Orlović 2019) studied the influence of four political and two economic events, related with the downfall of the large multi-industry company Agrokor, on the Zagreb Stock Exchange. They evaluated two samples of stocks: Agrokor related ones and other companies frequently traded on the market. In most of the events, by analyzing the CAR of the different stocks and computing average values for each of the two samples, the authors estimated negative and significant values for the first group, while positive and non-significant values for the second one. This allowed them to conclude those events created an undesirable performance for stocks related with Agrokor, though not significantly affecting other companies distinct from the corporate giant.

Furthermore, regarding business wrongdoings, there is also a broad research analyzing its implications to the offending firms. (Carberry, Engelen & Essen 2018) studied the effect of misconducts on the stock market. Their research characterized the types of costs incurred by felonious companies: direct legal fees, correctional costs to avoid future recurrences and reputational penalties, being the latter the one that usually causes enhanced damage. The database used by the authors constituted of 345 misconducts reported in the press of 5 European

Countries. Through an event study, the CARs credited to the misconducts were computed over a 5-day event window. Then, the authors regressed the obtained CARs with respect to several variables, including the profoundness of the evidence disclosed by the media and if the misconduct was reported on the same country of the firm's Headquarters (HQ). The results pointed that the higher the reliability and clarity of the information published regarding the transgression, the more negative were the respective CAR verified. This enhanced reaction also occurs if the wrongdoing is reported on the country of the HQ. The conclusions of (Carberry, Engelen & Essen 2018) preambles the first Hypothesis to be tested in this Work Project:

Proposition A: "Overall, the Cumulative Abnormal Returns caused by the recorded corporate misconducts of U.S firms are negative in value and significant"

On the other hand, considering now the relationship between Politics and Finance, although being branded by (Zingales 2017) as a field "under-researched" for several years, current literature already supports a strong connection between the two spheres. (Kempf & Tsoutsoura 2018) proved that credit rating analysts with a party affiliation not aligned with the one of the U.S. President tended to downward-adjust their ratings more frequently. In average, for the same firm and in the same quarter, it quantifies as a lower 0.0134 notches, roughly, which over a four-year presidential mandate implies a 0.21 notches difference. The authors classified party affiliation based on past voter registration records. Conversely, no significant deviations in credit ratings were verified by using as benchmark the parties controlling the chambers of Congress (Senate and House of Representatives), instead of the one holding the Presidency.

In addition, (Pastor & Veronesi 2017), examined, from the time between 1927 to 2015, that under Democratic Presidencies the average excess stock market return was 10.69%, while under Republican ones that figure was much lower at -0.21%. That gap was proved to be statistically relevant and in line with the previous literature (Santa-Clara & Valkanov 2003). Since the

greater returns could not be explained by higher risks incurred, (Pastor & Veronesi 2017) proposed an explanation based on the role of risk aversion in determining voter behavior. They suggest when risk aversion among voters rises (for instance, in recessionary periods), Democratic Presidents tend to be elected with higher probability. This is due to the increased desire for "social insurance". The unwillingness to take increased risks is translated into demands for higher risk premiums, justifying the found gap. Lastly, the authors could not find any significant gap in returns by focusing on the party controlling the U.S Congress.

Moreover, another paper by (Brans & Scholtens 2020) uses an event study to investigate the impact of U.S. President Donald J. Trump's tweets on the stock market. The sample used was composed by 100 tweets, graded in terms of sentiment transmitted, that contained a name of a publicly listed company. It was found tweets with strong negative sentiment regarding a certain firm trigger a significant decrease in its stock price. Finally, (Freixa 2009) went beyond the stock market by discovering that under Republican Presidencies, long-term treasury bonds historically provided higher significant absolute and excess returns. Those discrepancies were shown not to be explained by higher risk taken nor economic cycles.

In sum, this literature provides persuasive reasoning to test a second premise in this project:

Proposition B: "The Political Cycles are notable factors in accessing stock market reaction to U.S firm's recorded misconducts"

By verifying the veracity of the two stated hypotheses, this paper contributes to the research field analyzing the relationship between Politics and Finance. It is among the first attempts to directly infer about the importance of the Government arrangement in breaking down stock price response of companies that violated regulations and were punished for it. As described, it should be crucial for investors to comprehend all aspects that might influence their returns.

3. Methodology

As stated, this paper aims to prove there is evidence supporting Political Cycles are pertinent in evaluating stock market reaction to a corporate misconduct. To do this it was deem fit to perform a two-part analysis. In the first part, by using a broad database of registered misconducts in the U.S., an event study will be carried to estimate, for each wrongdoing, the resulting Cumulative Abnormal Return (CAR) on the felonious firm's stock. Then, in the second part, OLS regressions will be constructed using the obtained CARs as dependent variables. The focal regressors will be variables that characterize the U.S. political landscape.

3.1. Event Study – Cumulative Abnormal Returns (CARs) and its significance

To launch this approach, it is critical to understand how Abnormal Returns (ARs) associated to an event are calculated.

$$AR_{i,\tau} = R_{i,\tau} - E\left(R_{i,\tau} \middle| X_\tau\right) \tag{1}$$

$$CAR_i(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{i,\tau} \tag{2}$$

Equation (1) indicates how to estimate the AR for stock *i* at time τ, with τ belonging to the selected event window. Since the event study focuses on an event that already happened, the actual return yielded at τ, $R_{i,\tau}$, is known. $E(R_{i,\tau} | X_\tau)$ is the normal return, which is the one predicted to take place had the event not occurred. It is estimated using an asset pricing model that employs, as input, past returns over an ancient timespan, commonly called the estimation window. Those returns are an example of the level of information considered, X_τ. To sum up, AR is in fact the ex-post observed residuals for the asset pricing model used. The existence of those residuals is credited to the impact caused by the event. Recall by summing all the ARs within the event window, comprehended between τ_1 and τ_2, the CAR is obtained (Equation (2)).

Furthermore, besides providing the lawbreaking firm's name and monetary punishment, the used database includes a registration date characterizing the misconduct. This study uses that date or the following trading day (in case the registered date was not a trading day) as the event day. As well as evaluating the behavior of the stocks' returns on the day of the event, it was also considered crucial to access ARs in each of the three days after the registration, to capture possible delayed reactions or continuous deviations in stock prices. In addition, the same was done on the three days before, which allows to mitigate the risk of the market reflecting misconduct effects before the day of its registration. This means the event window for this study consists of 7 days. Several authors propose wider event windows like 11 (e.g., (He, Sun, Zhang & Li 2020)) or 21 (e.g., (Škrinjarić & Orlović 2019)) days but, for this project, it should be recognized most business misconducts do not cause extended repercussions on equity value, given its resulting low costs or inexistent news coverage. The adopted tighter event window follows the reasoning of (Carberry, Engelen & Essen 2018) because of the similarities between the two studies. (Kothari & Warner 2007) praised the adoption of smaller event windows, which are more immune to biases from other confounding events taking place very closely to the one under consideration.

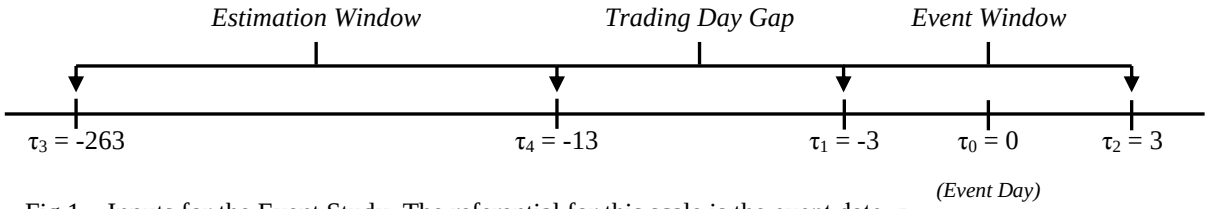


Fig.1 – Inputs for the Event Study. The referential for this scale is the event date, τ_0.

Additionally, the model implemented to estimate normal returns was the Famma French three Factor Model (Fama & French 1993), a logic in accordance with past literature (eg., (Lundgren & Olsson 2010) and (Cassella & Rizzo 2020)). It was decided to consider an estimation window of 250 trading days to calculate the expected returns. (Brown & Warner 1985) defended the contemplation of at least 120 trading days to accurately estimate normal

returns. Still, it seemed reasonable to use 250 days to avoid possible seasonal biases. The usage of a full trading year for the estimation window was also employed by (Brans & Scholtens 2020) and (Škrinjarić & Orlović 2019) in their event studies. The final aspect to be considered in this assessment was the inclusion of a trading day gap between the two windows. (Law, Cornelsen, Adams, Penney, Rutter, White & Smith 2020) highlighted the estimation window should be mutually exclusive from the event window as to avoid any impact of the event examined in the estimation of normal returns. Employing a gap ensures the precision of the computed ARs. This paper considers a gap of 10 trading days. Figure 1 accurately provides the complete timeline analysis considered in this event study.

Compiling all inputs, for each stock of the offending firms' group, the daily ARs within the event window and the resulting CARs were estimated. Given the large number of misconducts examined, that computation was only possible given the reliance on the U.S Daily Event Study software of Wharton Research Data Services (WRDS). In order to understand the general behavior of ARs, for each day of the event window, it will be addressed the ARs sample arithmetic average, which is defined as the Average Abnormal Return (AAR) figure.

Similarly, to quantify the overall impact produced by the misconducts on the stocks of offending firms, the arithmetic average of the CARs in sample was calculated, designated as the Cumulative Average Abnormal Return (CAAR). Then, with the aim of accessing whether that impact could be labelled as empirically significant the CAAR was subject to a t-test (Equation (3)), where $\sigma_{CAR(\tau_1,\tau_2)}$ is the estimated standard deviation of the CARs across the sample. The result of this procedure will permit to deduce whether the CAAR attributed to misconducts is negative and significantly different from zero. If that is the case, then there is strong evidence supporting Proposition A.

$$T - Test\ Statistic = \frac{CAAR(\tau_1, \tau_2)}{\sigma_{CAR(\tau_1,\tau_2)}} \sim N(0,1) \qquad (3)$$

Finally, to ensure the derived conclusion is robust, the result of the Patell Z test (Patell 1976) is also presented, which was automatically calculated by the WRDS software. It is key to remark the two mentioned tests assume the ARs are normally distributed. The literature classifies such tests as Parametric Tests and supports those should be complemented with examinations that do not carry such assumption. The latter ones are branded as Nonparametric Tests and this paper analyses the result of one: the Generalized Sign Test Statistic (Cowan 1992), also estimated by the U.S. Daily Event Study Software.

3.2. Regression Analysis – The role of Politics

After quantifying the consequences misconducts produced on stock prices of offending firms, this second part focuses now on sources that could explain differences in the Cumulative Abnormal Returns (CARs) computed across the various registered violations. Special attention will be given to Politics to access the accuracy of Proposition B. Still, before including political explanatory variables, the first OLS regression to be estimated will aim to prove a linear relationship between the monetary penalty of a misconduct and the verified CAR:

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (4)$$

In Equation 4, the variable $Penalty_{i,\tau_0}$ is the registered fee for a certain misconduct, event studied with date τ_0, perpetrated by firm i. The recorded fee will be in millions of dollars (M$). Likewise, CAR is the cumulative abnormal return for firm i's stock over the event window within τ_1 and τ_2. Through a t-test, the significance of $Penalty_{i,\tau_0}$ will be evaluated. In addition, Z_{i,t_0} is a vector of firm-level control variables, known to affect stock returns. In their paper, (Cassella & Rizzo 2020) proposed certain controls that were the basis for this vector: Book to Market Ratio, Profitability Ratio, Size, Lagged 1-Month Stock Return, Previous 12-Month Stock Return and Volatility. All metrics were measured one month before the event date τ_0, as to avoid any influence of the misconducts under analysis in these variables. Table 1 summarizes

how the controls were computed. In accordance, γ is the respective coefficient vector for the control variables. The inclusion of this vector will increase significantly the fit of the regressions, improving the accuracy of the significance analysis for other regressors of interest. Consequently, for the remainder of this project, Z_{i,t_0} and $Penalty_{i,\tau_0}$ will be incorporated in all regressions.

Moreover, the closure of this paper concentrates on the insertion of political variables in the preliminary regression (4), and its subsequent significance study. It is vital to note the variables replicate U.S. Political Cycles with a 6-month lag. This adopted assumption is based on the impression that a new Government does not instantaneously implement policies and ideas, which will distinct the new from the previous Political Cycle. (Pastor & Veronesi 2017) used various period lags in their paper to characterize political transitions, being a 6-month one among those considered. The proposed regressions are divided in three spheres of focus, Presidency, U.S. Congress and Political Power Efficiency:

a) Presidency

Presidential administrations serve in four-year terms and constitute the Executive Branch of the U.S. Government. As described, past literature proves that it exists a noteworthy relationship between the political party controlling the Presidency and stock market returns. The linear OLS Regression presented in (5) is an attempt to infer on the significance of the President's political alignment in the reaction of stock prices to a corporate misconduct:

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 DemocraticPresident_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (5)$$

The dummy variable $DemocraticPresident_{\tau_0}$ takes the value of 1 if the President associated with τ_0 is a Democrat and 0 if his party is the GOP.

b) U.S. Congress

On the other hand, the Legislative branch of the U.S. Government is divided into two chambers: The Senate and the House of Representatives. The 100 elected Senators serve 6-year staggered mandates, with one third of the chamber facing elections every 2 years. On the contrary, the 435 Representatives serving in the House have 2-year terms. Since legislators of both chambers are inaugurated on the same day, this means every two years, a new Congress is installed, with a different party composition from the previous one. Most initiatives proposed by the President, as well as new laws and policies need Congress approval, highlighting the importance of this body in Government. However, as previously noted, various authors concluded the configuration of Congress does not significantly relate with their proposed financial metrics, being regressions (6) and (7) an effort to expand on those findings:

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 SenateDemocraticMaj_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (6)$$

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 HouseDemocraticMaj_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (7)$$

The dummy variables $SenateDemocraticMaj_{\tau_0}$ and $HouseDemocraticMaj_{\tau_0}$ will equal to 1 if the Democratic Party has a member majority and, consequently, the control of the Senate and House of Representatives, respectively. If the mentioned scenarios are not a reality for the associated misconduct with event date τ_0., then the variables will correspondingly be 0.

c) Political Power Efficiency

Lastly, after analyzing both the Executive and Legislative branches of Government separately, it is also worth accessing the connection between the two. The U.S. Constitution sets a system of various checks and balances, imposing a clear division of powers between the governing bodies, which ensures that none would be labeled as over influential. Still, when the same party has the Presidency and the majority in the chambers of Congress, it is easier to

implement an ideological agenda, with new policies. Instead, if different parties control these branches, various disagreements may compromise the creation of new legislation.

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 SamePartyCongress_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (8)$$

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 SamePartyPres\&Sen_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (9)$$

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 SamePartyPres\&House_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (10)$$

$$CAR_i(\tau_1, \tau_2) = \alpha + \beta_1 Penalty_{i,\tau_0} + \beta_2 SamePartyGov_{\tau_0} + \gamma Z_{i,\tau_0} + \epsilon_{i,\tau_0} \quad (11)$$

Regressions (8) to (11) will test dummy variables that reflect the balance of power in Government. If Congress is entirely controlled by one party, $SamePartyCongress_{\tau_0}$ will be 1. Additionally, $SamePartyPres\&Sen_{\tau_0}$ equals 1 if the party monitoring the Presidency and with a Senate majority is the same. Moreover, variable $SamePartyPres\&House_{\tau_0}$ takes the value of 1 when the President represents the same party with most members in the House of Representatives. Finally, if one party has control of the Executive branch and both chambers of Congress, $SamePartyGov_{\tau_0}$ will amount to 1. All mentioned variables are null if not equal to 1.

In the end, it is also worth addressing the reason behind the separation of the mentioned political dummy variables in different regressions. This was done to avoid problems related with multicollinearity, which may diminish the precision of the coefficients' significance assessment. Possible multicollinearity is greatly evident in the last sphere, since it is reasonable to predict $SamePartyGov_{\tau_0}$ is fairly correlated with the other three political dummy variables.

4. Data

The cornerstone of the event study portrayed in this work project was the Violation Tracker's Database constructed by the Good Jobs First National Policy Resource Center. It compiles a collection of cases prosecuted by Federal and Local Regulatory Agencies, the U.S. Justice Department and State Attorney Generals against corporations. For each case, it is

gathered a set of complimentary information like the accused company's name, stock ticker (only applicable to some records), the monetary punishment to be paid, the type of misconduct incurred and the date when the case was registered. Additionally, the location of both the firm's headquarters and the facility implicated in the violation is provided. In total, from the 1st of January 2000 to 18th June 2020 there were 437,412 civil and criminal misconducts in the U.S.

In this work project, the sample constructed for the event study will only be constituted of wrongdoings associated to firms with headquarters in the U.S., since those are assumed to be more connected to and influenced by the Federal Government and its party composition. In addition, it is only possible to perform an event study by addressing companies traded on the stock market. Overall, these requisites reduce the sample under consideration down to 54,300 misconducts. Charts 1 and 2 depict the considered violations by the year of occurrence and the type of offense in its origin, respectively. Then, in order not to overload the computation process of Abnormal Returns (ARs), cases against the same firm and registered on the same day were merged, by summing its penalty amounts. This process disregards the type of offense incurred and reduced the analyzed sample to 37,781 misconducts. It is important to highlight the case of some companies that had two or more violations registered in the same week, a fact that further supports the usage of a narrow event window and of a trading day gap. Finally, since the WRDS Event Study Software was not able to compute Abnormal Returns (ARs) of the event window in its entirety for 8,422 records, those were also excluded. In conformity, this paper evaluated 29,359 events, obtaining the respective CARs.

On the other hand, the variables used in the proposed regressions were constructed based on numerous sources. First, the constituents of the Control Variables Vector were obtained through features of the WRDS by Wharton School (University of Pennsylvania). Data on the Book-To-Market and Profitability Ratios were retrieved from the Financial Ratios Suite, while firm's stock prices, and number of shares outstanding, components of the variables Size,

Volatility, Lagged 1-month and Previous 12-month returns, were downloaded from CRSP Monthly Stock/Securities Files. The inclusion of the Control Variables Vector in the studied regressions imposed the final decrease in the sample of misconducts under study to 25,462 given the unavailability of data. This was mostly verified in violations that took place after January 2020, given the fact that CRSP was yet to update stock prices verified in the year of 2020. As explained, the control variables were measured one month before the registration of the misconduct, which allowed records of January 2020 to be included in the analysis. Consequently, the second part of the work project considered recorded violations that happened between the 1st of January 2000 and the 31st of January 2020.

Finally, the regressors mirroring Political Cycles were constructed by the author based on several sources. Since in this regression model, the examined CARs were related to political variables with a 6-month lag, this paper focused on the U.S. partisan landscape between July the 1st of 1999 and 31st July 2019. Table 2 presents data on the four U.S. Presidents in office during the mentioned timespan. It represents data from the Miller Center's Website of the University of Virginia. Information on majority control and initial party composition (at inauguration day) of both chambers of Congress was retrieved from the Vital Statistics on Congress Report from Brookings and the History, Art & Archives project website. Table 3 summarizes that evidence for the 11 different party layouts of Congress during the period under study in this work project (from Congress 106th to the 116th). Using as inputs the evidence retrieved, Table 4 separates the amount of days attributed to each scenario evaluated by the proposed political regressors.

5. Results

5.1. Event Study – Cumulative Abnormal Returns (CARs) and its significance

As described, the main driver to access overall influence of the misconducts on stock returns was the Cumulative Average Abnormal Return (CAAR) metric. Table 5 presents the summarized results of the event study performed. For the 29,359 events inspected, 50.789% of the obtained Cumulative Abnormal Returns (CARs) were negative and the sample CAAR was -0.114%. It is key to highlight the focus CARs are the ones covering the entire event window, that ranges from day -3 to 3 (as reference of the event date at 0). In the seven days that establish the considered event window, only day -2 had a positive Average Abnormal Return (AAR), which means the average felonious firm witnessed a daily fall in its stock price during the event window. Days -3 and 3 recorded, respectively, the higher and the second higher absolute values for AARs, which highpoints the relevance of evaluating the impact of misconducts beyond the day of its registration.

Moreover, when accessing the significance of the CAAR credited to misconducts, the t-test result estimated is -3.252, which suggests it is possible to reject the hypothesis that CAAR is null, supporting an overall significant impact of regulatory violations on the offending firm's stock price. This is visually confirmed in chart 3, which graphs the CAAR $(-3,\tau)$, with τ belonging to the event window. The dotted lines provide the respective 95% confidence interval boundaries. Since that interval for CAAR (-3,3) is entirely bellow the x axis, there is strong evidence supporting its negative value and significance. The downward trend in CAAR $(-3,\tau)$ reveals the negative effects of a misconduct are incorporated in equity value before its registration and continue through the event window.

Finally, the results of the Patell Z and the Generalized Sign test are presented in Table 6, confirming the stated conclusions. This outcome further affirms misconducts tend to result in

equity value losses for the implicated company, which allows for the acceptance of Proposition A, described in Section 2.

5.2. Regression Analysis – The role of Politics

After proving business misconducts significantly diminish stock prices of felonious companies, it will now be evaluated several explanations for the different CARs (-3,3) encountered across the studied sample. Table 7 presents the summary statistics for the CARs, the dependent variable implemented in this analysis, and the regressors common to all regressions studied, $Penalty_{i,\tau_0}$ and the Control Vector, Z_{i,t_0}. Then, the values of all political dummy variables are discriminated in Table 8, with the corresponding number of misconducts associated and its CAAR (-3,3). Lastly, Table 9 depicts the results for all regressions built.

As a starting point, focus will be given to the preliminary regression proposed (4), which aims to address the role of the penalty fined as a result of the misconduct portrayed. Note that, as mentioned, the number of CARs under study in this part of the analysis drops to 25,462 given the unavailability of data for the control vector. Consequently, the CAAR (-3,3) of this reduced sample is -0.087%. The average monetary punishment verified is 11.694 million dollars, a value noticeably above the third quartile, which indicates there is a set of outliers, possibly associated with severe misconducts that resulted in extremely high charges against the implicated firms.

Moreover, the estimated coefficient for the variable $Penalty_{i,\tau_0}$ is almost null, with the t-test result indicating its non-significance. This demonstrates there is no solid evidence to reject the chance the coefficient's true value should be different from zero. In accordance, this paper cannot prove the registered penalty amount for the wrongdoing carries any influence in the resulting stock price variations of the implicated company. This conclusion does not seem odd given the fine attributed to companies through legal action usually represents a minor portion of the total costs incurred with a misconduct as described by (Carberry, Engelen & Essen 2018).

By not including any reputational damages and other costs related with the misbehavior, the recorded charge in the used database may fail to efficiently explain the resultant CAR of the regulatory violation.

a) Presidency

From July 1999 to July 2019, the length of interest to relate with the studied sample of misconducts, the Republican Party held the White House for a slightly higher period at 3,844 days against the Democrats' 3,491 days in office. However, from the final sample of misconducts, 13,669 are attributed to Democratic Presidencies, a value considerably higher than the one for Republican Presidents (11,793). At first glance, this seems reasonable given the already mentioned desire for increased business regulation idealized by the Democratic Party, which shall increase the probability of a certain firm breaching a law and being prosecuted for it. Yet, it is not possible to say with certainty these differences are justified purely by the party controlling the Presidency. This comparison ignores other factors, like the period in which the misconducts occurred, that can be relevant in explaining the numbers recorded.

Moreover, the estimated CAAR (-3,3) of misconducts attributed to Democratic Presidencies is -0.063% and the one for Republican administrations is -0.114%, which indicates an average better reaction of felonious firms' stock prices to violations happening when the President is a Democrat. In addition, the coefficient value of the dummy variable $DemocraticPresident\tau_0$ in regression (5), suggests a certain wrongdoing would cause a 0.21% higher CAR on the implicated company's stock under a Democratic Presidency. This means usual negative consequences of a misconduct are attenuated during Democratic lead administrations. By performing a t-test, it was confirmed this coefficient is statistically significant at the 1% level.

b) U.S. Congress

Starting by addressing the U.S Senate, for the mentioned relevant period, the GOP controlled this chamber during 6 of the 11 Congress meetings. Still, the amount of days in the majority was roughly equal for the two parties. Just like in the Presidency, for Democratic-led Senate compositions there was a higher number of registered misconducts than the ones during GOP control. Conversely, the House of Representatives, in this timeline, only had Democratic Leadership in three occasions, amounting to just 1,670 of the analyzed 7,335 days. In conformity, by controlling this chamber for a considerably longer time, Republicans were linked to an amount of misconducts, approximately, three times greater than those of the Democratic Party.

Furthermore, for both the Senate and the House of Representatives the CAAR (-3,3) was greater in the group of misconducts connected with GOP majorities, recording values of 0.000% and -0.067%, respectively. On the other hand, the violations sample attributed to Democratic control had an average CAR of -0.163% when considering the Senate and -0.145% if the chamber of interest is the House of Representatives. Accordingly, the obtained coefficients for the variables $SenateDemocraticMaj\tau_0$ and $HouseDemocraticMaj\tau_0$, evaluated separately in regressions (6) and (7), respectively, were negative in value. By addressing the t-test result, for the same misconduct, a Democratic Senate implies a 0.14% inferior CAR, significant for a 95% confidence interval. Inversely, the results reveal control of the House of Representatives was not relevant in evaluating misconducts' impact on returns.

The obtained significant coefficient of $SenateDemocraticMaj\tau_0$ was unexpected, given the fact both (Pastor & Veronesi 2017) and (Kempf & Tsoutsoura 2018), deemed the composition of Congress to be non-significant in their studies. This work project acknowledges under Republican Senate Majorities, a certain misconduct would trigger a greater CAR on the

implicated company, which is an opposing outcome to the one seen in the examination of the Presidency. Still, it is worth stating that regressions (6) and (7), individually only focus on one chamber of Congress, disregarding the role of all other governing bodies. This is a weak definition for Political Cycles and may originate results with poor reliability. Past research has, commonly, labeled Political Cycles solely on the party controlling the executive branch (eg. (Freixa 2009)), a more meticulous portrayal of Government than only one chamber of Congress.

c) Political Power Efficiency

Ideally, since there are differentiating powers among Government entities, the measurement of Political Cycles that consider the connection between those bodies will mirror reality with greater accuracy. These final regressions are an effort to capture with improved efficiency the role of Politics in describing the repercussions of business misconducts.

During the timespan of interest, Congress had more frequently a same party majority on both of its chambers. Similarly, control of the Presidency and the Senate was attributed to one party for almost twice the number of days in which there was two parties managing these bodies. Conversely, accordance between Presidency and House of Representatives control happened for a small number of days, when comparing to a divisive scenario. Finally, as it would be expected, having one party with control over the executive and the entire legislative branch was uncommon, happening only in 2,887 of the 7,335 days studied. For all cases, the most common occurrence also recorded the higher number of registered misconducts.

Moreover, the sample CAAR (-3,3) was greater for misconducts associated with one party control rather than in discordant states. The only exception was with respect to the linking between the Presidency and the House of Representatives, in which the computed CAAR (-3,3) was superior for the group of misconducts connected with periods of different party oversight on these two entities. This exception also revealed a different result in the regression analysis.

The obtained coefficient for the variable $SamePartyPres\&House_{\tau_0}$ was the only one not be considered significant. All other coefficients, related with the political regressors $SamePartyCongress_{\tau_0}$, $SamePartyPres\&Sen_{\tau_0}$, and $SamePartyGov_{\tau_0}$ were significant at 1% level and positive in value, which suggests negative repercussions of misconducts tend to be lower when one party has increased governing influence, and ultimately if it controls the legislative and executive branches.

The results of this paper indicate that when one party oversees the Presidency, Senate and House of Representatives, the resultant CAR on the stock of a felonious firm is 0.28% higher than when there is a division of any kind. Past research asserts divisions in Government prompt uncertainty (Sojli & Tham 2015), which may originate poor overall stock market performance. Nevertheless, the analysis of the suggested regressions sturdily marks Politics as a pertinent explanatory factor behind stock price movements attributed to business wrongdoings. Therefore, the previously stated Proposition B is proved to be acceptable.

6. Concluding Remarks

In summary, through the usage of the Event Study framework, this work project quantified the impact of registered corporate misconducts, in the U.S, on the stock prices of the felonious companies, the Cumulative Abnormal Returns (CARs). It concluded, on average, those events cause a significant loss on equity value (Proposition A). Moreover, this paper also studied the relevance of Political Cycles in explaining the found stock price deviations. By constructing OLS regressions, it was revealed Democratic Presidencies are historically linked with higher CARs, suggesting a better stock market reaction to a misconduct that occurred under the influence of a Democratic executive administration. Conversely, if the composition of Congress is also considered in the classification of Political Cycles, it was found misconducts associated with Governments in which one party controls all governing bodies (Presidency, Senate and

House of Representatives), tended to result in higher abnormal returns, than those when there was divisive oversight of any kind. Ultimately, the significance of various Political Dummy variables considered highpoints that Politics has indeed a noteworthy effect in depicting misconducts' resultant CARs (Proposition B).

It is also important to note the individual results of one regression should not be compared with the ones of the other proposed regressions. In this case, for example, it was described higher CARs are attained under the leadership of a Democratic President, according to regression (5), and with a GOP Senate Majority, as demonstrated in regression (6). However, regression (9) indicates CARs tend to be greater when the Presidency and Senate are controlled by the same party. At first glance, this may seem inconsistent, but the mentioned outputs are not based on the same background. Regression (5) disregards the composition of the Senate and (6) neglects the Presidency, while (9) ponders on both bodies. The analysis of the former two together does not accurately replicate the latter. In the end, the optimal outcome of this paper is the findings of regression (11), since the variable $SamePartyGov_{\tau_0}$ is the only one that encompasses the party alignment of all governing entities under study.

Additionally, despite the effort to address the research proposition with a methodology and assumptions closely reflecting reality, it is important to remark some limitations of this research. First, it is key to clarify the attributed accuracy of both Propositions is based on frameworks that rely on past data. Like all studies using these methods, the conclusions of this paper are reasonable forecasts and future behavior may deviate from the presented expectations.

Then, focusing now on the first part of this work project, the concluded veracity of Proposition A is strongly based on the fundamentals of the Event Study framework, mainly the acceptance that the computed CARs solely reflect the effects of the respective registered misconduct. Also, the employment of different input parameters, like the asset pricing model

to estimate normal returns or the event window, could possibly alter the described conclusion. Moreover, the exclusive consideration of firms with headquarters in the U.S., the location of all corporate misconducts in the database, may have created a slight bias in the described findings. As (Carberry, Engelen & Essen 2018) demonstrated, when the mentioned locations are in accordance the negative values of the CARs are more pronounced. Still, as previously explained this was deemed necessary for the second part of this work project.

On the other hand, the regression analysis also considered some particularities that deem to be discussed in this regard. Despite the high number of regulatory violations considered in the studied sample, the period under analysis is short to address different Political Cycles. (Pastor & Veronesi 2017) and (Freixa 2009) constructed their models using political data beginning in the 1920's, while this paper only considers Presidencies and Congress meetings since 1999. Since the research purpose was to relate U.S. Politics and business misconducts, this limitation only exists because of the used database of registered violations, which does not contemplate any registrations before the year 2000. To further expand this analysis, future research could complement the Good Jobs First Database with older corporate wrongdoings, allowing for a greater variety of Political Cycles to be studied.

Furthermore, as stated, the political variables represented party composition in Government with a 6-month lag. Even though this assumption was crucial to define official transition within the governing bodies, this timeline is just a fair approximation. Every political leadership is unique in the time taken to create distinguishing policies. Besides, the accurate measurement of that moment is subjective and complex, meaning the best approach should be the inclusion of various constant lags, as implemented by (Pastor & Veronesi 2017). Finally, just like in the findings of the first part, the ones obtained with the proposed regressions are sturdily related with the common chosen inputs, in this case, the constituents of the Control Vector, Z_{i,t_0}, and $Penalty_{i,\tau_0}$. As mentioned, these explanatory variables are common to all regressions and a

removal or replacement of one is sufficient for the encounter of different results, which may compromise the acceptance of Proposition B.

To conclude, the discussed shortcomings in this section may inspire future research, which would greatly complement the effort of this work project in exploring the influence of Politics in the behavior of a firm's stock prices when a corporate misconduct is perpetrated. One suggestion for a future study would be an approach that quantifies the strength of a majority in both branches of Congress. There is lower probability of a political gridlock in Congress, a condition that undermines legislative productivity, the higher the difference in the number of members between the Democratic and Republican Parties. By resorting exclusively to political dummy variables, all majorities within the same party were treated as equal. Likewise, it may be worth building a model that also includes the role of the Judicial branch, the only one of the three that compose the Federal Government not addressed in this study. Focus should be given to the selection of the judges responsible for the litigation of a certain misconduct. Then, one may discover if there is a meaningful relationship between the resultant CAR for the offending company and the political alignment of the judges or of their appointors. At last, a final suggestion would be an analysis beyond the national environment, narrowing the scope to State/Local Governments. Within the U.S, there are significant ideological differences, translated in state specific laws. It would be pertinent to access whether abnormal stock returns caused by a misconduct differ significantly based on the location of the felonious firm's headquarters or on the state in which the litigation process occurred.

References

Brans, Heleen, and Bert Scholtens. 2020. "Under his thumb the effect of president Donald Trump's Twitter messages on the US Stock Market". *Plos One*, 15 (3).

Brookings. 2020. "Vital Statistics on Congress". Accessed November 5, 2020. https://www.brookings.edu/multi-chapter-report/vital-statistics-on-congress/

Brown, Stephen J., and Jerold B. Warner. 1985. "Using daily stock returns: The case of event studies". *Journal of Financial Economics*, 14 (1): 3-31.

Carberry, Edward J., Peter-Jan Engelen, and Marc Van Essen. 2018. "Which Firms Get Punished for Unethical Behavior? Explaining Variation in Stock Market Reactions to Corporate Misconduct". *Business Ethics Quarterly,* 28 (2): 119-151.

Cassella, Stefano, and A. Emanuele Rizzo. 2020. "Do Shareholders Gain from Their Right to Sue? Evidence from Federal Judge Turnover".

Chen, Andrew H., and Thomas F. Siems. 2004. "The effects of terrorism on global capital markets". *European Journal of Political Economy*, 20 (2): 349-366.

Cowan, Arnold R.. 1992. "Non-Parametric Event Study Tests". *Review of Quantitative Finance and Accounting*, 2 (4): 343-358.

Cuomo, Andrew. 2003. *Crossroads: The Future of American Politics*. New York: Random House.

Fama, Eugene F. 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work". *The Journal of Finance*, 25 (2): 383-417.

Fama, Eugene F., and Keneth R. French. 1993. "Common risk factors in the returns on stocks and bonds". *Journal of Financial Economics*, 33 (1): 3-56.

Federal Trade Commission. 2013. "The Antitrust Laws". Accessed October 26, 2020. https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/antitrust-laws

Freixa, Carlos. 2009. "Treasury Bond Returns and U.S. Political Cycles". Master Thesis, Nova School of Business and Economics.

Good Jobs First. 2020. "Violation Tracker". Database. Accessed September 9, 2020. https://www.goodjobsfirst.org/violation-tracker

He, Pinglin, Yulong Sun, Ying Zhang, and Tao Li. 2020. "COVID-19's Impact on Stock Prices Across Different Sectors — An Event Study Based on the Chinese Stock Market". *Emerging Markets Finance and Trade*, 56 (10): 2198-2212.

History, Art & Archives. "Congressional Profiles". Accessed November 5, 2020.

https://history.house.gov/

Kempf, Elisabeth, and Margarita Tsoutsoura. 2018. "Partisan Professionals: Evidence from Credit Rating Analysts". National Bureau of Economic Research Working Paper Series, Working Paper No. 25292.

Kothari, S.P., and Jerold B. Warner. 2007. "Econometrics of event studies". Handbook of corporate finance: Empirical corporate finance", 1: 3-36.

Law, Cherry, Laura Cornelsen, Jean Adams, Tarra Penney, Harry Rutter, Martin White, and Richard Smith. 2020. "An analysis of the stock market reaction to the announcements of the UK Soft Drinks Industry Levy". *Economics and Human Biology*, 38.

Lundgren, Tommy, and Rickard Olsson. 2010. "Environmental Incidents and Firm Value – International Evidence using a Multi-Factor Event Study Framework". Centre for Environmental and Resource Economics, Working Paper No. 2010:3.

MacKinlay, A. Craig. 1997. “Event Studies in Economics and Finance”. *Journal of Economic Literature*, 35 (1): 13-39.

Pastor, Lubos and Pietro Veronesi. 2017. “Political Cycles and Stock Returns”. National Bureau of Economic Research Working Paper Series, Working Paper No. 23184.

Patell, James M.. 1976. “Corporate Forecasts of Earnings Per Share and Stock Price Behavior: Empirical Test”. *Journal of Accounting Research*, 14 (2): 246-276.

Peters, Gerhard, and John T. Woolley. 2004. “Democratic Party Platforms, 2004 Democratic Party Platform Online”. The American Presidency Project. Accessed October 26, 2020. https://www.presidency.ucsb.edu/node/273274

Peters, Gerhard, and John T. Woolley. 2012. “Republican Party Platforms, 2012 Republican Party Platform Online”. The American Presidency Project. Accessed October 26, 2020. https://www.presidency.ucsb.edu/node/273274

Santa-Clara, Pedro, and Rossen Valkanov. 2003. “The Presidential Puzzle: Political Cycles and the Stock Market”. *The Journal of Finance*, 58 (5): 1841-1872.

Sojli, Elvira, and Wing Wah Tham. “Divided Governments and Futures Prices”. *Journal of Econometrics*, 187 (2): 622-633.

Škrinjarić, Tihana, and Zrinka Orlović. 2019. “Effects of Economic and Political Events on Stock Returns: Event Study of the Agrokor Case in Croatia”. *Croatian Economic Survey*, 21 (1): 47-86.

UVA Miller Center. 2020. “U.S. Presidents”. Accessed November 5, 2020. https://millercenter.org/president

Wharton Research Data Services. 2020. “Financial Ratios Suite”. Database. Last Access November 29, 2020. https://wrds-web.wharton.upenn.edu/wrds/ds/wrdsapps/finratiofirm/

Wharton Research Data Services. 2020. “The Center for Research in Security Prices”. Database. Last Access November 29, 2020. https://wrds-web.wharton.upenn.edu/wrds/ds/wrdsapps/finratiofirm//index.cfm

Wharton Research Data Services. 2020. “U.S. Daily Event Study: Upload your own events”. Software. Last Access November 28, 2020. https://wrds-web.wharton.upenn.edu/wrds/ds/wrdseventstudy

Zingales, Luigi. 2017. “The Political Economy of Finance”. Interview by Guy Rolnik. Promarket, Stigler Center. Accessed October 12, 2020. https://promarket.org/2017/05/19/connection-finance-politics2/

Appendix

Table 1: Control Variables used in the Vector, Z_{i,t_0}. The measurement date for these variables is one month before the event date.

Table 1 – Detailed Description of the Control Variables Vector	
Control Variables	Description
Book to Market Ratio (BTM)	Book value of equity divided by the market value of equity. This metric is updated on a quarterly basis. The value for this variable is the most recent one available at the measurement date.
Profitability Ratio	Ratio of gross profit to total assets. This metric is updated on a quarterly basis. The value for this variable is the most recent one available at the measurement date.
Size	Monthly stock price times number of shares outstanding. The value for *Size* changes every month and corresponds to the one recorded on the measurement date's month.
Lagged one-month stock return	Logarithmic return computed with monthly stock prices. This variable is the return attributed to the measurement date's month.
Previous 12-month stock return	Sum of the logarithmic monthly returns of the year before the event date. From month t – 12 to t – 1, the latter one being the month of the measurement date.
Volatility	Standard deviation of the logarithmic monthly returns summed in the computation of the variable *Previous 12-month stock return*.

Chart 1: Recorded Misconducts per year, committed by firms traded in the stock market and with headquarters in the U.S. In total, 54,300 cases, from the 1st of January 2000 to 18th of June 2020. Starting in 2002, the number of violations increased steadily, reaching its peak in 2011. In this year, the number of cases more than doubled the one seen in 2002. From 2011 onwards, the yearly misconducts diminished significantly. Note the number for 2020 only represents the first six months.

Chart 1 – Number of Recorded Misconducts per year

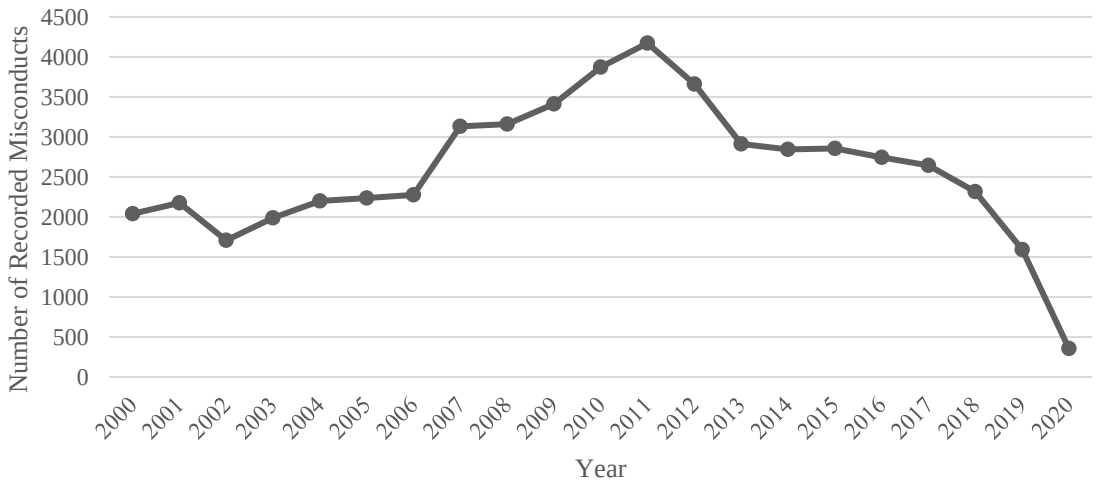


Chart 2: Recorded Misconducts by offense type, committed by firms traded in the stock market and with headquarters in the U.S. In total, 54,300 cases, from the 1st of January 2000 to 18th of June 2020. More than half of those arose because of violations against safety guidelines. Disrespect of environmental regulations and protection of employee rights complete the top three origins behind misbehaviors.

Chart 2 – Misconducts by Offense Type

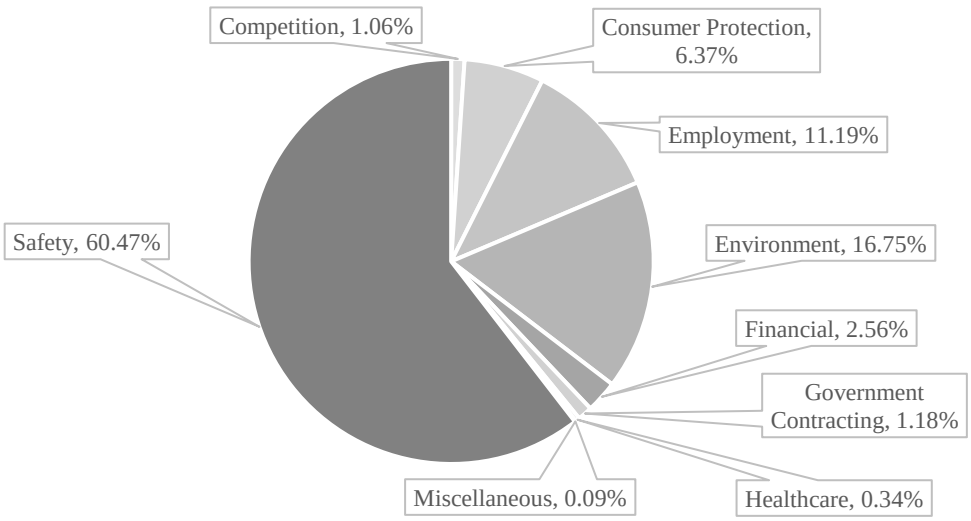


Table 2: U.S. Presidents who served during the timeline under analysis. In this analysis it is considered Presidential cycles officially start at inauguration day and end in the inauguration day of the next President. Of this list, only President Donald Trump did not serve two terms, given his loss to the Democratic candidate Joseph Biden in the 2020 Presidential Election.

Table 2 – U.S. Presidents (Executive Branch)

President	Political Party	Inauguration	Farewell	Vice President
Bill Clinton	Democrat	20/01/1993	20/01/2001	Albert Gore, Jr.
George W. Bush	Republican	20/01/2001	20/01/2009	Richard Cheney
Barack Obama	Democrat	20/01/2009	20/01/2017	Joseph Biden
Donald J. Trump	Republican	20/01/2017	20/01/2021	Mike Pence

Table 3: Configuration of the U.S. Congress Meetings during the timeline under analysis. Party Membership presented is the one verified at inauguration day (Start Date). Those usually change during the mandate for various possible reasons (resignations, deaths, …). D stands for Democratic members and R stands for Republican ones. Exceptions are labeled by Other (O), comprising members from other parties, Independents and seat vacancies.

Table 3 – U.S. Congress (Legislative Branch)						
			Senate		House of Representatives	
Congress Number	Start Date	End Date	Presiding Officer	Control (D-R-O)	House Speaker	Control (D-R-O)
106	03/01/1999	03/01/2001	Albert Gore, Jr. (D)	Republican (45-55-0)	John Dennis Hastert (R)	Republican (211-222-2)
107	03/01/2001	03/01/2003	Richard Cheney (R) [1]	Democratic [2] (50-50-0)	John Dennis Hastert (R)	Republican (211-220-4)
108	03/01/2003	03/01/2005	Richard Cheney (R)	Republican (48-51-1)	John Dennis Hastert (R)	Republican (205-229-1)
109	03/01/2005	03/01/2007	Richard Cheney (R)	Republican (44-55-1)	John Dennis Hastert (R)	Republican (201-232-2)
110	03/01/2007	03/01/2009	Richard Cheney (R)	Democratic [2] (49-49-2)	Nancy Pelosi (D)	Democratic (233-202-0)
111	03/01/2009	03/01/2011	Joseph Biden (D) [1]	Democratic (55-41-4)	Nancy Pelosi (D)	Democratic (256-178-1)
112	03/01/2011	03/01/2013	Joseph Biden (D)	Democratic (51-47-2)	John Boehner (R)	Republican (193-242-0)
113	03/01/2013	03/01/2015	Joseph Biden (D)	Democratic (53-45-2)	John Boehner (R)	Republican (202-233-0)
114	03/01/2015	03/01/2017	Joseph Biden (D)	Republican (44-54-2)	John Boehner (R) [3]	Republican (188-247-0)
115	03/01/2017	03/01/2019	Mike Pence (R) [1]	Republican (46-52-2)	Paul Ryan (R)	Republican (194-241-0)
116	03/01/2019	03/01/2021	Mike Pence (R)	Republican (45-53-2)	Nancy Pelosi (D)	Democratic (235-199-1)

[1] The Vice President presides sessions of the U.S. Senate. During presidential transitions, since a new Congress is inaugurated 17 days earlier than the swearing-in of the future president, during this residual period, the leaving executive branch serves alongside the new congress meeting. This occurred in Congresses 107, 111 and 115, in which Vice Presidents Richard Cheney, Joseph Biden and Mike Pence, respectively, did not immediately assumed their roles.

[2] The 107th and 110th Congresses had the same number of Democratic and Republican Senators. When this happens, usually the party of the presiding officer, who casts a tiebreaking vote when needed, is said to have the majority. In the 107th Congress, the Democratic Party had control through the first 17 days but when President George Bush was inaugurated and, consequently, Richard Cheney became Vice President, control of the body shifted to the Republican Party. Finally, roughly six months later, Republican Senator Jim Jeffords changed party, caucusing with the Democrats, which tilted the majority privileges in favor of the latter for the rest of the two-year term. Since the Democratic Party had the majority for a longer period, this work assumes that state for the entirety of the session. This is the only case in the studied timeframe, in which majority control switched during a mandate. Besides, Congress 110, despite having a Republican Presiding Officer, Independent Senators Bernie Sanders and Joseph Lieberman caucused with Democrats, giving them a Senate Majority.

[3] John Boehner (R) was replaced by Paul Ryan (R) as House Speaker during the 114th Congress.

Table 4: Number of days in which the scenarios reflecting the proposed political dummy variables were a reality. In this work project, the landscape of U.S. Politics was addressed from the 1st of July 1999 to the 31st of July 2019, a period that comprised 7,335 days. Evidently, either the Republican or Democratic Party possesses control of a certain Government body.

Table 4 – Number of Days for the various scenarios analyzed in the Political Dummy Variables

Scenario	Number of Days		Total Days (from 1st July 1999 to 31st of July 2019)
	Yes	No	
Democratic President?	3,491	3,844	7,335
Democratic Majority in the Senate?	3,652	3,683	7,335
Democratic Majority in the House of Representatives?	1,670	5,665	7,335
Same Party with majority in both Congress Chambers?	4,935	2,400	7,335
Same Party in the Presidency and Senate?	4,574	2,761	7,335
Same Party in the Presidency and House of Representatives?	3,600	3,735	7,335
Same Party controlling Congress and the Presidency?	2,887	4,448	7,335

Table 5: Event Study Results. In total, 29,359 events were addressed. The CAR (-3, τ) is the sum of Abnormal Returns starting at day -3 until day τ. Accordingly, the CAR (-3,-3) is simply the Abnormal Return (AR) of day -3. Conversely, CAR (-3,3) is the sum comprising ARs for the entire event window. In the CAAR (-3, τ) column, it is presented in the first line the estimated Cumulative Average Abnormal Return metric and in the second line, in brackets, the corresponding t-test statistic. As an indicative measure *, ** and *** denote significance at 10%, 5% and 1% level, respectively.

Table 5 – Event Study Results

τ	N. Events	AAR_τ	Negative CARs (-3,τ) (%)	CAAR (-3,τ) (%)
-3	29,359	-0.035%	51.405	-0.035*** (-2.623)
-2	29,359	0.003%	51.395	-0.031* (-1.717)
-1	29,359	-0.015%	51.453	-0.047** (-2.068)
0	29,359	-0.009%	51.020	-0.056** (-2.122)
1	29,359	-0.023%	51.167	-0.078*** (-2.647)
2	29,359	-0.009%	50.816	-0.087*** (-2.685)
3	29,359	-0.027%	50.789	-0.114*** (-3.252)

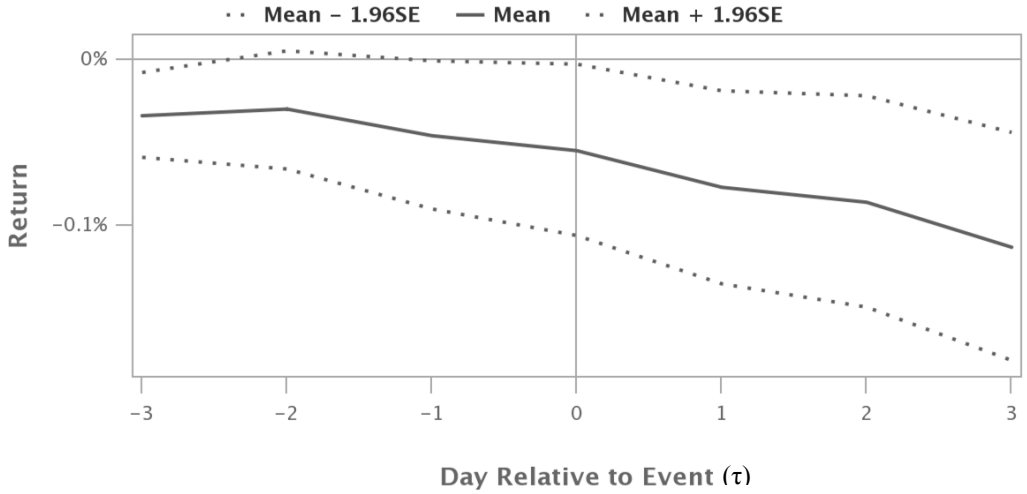
Table 6: Results of the proposed complimentary tests. Just like the value for the t-test, the Patell Z statistic provides a 99% confidence level that the Cumulative Average Abnormal Return (CAAR) of the felonious firms' population is different from zero and negative. Alternatively, despite the Generalized Sign Test confirming the conclusions of the other mentioned tests, it does so with a slightly lower confidence level, only at 95%. Both the Patell Z and the Generalized Sign Test were automatically calculated by the WRDS software.

Table 6 – Results of the Complimentary Tests

		Patell Z Test		**Generalized Sign Test**	
τ	CAAR (-3,τ) (%)	Result	P-Value	Result	P-Value
3	-0.114	-3.385	0.0007	-2.147	0.0318

Chart 3: Cumulative Average Abnormal Return (CAAR) analysis. Each solid line point represents the CAAR (-3,τ) of the sample, with τ being a day belonging to the event window (x axis). Additionally, the dotted lines represent the border values for a 95% confidence interval. These values are obtained based on the t-test procedure. It is possible to be 95% confident that the true value of CAAR credited to misconducts is within the mentioned boundaries. This chart was automatically generated by the Event Study Software by WRDS.

Chart 3 – CAAR (-3,τ) and the t-test resultant critical values for a 95% Confidence Interval



				τ =			
Critical Values	-3	-2	-1	0	1	2	3
CAAR (-3,τ) - 1.96	-0.009%	0.004%	-0.002%	-0.004%	-0.020%	-0.023%	-0.045%
CAAR (-3,τ) + 1.96	-0.060%	-0.067%	-0.091%	-0.107%	-0.136%	-0.150%	-0.182%

Table 7: Summary statistics for the dependent variable, CAR (-3,3), and the regressors common to all the studied regressions. As stated, due to lack of data for the control variables, the sample of misconducts studied in the second part of this study was reduced from 29,359 to 25,462.

Table 7 – Summary Statistics for the Regressand and the Control Variables

	Count	Mean	Std. Deviation	Q1	Q2	Q3
CAR (-3,3) (%)	25,462	- 0.087	0.035	- 2.340	- 0.051	2.210
Penalty (M$)	25,462	11.694	1.456	0.008	0.018	0.083
Control Variables						
Book to Market Ratio	25,462	0.637	0.004	0.322	0.509	0.798
Profitability Ratio	25,462	0.265	0.001	0.122	0.218	0.350
Size (M$)	25,462	35.798	0.435	2.660	9.690	31.815
Lagged 1-Month Return (%)	25,462	0.106	0.074	- 4.429	0.872	5.690
Previous 12-Month Return (%)	25,462	1.831	0.250	- 14.440	6.536	23.240
Volatility (%)	25,462	9.633	0.041	5.453	7.899	11.681

Table 8: Possible values for all the considered political variables. For each value and regressor, it is presented the number of misconducts associated and the resultant Cumulative Average Abnormal Return (CAAR). The latter comprises the entire span of the event window.

Table 8 – Insights on the Proposed Political Variables

	Value	Misconducts Associated	CAAR (-3,3) (%)
DemocraticPresident	1	13,669	-0.063
	0	11,793	-0.114
SenateDemocraticMaj	1	13,513	-0.163
	0	11,949	-0.000
HouseDemocraticMaj	1	6,296	-0.145
	0	19,166	-0.067
SamePartyCongress	1	16,933	-0.022
	0	8,529	-0.216
SamePartyPres&Sen	1	16,700	-0.082
	0	8,762	-0.096
SamePartyPres&House	1	11,481	-0.114
	0	13,981	-0.065
SamePartyGov	1	9,826	-0.042
	0	15636	-0.115

Table 9: Results of the Regression Analysis. Each column represents one regression, numbered as it was referenced in the text (from (4) to (11)). The coefficients were estimated using OLS and are presented, for each variable, in the first horizontal line. To account for possible Heteroskedasticity, the analysis considered robust standard errors, which were computed using the sandwich estimator of variance method. In accordance, bellow each estimated coefficient, the t-test statistic is presented in between brackets. The latter is associated with the null hypothesis that the respective coefficient is zero. For each regression, the Adjusted R^2 and the F-Test result is also provided. As an indicative measure *, ** and *** denote significance at 10%, 5% and 1% level, respectively. Finally, E indicates power of 10 in scientific notation: $mE^n = m*10^n$.

Table 9 – Regression Analysis

	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Penalty	3.895E-07	3.591E-07	4.482E-07	3.891E-07	4.647E-07	3.677E-07	4.363E-07	4.949E-07
	(0.35)	(0.32)	(0.40)	(0.35)	(0.42)	(0.33)	(0.39)	(0.45)
DemocraticPresident		0.0021***						
		(2.96)						
SenateDemocraticMaj			-0.0014**					
			(-2.00)					
HouseDemocraticMaj				-0.0007				
				(-0.77)				
SamePartyCongress					0.0019***			
					(2.58)			
SamePartyPres&Sen						0.0028***		
						(3.66)		
SamePartyPres&House							0.0011	
							(1.57)	
SamePartyGov								0.0028***
								(4.27)
BTM Ratio	-0.0024	-0.0026	-0.0023	-0.0024	-0.0023	-0.0025	-0.0024	-0.0024
	(-1.22)	(-1.31)	(-1.17)	(-1.22)	(-1.15)	(-1.30)	(-1.21)	(-1.20)
Profitability Ratio	-0.0020	-0.0020	-0.0020	-0.0020	-0.0020	-0.0021	-0.0020	-0.0020
	(-0.83)	(-0.81)	(-0.82)	(-0.83)	(-0.81)	(-0.88)	(-0.83)	(-0.84)
Size	-7.638E-06**	-7.590E-06**	-7.666E-06**	-7.542E-06**	-7.697E-06**	-7.636E-06**	-7.550E-06**	-7.565E-06**
	(-2.16)	(-2.14)	(-2.17)	(-2.13)	(-2.17)	(-2.16)	(-2.13)	(-2.14)
Lagged 1-Month Stock Return	-0.0021	-0.0021	-0.0022	-0.0021	-0.0022	-0.0020	-0.0021	-0.0021
	(-0.37)	(-0.37)	(-0.39)	(-0.36)	(-0.38)	(-0.34)	(-0.36)	(-0.36)
Previous 12-Month Return	-0.0170***	-0.0174***	-0.0170***	-0.0170***	-0.0170***	-0.0178***	-0.0172***	-0.0176***
	(-8.65)	(-8.77)	(-8.64)	(-8.67)	(-8.63)	(-8.94)	(-8.75)	(-8.90)
Volatility	-0.0498***	-0.0495***	-0.0494***	-0.0492***	-0.0508***	-0.0479***	-0.0503***	-0.0502***
	(-4.65)	(-4.63)	(-4.62)	(-4.57)	(-4.73)	(-4.48)	(-4.68)	(-4.69)
Number of Observations	25,462	25,462	25,462	25,462	25,462	25,462	25,462	25,462
Adjusted R^2	0.0138	0.0141	0.0139	0.0138	0.0140	0.0143	0.0138	0.0143
F-Test Statistic	12.91***	11.77***	12.04***	11.59***	11.85***	12.48***	11.68***	13.16***