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Firm Performance, Executive Turnover and Remuneration in Brazil

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Master thesis presented to COPPEAD Graduante School of Business, Universidade Federal do Rio de Janeiro, as part of the mandatory requirements in order to obtain the degree of Masters in Business Administration (M. Sc.)

Supervisor: Prof. André Luiz Carvalhal da Silva, (D. Sc.)

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FIRM PERFORMANCE, EXECUTIVE TURNOVER AND REMUNERATION IN BRAZIL

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Resumo

TEIXEIRA, Alexander Lopes de Freitas .**Performance de Empresas Brasileiras e a Remuneração-Turnover de seus Executivos.** Rio de Janeiro, 2020. 32pp. Thesis (Masters Degree in Business Administration) - COPPEAD Graduate School of Business, Federal University of Rio de Janeiro, Rio de Janeiro, 2019.

O objetivo deste trabalho é estudar a relação entre a performance das empresas brasileiras e a remuneração e turnover dos seus executivos. De acordo com o postulado pela teoria do Agente-Principal, uma melhor performance corporativa vem acompanhada de uma relação significativa desta com remuneração e turnover dos executivos, positiva no primeiro caso e negativa no segundo. Os estudos empíricos no contexto internacional e do Brasil sobre o assunto são inconclusivos, logo este trabalho contribuirá com a introdução de novos dados nessa discussão. O resultado deste trabalho é que a performance medida por ROA, ROE e Dividend Yield não se mostra relacionada com remuneração e turnover executivo, exceto em um caso particular: ROA e remuneração. O assunto é relevante na medida que a Teoria do Agente-Principal é uma das mais populares dentro da área de governança corporativa e muitas práticas no ambiente de negócios são baseadas nas suas ideais. Por isso, um aprofundamento nele beneficia a alta cúpula das empresas e reguladores que promovem mais eficiência na economia. Como impacto nesse campo de estudo, este artigo introduz dados de 2018 na discussão e relaciona pela primeira vez no Brasil o turnover do Conselho de Administração com performance. A análise foi realizada com uma amostragem de 100 empresas provenientes da Bovespa, e como já mencionado o desempenho é representado por ROA, ROE e Dividend Yield, calculados por meios das demonstrações financeiras dessas empresas, enquanto dados de remuneração e turnover foram coletados nos sistemas da Comissão de Valores Mobiliários (CVM). Já que são dados em painel , o método usado foi Fixed Effects, monitorando possíveis problemas que poderiam invalidá-lo, como heterocedasticidade e autocorrelação..

Palavras-chave**:** teoria do agente-principal; remuneração executiva; turnover executivo; desempenho corporativo; Brasil; Governança Corporativa

Abstract

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The objective of this work is to analyze firm performance and its relation with executive remuneration and executive turnover in Brazil. Principal-Agent Theory states that better firm performance is related to a significant relation with executive remuneration and executive turnover, the former positive and the latter negative. Empirical studies developed in a international context and in Brazil in the last decades are inconclusive over that, so this paper is going to contribute adding new data to the discussion . The results show a performance measured by ROA, ROE and Dividend Yield not related with executive remuneration and executive turnover, except : ROA and remuneration. This issue is relevant as Agent-Principal Theory is one of the most popular inside corporative governance field and many corporate practices are based on its premises. Therefore, more studies about it benefit top management teams and regulators that promote more efficiency in economy. As an impact on the area, this article introduces 2018 data in the discussion and relates for the first time in Brazil Board of Directors turnover with firm performance. The analysis is based on 100 companies selected from Bovespa and as already mentioned the proxy for their performance is ROA, ROE and Dividend Yield, which were calculated using their financial demonstrations, while remuneration and turnover data were collected from Comissão de Valores Mobiliários (CVM). Due its panel format, the method used was Fixed Effects, with special attention to problems that usually happen in the process and can invalidate it, as heteroskedasticity and autocorrelation.

Keywords: agency principal theory; executive remuneration; executive turnover; firm performance; Brazil; Corporative Governance

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Summary

1. Introduction

Executive remuneration and its relation with firm performance has been a relevant issue for business researchers for decades. Nevertheless, the results are not conclusive as empirical studies have different conclusions and many researches face difficulties due to a lack of reliable data for analysis. The link between executive turnover and performance has been studied as well for many years, but unlike the former, its results are more consistent. In Brazil , both topics are relatively new, because more detailed information about executive remuneration was not easily available in quantity and quality until 2009, when CVM developed a regulation called Instruction 480 that created mandatory disclosure data regarding those issues.

This paper provides the following contributions to the literature. It is the first study to update Brazilian remuneration-performance data and analyze the relation between executive turnover and firm performance up to 2018. Moreover, this study extends the analysis not only to C-level executives but also evaluates board of director turnover and its sensibility to performance. Finally, we estimate in the same equation the relation between firm performance using both executive remuneration and turnover.

The theoretical context for most research on executive compensation is the agency theory, which states that there is a challenge in aligning management interests with those from equity owners. A symbol of it would be the Enron Case, when managers fooled equity owners. Their actions were conscientiously not maximizing shareholder value in a sustainable manner, but otherwise enrich themselves in short-term with accounting demonstration fraud. And they were successful for years.

Executive remuneration is central for agency theory because companies have been understood for many years that one part of the solution for it is the “optimal contract approaching”, which states that aligning remuneration with performance helps solving the problem at a considerable low cost. This subject has been tested during years and empirical works continue to be done because no consensus was achieved yet.

Other relevant issue for business researches that is linked with agency theory is executive turnover. In a scenario of information asymmetry the most objective way for shareholders to control the board of directors and management team alignment to their best interests is through performance. If the company has good figures achieved through sustainable operations the two groups are aligned, otherwise not. So, higher executive turnover is expected with underperformance and lower turnover is expected with overperformance.

There are many studies investigating the relationship between executive compensation, turnover and performance, mostly focusing on CEOs and the board of directors. In general, the papers indicate there is a significant relationship between firm performance and executive turnover.

Using the new data available for research in Brazil following CVM Instruction 480, we study the 100 largest and most liquid Brazilian listed companies from 2010 and 2018 and evaluate if there is a significant relation between firm performance and executive remuneration. We measure firm performance by return on asset (ROA), return on equity (ROE) and dividend yield.

Our results indicate a positive relation between variable compensation and ROA, but no significant relation between total compensation and ROA. Moreover, we document that ROE and dividend yield are not significantly related to executive compensation.

This paper is structured in the following way. The next section presents the literature review, and Section 3 shows the data and methodology. Section 4 reports the results, whereas Section 5 concludes.

2. Literature Review

Modern organizations are a complex phenomenon and organizing internal resources and resolving conflicts among stakeholders (owners, managers and employees) are challenging. The corporate governance (CG) is key to reduce the conflicts among stakeholders (Daily et al., 2003). The exact definition of CG is not a consensus (Khan, 2011), but as this work is from Finance field we are going to adopt a perspective from it: “the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment” (Shleifer and Vishny,1997).

Starting from the premise established by Berle and Means (1932) that ownership is separated from control many theories describe the consequences of it and how to neutralize possible problems and optimize performance. There are many theories on this topic: agency theory (Daily et al., 2003), stewardship (Donaldson and Davis, 1991), resource dependency (Pfeffer and Salancik, 1978), and so on.

Some theories state that executives are somehow aligned with shareholders so actually the problem of separated ownership and control is mitigated, while others say that the goals are different and the problem is serious and must be faced.In the first group, Stewardship states that executives have aligned goals with shareholders, that is, they are satisfied and motivated when organizational success is achieved. Likewise, resource dependency proposes a positive view about executives, specifically the board of directors. In short, many important resources for the company are obtained by them.

Agency theory is in the second group, so is structured based on conflict. Specifically between the principal and agent. In a public company the shareholder is the principal and the agent is the manager. The former hires the latter to act in his best interests, but the agent has his own motivations and there is no guarantee that he will do that. Shareholder has a difficult time trying to oversee everyday performance due to lack of information and time (Jensen and Meckling, 1976).

Although there are other explanations for companies dynamics, according to Daily et al. (2003), agency theory is prominent for two reasons: 1) it is a simple theory, in which dynamics are reduced to two actors with predictable behavior, and 2) the premise of the self-interested man is in economists minds since Adam Smith launched the idea 200 years ago.

Many instruments based on the agency theory were developed and are being used nowadays: executive remuneration associated to financial and stock market performance (Jensen and Meckling, 1976), board of directors composed with independent directors (Rosenstein and Wyatt, 1990), information systems for controlling internal operations (Eisenhardt , 1989), etc

During the last two decades there was a stronger push to implement these practices, as corporate scandals contributed to increase perception of a necessity of better corporate governance mechanisms (Blanes, Fuentes and Porcuna , 2019), a change in shareholders behavior as their activism increases (Minton and Kaplan, 2012), etc. Nevertheless, the task of developing good corporate governance apparently is simpler in some countries because the difference between ownership and control is less significant, naturally leading to a superior alignment between principal and agent. As his profits/losses are maximized in this scenario, the cost of effectively overseeing operations is largely surpassed by the benefits (Ozkan, 2011).

In this context, executive remuneration may be a important instrument to align interest among stakeholders. The link with agency theory is straightforward: remuneration should be closely related to performance. There are two ways of the principal oversee an agent: by his behavior or his results (Bebchuk and Fried, 2003). Among other reasons, the first one is expensive because of information asymmetry. How to control every step managers do in their work? So, the control is through results assessment and the materialization is remuneration being a direct proportion of it (Bebchuk and Fried, 2003).

Many papers had addressed this issue, but there is no consensus on the conclusions. Some studies found significant relationship between executive compensation and performance, but other papers find opposite results (Blanes, Fuentes and Porcuna, 2019).First, data available in different time-period and country vary significantly. In Brazil, for example, variable remuneration (an important component for understanding the issue) was not mandatory for public companies until 2009. And many companies went to court for not disclosing this information in the immediately following years. So, this valuable kind of data will be available in a larger quantity only in some years from now.

Second, agency theory related problems are less intense in some countries than in others (Ozkan 2011). So, the remuneration solution tends to be less applied according to the agency theory. This is the case of European and Asian countries (Coffee, 1999). The US and UK, on the other hand, are in the opposite side, with more fragmented ownership, so owners tend to spend less time monitoring each company of their portfolio (Coffee, 1999).

Third, at the same time that remuneration is a solution for agency problem as stated by “optimal contracting”, where boards would structure the optimal remuneration systems for executives, some researchers says that executive remuneration is part of the problem itself, the so called “managerial power approach”, which the board would favor executives for several reasons for their own benefit (Bebchuk and Fried, 2003). For example, the CEO has a say when to reconduct a board member for another tenure. So, the board member would not like to vote against him, but otherwise, favor him.

In some companies the CEO can be more influential and neutralize the remuneration solution. In sum, these are causes for a predictable divergence among results throughout time and regions. Most studies correlating executive remuneration and company performance do not focus on C-level executives group as a whole, but instead on the CEO.

Blanes, Fuentes and Porcuna (2019) found that there is positive relation as prescribed by agency theory, however it is also said that firm size is still the main driver of it. Nowlad (2020) shows that there is a positive relationship between executive compensation and firm performance in Indonesia, but it is conditioned by the existence of a remuneration committee. In an older study, Barkema (1998) claimed that all studies prior to that time failed to find robust relationship between executive compensation and firm performance.

In Brazil, Chien and Silva (2013) found no significant relationship between executive remuneration and firm performance. Konraht et al. (2016) stated there is no relationship between variable remuneration and performance. Leão (2017) reports no economic association between executive remuneration and firm performance. Silva et al. (2018) found no correlation between C-level executives and performance. Souza (2019) documents that there is no relation between executive remuneration and performance.

In this paper, we also address the executive turnover and its relation with firm performance. In the same way executive remuneration can control results, so is the risk of being fired (Coffee, 1999; Yamack, 2004). Most papers show that there is a significant relationship between executive turnover and firm performance.

Many studies focus on CEO turnover sensitivity to performance and many show strong negative correlation between turnover and firm performance (Huson et al, 2001; Tsai et al. , 2006). Independent remuneration committees were found to improve this sensibility (Guo and Masulis, 2015). Other studies state that there is a surge in the relation between executive turnover and firm performance in recent years (Kaplan and Minton, 2011).

There are many studies on board of directors as well (Easterwood, Ince and Raheja, 2012). Similar to CEO turnover, board of director turnover is also sensitive to remuneration. Bates, Becher and Wilson (2015) state that board of director turnover increases due to firm performance. Gonzalez et al. , (2019) show that the involvement of family in management, ownership and on the board lead to lower sensitivity between turnover and performance. This result is interesting for Brazil, which has a great proportion of family companies (Oro, Beuren and Hein, 2009).

In Brazil some studies evaluate executive turnover and firm performance. Silva and Moraes (2004) find no significant relation between C-level executive turnover and firm performance. Silva and Moraes (2006) find opposite results later and report a significant relationship between turnover and performance. Garcia, Gomes and Monte (2015) state that CEO turnover did not influence firm performance. Matos and Coloauto (2017) show that CEO changes increase due to performance (Kaplan and Minton, 2012).

3. Data and Methodology

Our sample is composed by 100 Brazilian companies listed in B3 stock exchange from 2010 and 2018. Data collection starts in 2010 because it is the first full year that Instruction CVM 480 was enforced and ends in 2018 because was the last year with complete public reports during the development of this thesis. Our sample contains the biggest and most liquid companies in Brazil in that period.

We collect the remuneration and turnover data for C-level executives and board members from firms' annual reports (Relatorio de Referencia - Reference Form) disclosed on CVM website. Despite mandatory, many companies went to court and did not follow CVM rules for some years. The following remuneration is collected for every year from 2010 to 2018: total remuneration (including all members), average individual remuneration, and total variable remuneration.

We also build another variable related to the remuneration transparency, which is a dummy variable that takes the value of 1 when the company discloses detailed individual remuneration (maximum, mean or minimum) in a given year and 0 otherwise. We use four executive turnover variables: C-level executives (excluding CEO), board of directors (excluding Chairman), CEO and Chairman.

The accounting and market information come from Economatica database. We use three dependent variables for firm performance: return on asset (ROA), return on equity (ROE), and dividend yield. We also use a proxy for good corporate governance practices, and create a variable called NM, which is a dummy that takes the value of 1 when the company is listed on Novo Mercado and 0 otherwise. Novo Mercado is a special segment created by B3 stock exchange for companies that voluntarily adopt better governance practices. Table 1 shows the variables used in this study

Table 1 - Definition of Variables

Variable	Definition
TOTREM_BD	Total remuneration of the board of directors (in R$ million)
INDREM_BD	Average individual remuneration of the board (in R$ million)
VARREM_BD	Ratio of variable to total remuneration of the board (in %)
TRAREM_BD	Dummy variable that takes the value of 1 when the company discloses individual remuneration of the board and 0 otherwise
TOTREM_C	Total remuneration of C-level executives (in R$ million)
INDREM_C	Average remuneration of C-level executives (in R$ million)
VARREM_C	Ratio of variable to total remuneration of C-level executives (in %)
TRAREM_C	Dummy variable that takes the value of 1 when the company discloses individual remuneration of executives and 0 otherwise
TURN_BD	Turnover of the board of directors (in %)
TURN_C	Turnover of C-level executives (in %)
NEWCEO	Dummy variable that equals 1 for a new CEO and 0 otherwise
NEWCHAIR	Dummy variable that equals 1 for a new Chairman and 0 otherwise
NM	Dummy variable that equals 1 when the company is listed on Novo Mercado and 0 otherwise
REV	Total revenues (in R$ million)
SIZE	Firm size measured by the logarithm of total revenues
DIV	Dividend yield, as the ratio of dividend to market price (in %)
ROA	Return on asset, as the ratio of income to total asset (in %)
ROE	Return on equity, as the ratio of income to total equity (in %)

We estimate regressions to assess if there is a significant relation between firm performance and executive remuneration. Many dimensions of remuneration are considered: total, average, variable and transparency. We also evaluate if there is a significant relation between firm performance and executive turnover. We use four turnover variables: CEO, Chairman, C-level executives and board of directors. We also analyze if executive compensation and turnover jointly influence firm performance.

We estimate panel regression models, as we have two dimensions: time-series (2011-2018) and cross-section (100 companies per year). We use the fixed-effect method controlling for heteroskedasticity and autocorrelation. We estimate the Hausman test, which indicates that fixed effects are more efficient than random effects in our sample

It's worthwhile to mention that different subperiods of time were tested but the results did not change significantly. So, this paper presents only the full period analysis.

We estimate 7 models for each of the 3 performance dependent variables: ROA, ROE and dividend yield. Our 7 models are shown below.

$$ROA,ROE,DIV=\beta_0+\beta_1 logTOTREM\_C+\beta_2 VARREM\_C+\beta_3 NM+\beta_4 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 logTOTREM\_BD+\beta_2 VARREM\_BD+\beta_3 NM+\beta_4 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 logTOTREM\_C+\beta_2 VARREM\_C+\beta_3 TRAREM\_C+\beta_4 NM+\beta_5 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 logTOTREM\_BD+\beta_2 VARREM\_BD+\beta_3 TRAREM\_BD+\beta_4 NM+\beta_5 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 TURN\_C+\beta_2 NEWCEO+\beta_3 NM+\beta_4 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 TURN\_BD+\beta_2 NEWCHAIR+\beta_3 NM+\beta_4 SIZE$$

$$ROA,ROE,DIV=\beta_0+\beta_1 logTOTREM\_C+\beta_2 VARREM\_C+\beta_3 TRAREM\_C+\beta_4 logTOTREM\_BD+\beta_5 VARREM\_BD+\beta_6 TRAREM\_BD+\beta_7 TURN\_C+\beta_8 NEWCEO+\beta_9 TURN\_BD+\beta_{10} NEWCHAIR+\beta_{11} NM+\beta_{12} SIZE$$

4. Results

Table 2 shows the descriptive statistics of the variables. The board of director’s total remuneration is on average R$ 4.21 million per year (median of R$ 1.65 million). The figures are bigger for executive officers (R$ 27.90 million for total remuneration and median of R$ 11.46 million). Regarding individual remuneration, the average is R$ 0.54 million for board members and R$ 3.01 million for executives.

The variable remuneration is on average 16% of total remuneration for board members and 45% for C-level executives in Brazil. The average turnover of board members is 27% per year, while the turnover of executives is 23%. In general, Brazilian companies are big (average revenue of R$ 16.60 billion per year), and profitable (average ROA of 4.36%, ROE of 11.98%, and dividend yield of 3.24%).

Table 2 – Descriptive Statistics

Variable	Average	Median	Std Deviation	Min	Max
TOTREM_BD	4.21	1.65	9.34	0.00	104.44
INDREM_BD	0.54	0.27	1.06	0.00	15.29
TOTREM_C	27.90	11.46	60.19	0.13	675.84
INDREM_C	3.01	1.82	3.61	0.03	31.00
VARREM_BD	16%	0%	27%	0%	100%
VARREM_C	45%	48%	25%	0%	96%
TURN_BD	27%	25%	25%	0%	100%
TURN_C	23%	17%	27%	0%	100%
REV	16.60	4.42	37.90	0.00	349.84
DIV	3.24%	2.27%	3.95%	0.00%	37.41%
ROA	4.36%	4.36%	12.19%	-119.24%	221.73%

ROE	11.98%	12.49%	32.84%	-420.00%	374.00%

In Table 3 we rank companies by their total and average individual remuneration, and then create two groups. The first group represents the upper half and the second one represents the lower half. We conduct a t-test to compare averages and a Mann-Whitney test to compare medians.

Firms with higher total remuneration pay R$ 48.60 million for C-level executives (average of R$ 4.92 million per individual), much higher than the amount of low-paying firms (total of R$ 7.31 million and average of R$ 1.43 million).

Firms paying higher total remuneration are bigger (average revenue of R$ 21.81 billion per year), list more on NM (59%) and have a lower dividend yield (2.86%) when compared to low-paying firms (R$ 11.39 billion in revenue, 42% on NM and 3.76% of dividend yield). All differences are statistically at 1%. There is no significant difference between ROA and ROE between both groups, except for median ROA, which is higher for low-paying firms.

When we classify the firms by average individual remuneration, the results are substantially the same as those for total remuneration. The only exception is that there is no significant difference between the percentage of firms listed on NM between high-remuneration and low-remuneration firms.

In Table 4 we rank companies by the turnover rate of C-level executives and board members. We split the sample into two groups and compare their means and medians with statistical tests.

Firms with higher executive turnover are bigger, and more profitable (ROA and ROE) than firms with low turnover. Furthermore, firms with high executive turnover have worse governance practices and are less likely to list on NM. All differences are statistically significant at 1% or 5%.

Table 3– Executive Remuneration and Firm Characteristics

The means and medians (in parentheses) are reported, together with the p-values of the tests of differences.

Variable	Total Remuneration			Individual Remuneration		
	Bigger	Lower	P-value	Bigger	Lower	P-value
TOTREM_C	48.60	7.31	0.00	46.55	9.28	0.00
	(26.88)	(6.38)	0.00	(24.84)	(7.36)	0.00
INDREM_C	4.92	1.43	0.00	5.08	1.69	0.00
	(3.70)	(1.21)	0.00	(3.82)	(1.33)	0.00
REV	21.81	11.39	0.00	20.38	12.81	0.00
	(8.60)	(3.36)	0.00	(8.93)	(2.92)	0.00
DIV	2.86	3.76	0.00	3.02	3.60	0.03
	(1.90)	(2.56)	0.00	(2.13)	(2.43)	0.37
ROA	3.93	4.79	0.29	3.98	4.74	0.35
	(3.32)	(5.08)	0.00	(3.63)	(4.52)	0.01
ROE	13.11	10.86	0.30	12.47	11.50	0.65
	(11.66)	(13.10)	0.58	(12.62)	(12.22)	0.41
NM	0.59	0.42	0.00	0.48	0.52	0.28
	(1.00)	(0.00)	0.00	(0.00)	(1.00)	0.36

Firms with higher executive turnover are bigger, and more profitable (ROA and ROE) than firms with low turnover. Furthermore, firms with high executive turnover have worse governance practices and are less likely to list on NM. All differences are statistically significant at 1% or 5%.

Table 4– Executive Turnover and Firm Characteristics

The means and medians (in parentheses) are reported, together with the p-values of the tests of differences.

Variable	Board of Director Turnover			C-level Executive Turnover		
	Higher	Lower	P-value	Higher	Lower	P-value
TURN_BD	0.38	0.16	0.00	0.32	0.21	0.00
	(0.35)	(0.17)	0.00	(0.30)	(0.21)	0.00
TURN_C	0.27	0.19	0.00	0.32	0.13	0.00
	(0.26)	(0.20)	0.00	(0.29)	(0.15)	0.00
REV	20.08	13.11	0.00	22.42	10.77	0.00
	(3.75)	(5.58)	0.02	(6.54)	(3.90)	0.00
DIV	3.34	3.27	0.80	3.33	3.28	0.86
	(2.04)	(2.49)	0.01	(1.98)	(2.51)	0.00
ROA	3.16	5.56	0.00	2.52	6.20	0.00
	(3.01)	(4.55)	0.00	(2.81)	(5.22)	0.00
ROE	8.80	15.16	0.00	10.77	13.19	0.27
	(10.52)	(14.07)	0.00	(9.70)	(14.52)	0.00
NM	0.40	0.60	0.00	0.43	0.57	0.00
	(0.00)	(1.00)	0.00	(0.00)	(1.00)	0.00

Table 5 shows the fixed-effect panel regressions for ROA as dependent variable. The coefficients of variable remuneration are positive and statistically significant for both C-level executives and board members. Moreover, the coefficients of total remuneration, remuneration transparency and executive turnover are not statistically significant. These results indicate a positive relation between variable executive compensation and ROA

With regard to control variables, the coefficients of SIZE are negative and statistically significant, whereas NM is positive but not statistically significant. Overall our results indicate that smaller firms that pay more variable compensation have higher ROA.

Table 5 – Return on Assets (ROA) and Executive Compensation

The coefficients and p-values (in parentheses) are reported. ***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively.

Variable	I	II	III	IV	V	VI	VII
LogTOTREM_C		-0.82	-0.16				0.18
		(0.32)	(0.90)				(0.89)
VARREM_C		7.95***	8.57**				8.46**
		(0.01)	(0.03)				(0.04)
TRAREM_C			-0.09				2.77
			(0.95)				(0.55)
TURN_C					-2.07		-2.26
					(0.31)		(0.28)
NEWCEO					-1.96		-2.41
					(0.12)		(0.06)
LogTOTREM_BD	-0.73			-0.33			-0.36
	(0.15)			(0.63)			(0.62)
VARREM_BD	7.27***			6.59*			6.89*
	(0.00)			(0.09)			(0.08)
TRAREM_BD				-0.30			-2.88
				(0.58)			(0.54)
TURN_BD						-0.40	-0.35
						(0.60)	(0.65)
NEWCHAIR						0.74	1.90
						(0.55)	(0.14)
SIZE	-1.96***	-2.06***	-2.81***	-2.46**	-2.41**	-2.43**	-2.83***
	(0.01)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)	(0.01)
NM	0.50	0.37	4.41	4.10	4.93	4.85	3.50
	(0.85)	(0.89)	(0.41)	(0.44)	(0.35)	(0.63)	(0.51)
R^2 Adj	0.13	0.13	0.08	0.08	0.08	0.08	0.09

Table 6 shows the fixed-effect panel regressions for dividend yield as dependent variable. No coefficient of executive remuneration (total, variable and transparency) and turnover is statistically significant. With regard to control variables, the coefficients of SIZE and ROA are positive and statistically significant, whereas NM is positive but not statistically significant. These results indicate there is no significant relation between dividend yield, executive compensation and turnover. Further, bigger and more profitable firms pay higher dividends.

Table 7 shows the fixed-effect panel regressions for ROE as dependent variable. Most coefficients of executive remuneration and turnover are not statistically significant. The only significant coefficients are NEWCHAIR (model VI and VII), TOTREM_BD (model I), VARREM_BD (model I), TOTREM_C (model II), TRAREM_C (model III), and TRAREM_BD (model IV). In general, the relation between ROE and these variables is weakly negative in a few models.

With regard to control variables, the coefficients of SIZE are positive and statistically significant at 10% in a few models, whereas NM is positive but not statistically significant. Overall these results indicate there is no significant relation between ROE and executive compensation.

Table 6 – Dividend Yield and Executive Compensation

The coefficients and p-values (in parentheses) are reported. ***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively

Variable	I	II	III	IV	V	VI	VII
LogTOTREM_C		-0.35	-0.53*				-0.47
		(0.15)	(0.09)				(0.15)
VARREM_C		-0.94	-0.69				-0.66
		(0.30)	(0.50)				(0.52)
TRAREM_C			-0.34				0.12
			(0.40)				(0.91)
TURN_C					-0.74		-0.81
					(0.15)		(0.12)
NEWCEO					-0.20		-0.18
					(0.52)		(0.57)
LogTOTREM_BD	-0.08			-0.16			-0.11
	(0.58)			(0.36)			(0.53)
VARREM_BD	0.10			-0.21			-0.24
	(0.89)			(0.82)			(0.80)
TRAREM_BD				-0.42			-0.50
				(0.30)			(0.67)
TURN_BD						0.02	0.07
						(0.90)	(0.68)
NEWCHAIR						-0.02	0.07
						(0.94)	(0.82)
SIZE	0.33	0.41*	0.62**	0.55**	0.43*	0.44*	0.68***
	(0.15)	(0.07)	(0.02)	(0.04)	(0.10)	(0.09)	(0.01)
ROA	0.03***	0.03***	0.02**	0.01**	0.01*	0.01**	0.01**
	(0.00)	(0.00)	(0.04)	(0.05)	(0.07)	(0.05)	(0.05)
NM	(0.83)	1.10	1.74	1.55	1.25	1.25	1.88
	(0.31)	(0.17)	(0.19)	(0.24)	(0.34)	(0.34)	(0.16)
R^2 Adj	0.27	0.27	0.29	0.28	0.28	0.28	0.28

Table 7 – Return on Equity (ROE) and Executive Compensation

The coefficients and p-values (in parentheses) are reported. ***, **, * indicate statistical significance at 1%, 5%, and 10%, respectively.

Variable	I	II	III	IV	V	VI	VII
LogTOTREM_C		-4.14*	1.19				2.25
		(0.06)	(0.71)				(0.63)
VARREM_C		9.02	-1.60				-5.08
		(0.26)	(0.87)				(0.63)
TRAREM_C			-8.78**				-8.55
			(0.03)				(0.47)
TURN_C					1.38		0.52
					(0.79)		0.92
NEWCEO					-2.46		-0.55
					(0.44)		(0.87)
LogTOTREM_BD	-2.25*			-1.21			-1.37
	(0.09)			(0.50)			(0.46)
VARREM_BD	12.79*			10.0			9.08
	(0.06)			(0.30)			(0.36)
TRAREM_BD				-7.23*			0.59
				(0.08)			(0.96)
TURN_BD						0.00	0.00
						(0.95)	(0.99)
NEWCHAIR						-6.96**	-6.40**
						(0.02)	(0.05)
SIZE	1.97	2.18	4.55*	4.92*	4.26	3.93	4.62*
	(0.33)	(0.28)	(0.10)	(0.07)	(0.11)	(0.14)	(0.10)
ROA	0.01	0.01	-0.12	-0.12	-0.12	-0.11	-0.12
	(0.87)	(0.84)	(0.24)	(0.21)	(0.23)	(0.27)	(0.25)
NM	-1.08	2.18	8.67	9.16	8.15	8.39	8.17
	(0.88)	(0.28)	(0.52)	(0.50)	(0.54)	(0.53)	(0.55)
R^2 Adj	0.18	0.18	0.17	0.17	0.17	0.18	0.17

5. Conclusion

This paper evaluates if executive remuneration is related to firm performance. Our analysis of 100 Brazilian companies from 2010 to 2018 shows there is a positive relation between variable executive compensation and ROA. In contrast, there is no significant relation between total remuneration and ROA. We also find that dividend yield and ROE are not significantly related to executive compensation and turnover.

It is important to highlight the main limitations of this study. Our sample contains the 100 biggest and most liquid companies in the Brazilian stock market. Due to their size,it is possible that those companies are the ones that pay higher remuneration to their executives, so our results may overestimate total executive compensation in Brazil. On the other hand, our sample does not contain companies that do not publish executive compensation. If one assumes that the firms not disclosing information pay higher remuneration to their executives, our sample may underestimate total executive compensation in Brazil. These two limitations have opposite effects, which may offset or at least be mitigated

Many stakeholders may be interested in the results of this paper. Big companies in Brazil can use it as an input for improving executive remuneration and turnover. Those topics are very important, so firms must gather all information available to assess them. The regulators can also stimulate the adoption of best practices regarding executive remuneration and turnover.

Considering how relevant is the issue of this paper and the inconclusive results in the international and national literature about the topic we suggest more research on executive compensation and turnover in Brazil. Our database is still short-dated, because the disclosure of information is mandatory in Brazil only after 2009. In the future more data will be available and will allow academic researchers to extend and perform additional analyses.

One line of research would be using other dependent variable for measuring firm performance, such as Price/Earnings, Price/Book Value, Price/Sales, among others. Other line would be exploring more independent variables, like different types of executive compensation (bonus, stocks, stock options, incentives for short-term and long-term, etc). Finally, future research may evaluate how individual characteristics of executives (age, experience, gender, education, etc) and the nature of the controlling shareholder (State, family, and foreigner) influence the relationship between firm performance and executive compensation and turnover

6. References

BARKEMA, H. G.; GOMEZ-MEJLA, L. R.Managerial compensation and firm performance:a general research framework. **Academy of Management Review**, v. 41 , n. 2, p. 135-145, 1998.Disponível em:
<https://journals.aom.org/doi/abs/10.5465/257098>. Acesso em 03 ago. 2020

BATES, T. W.; BECHER, D.; WILSON, J. I.Performance-based turnover on corporate boards**. Working Paper, Arizona State University**, 2015.

BEBCHUK, L. A.; FRIED, J. M. Executive compensation as anagency problem. **Journal of Economic Perspective**, v.17, n.3, p.71-92, 2003.Disponível em: <law.harvard.edu/programs/corp_gov/papers/2003.BebchukFried.Executive.Compensation.pdf>. Acesso em 03 ago. 2020

BERLE, A.; MEANS, G.**The Modern Corporation and Private Property.** New York: Commerce Clearing House, 1932.

BLANES,F.; FUENTES, C. ; PORCUNA, R. Executive remuneration determinants: new evidence from meta-analysis. **Economic Research-Ekonomskalstraživanja**, v.33, n.1, 2020. Disponível em:<https://hrcak.srce.hr/229840>Acesso em 03 ago. 2020

CHIEN, A. C. Y. ; SILVA, A. L. C. Remuneração executiva, valor e desempenho das empresas brasileiras listadas. **Revista Brasileira de Finanças,** v.11, n.4, p. 481-502, 2013.Disponível em: <http://www.spell.org.br/documentos/ver/27079/remuneracao-executiva--valor-e-desempenho-das-e--->Acesso em 03 ago. 2020

COFFEE, J. C. The Future as History: The Prospects for Global Convergence in Corporate Governance and its Implications**. Columbia Law School Center for Law and Economic Studies Working Paper**, n. 144, 1999.

DAILY, C. M. et al. Corporate Governance: decades of dialogue and data. **Academy of Management Review**, v. 28, n. 3, p. 371-382, 2003.Disponível em: <https://www.jstor.org/stable/30040727>. Acesso em 03 ago. 2020

DONALDSON, L.; DAVIS, J.Stewardship Theory or Agency Theory: CEO governance and shareholder returns. **Australian Journal of Management**, v.20, n. 1, p. 65, 1991. Disponível em: <https://journals.sagepub.com/doi/10.1177/031289629101600103> Acesso em 03 ago. 2020

EASTERWOOD, J. C.; INCE, O. S.; RAHEJA, C. G. The evolution of boards and CEOs following performance declines. **Journal of Corporate Finance**, v.18, n. 4, p. 727-744, 2012.Disponível em: <https://econpapers.repec.org/article/eeecorfin/v_3a18_3ay_3a2012_3ai_3a4_3ap_3a727-744.htm> em 03 ago. 2020

EISENHARDT, K. M. Agency Theory: an assessment and review. **Academy of Management Review**, v.14, n.1, p. 37-74, 1989. Disponível em:
<https://journals.aom.org/doi/10.5465/amr.1989.4279003>Acesso em 03 ago. 2020

GARCIA, I. A. S.; GOMES, K; MONTE, P. A. O desempenho financeiro e o turnover do CEO das companhias mais líquidas listadas na BM&FBOVESPA. IX Congresso Anpcont, Curitiba. **Anais...**Anpcont, Curitiba, 2015.

GONZALEZ, M. et al. Is board turnover driven by performance in family firms? **Research in International Business and Finance**, v. 48, p. 169-186, 2019. Disponível em: <https://ideas.repec.org/a/eee/riibaf/v48y2019icp169-186.html>Acessoem 03 ago. 2020

GUO, L.; MASULIS, R. W. Board structure and monitoring: new evidence from CEO turnovers. **The Review of Financial Studies**, v.28, n.10, p. 2770-2811, 2015.Disponivelem: https://econpapers.repec.org/article/ouprfinst/v_3a28_3ay_3a2015_3ai_3a10_3ap_3a2770-2811..htm> Acesso em 03 ago. 2020

HUSON, M.; PARRINO, R.; STARKS, L.Internal monitoring mechanisms and CEO turnover: along-term perspective. **The Journal of Finance**, v. 56, n. 6, p.2265-2297, 2002. Disponível em: <https://onlinelibrary.wiley.com/doi/abs/10.1111/0022-1082.00405> Acesso em 03 ago. 2020

JENSEN, M.C.; MECKLING, W.Theory of the firm: managerial behavior, agency costs And ownership structure. **Journal of Financial Economics**, v. 3, n. 4, p. 305-360, 1976.Disponível em: <https://www.sciencedirect.com/science/article/pii/0304405X7690026X> Acesso em 03 ago. 2020

KAPLAN, S. N.; MINTON, B. A. How has CEO turnover changed? **International Review of Finance,** v.12, n.1, p. 57-87, 2012.Disponível em:<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-2443.2011.01135.x> Acesso em 03 ago. 2020

KHAN, H. A. Literature review of corporate governance**. International Proceedings of Economics Development and Research (IPEDR),** v. 25, p. 1-5, 2011.Disponível em: <http://www.ipedr.com/vol25/1-ICEME2011-A10015.pdf> Acesso em 03 ago. 2020

KONRAHT, J. M. et al. Remuneração variável, um estudo da relação com indicadores financeiros das companhias abertas brasileiras. **Revista da Faculdade de Ciências Econômicas: Pesquisa e Reflexão**, v.26, n.1, p. 209-224, 2018. Disponível em: <http://www.scielo.org.co/scielo.php?script=sci_abstract&pid=S0121-68052018000100209> Acesso em 03 ago. 2020

LEÃO, A. V**. Remuneração de Executivos no Brasil: Relação Entre Remuneração e Performance no Novo Mercado.** 2017. 66 f. Dissertação (Mestrado Profissional em Macroeconomia e Finanças, com Ênfase em Finanças) – Departamento de Economia PUCRIO, Rio de Janeiro, Rio de Janeiro, 2017.

MATOS, R. M.; COLOAUTO, R. D. Justificativas do turnover de CEOs: estudo em companhias brasileiras investidas por fundos de pensão. **Revista de Contabilidade e Organizações**, v.11, n.30, p. 24-35, 2017. Disponível em:<http://www.revistas.usp.br/rco/article/view/134430> Acesso 03 ago. 2020

NOWLAD, J. et al. Remuneration committees, executive remuneration, and firm performance in Indonesia. **Heliyon**, v.6, n.2, 2020. Disponível em:<https://www.sciencedirect.com/science/article/pii/S2405844020302978> Acesso 03 ago. 2020

OZKAN, N. CEO compensation and firm performance: an empirical investigation of UK panel data. **European Financial Management**, v.17, n.2, p. 260-285, 2011. Disponível em:<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1773268>. Acesso em: 03 ago. 2020

ORO, I. M.; BEUREN, I. M.; HEIN, N. Análise da eficiência de empresas familiares brasileiras. **Revista de Administração de Empresas**, v.8, n. 2, 2009. Disponível em: https://www.scielo.br/scielo.php?pid=S167656482009000200006&script=sci_arttext&tlng=es> Acesso em: 03 ago. 2020

PFEFFER, J.; SALANCIK, G. R. **The External Control of Organizations: A Resource Dependence Perspective**. New York: Harper and Row, 1978.

ROSENSTEIN, S.; WYATT, J. G. Outside directors, board independence, and shareholder wealth. **Journal of Financial Economics**, v. 26. n.2, p. 175-191, 1990.Disponível em: <https://www.sciencedirect.com/science/article/abs/pii/0304405X9090002H>. Acesso em: 03 ago. 2020

SILVA, W. ; MORAES, W. F. A. Estrutura de governança, performance e turnover de executivos: um estudo com indústrias brasileiras. **Revista Alcance –**

Univali, v.11, n.1, p. 31-47,2004. Disponível em: <https://pesquisa-eaesp.fgv.br/sites/gvpesquisa.fgv.br/files/arquivos/silvaestrutura_de_governanca_performance_e_turnover_de_executivos_um_estudo_com_industrias_brasileiras.pdf> Acesso em: 03 ago. 2020

SILVA, W. ; GRZYBOVSKI, D. Efeitos da governança corporativa e da performance empresarial sobre o turnover de executivos no Brasil: comparando empresas familiares e não-familiares. **Revista de Administração Mackenzie**, v.7, n.1, p. 46-70, 2006. Disponível em: <http://editorarevistas.mackenzie.br/index.php/RAM/article/view/85. Acesso em: 03 ago. 2020

SILVA, B. R. et al. Remuneração dos executivos e indicadores de desempenho em empresas participantes do Ibovespa. **Revista de Administração, Contabilidade e Economia** , v.17, n. 3, p. 867-888, 2018. Disponível em:<https://portalperiodicos.unoesc.edu.br/race/article/view/16721>. Acesso em: 03 ago. 2020

SOUZA, J. R. **Remuneração variável e desempenho corporativo: um estudo das empresas brasileiras de capital aberto no período de 2010 a 2017**. 2019. 143 f. Dissertação (Mestrado em Ciências Contábeis), - Centro de Pós Graduação e Pesquisas em Controladoria e Contabilidade da Faculdade de Ciências Econômicas da universidade Federal de Minas Gerais, Belo Horizonte, 2019.

SHLEIFER,A.; VISHNY,R. W. A survey of corporate governance.**The Journal of Finance,** v.52, n.2, p. 737-783, 1997.Disponível em: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6261.1997.tb04820.x> Acesso em: 03 ago. 2020

TSAI, W. et al. CEO tenure in Taiwanese family and nonfamily firms: an agency theory perspective. **Family Business Review**, v.19, n.1, p. 11-28, 2006.Disponível em:<https://www.researchgate.net/publication/227745504_CEO_Tenure_in_Taiwanese_Family_and_Nonfamily_Firms_An_Agency_Theory_Perspective>._Acesso em : 03 ago. 2020

WILLIAMSON, O. **The Mechanisms of Governance**. Oxford: Oxford University Press, 1996.

YAMACK, D. Remuneration, retention, and reputation Incentives for outside directors. **The Journal of Finance**, v.59, n. 5, p. 2281-2308, 2004. Disponível em: <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6261.2004.00699.x_>._Acesso em: 03 ago. 2020