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Executive Remuneration and Financial Performance: a Study of Brazilian Companies

Abstract

The aim in this research was to investigate the relation between executive remuneration and financial performance in Brazilian companies. The research data are secondary and were collected from two databases: a) Study Program on Human Resource Management (PROGEP); b) Institute for Accounting, Actuarial and Financial Research Foundation (FIPECAFI). The non-probabilistic sample consists of 82 non-financial companies. To operate the independent variable "remuneration", besides the mean monthly wage and the mean variable wage, three indices were used that were created especially for this research: benefits, career and development. These indices measured the access to benefits; to career encouragement and support mechanisms and to educational encouragement mechanisms. These are items the companies offer to their directors, vice presidents and presidents, hereinafter called "executives". These remuneration data refer to 2008. As regards the dependent variable "financial performance", three financial indicators were used: sales growth, return on equity and return on assets, for the financial years 2008 and 2009. Company size and activity sector were used as control variables. The results of the Spearman correlation test indicated a significant relation between financial remuneration and financial performance. And the results of the multiple linear regression analysis showed a significant relation between financial remuneration and financial performance and between non-financial remuneration and financial performance.

Key words: executives; financial remuneration; non-financial remuneration; financial performance; Brazil.

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1. Introduction

The theme executive remuneration has attracted media attention. The Enron and WorldCom scandals in 2001 and the subprime crisis in 2007 entailed great repercussion in the main communication means all over the world and revealed flaws in companies' corporate governance structure. Remuneration is one among different governance mechanisms, used to align the interests of shareholders and executives.

Various studies have been accomplished to investigate whether executive remuneration is related with corporate performance. These have been mainly developed in the United States (Kato, Kim & Lee, 2005), where information on executive remuneration is available. These research results vary and are inconclusive. While some studies found weak relations, others observed insignificant relations among the variables (Bálkin & Gómez-Mejia, 1987; Barkema & Gómez-Mejia, 1998).

The most used approach in these studies has been agency theory. According to that theory, the principal (shareholder) hires an agent (executive) to perform some task on his behalf, involving the delegation of authority for decision making. If the parts – shareholder and executive – act to maximize their personal utility, there are reasons to believe that the agent will not always act in the shareholder's best interests (Jensen & Meckling, 1976).

Research in other contexts beyond North America can contribute to a better understanding of this theme (Barkema & Gómez-Mejia, 1998; Kato *et al.*, 2005). In Brazil, due to companies' resistance to disseminate remuneration data, research on the relation between executive remuneration and financial performance remains scarce (Larrate, 2013).

The importance and relevance of the theme, the divergences in earlier research results from other countries and the interest in investigating whether executive remuneration is related with financial performance in Brazilian companies motivated the development of this research. It differs from earlier studies by the use of broader concepts to operate the variables. As regards the independent variable "remuneration", this research considered financial and non-financial remuneration. Financial remuneration included the direct (monthly wage + variable wage) and indirect remuneration (benefits) the executives received. Financial remuneration comprised aspects related to the executives' career, education and personal and professional development. Earlier studies only used direct remuneration.

As regards the dependent variable financial performance, earlier studies only used a financial indicator from a single financial year. In this study, three financial indicators – sales growth, return on equity (ROE) and return on assets (ROA) from two financial years – 2008 and 2009 are used. Except for the studies by Krauter (2009, 2012), this approach has not been used in any other Brazilian or international studies.

The aim in this research was to: *Investigate the relation between executive remuneration and financial performance in Brazilian companies.* In addition, the intent was to get to know the characteristics of the executive remuneration system in Brazilian companies. This research attempted to answer the following question: *What is the relation between executive remuneration and financial performance in Brazilian companies?*

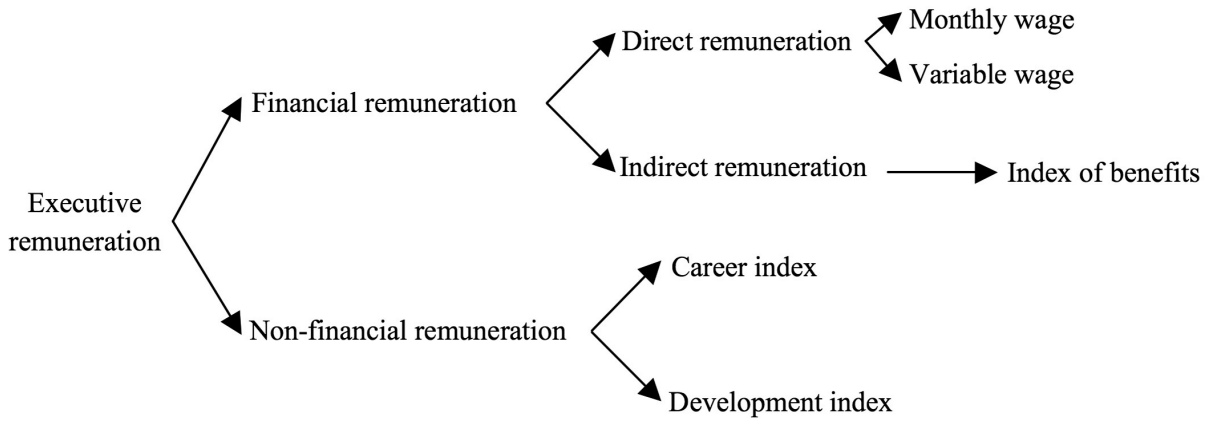
2. Remuneration and Financial Performance

Remuneration is one of the most important and complex Human Resource management systems. At the same time as it stimulates the search for increasingly better performances, the remuneration system aligns people's behavior with the strategic objectives of the business, making the company research higher financial performance levels (Bálkin & Gómez-Mejia, 1987; Gómez-Mejia & Welbourne, 1988). Figure 1 displays the remuneration concept used in this research.

Financial remuneration "is the economic and/or financial counterpart of a person's work" (Hipólito & Dutra, 2012, pp.1-2). It can be divided into direct remuneration and indirect remuneration. The first type refers to the total amount in money the person receives for the work done. It includes both fixed and variable remuneration (Chiavenato, 1989). Fixed remuneration is the cash amount previously agreed

upon between the person and the company, regularly paid for the work done. It is normally linked with the tasks and position the person occupies in the company (Chiavenato, 1989). Variable remuneration, then, is the cash amount received for the achievement of targets previously adjusted between the person and the company.

Indirect remuneration represents the work-related benefits granted to the people involves. Its objective is to offer safety and comfort (Chiavenato, 1989).



Source: Krauter (2009, p. 44).

Figure 1. The remuneration concept

Companies frequently incorporate non-financial remuneration into their executive remuneration packages, and this information was ignored in past research (Carlon, Downs & Wert-Gray, 2006). Career and personal and professional development-related aspects are two of the non-financial factors in question.

According to PROGEP (2012), the aspect people most value is the professional growth perspective. This possibility takes form in the professional career offered. Next rank training and education, which are considered fundamental aspects to sustain personal and professional growth.

As regards the career, organizations' actions cover mechanisms for career planning and monitoring, replacement in case of dismissal, internal recruitment and preparation for retirement.

Concerning personal and professional development, companies have adopted a permanent learning process. The aim is to develop corporate and human competences that are considered critical for the business (Eboli, 2002).

Organizational performance is a frequent theme in many Administration areas. The theme is of interest to academics as well as executives. Although the importance of the performance concept has been widely acknowledged, no consensus exists among research about how to put it in practice (Venkatraman & Ramanujam, 1986). Some authors, like Chakravarthy (1986), Keats (1990) and Venkatraman and Ramanujam (1986, 1987), believe that the "performance" concept comprises multiple dimensions. Therefore, to measure it, more than one indicator is needed.

Venkatraman and Ramanujam (1987) demonstrated that the "financial performance" construct involves at least two distinct dimensions: growth and profitability. Each of these two dimensions can be operated through one or more indicators. Profitability, for example, can be measured by means of indicators like return on equity (ROE), return on assets (ROA) and return on investments (ROI). Growth can be dimensioned by indicators like sales growth.

Studies that focused on the relation between remuneration and performance departed from the premise that the remuneration system is a fundamental mechanism. Through remuneration, individual efforts are oriented towards the strategic objectives of the business. When the remuneration system is appropriately structured, this process can contribute to enhance company performance (Gómez-Mejia & Welbourne, 1988).

The following paragraphs present a short summary of empirical research that investigated the relation between executive remuneration and corporate performance. These studies were undertaken in countries with available information on executive remuneration. In Brazil, companies' resistance against the disclosure of remuneration data hampers research on the theme.

In the research by Attaway (2000), the relation between company performance and the remuneration of the CEO (Chief Executive Officer) in a sample of 42 large computer and electronics companies in the United States was investigated. The secondary data were collected between 1992 and 1996. The following control variables were used: age of the CEO, time on the job, percentage of company shares held by the CEO and education level of the CEO. The ROE was used to measure corporate performance. The results of the correlation and regression analysis showed a weak but positive relation between corporate performance and CEO remuneration.

Ozkan (2007) examined the relation between CEO remuneration and corporate performance in a sample of 390 British non-financial companies, registered on the FTSE index, between 1999 and 2005. The remuneration included: fixed salary, bonus, stock options and long-term incentive plans. Performance was measured using stock returns and ROA. The following governance variables were used as control variables: property concentration and board structure. Company size was used as well, measured by sales and growth opportunities. This was dimensioned using Tobin's Q. The regression test results indicated that a positive and significant relation exists between the cash remuneration received (fixed salary + bonus) and performance. They also revealed a positive but non-significant relation between total remuneration and performance.

In Brazil, Camargos, Helal and Boas (2007) analyzed the existing relation between financial performance and the remuneration of executives in the 29 publicly traded companies with American Depositary Receipts (ADR) listed on North American stock exchanges. The remuneration data were collected from the Report 20-F and included the average remuneration received by members of the board of directors and executive board, and the financial indicators were collected from Economatica®. The data related to the year 2005. The results of the multiple regression analysis indicated a positive and significant relation between remuneration and financial performance.

Krauter (2009) investigated the relation between executive remuneration and companies' financial performance in a sample of 44 industrial companies. The remuneration for 2006 included: fixed salary, variable salary, index of benefits, career index and development index. The financial performance was measured using the following financial indicators: sales growth, ROE and net sales margin, for two years: 2006 and 2007. Pearson's correlation analysis showed weak and negative associations between the following variables: a) career index and sales growth in 2006; b) career index and ROE in 2006; c) development index and ROE in 2006. Spearman's correlation analysis indicated: a) a weak and positive association between the index of benefits and the net sales margin in 2006; b) weak and negative association between the development index and ROE in 2006. Based on the multiple linear regression analysis results, the existence of a positive and significant relation between executive remuneration and companies' financial performance could not be proven.

In another study, Krauter (2012) investigated the relation between executive remuneration and corporate performance in a sample of 79 companies from different sectors. To operate the independent variable were used "remuneration", the monthly wage, variable wage and three indices created for the research: benefits, career and development. The remuneration data related to 2008. The financial performance was measured by means of the financial indicators – sales growth, ROE and ROA for 2008. Size and sector were used as control variables. The results of the multiple linear regression analysis did not provide proof of the existence of a positive and significant relation between executive remuneration and corporate performance.

3. Method

The research is descriptive and the quantitative method is used. Multiple linear regression analysis is applied to test the following hypothesis: *A positive and significant relation exists between executive remuneration and financial performance in Brazilian companies.* This technique has been used in most of the earlier studies.

The data used in the research are secondary. Information related to the independent variables was extracted from the database of the Study Program on Human Resource Management (PROGEP), affiliated with the Institute of Administration Foundation (FIA). Data regarding the independent variables were extracted from the database of the Institute for Accounting, Actuarial and Financial Research Foundation (FIPECAFI).

The PROGEP is responsible for the research that annually selected the best companies to work for in Brazil. And FIPECAFI is responsible for publishing the "500 Best and Biggest" companies in Brazil.

The non-probabilistic sampling method was used. The sample consists of 82 non-financial companies with information available in the two databases mentioned earlier. To process the data, the statistical software Statistical Package for Social Science (SPSS) – version 16.0 for Windows was used.

Remuneration information was related to 2008 and refer to the payment received by directors, vice presidents and presidents, called "executives" in this study. To operate the remuneration variable, the following information was collected from the PROGEP database:

a) Nominal mean monthly of executives in December 2008, in *reais*;
b) Mean value the executives received in 2008 in *reais,* as variable remuneration and/or bonus;
c) Executives' access to 12 benefits: medical care; medical consultations inside company facilities; dental care; medication purchase support; psychological care; group life insurance; educational support; professional specialization support; language study support; child education support; housing support; funding and loans.
d) Executives' access to 27 career support and encouragement mechanisms. These mechanisms include: professional development planning and monitoring; career planning encouragement and support; outplacement for dismissed executives; internal recruitment; information about career possibilities; preparation for retirement.
e) Executives' access to eight educational encouragement mechanisms: educational programs that incorporate the identification of core corporate and human competences; multiple learning forms; programs that reflect the company's commitment to corporate citizenship; managers and leaders involved in the learning process; programs to disseminate the organizational culture; effective systems to assess investments in education and results achieved; knowledge sharing and experience exchange; partnerships with higher education institutions.

Based on this information about benefits, career and education, three indices were created: benefits, career and development, using the method developed by Krauter (2012).

To create the index of benefits, which measures the executives' access to the 12 benefits mentioned above (item c), one point was attributed to each benefit the company offered to all of its executive; 0 points for each benefit not offered. The points were added up and the result represents the organization's index of benefits. The score ranges from 0 to 12, that is, the company that does not offer any of the 12 benefits to its executives scores 0; the company that offers the 12 benefits to all of its executives scores 12.

To create the career index, which measures the executives access to the 27 career encouragement and support mechanisms mentioned earlier (item d), the same criterion was used as for the first index. One point was attributed to each career encouragement and support mechanism the company offered to all of its executives; zero points for each career encouragement and support mechanism not offered.

The points were added up and the result corresponds to the career index. The index score ranges between 0 and 27. The company that does not offer any of the 27 career encouragement and support mechanisms to its executives has a career index equal to zero. On the other hand, companies that offer all 27 mechanisms to all of its executives obtain an index of 27.

To create the development index, which measures the executives' access to the eight educational support mechanisms cited above (item e), the same procedure as applied for the first two indices was used. One point was attributed to each educational support mechanism the company offered to all of its executives; zero points for each mechanism not offered.

The points were added up and the result corresponds to the development index. The index score ranges between 0 and 8. Companies that do not offer any of the eight educational support mechanisms to its executives obtain a development index equal to zero. Companies that offer all eight mechanisms obtain an index equal to eight.

To measure the companies' financial performance, three financial indicators were used – sales growth, return on equity and return on assets, for 2008 and 2009. These indicators figure among those most used in empirical studies (Carton & Hofer, 2006; Lee, Hall & Rutherford, 2003). Although the financial indicators come with some limitations, the researchers chose to use them because the sample included private companies. This option also permits comparisons between the present results and those of research undertaken in other contexts.

Sales growth shows the evolution of the gross revenue from sales in *reais* after discounting the mean inflation, as appointed by the variation in the IGP-M. The indicator is expressed in percentage form. The return on equity results from the division of the net profit, adjusted by the inflation, by the equity, which is updated in view of inflation effects. The product is multiplied by 100 to be expressed in percentage form. The return on assets results from dividing the net profit adjusted by inflation by the total adjusted assets to recognize inflation effects. The product is multiplied by 100 to be expressed in percentage form.

The control variables were selected based on their possible influence on the dependent and independent variables. In the literature, it is highlighted that company size and activity sector are two relevant factors. In this study, the size was defined as the natural logarithm of total assets in 2008. Binary variables were used to represent the different sectors. These variables are scored as one for companies belonging to one specific sector and as zero for the companies belonging to the other sectors.

4. Presentation and Analysis of Results

Table 1 displays the sample companies' size according to the criterion adopted by the PROGEP (2012). Among the 82 sample companies, 48.8% are large, 37.8% medium and 13.4% small.

Table 1
Company size in the sample

Company size	N	%
Small size – between 100 and 500 employees	11	13.4
Medium size – between 501 and 1500 employees	31	37.8
Large size – more than 1500 employees	40	48.8
Total	**82**	**100**

The companies belong to 17 activity sectors. The sectors with the largest number of companies are: Construction industry with 12.2%; Services with 12.2%; Chemistry and oil with 11%; and Retailing with 11% (Table 2).

Table 2
Activity sector of sample companies

Activity sector	N	%
Oil and Chemistry	9	11.0
Electric-electronics	4	4.9
Pharmaceutical	3	3.7
Telecommunication	3	3.7
Paper and Pulp	1	1.2
Mining	2	2.4
Digital industry	1	1.2
Warehousing	1	1.2
Transport	2	2.4
Retailing	9	11.0
Consumption Goods	5	6.1
Energy	6	7.3
Car industry	7	8.5
Construction industry	10	12.2
Iron and Steel	6	7.3
Farming and Livestock	3	3.7
Services	10	12.2
Total	**82**	**100.0**

The abbreviations of the variables used in this research are shown in Figure 2. Table 3 displays the descriptive measures of the remuneration variables. The mean monthly wage and mean variable wage were transformed due to great variations. Two companies did not inform the mean monthly wage and mean variable wage their executives received in 2008.

Name of the variable	Abbreviation
Mean Monthly Wage	wagmon
Mean Variable Wage	wagvar
Index of Benefits	ibenef
Career Index	icar
Development Index	idevel
Sales Growth – 2008	gsal08
Return on Equity – 2008	roe08
Return on Sales – 2008	roa08
Sales Growth – 2009	gsal09
Return on Equity – 2009	roe09
Return on Sales – 2009	roa09
Size	size
Sector	sector

Figure 2. Abbreviation of research variables

Fourteen companies do not pay their executives a variable wage, which is why the minimum value equals zero. Research indices that variable wage positively affects the value creation drivers. Productivi-

ty increase, employee satisfaction increase, product or service quality increase and client satisfaction increase are some of the drivers that are positively affected by the implementation of variable remuneration programs (Krauter, 2007). Hence, there are opportunities for the companies to explore.

Table 3
Descriptive measures of remuneration variables

	N	mean	median	standard deviation	minimum	maximum
ln(wagmon)	80	10.15	10.27	0.61	7.14	11.10
ln(wagvar)	66	11.63	11.78	1.53	7.23	16.57
ibenef	82	7.12	8.00	2.28	0	11
icar	82	11.32	11.50	6.56	0	26
idevel	82	5.78	6.50	2.39	0	8

The index of benefits measures the executives' access to 12 benefits. The higher the index, the better ranked the company will be. This proportion considers a larger number of benefits for a larger number of executives. None of the companies reached the maximum score of 12 points. This means that none of them offers all benefits to all executives. Two companies do not offer any benefit to the executives. Only one company reached the highest score (11 points). The mean index of benefits corresponded to 7.12 points, with 50% of the companies scoring 8 points or less.

The benefits are an important mechanism to attract and retain talents. If well-structured, they can indicate to professionals that the company is a good place for a long-term professional relationship (Hipólito & Dutra, 2012).

The career index measures the executives' access to 27 career encouragement and support mechanisms. Like in the first index, the higher the index, the better ranked the company will be. None of the companies reached the maximum score of 27 points. Only one company reached the highest score (26 points). Six companies do not offer any career encouragement and support mechanism to the executives. The mean career index was 11.32 points, ranging between 0 and 26. Fifty-five percent of the companies scored 11.50 or less. These results indicate that the companies are offering few mechanisms to encourage and support their executives' career.

As mentioned earlier, the career the company offers is an item the executives value highly (PROGEP, 2012). According to Ulrich *et al.* (1991), when organizations give little support to their professionals' career, they start to reconsider their dedication to the organization and may no longer fully engage in the organization's actions. This context signals important opportunities for the organizations to explore.

The development index measures the executives' access to eight mechanisms aiming at stimulating education and professional development. Like in the first two indices, the higher the index, the better ranked the company will be. Twenty-four companies reached the maximum score of eight points. Six companies do not offer any stimulus to their executives' education and professional development.

The mean development index corresponded to 5.78 points, ranging from 0 to 8. Fifty-five percent of the companies indicated 6.50 points or less. Educational programs, training and partnerships with teaching institutions permit the executives' effective personal and professional development, granting them knowledge and appropriate skills to perform their functions in the organization (Fombrun, Tichy & Devanna, 1984).

Although the sample companies are considered benchmarks in human resource management, these results indicate that they are offering few mechanisms to encourage and support their executives' career and personal and professional development. Therefore, the companies should assess these questions. There are opportunities to explore in order to attract and retain the best talents.

Table 4 displays the descriptive measures of the financial indicators. Some companies did not inform all of these. The mean sales growth in 2008 was 16.06%, ranging between -79.05% and 169.81%. The

mean ROE in 2008 equaled 22.46%, ranging between -134.17% and 377.28%. The mean ROA in 2008 was 9.89%, ranging between -13.59% and 167.23%.

The mean sales growth in 2009 corresponded to 0.35%, ranging between -55.31% and 175.61%. The mean ROE in 2009 equaled 21.06%, ranging between -15.02% and 94.68%. The mean ROA in 2009 was 8.51%, varying between -5.06% and 31.56%.

Table 4

Descriptive measures of financial performance variables

	N	mean	median	standard deviation	minimum	maximum
gsal08(%)	77	16.06	5.92	35.34	-79.05	169.81
roe08 (%)	82	22.46	17.70	49.51	-134.17	377.28
roa08 (%)	82	9.89	6.30	19.67	-13.59	167.23
gsal09 (%)	79	0.35	-3.28	26.56	-55.31	175.61
roe09 (%)	78	21.06	19.11	17.11	-15.02	94.68
roa09 (%)	78	8.51	7.37	7.18	-5.06	31.56

Spearman's correlation coefficient was used to check whether a linear association existed between the remuneration variables and the financial performance variables. Table 5 shows the correlation coefficients of the research variables.

A significant correlation at 5% exists between the variables ln(salmen) and roe09. The coefficient is positive and weak ($\rho = 0.239$). The correlation coefficient between ln(salmen) and roa09 is significant at 5%, positive and weak ($\rho = 0.259$).

A positive, weak and significant association at 5% exists between ln(salvar) and roa09 ($\rho = 0.308$).

The variable ibenef is significantly correlated at 1% with gsal09. The coefficient is negative and weak ($\rho = 0.294$). A positive relation was expected, with a positive influence of the companies' supply of benefits on the executives' behavior.

No linear association exists between the other remuneration variables and the financial performance variables. Hence, the analysis of Spearman's correlation coefficient indicated a positive and significant relation between: mean monthly wage (logarithm) and ROE for 2009, mean monthly wage (logarithm) and ROA for 2009, mean variable wage (logarithm) and ROA for 2009. In addition, a negative and significant relation was found between the index of benefits and the sales growth for 2009.

Returning to Figure 1 at the start of this paper, the correlation test indicated a relation between financial remuneration and financial performance. The relation is positive and significant between direct remuneration and financial performance; and negative between indirect remuneration and financial performance. No relations were found between non-financial remuneration and financial performance.

It is interesting to observe the time lag between investments in personnel and the results created. The investments made in 2008 created results in the subsequent year – 2009.

Table 5

Spearman Correlation Matrix

	ln(wagmon)	ln(wagvar)	ibenef	icar	idevel	gsal08	roe08	roa08	gsal09	roe09	roa09
ln(wagmon)	1 80										
ln(wagvar)	0.472** 0.000 66	1 66									
ibenef	0.231* 0.039 80	0.074 0.556 66	1 82								
icar	0.243* 0.030 80	0.150 0.228 66	0.501** 0.000 82	1 82							
idevel	0.158 0.162 80	0.269* 0.029 66	0.287** 0.009 82	0.466** 0.000 82	1 82						
gsal08	-0.046 0.692 75	-0.024 0.851 62	-0.067 0.560 77	-0.064 0.579 77	-0.022 0.850 77	1 77					
roe08	-0.089 0.433 80	0.033 0.791 66	-0.012 0.913 82	-0.006 0.960 82	-0.030 0.789 82	0.159 9.169 77	1 82				
roa08	0.010 0.932 80	0.111 0.374 66	0.073 0.513 82	0.085 0.449 82	-0.020 0.862 82	0.097 0.401 77	0.856** 0.000 82	1 82			
gsal09	0.105 0.365 77	0.045 0.729 63	-0.294** 0.008 79	-0.093 0.414 79	0.035 0.763 79	0.131 0.263 75	-0.154 0.175 79	-0.235* 0.037 79	1 79		
roe09	0.239* 0.039 76	0.173 0.178 62	0.032 0.781 78	0.141 0.217 78	0.114 0.319 78	0.150 0.203 74	0.311** 0.006 78	0.212 0.063 78	0.266* 0.018 78	1 78	
roa09	0.259* 0.024 76	0.308* 0.015 62	0.102 0.376 78	0.143 0.212 78	0.124 0.279 78	0.083 0.484 74	0.473** 0.000 78	0.560** 0.000 78	0.077 0.502 78	0.780** 0.000 78	1 78

** and * correspond to statistical significance at 1% and 5%, respectively. Obs.: The first line represents the Spearman correlation coefficient; the second the p-value of the bilateral significance test; the third the number of observations.

To test the hypothesis about a positive and significant relation between executive remuneration and companies' financial performance, multiple linear regression analysis was used. Multiple regressions were developed, simultaneously using all remuneration variables as independent and financial performance variables as dependent variables. Size and sector were used as control variables. Six models were tested. The following general model was used:

$$DF_i = \beta_0 + \beta_1 \ln(wagmon)_i + \beta_2 \ln(wagvar)_i + \beta_3 ibenef_i + \beta_4 icar_i + \beta_5 idevel_i + \beta_6 size_i + \sum_{j=1}^{17} \delta j \, sector_{ji} + \mu_i$$

Where: *i* represents the *i*-eth company; DF represents the financial performance variables; δ_j represents the coefficient related to the binary variables of the activity sector; μ is the error term.

Table 6 displays the results of the multiple linear regressions estimated with the help of the minimal least squares method, using the natural logarithm of the total assets as a proxy for the size.

Only one of the six models tested showed statistical significance at 1%, which used roa09 (Column 6) as the dependent variable. This model presents an adjusted R^2 of 41.1%. The significance analysis of the parameters indicates that the coefficient of the variable ln(wagmon) is negative and significant at 10%; the coefficient of the variable ln(wagvar) is positive and significant at 1%; that of ibenef is positive and significant at 5%; that of size negative and significant at 1%; and that of the constant positive and significant at 5%.

The analysis of the coefficients in the model that uses gsal08 (Column 1) shows that the coefficients of the variables ln(wagmon) and size are negative and significant at 10%; that of the constant is positive and significant at 1%.

In the model using roe08 (Column 2), the coefficients of ibenef and idevel are negative and significant at 10%; that of icar is positive and significant at 5%; that of size is negative and significant at 1%; and that of the constant is positive and significant at 10%.

In the model that used roa08 (Column 3), the coefficients of the variables icar, idevel and size are significant at 5%, icar being positive and idevel and size negative.

The models that used gsal09 (Column 4) and roe09 (Column 5) as dependent variables showed no significant coefficients.

The results gave evidence of a significant relation between executive remuneration and companies' financial performance. Returning to Figure 1 at the start of this paper, the results indicate that financial remuneration is related with financial performance and non-financial remuneration with financial performance.

The models tested comply with all premises of the multiple regression analysis.

Table 6

Results of multiple linear regression models

Variables	gsal08 (1)	roe08 (2)	roa08 (3)	gsal09 (4)	roe09 (5)	roa09 (6)
ln(wagmon)	-19.234 (-1.706)#	-6.314 (-0.364)	-1.702 (-0.245)	9.521 (0.984)	-4.641 (-0.716)	-3.223 (-1.713)#
ln(wagvar)	1.359 (0.362)	4.523 (0.796)	2.286 (1.004)	4.193 (1.309)	0.927 (0.444)	2.367 (3.908)**
ibenef	-1.338 (-0.465)	-7.338 (-1.749)#	-2.601 (-1.547)	-0.591 (-0.257)	2.253 (-1.500)	1.109 (3.544)*
icar	0.499 (0.386)	4.263 (2.175)*	1.973 (2.512)*	-1.659 (-1.501)	0.765 (1.038)	-0.006 (-0.028)
idevel	-1.177 (-0.420)	-7.563 (-1.817)#	-4.145 (-2.485)*	1.318 (0.555)	0.364 (0.234)	0.094 (0.207)
size	-7.006 (-1.727)#	-16.523 (-2.876)**	-5.157 (-2.240)*	-1.587 (-0.456)	-2.083 (-0.917)	-2.433 (-3.691)**
sector	included	included	included	included	included	included
constant	320.908 (2.845)**	296.917 (1.724)#	89.854 (1.302)	-92.456 (-0.974)	67.447 (1.059)	42.370 (2.291)*
adjusted R^2	0.135	0.074	0.067	0.032	-0.048	0.411
Sig. F	0.165	0.279	0.295	0.391	0.625	0.002
N	60	63	63	60	59	59

The binary variables for the activity sector were included in the regressions. They were omitted from the table due to limited space. Figures between brackets indicated *t* statistics.
**, * and # correspond to statistical significance at 1%, 5% and 10%, respectively.

Figure 3 summarizes the results. The results of Spearman's correlation test and the multiple linear regression indicate a relation between mean monthly wages and return on equity in 2009 and between mean monthly wage and return on assets in 2009. The relation is positive and significant at 5% in the correlation test and negative and significant at 10% in the regression. The relation between mean variable wages and return on assets in 2009 is positive in the correlation test as well as in the regression. Hence, the results indicate that direct remuneration is related with financial performance. They also indicate that investments in staff members may demand some time to present results. Investments made in 2008 created results in 2009.

The results found in this study differ from research results that used the same constructs to operate the remuneration variable. These studies, developed by Krauter (2009, 2012) found no significant relation between executive remuneration and companies' financial performance.

Relations between variables	Spearman correlation	Multiple regression
Mean monthly wage and sales growth in 2008		(−) #
Mean monthly wage and ROE in 2009	(+) *	(−) #
Mean monthly wage and ROA in 2009	(+) *	(−) #
Mean monthly wage and ROA in 2009	(+) *	(+) **
Index of benefits and sales growth in 2009	(−) **	
Index of benefits and ROA in 2009		(+) *
Career index and ROE in 2008		(+) *
Career index and ROA in 2008		(+) *
Development index and ROE in 2008		(−) #
Development index and ROA in 2008		(−) *

Figure 3. Summary of test results

**, * and # correspond to statistical significance at 1%, 5% and 10%, respectively.
(+) indicates a positive relation between the variables; (-) indicates a negative relation between the variables.
Obs.: in the tests, the natural logarithm of the variables wagmon and wagvar were used.

5. Final Considerations

In accordance with agency theory, the remuneration package is considered as one of the most efficient mechanisms to induce risk-averse executives, in the attempt to maximize their own utility, to act to increase corporate performance. The aim in this research was to investigate the relation between executive remuneration and financial performance in Brazilian companies. It differs from earlier studies undertaken in other contexts by adopting broader concepts to operate the variables. While the earlier studies used fixed and variable wages to operate the remuneration variable, in the present research, besides the wages, three indices are used that were created for this purpose: benefits, career and development. In addition, earlier studies used only one financial indicator. In the present study, three financial indicators from two years are used.

The descriptive analysis of the wages indicated that some companies do not pay their executives variable wages. Research has indicated that variable remuneration plans favorable affect company performance, provided that they are appropriately developed, that is, provided that payment is linked to the achievement of goals. The descriptive analysis of the indices, then, showed that companies are offering little stimulus and support to their executives' professional growth. Research has shown that the possibility of professional growth is one of the main factors to attract and retain talents. Hence, there are opportunities for companies to explore.

The analysis of Spearman's correlation indicated a significant association between financial remuneration and financial performance. The multiple linear regression analysis results showed that financial performance is related with financial remuneration and non-financial remuneration. These results indicate that remuneration can help to direct executives' efforts towards the strategic objectives of the business, contributing for the company to achieve higher financial performance levels.

This research's main contributions are as follows: broaden existing knowledge about the relation between executive remuneration and companies' financial performance in Brazil, in view of scarce research on the theme, due to the lack of disclosure of remuneration data; create perspectives for further research, using this broader approach with data from other years; provide support for companies to improve their remuneration systems, increasing their ability to attract, retain, develop and mobilize their executives to achieve their objectives. Hence, aspects were indicated which companies should observe in the structuring of their executive remuneration packages: the inclusion of variable remuneration, benefits, career and educational stimulation mechanisms.

The research comes with some limitations. The non-probabilistic sampling method was employed to select the sample companies. Hence, the results found cannot be generalized to the population. Another limitation is the sample size. Due to difficulties to collect financial and remuneration data in Brazil, the sample consists of 82 companies. The fact that private companies – the predominant category in the Brazilian corporate universe – are not obliged to disseminate their financial statements hampers any research that needs these data. The use of financial information can be another limitation, in view of possible distortions.

As a result of the issuing of Instruction No. 480/09 by the Brazilian Securities Commission (CVM), which established new rules for the dissemination of managers' remuneration by publicly traded companies, additional data about executive remuneration will be available to researchers and can be adopted to operate the variable in future studies.

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