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## Effects of the Corporate Governance Practices on the Executive Compensation

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## **Effects of The Corporate Governance Practices on The Executive Compensation**

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### **Abstract**

*This study aims to identify the effect of the quality of corporate governance practices on the configurations and values of executive compensation. According to agency theory, good corporate governance practices contribute to reducing information asymmetries between shareholders and managers and, consequently, the potential for managerial opportunism, reducing the need for incentives to align interests. In this sense, three hypotheses were elaborated relating the quality of corporate governance practices of companies with (1) the executive remuneration values, (2) the conformity gap, and (3) the share held by the CEO in relation to the other members of the C-level (CEO pay slice). These hypotheses were verified for companies listed in the Brazilian stock market, characterized by the predominance of concentrated ownership. Based on a sample of 174 companies with the highest liquidity, accounting for about 40% of the universe, and using as control variables the size of the company and its sector of activity, no significant effects of the quality of governance were observed on the remuneration structures executive share or on the CEO's share of the C-level total. However, a significant relationship between the quality of governance and compliance with good remuneration practices was observed, evidencing a lower conformity gap. The results contribute to the governance and executive remuneration literature by pointing out potential flaws in agency theory and information asymmetries as justification for executive compensation practices.*

**Keywords:** *agency theory, CEO pay slice, conformity gap; corporate governance; executive compensation.*

Track: *Governance*

Word count: 8.369

### **Introduction**

The modern history of executive compensation started in 1980 (Murphy, 1999), parallel to the agency theory of Jensen and Meckling (1976) and the emergence of corporate governance as a mechanism to mitigate agency problems (Carvalho, 2002).

For Banghoj *et al.* (2010), executive compensation is an instrument for aligning the interests of managers and shareholders, i.e., agents and principals. The agency theory identifies a dissociation of interests between managers and shareholders (Jensen and Meckling, 1976), due to the separation of ownership and control (Berle and Means, 1987), and highlights the importance of mechanisms to reduce this dissociation. Corporate governance practices, such as executive compensation structures, are mechanisms that seek to minimize existing conflict and align interests (Silva *et al.*, 2000; Silva, 2006).

In Brazil, in response to the subprime crisis in the US, the Securities and Exchange Commission (CVM) (regulator of the country's capital market) released the CVM Instruction 480, of December 7, 2009, section 13 of Annex 24 (Reference Form – RF). According to this section, the listed firms must provide information on executive compensation, providing

transparency in the disclosure of information about the market participants (Beuren and Silva, 2012).

There are many studies in Brazil on executive compensation, indicating the importance of this subject in academia (Camargos and Helal, 2007; Carvalhal da Silva and Yi Chien, 2013; Fernandes and Mazzioni, 2015; Fernandes and Silva, 2013; Fontes Filho *et al.*, 2016; Malvessi and Pereira Filho, 2016; Nardi Ciampaaglia *et al.*, 2007; Silva, 2010; Silveira, 2004). The aspects related to amounts, form, and proportion of executive compensation, however, have also gained the interest of the media (Cohen, Viturino and Vieira, 2013; Exame, 2014; Valor Econômico, 2018), a phenomenon explained by the effort of Brazil to resume economic growth and the role of executive compensation in realigning interests – consequently promoting the firm’s growth (IBGC, 2018).

According to a study by Jensen, Murphy, and Wruck (2004), the history of executive compensation adopted in the USA showed a close relationship between corporate governance and compensation policies. Therefore, poor governance structures can influence compensation practices that destroy the firm’s value.

Cunha, Vogte, and Degenhart (2016) corroborated the relevance of understanding the correlation between corporate governance practices and executive compensation. The authors sought to identify the attributes of corporate governance that would affect the amounts of executive compensation (fixed and variable) in Brazilian publicly traded firms. They concluded that items such as shareholding, size of the Board of Administration and the firm’s size have a significant correlation with the compensation.

Considering the context of the Brazilian capital market, (an emerging economy where there is predominance of capital concentration and of firms with concentrated ownership) and in an attempt to identify a high standard of corporate governance practices, the study considered the listing segment B3 S.A. – *Novo Mercado* (NM) – which was established as a differentiated level for the trading of shares of companies that voluntarily adopt corporate governance practices additional to those required by Brazilian law.

Through the adoption of a set of rules related to partnership, policy disclosure, and the existence of supervision and control structures, NM leads companies to the highest standard of corporate governance. Thus, by requiring greater transparency, i.e., providing a large amount of information, NM enables firms to attract investors, increasing the possibility of financing growth through third-party capital.

According to Dittman and Maug (2007), the dominant theoretical perspective in most executive compensation studies is the agency theory (Jensen and Meckling, 1976). The authors point out that shareholders begin to offer attractive executive compensation packages (considering fixed and variable remuneration), to minimize the effects caused by the dissociation of interests between the agent and the principal, and to improve the firm’s performance.

In addition, the executive compensation can be examined under two other theoretical perspectives that seek to explain the amounts practiced. The first is the managerial power theory (Bebchuk and Fried, 2006), which explains that the CEO has an influence on the Board of Administration and consequently on its own compensation, explaining the high salaries. The other perspective is the market-based theory (Murphy and Zábojník, 2004) that explains the payment of high amounts based on market mechanisms, where the executives are rewarded for their rare abilities.

These two theories focus on explaining the amounts practiced. The agency theory (Jensen and Meckling, 1976) and the context of the Brazilian market presented here, in turn, they identify whether there is a significant relationship between the adoption of the highest standard of corporate practices and the executive compensation in Brazilian publicly traded firms.

This research is justified a) considering the intense discussion about the executive compensation in the Brazilian (Silva, 2010) and international (Conyon, 2006) markets; and b) observing the potential of corporate governance to reduce agency problems that result from the separation of ownership and control (Berle and Means, 1987), influencing the compensation structures (fixed salary, cash bonuses, and stocks and stock options) defined by the company (Murphy, 2009). This paper contributes to the literature on governance and executive compensation by pointing out flaws in the agency theory and information asymmetries as justification for executive compensation structures.

## **Perspectives on Executive Compensation**

### **1.1. Agency Theory and Executive Compensation**

After Berle and Means (1987) pointed out the dispersion of corporate capital and the separation between ownership and management, the central problem of corporate governance has become the agency conflict that occurs when owner and manager are not exercised by the same agent (Rossetti and Andrade, 2012).

Jensen and Meckling (1976) presented the agency theory in a pioneering study in the area of corporate governance, highlighting that the separation of ownership and control (Berle and Means, 1987) cause conflicts of interest that must be reduced.

Compensation is a key element of the system of incentives and alignment of interests (IBGC, 2018) between shareholders and managers, according to the agency theory of Jensen and Meckling (1976). Jensen and Murphy (1990) point out that the executive compensation is one of the concerns of agency theory, and that it should be designed to give executives incentives to take actions that culminate in the maximization of shareholders' wealth.

For Bebchuk and Fried (2006), executive compensation has long been the subject of public criticism, which intensified after the wave of corporate scandals in 2001, which undermined confidence in the performance of publicly traded firms and drew attention to possible failures in executive compensation practices. The authors recognized that the Boards of Administration did not adequately play their roles in establishing compensation that would motivate executives to act in the interests of shareholders.

According to Jensen, Murphy and Wruck (2004), a well-structured compensation package for executives or employees at all levels will serve three objectives: (i) attract the right executives at the lowest cost; ii) retaining lower-cost executives; and, therefore, iii) taking measures that generate long-term value for shareholders.

The study by Funchal (2005) shows that larger firms need more complex organizational structures, and the level of responsibility and decision making in which they operate is also more complex. Thus, the author pointed out that the firm's size has a positive and significant relationship with executive compensation in Latin American companies, and concluded that the sector would also be a determinant.

This positive relationship was confirmed by Ozkan (2007) in his study on large companies in the UK, showing that the larger firms pay higher compensation to their CEOs. Finally, Cunha, Vogte, and Degenhart (2016) demonstrate that corporate size is one of the attributes of corporate governance that affect executive compensation.

The agency theory by Jensen and Meckling (1976) is the dominant theory to explain executive compensation from the compensation structure point of view, which is considered the most effective way to align interests between agent and principal (Dittmann and Maugg, 2007). For the agency theory, the principal (shareholder) reduces the problem of managerial opportunism (moral hazard), by establishing a contract with the agent (manager).

Bebchuk and Fried (2003) argue that there are different views on the connection between the agency problem and executive compensation. The authors argue that executive compensation can be analyzed as an instrument to address the agency problem arising from the separation of

ownership and control (Berle and Means, 1987). However, Bebchuk and Fried (2003) point out that compensation can also be part of the agency problem. As for compensation being part of the problem, Carvalhal da Silva and Yi Chien (2013) explain that, when shareholding becomes more dispersed, managers have greater influence over the definition of their compensation, which represents a conflict of interests.

Notwithstanding, the dominant approach for economists, labeled as 'optimal contracting,' is that executive compensation would be a remedy for the agency problem (Jensen and Meckling, 1976). In this case, the Boards of Administration are expected to define compensation structures that provide agents (managers) with efficient incentives to maximize shareholder value.

As mentioned before, there are two other theories approaching the executive compensation, examining and seeking explanations about the amounts involved: i) managerial power theory (Bebchuk and Fried, 2006); and ii) market-based theory (Murphy and Zábojník, 2004; Hoskisson, Castleton, and Withers, 2009).

The managerial power theory (MPT) by Bebchuk and Fried (2006) is considered by Conyon (2006) as an alternative theory to explain the executive compensation. The author argues that CEOs have influence over the Board of Administration and therefore over the definition of their own compensation. The Board of Administration and the compensation committee cooperate with the CEO by accepting over-compensation and establishing contracts that are not of interest to shareholders.

According to the MPT theory, managerial power played a fundamental role in building the compensation contract, explaining much of the contemporary panorama of executive compensation in an American context of firms with dispersed ownership (Bebchuk and Fried, 2006). The authors emphasize that the power of the CEO is also influenced by social connections and friendships, generating a duty of reciprocity in professional contexts. For them, it is not surprising that the studies conclude that compensation committees formed and appointed after the CEOs' inauguration tend to grant CEOs higher compensation.

Murphy and Zábojník (2004) observe that the MPT theory of Bebchuk and Fried (2006) based on the explanation that the increase in CEO power allows higher compensation at the expense of workers and shareholders would not be entirely convincing. The authors offer another theory, which is based on recent trends.

The market-based theory by Murphy and Zábojník (2004), or in the jargon of economics, the theory of scarcity (demand and supply), considers that CEOs compensation is determined by the competition between the firms for the best executives, and it depends on the managers' skills (which are transferable between companies and sectors).

Murphy and Zábojník (2004) developed a theoretical model based on the importance of intellectual capital, classifying it into general and specific managerial skills. For the authors, the general skills (transferable between firms or industries), have become more important for the position of CEO, since knowledge in economics, administration, accounting, finance, and other disciplines, if properly mastered, can improve the ability of the executive to run any firm. At the same time, specific knowledge about a particular company, its market, products, suppliers, and customers, would not be considered a differential, since this type of information is available in reports, presentations and other documents produced internally.

In this sense, competition in the job market for talent, especially skilled CEOs, determines executive compensation (Conyon, 2006). Different from specific knowledge, general skills became important in the modern enterprise, leading to higher compensation (Murphy and Zábojník, 2004).

Finally, the market-based theory argues that the rapid increase in the amount of executive compensation in recent years is the result of market mechanisms that seek to reward executives for their outstanding skills. Also, Murphy and Zábojník (2004) understand that

there is evidence suggesting that market forces and CEOs managerial skills are crucial in determining executive compensation and turnover.

## 1.2.Hypotheses

According to Correa and Lel (2013), executive compensation is one of the most debated aspects of corporate governance. Historically, regulatory changes have had a major influence on executive compensation standards.

Cunha, Vogte, and Degenhart (2016) emphasize that in the agency theory of Jensen and Meckling (1976), attributes of corporate governance contribute to the definition of compensation contracts that align the interests of managers and shareholders, reducing agency problems.

There are few studies involving the relationship between the variables ‘total compensation’ and ‘quality of corporate governance practices.’ The existing literature seeks, in most cases, to establish a correlation between executive compensation and the firm’s performance (Camargos, 2007; Carvalhal, 2013; Fernandes, Mazzioni, 2015; Malvessi, Pereira Filho, 2016; Nardi Ciampaglia *et al.*, 2007; Silveira, 2004).

For Conyon and Murphy (2000), according to empirical studies, the two determinants of executive compensation are the size of the firm and the industry in which it operates. Other studies also point to the positive correlation between the firm’s size and executive compensation, such as Baker and Hall (2004) and Schaefer (1998). Smith and Watts (1982), corroborate, advocating that larger firms need talented executives, and offer better compensation to attract them (Baker and Hall, 2004).

Therefore, to observe the influence of corporate governance best practices on the executives’ total compensation, adopting the firm’s size and activity sector as control variables, this paper discusses the following hypothesis: *H1 – Best practices in corporate governance are associated with lower total compensation, controlled by the firm’s size and activity sector.*

Complementarily, two other hypotheses are studied to evaluate what the literature states are influencers of the relationship between governance and executive compensation. The second hypothesis (H2) is related to the effect of best practices in corporate governance on the conformity gap, an expression not well known in Brazil. The third hypothesis (H3) refers to the effect of best practices in corporate governance on CEO pay slice.

Barontini, Bozzi, and Ferrarini (2017) analyze the relationship between conformity to executive remuneration standards, corporate ownership, and the structure of CEO compensation. The authors focus on measuring how European firms conform to executive compensation standards provided by laws or set out in the firms’ internal corporate governance rules. The study measures the companies’ conformity to best practices based on criteria referring to i) governance of the process of determining executive compensation, and ii) disclosure of details regarding the compensation policy and the individual amounts applied to the executive remuneration.

For Barontini, Bozzi, and Ferrarini (2017), conformity gap is a construct that measures the difference in conformity to the best practices regarding executive compensation between the controlled and the publicly traded firms. The result of the analysis carried out in their study suggests that the conformity gap can be interpreted from the point of view of agency theory (Jensen and Meckling, 1976) and that firms with defined control, pay lower compensation. The explanation is that controlling shareholders monitor executives more efficiently than firms with dispersed ownership (Fama and Jensen, 1983). Therefore, the payment of incentives is less necessary. The authors also point out that in state-controlled companies, the level of compensation and the more limited use of stock-based incentives can be determined by regulations specific to these firms.

The study by Barontini, Bozzi, and Ferrarini (2017), found that poor supervision could explain, in a limited way, the low conformity to the executive compensation standards. In the case of the publicly traded firms, because of the strict supervision, they are submitted to, they may have more incentives to conform with best practices in executive compensation. They also found that the conformity gap regarding best practices in compensation observed in controlled companies is due especially to the rigid monitoring exercised by controlling shareholders, which reduces the need to provide financial incentives and, pressurizes to meet the best remuneration practices.

Given the lessons learned from the work by Barontini, Bozzi, and Ferrarini (2017) on conformity gap, and adapting their findings to the Brazilian capital market, this study evaluates the effects of best practices in corporate governance practices on the conformity gap, as follows. The conformity gap measures the firm's conformity to best practices in compensation grouped in four criteria: company's compliance with good remuneration practices grouped into four criteria: i) existence of a compensation committee; ii) existence of a compensation policy, using an indicator of financial performance; iii) disclosure of the amount paid as compensation; iv) stock-based compensation. *H2 – Best practices in corporate governance imply lower conformity gap.*

The third hypothesis (H3) guiding this study explores the relationship between the best practices in corporate governance and the CEO pay slice (CPS). Studies on this relationship are unusual, but the findings of the work by Bebchuk, Cremers, and Peyee (2011), offer some direction. The authors observed the relationship between the CEO pay slice and the amount, performance, and behavior of publicly traded firms.

According to these authors, CPS is a variable that corresponds to the fraction of the aggregate compensation of the top-five executive team that is captured by the CEO. The CPS may reflect the relative importance of the CEO as well as the extent to which the CEO is able to extract rents. Bebchuk, Cremers, and Peyee (2011) conclude that the CPS is negatively associated with firm value and that a higher CPS is associated with agency problems and indicate that the CPS can be a tool to understand the firm's performance and behavior.

The CPS can be explained from the perspective of Bebchuk and Fried's (2006) managerial power theory (MPT), which considers that CEOs have influence over the definition of their compensation, and the Board of Administration and the compensation committee cooperate with the CEO, accepting over-compensation and establishing contracts that are not in the interests of shareholders. Thus, the MPT contributes to explain the CEOs' higher compensation when compared to the other executive officers (CEO pay slice).

According to Schneider (2013), the MPT shows that managerial influence over compensation has produced significant distortions in remuneration arrangements, resulting in expense for shareholders. The author points out that this influence weakens the incentives for executives to increase shareholder value, and it actually contributes to the creation of incentives to take actions that end up reducing the value of the company in the long run.

Bebchuk and Fried (2003), when proposing the MPT, argued that a weak corporate governance structure leads to poorly designed compensation packages.

Also, Al-Najjara, Dingb, and Hussaineyc (2016) when analyzing firms listed in the United Kingdom, found that firms with high corporate governance ratings presented higher amounts of CEO pay slice. This evidence, together with the elements presented above, lead to our third hypothesis correlating the quality of corporate governance to a balance in executive compensation in Brazilian companies, as reflected in CEO pay slice: *H3 – Best practices of corporate governance means less CEO pay slice.*

## Data and Method

### 3.1 Data

The study used data from 2016 made available in 2017, collected from the reference forms (RFs) archived in the Securities and Exchange Commission of Brazil's (CVM) website, as provided by the CVM Instruction 480/09. The RFs' sections analyzed were section 03 (financial information), section 12 (shareholders' meeting and management), and section 13 (management compensation). The analysis observed the existence of a compensation committee (or similar body); compensation policy; listing segment; activity sector; the existence of financial performance indicators; total, maximum, average and minimum compensation of the Board of Executive Officers. The data for each company's total asset was collected from the *Economática*® database.

The study population comprised the Brazilian companies listed in *Brasil, Bolsa, Balcão* (B3) for a total of 398 companies. These companies were selected because they present an adequate level of corporate governance practices for the purposes of this research.

The sample consisted of companies listed in the levels "Tradicional," "Nível 1", "Nível 2" and "Novo Mercado," which presented all the variables used in the research in the year analyzed, totaling 174 companies. It is important to observe that financial institutions are subject to greater regulation and this may have an impact on the CEOs' and on the Board of Executive Officers' compensations. Therefore, these firms were disregarded when forming the sample. Also, the study disregarded firms' that presented inconsistent data or failed in providing appropriate information.

Descriptive statistics were used for the characterization of the sample and the multiple linear regression for the test of the hypotheses, both executed in the statistical software Statistical Package for Social Sciences (SPSS).

### 1.2.Variables

The statistical analysis of data used the following variables, described in Table 1.

Variable		Description	Collected from
<b>Independent variables</b>			
Executive Compensation	Total Compensation (TC ou log_TC)	Sum of the annual amount received by the Board of Executive Officers, including fixed and variable compensation. Includes compensation based on stocks, participation in committees, bonus, indirect benefits, post-employment package.	Reference form – Item 13.2
	Compensation CEO (CCEO)	Sum of the annual amount received by the CEO, including fixed and variable compensation. Includes compensation based on stocks, participation in committees, bonus, indirect benefits, post-employment package.	Reference form – Item 13.2
	Compensation Board of Executive Officers (CExec)	Sum of the annual amount received by the Board of Executive Officers, including fixed and variable compensation. Includes compensation	Reference Form – Item 13.2



<b>Table 1: Variables used in the study</b>			
<b>Variable</b>		<b>Description</b>	<b>Collected from</b>
		based on stocks, participation in committees, bonus, indirect benefits, post-employment package. The amount is determined by deducting the CEO's compensation (CCEO).	
<b>Independent variables</b>			
Executive Compensation	CEO pay slice (CPS)	The total compensation for the CEO, as a fraction of the aggregate compensation of the other executive officers. $CPS = (CCEO)/(CCEO + CExec)$ .	Reference form – Item 13.2
Conformity Gap	Conformity gap (CGap)	The conformity gap measures the conformity of the firm to the best practices on compensation distributed in four criteria: i) existence of a compensation committee (Corem); ii) existence of a compensation policy using an indicator of financial performance (PolIFin); iii) uses the injunction from IBEF case (IBEF) and iv) stock-based compensation (RemAções). For each criterion matched the firm scores 02 points (0 when do not match the criteria). Therefore, $CGap = \text{mean} (Corem + PolIFin + IBEF + RemAções)$ . As high as the CGap score, smaller is the gap.	Reference form – Items 12.1, 13.1 a, 13.1 c
<b>Independent variables</b>			
Corporate Governance	Quality of corporate governance practices (CG)	The variable reflects the level of maturity of corporate governance practices ( <i>Tradicional, Nivel 1, Nivel 2 and Novo Mercado</i> ). Dummy variable.	B3 List
<b>Control variables</b>			
Control	Firm's size SIZE (log_Asset)	Firm's size, measured using the logarithm of total asset.	<i>Economática</i> <sup>®</sup>
	Sector (SECT)	Firm's activity sector. Dummy variable.	<i>Economática</i> <sup>®</sup>

Source: Research data.

### 1.3.Method

The verification of the existence of empirical support for the theoretically justified hypotheses was made through the Statistical Package for Social Sciences (SPSS) software, using a multiple linear regression model.

The model used to test H1 (best practices in corporate governance are associated with lower total compensation, controlled by the firm's size and activity sector) is represented by the

straight line:  $\hat{y} = \beta_0 + \beta_1 CG_i + \beta_2 \log\_Asset_i + \beta_3 SECT_i + e_i$ , where  $\hat{y}$  is the output variable to be predicted,  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  are the regression coefficients described in Table 1 and  $e_i$  is a residual term.

Hypothesis H2 (best practices in corporate governance imply in lower conformity gap) is represented by the straight line:  $\hat{y} = \beta_0 + \beta_1 CG_i + e_i$ , where  $\hat{y}$  is the output variable to be predicted,  $\beta_1$  is the regression coefficient described in Table 1 and  $e_i$  is a residual term.

The straight line of H3 (best practices of corporate governance means less CEO pay slice) is  $\hat{y} = \beta_0 + \beta_1 CG_i + e_i$ , where  $\hat{y}$  is the output variable to be predicted,  $\beta_1$  is the regression coefficient described in Table 1 and  $e_i$  is a residual term.

The normality of residuals was verified through the evaluation of the histograms of the standardized residuals. Only four standardized residuals outside the absolute value range +3 to -3 were found, two in hypothesis H1, one in hypothesis H2 and one in hypothesis H3. As these standardized residuals were slightly higher than 3 and considering the low representativity and the fact that they did not generate significant influence, it was understood that there was no need to withdraw these observations from the analysis. These cases correspond to the following firms: Cia Energética de Brasília S.A (H1); Energisa S.A (H1); Minerva (H2); and Metalúrgica RioSulense S.A (H3).

The values corresponding to the total compensation, dependent variable and the total assets, control variable used to measure the firm's size, presented very asymmetric histograms, crossing several orders of magnitude. Therefore, considering that they could represent outliers or generate problems in the regression model, these variables were subjected to the logarithmic transformation for the test of hypotheses H1, H2 and H3.

Dummy variables were created for the dependent variable corporate governance (GC), which represents the listing segments, and for the control variable activity sector (SECT).

The absence of multicollinearity among the independent variables, one of the prerequisites for multiple regression, was verified by means of the variance inflation factor (VIF). In this case, VIF greater than or equal to 5 would be indicative of the existence of multicollinearity. When checking the VIF result in the tests of hypotheses H1, H2 and H3, it was possible to verify values significantly lower than 5, allowing to refute the possibility of multicollinearity.

## Results and analysis

The initial sample had 178 companies. Four companies, however, were excluded because they presented inconsistencies in the information provided in the reference form and in the database of *Econômica*®: Mendes Júnior Engenharia S.A; Minupar Participações S.A; Qualicorp S.A; and TriSul S.A.

Thus, the sample analyzed was formed of 174 companies, of which 45.4% were listed in the segment *Novo Mercado*, which demands a more mature corporate governance. The other segments were represented as follows: *Tradicional*, 36.2%; *Nível 1*, 10.9%; and *Nível 2* 7.5%. The level *Tradicional* demands the least maturity regarding governance practices and counts on 63 companies. This means that there is room to improve corporate governance practices in some of the Brazilian firms.

When analyzing the sample by activity sector, a concentration of firms was observed in the sectors Cyclical Consumption and Public Utility, with 22.4% and 19.5%, respectively. The sectors with the lowest representation were Telecommunication, with only one company in the sample (0.06%), followed by the Oil, Fuel and Gas sector with two companies in the sample, representing 1.1%. Table 2 shows the composition of the sample by activity sector.

Table 2: Sample according to the activity sector		
Sample according to the activity sector		
Activity sector	Frequency	Percentage

<b>Table 2: Sample according to the activity sector</b>		
<b>Sample according to the activity sector</b>		
Telecommunication	1	0.06
Oil, gas, and biofuel	2	1.1
Information technology	4	2.3
Activity sector	Frequency	Percentage
Industrial good	19	10.9
Non-cyclical consumption	23	13.2
Construction and transportation	26	14.9
Basic materials	26	14.9
Public utilities	34	19.5
Cyclical consumption	39	22.4
Total	174	100

Source: Research data.

Also, the averages of the variables ‘total asset’ and ‘total compensation’ (of the CEO and of the Board of Executive Officers) are shown in Table 3, demonstrating that they vary in magnitude. It is important to notice that the sample includes 33 companies that disclosed only the global value of executive compensation, using an injunction obtained by the Brazilian Institute of Financial Executives (IBEF) in a legal battle against the CVM since 2010. The injunction advocates that full disclosure of compensation implies a risk to the executives’ safety. This argument goes against the best practices of corporate governance and violates the CVM Instruction 489.

It should also be noted that in May 2018 the Brazilian Regional Federal Court of the 2<sup>nd</sup> Region (TRF2) overturned the aforementioned injunction and the companies started to inform the appropriate amounts, facilitating future studies on executive compensation of Brazilian firms. However, this change and the presentation of the information by the firms occurred after the conclusion of the analyzes, and it was not possible to capture its effect in this study. Thus, Table 3 presents the descriptive statistics of the firms that disclosed the compensation amounts (the firms that did not use the IBEF injunction, totaling 141 companies).

<b>Table 3: Descriptive statistics of the sample</b>			R\$ Thousand
<b>Descriptive statistics of the sample</b>			
Variable	Minimum R\$ (N=141)	Maximum R\$ (N=141)	Average R\$ (N=141)
Assets	36.66	804,945.00	16,324.26
TC	176.08	50,151.84	8,487.97
CCEO	3.12	22,015.21	2,428.99
CBoard	29.74	38,501.05	6,101.25
CPS	0.02%	100%	32.11%

Source: Research data.

Analysis of the results for H1, detailed in Table 4, resulted in a statistically significant model [F(11.127) = 14.995; p<0.001; R<sup>2</sup> = 0.565], and the results demonstrate that the model explains 56.5% of the data variation. In other words, 56.5% of the variation of the dependent variable, log\_TC or logarithm of total compensation is explained by the independent variables proposed in the model. Also, it is possible to see that the firm’s size measured by log\_Asset is highly significant ( $\beta = 0.591$ ) in the explanation of the variation, indicating that each 1% more in log\_Asset generates 0.387% increase in the total compensation of executives.

When analyzing the influence of the activity sector and the listing segment, it can be seen that companies in the non-cyclical consumption sector ( $\beta = 0.322$ ) and listed in the *Novo Mercado* ( $\beta = 0.308$ ) have the highest compensation coefficients. On the other hand, the analysis show that companies in the oil, gas and biofuels sector ( $\beta = -0.62$ ,  $p = 0.317$ ) and those listed in *Nível 1* ( $\beta = 0.16$ ,  $p = 0.815$ ) are not statistically significant ( $p > 0.1$ ).

Therefore, it is possible to observe that the increase in the executive compensation coefficients is higher from the *Nível 1* ( $\beta = 0.016$ ) to the *Novo Mercado* ( $\beta = 0.308$ ), with a variation of 0.292.

<b>Table 4: Results for H1</b>		
<b>Model H1</b>	<b>Non-standardized coefficient (B)</b>	<b>Standardized coefficient (Beta)</b>
(Constant)	3.856	
SIZE (Log assets)	0.387***	0.591
Sector-Industrial goods	0.245**	0.167
Sector-Construction and transportation	0.195*	0.151
Sector-Cyclical consumption	0.289**	0.259
Sector-Non-cyclical consumption	0.450***	0.322
Sector-Basic materials	0.320**	0.212
Sector-Oil, gas, and biofuels	-0.244	-0.062
Sector-Information technology	0.305	0.095
Seg_listing- <i>Nível 1</i>	0.026	0.016
Seg_listing- <i>Nível 2</i>	0.271**	0.149
Seg_listing- <i>Novo Mercado</i>	0.290***	0.308

Dependent variable: log\_TC

$F(11,127) = 14,995$ ;  $p < 0,001$ ;  $R^2 = 0,565$

Note: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$

Source: Research data.

In view of the above, hypothesis H1 (*best practices in corporate governance are associated with lower total compensation, controlled by the firm's size and activity sector*) was rejected. It was possible to observe a directly proportional relationship, i.e., the higher the level of maturity in corporate governance practices, observed by the listing segments, the higher the amounts of executive compensation. Also, the variable firm's size showed to be highly significant ( $p < 0.001$ ) for executive compensation.

Analyzing the results of H2 (Table 5), it is observed that the model is statistically significant [ $F(12,157) = 9.582$ ;  $p < 0.001$ ;  $R^2 = 0.423$ ], so its predictive capacity is approximately 42%. In other words, 42.3% of the variation of the dependent variable, conformity gap, is explained by the independent variables proposed in the model.

In addition, we can observe a directly proportional relationship between the firm's size, the highly significant control variable, measured by log\_Asset ( $\beta = 0.384$ ) and conformity to executive compensation practices grouped in the four criteria already mentioned: i) existence of a compensation committee; ii) existence of a compensation policy, using an indicator of financial performance; iii) disclosure of the amount paid as compensation; iv) stock-based compensation. Thus, the positive variation of 1% in the value of total assets implies a lower conformity gap (-1.066 points), meaning that the larger the size of the firm, the more likely it

is to adopt best practices in executive compensation (higher values of  $\beta$  implies a smaller conformity gap).

When the activity sector is observed, the cyclical ( $\beta = 0.245$ ) and the non-cyclical ( $\beta = 0.187$ ) consumption have lower values of conformity gap when compared to the base sector (public utilities). The other sectors do not show any effect. Finally, specifically with respect to the listing segments, *Novo Mercado* can be considered statistically significant ( $\beta = 0.415$ ,  $p > 0.001$ ), which means that the companies listed in this level have the lowest values for the conformity gap, or in other words, have a greater adherence to best practices on executive compensation.

Still, on the listing segments, there is little variation from the *Tradicional* to *Nível 1* ( $\beta = -0.10$ ). However, from *Nível 1* to *Nível 2* ( $\beta = 1.562$ ) there is a significant reduction in the firm's conformity gap. Finally, from *Nível 2* to *Novo Mercado* ( $\beta = 1.739$ ), the reduction is marginal by 0.02 points, indicating that the adoption of best practices on executive compensation is similar among companies listed at these levels.

<b>Model H2</b>	<b>Non-standardized coefficient (B)</b>	<b>Standardized coefficient (Beta)</b>
(Constant)	-3.648	
SIZE (Log assets)	1.066***	0.384
Sector-Industrial goods	0.396	0.058
Sector-Construction and transportation	0.617	0.106
Sector-Cyclical consumption	1.220**	0.245
Sector-Non-cyclical consumption	1.142*	0.187
Sector-Basic materials	0.655*	0.107
Sector-Oil, gas, and biofuels	-0.462	-0.024
Sector-Information technology	0.810	0.059
Sector-Telecommunication	1.109	0.041
Seg_listing- <i>Nível 1</i>	-0.068	-0.010
Seg_listing- <i>Nível 2</i>	1.562**	0.198
Seg_listing- <i>Novo Mercado</i>	1.739***	0.415

Dependent variable: conformity gap

$F(12.157) = 9.582$ ;  $p < 0.001$ ;  $R^2 = 0.423$

Note: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$

Source: Research data.

In view of the above, hypothesis H2 (*best practices in corporate governance imply in lower conformity gap*) was confirmed. It was observed that the higher the level of maturity in corporate governance practices (reflected in the listing segment), the lower the conformity gap of these companies. The variable conformity gap measures conformity to executive compensation practices grouped in the four criteria: i) the existence of a compensation committee; ii) existence of compensation policy, using an indicator of financial performance; iii) disclosure of the amount paid as compensation; iv) stock-based compensation.

In addition, the firm's size was highly significant in regression ( $p < 0.001$ ), showing that larger companies are more likely to adopt best practices in executive compensation, i.e., show more conformity.

Finally, the analysis of H3 (Table 6) showed that the model is statistically significant [F (11.127) = 2.866;  $p < 0.05$ ;  $R^2 = 0.199$ ], with a predictive capacity of approximately 20%. In other words, 19.9% of the variation of the dependent variable, CPS (CEO pay slice), is explained by the independent variables. In addition, there is an inversely proportional relationship between the CPS and the size of the company measured by  $\log\_Asset$  ( $\beta = -0.242$ ). Therefore, larger firms tend to have a lower CPS. However, it is possible to say that firms with assets 1% higher have on average CPS 0.06 points lower.

When analyzing the activity sector, it was observed that the highest CPS amounts are practiced in the sector of oil, gas, and biofuel ( $\beta = 0.235$ ), followed by the sector of cyclical consumption ( $\beta = 0.217$ ). Finally, it is possible to notice that the listing segment has no influence on the definition of CPS, i.e., the regression coefficients presented are statistically non-significant (*Novo Mercado* = 0.76, *Nível 1* = 0.962 and *Nível 2* = 0.990).

In addition, when observing that there is no variation in the amounts practiced among the listing segments, it can be inferred that the CPS increases as the board of executive officers' compensation increases. Thus, the increase occurs at the same levels, so there is no great distance between the compensation of the CEO and the other executives of the board.

<b>Table 6: Results for H3</b>		
<b>Model H3</b>	<b>Non-standardized coefficient (B)</b>	<b>Standardized coefficient (Beta)</b>
(Constant)	0.682	
SIZE (Log assets)	-0.063**	-0.242
Sector-Industrial goods	0.121**	0.208
Sector-Construction and transportation	0.039	0.076
Sector-Cyclical consumption	0.096*	0.217
Sector-Non-cyclical consumption	-0.001	-0.001
Sector-Basic materials	0.030	0.050
Sector-Oil, gas and biofuels	0.368**	0.235
Sector-Information technology	-0.092	-0.072
Seg_listing-Nível 1	0.003	0.004
Seg_listing-Nível 2	-0.001	-0.001
Seg_listing- <i>Novo Mercado</i>	-0.012	-0.031

Dependent variable: CPS

F (11.127) = 2.866;  $p < 0,05$ ;  $R^2 = 0.199$

Note: \*\*\*  $p < 0.001$ ; \*\*  $p < 0.05$ ; \*  $p < 0.1$

Source: Research data.

Thus, hypothesis H3 (*Best practices on corporate governance imply lower CEO pay slice*) was rejected. It was observed that the level of maturity in corporate governance practices in the firms, according to the listing segments, does not generate a statistically significant influence on the amounts of the CPS.

## Conclusion

The main objective of this research was to identify if the quality of the practices of corporate governance influence in the executive compensation Brazilian publicly traded firms. Simultaneously, the researchers observed whether the effect of adopting best practices in

corporate governance implies a lower conformity gap, an expression not well known in Brazil. Finally, the study sought to identify whether the effect implies lesser CEO pay slice. The results showed that the firm's size and activity sector determining factors for the definition of executive compensation, justifying the use of these factors as control variables. This finding corroborates other studies that demonstrated the significant influence of the firm's size (Shaffer, 1998; Backer and Hall, 2004; Funchal, 2005; Ozkan, 2007; Cunha, Vogte, and Degenhart, 2016; Fontes Filho, *et al.*, 2016) and the influence of the activity sector (Conyon and Murphy, 2000) on executive compensation.

Even though there are only a few studies investigating the relationship between corporate governance practices and executive compensation, Jensen, Murphy, and Wruck (2004) emphasize the connection between corporate governance and compensation in the American context. Core, Holthausen and Larcker (1999) suggested that firms with weaker corporate governance structures have greater agency problems and tend to pay more to executive officers, confirming the rejection of H1 (*best practices in corporate governance are associated with lower total compensation, controlled by the firm's size and activity sector*). In other words, executive compensation as a mechanism to reduce agency conflict is not influenced by the maturity level of corporate governance practices to the extent that the amounts paid to executives are reduced. That is, the statistical analysis of H1 results shows that the higher the level of the listing segment, the better paid the executives are.

The hypothesis that best practices in corporate governance imply lower conformity gap (H2) (a construct that is little known in Brazil) is confirmed by the finding that the companies listed in the *Novo Mercado* presented the lowest coefficients of conformity gap, indicating significant adherence to best practices in executive compensation. Despite the adaptation of the theory to the reality of the Brazilian stock market, this finding corroborates Barontini, Bozzi and Ferrarini's (2017) studies carried out with European companies, where they found that with strict supervision, firms with dispersed ownership have more incentives to conform to best practices in executive compensation.

Finally, the third hypothesis (H3) was not supported. The hypothesis was that best practices in corporate governance imply lower CEO pay slice, guaranteeing a better balance in executive compensation. Different from the studies of Al-Najara *et.al.* (2016), that argue that firms with the highest governance ratings tend to have higher CPS, and the MPT by Bebchuk and Fried (2006), the results of this research showed that the coefficients of segment listing are not statistically significant, so it does not affect the CEO pay slice. It can be inferred that one explanation for the rejection of the hypothesis is that, because the largest group of firms in the sample was listed in *Novo Mercado* (about 45.4%), which demands a higher level of maturity and supervision of best practices in corporate governance, CEO compensation tends to increase at the same levels as the Board of Executive Officers, maintaining a better balance between the remunerations practiced. In other words, the results indicate that there is no evidence of the CEO's power to define their remuneration, so it is not possible to empirically prove the MPT (Bebchuk and Fried, 2006) and, above all, to prove that higher CPS is associated with agency problems (Bebchuk, Cremers, and Peyee, 2011).

According to the results, adopting the dominant theoretical perspective – agency theory – the quality of corporate governance practices has no effect on the executive compensation structures of Brazilian publicly traded firms. This result suggests that, according to the theory discussed, although executive compensation is a mechanism for aligning interests between the agent and the principal (acting as an agent conflict mitigator), the robustness of the practices adopted by Brazilian companies does not influence the definition of the amount paid to executives.

Although there is a lack of further studies to explain the relationship studied in this research, it is possible to say that the firm's size and the activity sector are elements with significant

influence on the definition of compensation amounts, as confirmed by the statistical model applied here. Also, most of the studies correlate executive compensation with the firm's performance and demonstrate that the issue of executive compensation is complex and controversial (Canyon, 2006). However, in light of the concept of conformity gap, it is fair to say that more mature firms in terms of corporate governance have more conformity to best practices in executive compensation.

The empirical results of this research do not demonstrate the main effect pursued, and there is no consensus on the best executive compensation model to be adopted. However, the findings presented in this paper point to the fact that encouraging companies to adopt best practices in corporate governance will gradually reduce agency conflict, reinforcing the dominant theory.

We can affirm that, to some extent, the study contributes to the issue of executive compensation, confirming and testing that conformity to best practices in executive compensation is influenced by the level of maturity in corporate governance. It is noteworthy that Jensen, Murphy, and Wruck (2004) argued that poor governance structures could inspire compensation practices that destroy the firm's value.

This study has limitations and should be read taking into consideration the facts happened over the period analyzed (used data from 2016). This means that this kind of study could presents seasonal effects (such as the dismissal of executives), which involve high amounts related to the cancelation of contracts. Also, numerous companies are not providing information on executive compensation, with the support (during the period of this research) by the injunction obtained by IBEF. This situation influenced the information of 19% of the companies in the sample, which may have caused some kind of bias in the results. Another limitation is related to the quality of the information provided in the public documents consulted, which can present inconsistencies in the database and consequently influence the result of the statistical analysis.

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