Abstract

In this paper, we investigate the effect of CEO non-duality structure on performance of publicly listed companies. We exploit a quasi-experiment promoted by a regulatory change in the Brazilian Stock Exchange that abolished the accumulation of CEO and Chair of Board titles from the same person. Using a dynamic differences-in-differences design, we find a long-standing positive effect on firm value. On the other hand, stock prices and profitability do not respond to the new leadership structure. Our findings suggest that CEO non-duality enhances firm performance through improvements on decision-making processes to maximize shareholders’ wealth instead of practices directly affecting firms’ operations.

Keywords: CEO duality. Corporate governance. Market reaction. Corporate performance.

1. Introduction

Corporate governance practices have been received growing attention from policy makers worldwide. In order to promote transparency in financial transactions and improve environmental features for stakeholders, regulatory institutions design and recommend standards and rules addressing multiple governance topics. Regulations
directly affecting the accumulation of the Chief Executive Officer (CEO) and Chair of the Board (COB) titles are rare and little is known about their effects on organizations. Empirical evidences are of particular interest for all market players since it subsides debates regarding conflicts of interest and better management practices.

Brazil became an interesting laboratory to explore this issue after regulatory changes made by the Brazilian Stock Exchange (Brasil, Bolsa, Balcão – B3) in 2011. The new amendments prohibit the accumulation of the CEO and COB positions by the same individual. Companies whose previously configured that leadership structure had to comply with the new rule, but the commitment did not roll out at the same time to all corporations. This unique quasi-experiment provides us opportunity to study the consequences of such split in top positions on large corporations.

In this paper, we estimate the causal effect of CEO non-duality on corporate outcomes. Focusing on publicly traded companies from specific market segments, we employ data containing detailed information on high-frequency stock trading information and firms’ financial data, as well as precise dates indicating when changes on the leadership structure occurred. We use information on prices and returns for these stocks in order to assess market reaction to the announcement of the switch to non-duality status. To assess corporate performance, we use market- and accounting-based measures to identify the extent to which they are affected by the split of the titles.

Our event-study results can be summarized into two parts. First, our findings reveal that stock prices and abnormal returns do not significantly change following the new configuration in leadership structure. We use a window of 30 days around the event to better differentiate market reaction from changes in management practices. This lack of effect suggests that investors’ reaction is not related to cultural differences or economic background, as it is found to be similar in other contexts (BALIGA; MOYER; RAO, 1996; LARCKER; ORMAZABAL; TAYLOR, 2011). Second, CEO non-duality provokes a long-lasting positive effect on firm’s value, measured by Tobin’s Q and Market-to-Book. On the other hand, measures of return (Return on Assets and Return on Equity) are not affected by the new structure. This suggests CEO non-duality structure enhances firm performance through improvements on decision-making processes to maximize shareholders’ wealth instead of practices directly affecting firms’ operations. We contribute to the literature investigating the role of CEO non-duality on corporate performance. Our results diverge from previous works.
We contribute to the literature investigating the role of CEO non-duality on corporate performance. Our results diverge from previous works. Iyengar and Zampelli (2009) employ an instrumental variables strategy and find no effects of CEO duality on corporate performance. Yang and Zhao (2014) and Chang, Lee and Shim (2018) use exogenous shocks that affected the circumstances under which firms were operating and applied difference-in-differences research design. They found that firms with duality structure outperformed their counterparts via changes in corporate operational environment. We show that regulations that directly target this accumulation of roles may be effective on improving management practices and enhancing financial performance. We also contribute to the literature by exploring a setting that allows mitigating endogeneity issues to investigate stock market and corporate performance outcomes. Additionally, we add to the growing literature in Accounting that uses exogenous interventions and observational data to make causal claims. Finally, we expect to contribute to policy debates regarding effectiveness of corporate governance practices, which may be of interest for both regulators and investors.

The remainder of this article is organized as follows. Section 2 summarizes the literature on the relation between CEO duality and both stock market and corporate performance. Section 3 discusses the institutional background. Section 4 presents details on data sources, variables, and sample. Section 5 describes the research design. Section 6 describe the empirical findings. Finally, Section 7 concludes this paper.

2. Literature Review
2.1. CEO Duality

The literature usually refers to the accumulation of CEO and COB titles by the same person as CEO duality. These are the two top authority positions within companies, but empowered with distinguishable responsibilities Hsu et al. (2019). The major function of the COB is related to the organization’s policies and to the monitoring of corporate performance, while the CEO is accountable for the actual management of operations.

The debates on CEO duality is usually centered on two contrasting theoretical frameworks. First, agency theory highlights the monitoring role of the Board, which should be independent in order to limit managerial opportunistic actions. According to this theory, effective monitoring and control systems are essential tools to protect shareholders’ interests on issues that arise from the separation of ownership and control (JENSEN; MECKLING, 1979; FAMA; JENSEN, 1983). In general, the COB is
responsible for running Board meetings and overseeing the processes of hiring, firing, evaluating, and compensating the CEO. Agency theory predicts that a unique person accumulating these two positions cannot perform both functions apart from his or her own personal interests (FAMA; JENSEN, 1983; JENSEN, 1983).

Several papers have investigated the correlation between unified leadership structure and the quality of accounting, such as whether CEO duality produces greater probability of earnings management and/or fraudulent financial reporting. The increase in such probability is documented by O’Connor Jr. et al. (2006), Sarkar, Sarkar and Sen (2008) and Kamarudin, Ismail and Samsuddin (2012) and may exemplify the conflict of interests regarding accumulation of CEO and COB positions.

In contrast, the stewardship theory argues that a CEO duality structure can improve firm performance (DURU; IYENGAR; ZAMPELLI, 2016). The CEO may have other motivations, different from pecuniary gains, while fulfilling his or her duties, such as achievement, recognition, and reputation. These motivations may encourage the CEO to satisfy shareholders’ interests by using trustworthy practices (DONALDSON; DAVIS, 1991). Organizations would benefit of CEO duality if the individual accumulating simultaneously these positions shows a strong leadership. This provides more clarity regarding the corporate leadership for subordinate managers, for other members of the corporate Board and even for external parties (DONALDSON; DAVIS, 1991; DALTON et al., 1998). Furthermore, the CEO is often the individual who has the best firm-specific knowledge on strategic challenges and opportunities (JENSEN; MECKLING, 1995). When he or she additionally acts as COB, the decision-making process may become more effective, quicker, and more flexible to adjustments (CHANG; LEE; SHIM, 2018).

The literature provides evidences that CEO duality may also be considered a reward for good corporate performance as an attempt to retain competent CEOs (BRICKLEY; COLES; JARRELL, 1997; YANG; ZHAO, 2014). Hermalin and Weisbach (1998) suggest that CEO’s ability – usually measured as individual past performance – is a relevant element to take into account when defining the firm’s leadership structure, since the ones with superior ability tend to have more bargaining power. In this regard, Harrison, Torres and Kukalis (1988) show that poor individual performance is negatively related to the adoption of a CEO duality structure by firms.

Brickley, Coles and Jarrell (1997) argue that non-duality does not necessarily reduce the occurrence of agency problems. When splitting positions, the agency problem of monitoring the CEO-COB roles is converted to monitoring the new COB in action.
addition, a duality structure can also reduce the cost of transferring and processing information. This is because a single person, by being the top authority in the corporation, fully concentrates decision making responsibilities as well as implements all strategic plans at a macro corporate-level (YANG; ZHAO, 2014).

In sum, there is no obvious theoretical explanation of whether CEO duality is beneficial for firms. A number of empirical studies have been developed over the years and they have relied in these two theoretical arguments, attempting to identify how the duality leadership structure may be related to market outcomes and to corporate performance.

2.2. Prior Empirical Studies

The existing literature on the association of CEO duality with market outcomes and corporate performance is not recent and has found mixed results. Rechner and Dalton (1991) compares the performance of 141 non-financial “Fortune 500” firms over a 6-year period (1978-1983) and found a negative correlation between CEO duality and firm performance. More recently, this association was also detected by other studies in different contexts (DURU; IYENGAR; ZAMPELLI, 2016; LEW; YU; PARK, 2018; HSU et al., 2019). These results contrast to Baliga, Moyer and Rao (1996)’s work, in which they studied 181 “Fortune 500” non-financial firms for a period of 6 years (1986-1991). They showed that changes in firms’ leadership structure do not affect market outcomes, nor corporate performance immediately after such change. Their results, however, indicated a weak positive correlation between duality and long-term performance.

Dahya, Lonie and Power (1996) explored the issuance of a regulation that, among other aspects, recommended the split of the position of CEO and COB and investigate 124 non-financial firms from U.K. during 4 years (1989-1992). Their results suggest that market responds favorably to the announcement of the split of CEO and COB roles from the same individual and corporate performance appears to decline after this change. Later, Dahya and McConnell (2007) and Dahya, Garcia and Bommel (2009) contrast these findings, when they explored the same regulation in the same market, but with a larger sample. They studied 1,124 non-financial firms for a period of 8 years (1989-1996) and their results indicated no association of CEO duality with market and performance outcomes.
Brickley, Coles and Jarrell (1997) study 264 companies for an 8-year period (1984-1991) and found that CEO duality is associated with better market and performance outcomes. The same links were also found by Dey, Engel and Liu (2011), as they explored a scenario in which firms were facing a pressure by investors to split the CEO and COB positions and investigated 232 non-financial firms over 9 years (2001-2009). Such results diverge from Larcker, Ormazabal and Taylor (2011), who explored a regulation that recommends the possibility of CEO duality. They found no statistical indication that market outcomes are related to the new leadership structure. These three studies were conducted using data from the U.S. market.

Boyd (1995) studied 192 U.S. companies in 1980 and find the direction and magnitude of the duality-performance relation varies by industry. Evidences of this heterogeneity is presented by Palmon and Wald (2002) as well. They argue that smaller firms benefit more from a leadership structure concentrated in a single individual. They found this correlation for both market "outcomes" and for corporate performance. Krause and Semadeni (2013) point that the split of leadership roles is positively (negatively) related to future firm performance when current performance is poor (high). They analyzed the split of CEO and COB titles on three possibilities: apprentice (former CEO-COB keeps only the COB title), departure (the CEO-COB is replaced by two different individuals), and demotion (CEO-COB is kept only as CEO).

Few works used identification strategies to circumvent endogeneity issues related to CEO duality. Iyengar and Zampelli (2009) investigated the impact of CEO duality on corporate performance by employing instrumental variables. They found no evidence that firms optimize their performance using four different measures of performance – one-year total market return to shareholders, return on assets, Tobin's Q, and earnings per share (deflated by beginning-of-year stock price).

Yang and Zhao (2014) explored a regulation that changed the competitive environment and impacted each corporation in a different magnitude. They used such a regulation as an exogenous shock, even though it did not necessarily require the separation of titles of CEO and COB from the same person. They argue that this regulation served as a tool to discourage firms to keep CEO duality. Using this configuration, the authors compared changes on firms’ performance between the ones with CEO duality and the ones with separate leadership and found that firms would benefit from a duality leadership structure, with an increase of 3-4%, on average, in their performance outcomes. Such results were obtained using Tobin’s Q as corporate
performance measure. They found a weaker effect when testing with return on shareholders’ equity and no effect with return on assets.

With a similar strategy, Chang, Lee and Shim (2018) used as an exogenous shock the issuance of a regulation that stimulated corporate governance reforms. Also, they included the Global Economic Policy Uncertainty (GEPU) indexes to examine how firm performance is affected in scenarios of political uncertainty. Their results suggest that firms experienced a reduction in their performance if they had separate leadership before the regulation became effective, and this negative effect was mitigated if a firm had combined leadership prior to the regulation. In addition, they show that firms with CEO duality had a performance improvement of 7%, on average, for each additional increase in the policy uncertainty index. They used the Total Q measure as a proxy for corporate performance.

Altogether, we observe a lack of consensus in the existing empirical literature on the relation of CEO duality with market outcomes and with corporate performance. Dalton et al. (1998), Dahya and Travlos (2000), Rhoades, Rechner and Sundaramurthy (2001), Dalton and Dalton (2011) and Krause, Semadeni and Cannella Junior (2014) also highlight this perception upon conducting separate extensive surveys on the literature.

3. Institutional Background

The Brazilian Stock Exchange created in December 2000 special listing segments in order to encourage public companies to reach differentiated governance levels. Initially, B3 launched three segments, New Market (NM), Corporate Governance Level 1 (L1) and Corporate Governance Level 2 (L2)i, and in 2012, two more segments were created B+ and B+ Level 2ii (SANTANA et al., 2008; B3, 2020). To assign to one of these segments, companies have to comply with rules defined at the segments’ regulationiii under a contract with B3. These rules establish obligations for listed firms that go beyond the ones required in the Brazilian Corporate Law.iv

Eventual reforms may happen to these segments, such that corporate governance practices prescribed in their respective regulations must be aligned with practices adopted internationally. To date, this happened three times: in 2006, in 2011 and in 2017.v In the 2011 reform, an amendment introduced in the regulations of the existing segments at that time – NM, L1, and L2 – prohibited the accumulation of the CEO and COB positions by the same individual.vi This requirement came into effect as of May 10th at the same year.
Companies listed within one of these three segments prior to the regulatory change had a maximum period of three years to commit with the norms since the regulation became effective. Additionally to the compliance with the new rule, companies had to amend their bylaws to also prescribe the prohibition of CEO duality for future runs. For corporations that entered these segments afterwards the 2011 reform, the three-year deadline started from the date they began trading their shares in the chosen segment. Exceptional cases would be analyzed by B3 to allow a longer period.\textsuperscript{vii}

We are aware that the entry in one of the special listing segments is endogenous, since firms choose to voluntarily join them. However, some of the regulatory requirements may guarantee firms’ permanence once they access the chosen segment. The goal is to protect minority shareholders who have invested in a company with a higher level of corporate governance. The process of delisting from one segment is conditional to both a public tender offer and to the shareholders’ approval at a general meeting.\textsuperscript{viii} Given that these demands to exit a segment may be costly to both shareholders and corporate managers, and that none company was delisted upon request right after the 2011 reform\textsuperscript{ix}, we have no reason to believe that these firms may easily avoid these regulatory changes. As we elaborate further, the setting provided by this regulatory change is essential for our empirical strategy.

4. Data

4.1. Special Listing Segments

Information regarding the companies listed on NM, L1 and L2, including a history of listing and delisting dates, is available on the B3’s website.\textsuperscript{x} Given the endogeneity related to the entry on one of these segments, as discussed in Section 3, we did not consider any firm that entered one of these segments following the 2011 reform. We excluded firms with negative book value of equity and those operating on the financial sector, as they are subject to different regulations.

4.2. CEO Duality

We obtained information on CEO duality for all firms from the three special listing segments in the time span between 2010 and 2015. The main source to identify CEO duality is the Reference Form (RF), which is a document disclosed by Brazilian firms required by the Brazilian Securities and Exchange Commission (Comissão de Valores Mobiliários – CVM). Among other topics, the RF details the companies’ main
activities, risk factors, capital structure, securities issued, relevant financial data and, more important to this research, information on the leadership and Board structure, with identification of its members, dates of election, mandates duration and other relevant descriptions.\textsuperscript{31}

We first analyzed the RFs available at B3’s website for each firm-year to identify whether the CEO has also served as COB during that year, as well as the dates of their election. We checked the dates so we could register the specific moment of the year in which the firm has changed from CEO duality structure to a non-duality structure.

Importantly, the CEO is traditionally elected at the Board of Directors’ meetings and Board members are usually elected at shareholders’ meetings. The COB may be defined at either of these corporate events. The changes in the leadership and Board structures are disclosed in the minutes of these meetings. Such disclosure may happen at the same day of the event or in a different day from the election date. Based on these considerations, we checked the date that the firm filed the minutes to the B3’s website and considered it as the date of disclosure.

\textbf{Figure 1.} CEO duality trend among the firms in the sample.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{CEO duality trend among the firms in the sample.}
\end{figure}

\textit{Note.} Percentage of firms of the special listing segments with CEO duality (2010-2015).
Figure 1 depicts the trend of firms with CEO duality for the period of 2010-2015. The vertical axis shows the percentage of firms with this configuration. As expected, at the end of this time window none firm has a structure with CEO duality. In order to make causal claims, we limited our sample to companies that eventually had CEO duality and split the titles of CEO and COB between 2011 and 2015. Table 1 presents the composition of our sample and Section 5 explains in details how do we assess causal interpretation of such events.

<table>
<thead>
<tr>
<th>Table 1. Sample Selection</th>
<th>Firms</th>
<th>Stocks</th>
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<tr>
<td><strong>Panel A. Sample of firms and stocks</strong></td>
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<tr>
<td>Listed in B3’s special segments</td>
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<tr>
<td>Corporate Governance Level 1</td>
<td>26</td>
<td>59</td>
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<tr>
<td>Corporate Governance Level 2</td>
<td>19</td>
<td>34</td>
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<tr>
<td>New Market</td>
<td>117</td>
<td>117</td>
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<td></td>
<td>162</td>
<td>240</td>
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<td><strong>(-) Financial firms</strong></td>
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<td>Corporate Governance Level 1</td>
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<td>9</td>
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<tr>
<td>Corporate Governance Level 2</td>
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<td>7</td>
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<tr>
<td>New Market</td>
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<td>6</td>
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<td></td>
<td>14</td>
<td>22</td>
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<tr>
<td><strong>(-) Firms with CEO non-duality structure (2011-2015)</strong></td>
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<tr>
<td>Corporate Governance Level 1</td>
<td>22</td>
<td>50</td>
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<tr>
<td>Corporate Governance Level 2</td>
<td>12</td>
<td>22</td>
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<tr>
<td>New Market</td>
<td>85</td>
<td>85</td>
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<td></td>
<td>119</td>
<td>157</td>
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<tr>
<td><strong>(-) Firms with negative equity</strong></td>
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<tr>
<td>Corporate Governance Level 1</td>
<td>0</td>
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<tr>
<td>Corporate Governance Level 2</td>
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<tr>
<td>New Market</td>
<td>3</td>
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<td><strong>Sample of firms / stocks</strong></td>
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<td>Corporate Governance Level 1</td>
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<td>Corporate Governance Level 2</td>
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<td>New Market</td>
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4.3. Financial Data
To obtain information of our main outcomes, we use data from Economatica. This administrative data set contains detailed information on financial statements and stock prices for all Brazilian listed firms from 1986 to 2018.

For the stock market outcomes, we use daily information on stock prices of every firm. Additionally, we calculate the Mean Adjusted Abnormal Returns as a proxy for market returns. In order to construct the outcomes related to corporate performance, we gathered quarterly data from firms’ financial statements, as well as information on number of shares and stock prices in the closing date of each statement. We segregate our analysis of corporate performance into two categories: i) market-based measures of performance, which includes Tobin’s Q and Market-to-Book (MTB) indexes and; ii) accounting-based measures of performance, which includes Return on Assets (ROA) and Return on Equity (ROE). Table 2 lists the full set of variables and provide their description.

| Table 2. Variables definition |

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<th>Firms</th>
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<tr>
<td><strong>Panel A. Stock market outcomes</strong></td>
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<tr>
<td>Mean adjusted abnormal returns</td>
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<tr>
<td>(Log)Prices</td>
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<tr>
<td><strong>Panel B. Corporate performance outcomes</strong></td>
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<tr>
<td><strong>Market-based measures</strong></td>
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<tr>
<td>Tobin’s Q</td>
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</table>
Market-to-book
Market value of equity, divided by book value of equity.

**Accounting-based measures**
Return on Assets
Earnings before extraordinary items, divided by total assets.
Return on Equity
Earnings before extraordinary items, divided by total book value of equity.

*Notes.* This table presents the definition of stock market outcomes, in panel A, and corporate performance measures, in panel B.

We use different time frames depending on which dependent variable is being analyzed. For high-frequency stock market outcomes, we use the time period between 2011 and 2015. We regard this time frame as being sufficient to capture market responses. As we explain in Section 5, we need a time window close enough to the compliance of corporations to the new regulation to make causal inference. When analyzing corporate performance, we need more data variability and thus use a wider time window to investigate pre-trends and dynamic effects. In this case, we expand the time span between 2010 and 2018. **Table 3** presents descriptive statistics for our sample.

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<td>Market-to-book (MTB)</td>
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<td><strong>Accounting-based measures</strong></td>
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<td>Return on Equity (ROE)</td>
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*Notes.* This table presents the definition of stock market outcomes, in panel A, and corporate performance measures, in panel B.

5. **Empirical Strategy**
As indicated by Adams, Hermalin and Weisbach (2010), Board and leadership features are endogenously chosen. This implies that the probability of a firm having a
duality structure may be correlated with observed and unobserved characteristics. To mitigate this endogeneity issue, we exploit a regulatory change that compels companies to separate the CEO and COB positions from the same person. This particular design allows us to apply a difference-in-differences (DD) strategy to analyze the effects of CEO non-duality on stock market and corporate performance outcomes.

The standard DD setting relies on summarizing the impact of an exogenous shock into a single coefficient. However, it only provides a credible estimate when all treated units receive the intervention at the same time. If the roll-out is heterogeneous across units, already-treated units may act as controls. In such cases, changes in their treatment-effects get subtracted over time, thus biasing the estimate provided by the plain vanilla DD configuration (GOODMAN-BACON, 2018). As showed in Figure 1, the separation between CEO and COB positions evolves differently across companies over time. We take advantage of having precise information on disclosures of such events and apply a more flexible empirical model. Specifically, our regression model takes the following event-study form:

\[
Y_{i,t} = \alpha + \sum_{m=1}^{M} \beta_{pre,m} \times Dual \ Split_{it+m} + \sum_{n=0}^{N} \beta_{post,n} \times Dual \ Split_{it-n} + \theta_t + \mu_t + \epsilon_{i,t}, \tag{1}
\]

where \(Y_{i,t}\) refers to an outcome of a given firm \(i\) at time \(t\). \(Dual \ Split_{it+m}\) denotes pretrends, while \(Dual \ Split_{it-n}\) indicates firms’ responses to the conversion to non-duality structure. \(\theta_t\) represent firm fixed effects and account for time-invariant unobserved firm-level heterogeneity. \(\mu_t\) are time fixed effects and control for common shocks that affect all firms homogeneously. Lastly, \(\epsilon_{i,t}\) is an idiosyncratic term. In essence, our key source of variation comes from the interaction between a dummy for being treated (i.e. from the event on) and time fixed effects. The parameters of interest are thus identified using the within-variation in the outcome of eventually-treated firms at each time period. Additionally, we cluster standard errors at the corporate-level to account for potential serial correlation and heteroskedasticity within these public corporations.

The identifying assumption is that firms developed in similar trends prior to the compliance of the rule and all further changes are solely consequences of the new leadership structure. Since switching to non-duality structure occurred not randomly over time, our identification would be compromised if we observe systematic differential paths in the outcomes of treated and control units before the event. Accordingly, we investigate whether changes in our outcomes of interests reflect pre-existing trends by checking statistical significance of the anticipatory effects (i.e. \(\beta_{pre,t} = 0\)).
To better understand how investors react to the new Board leadership configuration we use high-frequency data on stock prices and returns. To assess the impact of CEO non-duality on corporate performance we utilize Tobin’s Q, Market-to-Book, Return on Assets and Return on Equity as our main corporate performance outcomes. In our empirical model, we adjust the time period $t$ to daily and quarterly frequencies for stock and performance outcomes, respectively.

6. Results

Our results are divided into three parts. First, we show the effects of the announcement of CEO non-duality on stock prices. Then, we verify the impacts of the split of CEO and COB positions on corporate performance. Lastly, we explore some links that might explain our main findings.

6.1. Market Reaction

Figure 2 displays the coefficients for the market outcomes obtained from the event-study analysis. We include observations within a window of 10 days before and 15 days beyond around announcement dates. Restricting to a narrow range close to the event strengthens the understanding of investors’ reaction instead of an adjustment in management practices. Following the disclosure event, we observe no significant change in the trends of stock prices and returns.

The lack of market reaction we document is in line with findings obtained in the context of larger capital markets (BALIGA; MOYER; RAO, 1996; LARCKER; ORMAZABAL; TAYLOR). This suggests that economic context and size of market do not play a role on this short-run behavioral response.

Figure 2. CEO non-duality and Market reaction.
Notes. Each graphic plots the estimated coefficients $\beta_{pre,m}$ and $\beta_{post,n}$, which were obtained based on equation 1. The vertical lines represent their respective confidence intervals at 95% and 90%. Analysis were conducted with cluster-robust standard errors and all specifications include firm, day of the week and year fixed-effects.

Two reasons may explain these results. First, the lack of reaction may be because investors already anticipated the regulatory change. As the 2011 reform was made public before corporations commit to the new regulation, market players might had absorbed the costs of changing the organizational structure very early. Another possible explanation is that changing leadership structure per se is not perceived as a good governance practice. If this is the case, what really matters from the investors’ perspective is the management ability to maximize shareholders’ wealth. As a result, changes in the performance of these corporations should derive from changes in management strategies. We provide evidences supporting this presumption in the next subsections.

6.2. Corporate Performance

In this section, we investigate the impact of the new leadership structure in several measures of corporate performance. Panel a) of Figure 3 presents the dynamic differences-in-differences effects for the market-based measures, proxied by Tobin’s Q and Market-to-Book. The size of coefficients from the leads and their respective large confidence intervals suggest that outcomes evolve in common-trends long before the announcements (at least 5 quarters early). In response to the separation of CEO and COB positions, corporations experience a significant increase in their performance. Even though our sample comprises few complier firms, we obtain overall precise estimates.
For instance, the Tobin’s Q (Market-to-Book) enhances, on average, 37.4% (29.3%) in the first quarter during the transition. In addition to the quick response, the effect is not transitory but persistent through many years ahead.

In panel b) of Figure Figure 3, we check the impacts on accounting-based measures of performance. Differently from the results obtained for companies’ economic value, the new CEO non-duality structure does not seem to affect profitability. We find no significant variation in both measures of return – Return on Assets and Return on Equity. As for market-based outcomes, results are robust regardless of the proxy used to measure performance. Additionally, Figure 4 confirms that both revenue and net income are not affected by the new structure. This suggests the CEO non-duality structure make use of paths that do not directly affect firms’ operations. We will turn to this discussion when investigating mechanisms.

In sum, our results indicate the benefits of splitting the CEO and the COB titles from the same individual may overcome potential agency costs that arise from this separation. Additionally, they suggest non-duality provides substantial advantage in decision-making processes in order to maximize shareholders’ wealth.

Figure 3. CEO duality and Corporate performance.
Notes. Each graphic plots the estimated coefficients $\hat{\beta}_{pre,m}$ and $\hat{\beta}_{post,n}$, which were obtained based on equation 1. The vertical lines represent their respective confidence intervals at 95% and 90%. Analysis were conducted with cluster-robust standard errors and all specifications include firm and quarter fixed-effects.

**Figure 4.** CEO duality and Revenues / Net income.
Notes. Each graphic plots the estimated coefficients $\beta_{pre,m}$ and $\beta_{post,n}$, which were obtained based on equation 1. The vertical lines represent their respective confidence intervals at 95% and 90%. Analysis were conducted with cluster-robust standard errors and all specifications include firm and quarter fixed-effects.

7. Conclusion

Regulations targeted to improve corporate governance practices can be effective on promoting better financial performance. Using a particular quasi-experimental setting provided by a regulatory change, we estimate the effect of CEO non-duality on corporate outcomes. Our evidences indicate that stock prices and accounting-based profitability measures – ROA and ROE – are not sensitive to the new leadership structure. In contrast, we find a long-lasting positive effect on market-based corporate performance – Tobin’s Q and MTB.

Our findings are highly suggestive that splitting these top titles in organizations may improve corporate performance by restructuring management practices. We do not discard the enhancement on financial performance may be also mirrored by the enforcement on CEO activities made by the members of the Board. Nevertheless, the evidence supports that benefits associated with corporate governance practices may overcome eventual costs of its implementation to stakeholders in some dimension.

References


[¹] Named in Portuguese as *Novo Mercado, Nível 1 de Governança Corporativa* and *Nível 2 de Governança Corporativa*, respectively.

[²] Known in Portuguese as *Bovespa Mais* and *Bovespa Mais Nível 2*, respectively.


[⁶] Section 5 of N2 regulation, and Section 4 of NM and of N1 regulations.

[⁷] In our sample, we observe one company fitting to this exception.

[⁸] Firms assigned to the L1 segment must attend exclusively the last condition.
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