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CEO DUALITY AND FIRM PERFORMANCE IN BRAZIL: EVIDENCE FROM 2008

CEO DUALITY E DESEMPENHO DE EMPRESAS BRASILEIRAS: EVIDÊNCIAS DE 2008

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ABSTRACT

This research investigates the relationship between CEO duality and the performance of Brazilian firms in 2008. CEO duality exists where the roles of CEO and Chairman of the Board are held by the same person. While CEO duality has been the dominant board leadership structure of US corporations, Brazilian firms typically separate the roles of CEO and chairperson. During 2008, some Brazilian firms such as Sadia S/A (a multinational food processing company) adopted a dual leadership structure in an attempt to respond to the global systemic crisis. Using agency and stewardship theory perspectives, we tested our hypotheses with data of Brazilian listed companies. The empirical results indicate that companies where the CEO and chairperson are the same person have significantly higher performance (ROE). We also found a positive association between CEO duality and all other firm performance measures (ROA, ROC, MTBV), although the results were not statistically significant for these.

Keywords: Brazil. Corporate governance. Board of directors. CEO duality. Firm performance.

RESUMO

Esta pesquisa investiga a relação entre a dualidade entre os cargos de CEO e presidente do conselho de administração e o desempenho de empresas brasileiras em 2008. A dualidade entre os cargos de CEO e presidente do conselho ocorre quando esses cargos são ocupados pela mesma pessoa. Em 2008, algumas empresas brasileiras , tais como a Sadia S/A, consolidaram os cargos de CEO e presidente do conselho em uma tentativa de responder à crise sistêmica global. Com base em pressupostos das teorias de agência e de representação, testamos nossas hipóteses com dados de empresas listadas na BOVESPA. As empresas em que o CEO e presidente do conselho são a mesma pessoa tiveram um desempenho significantemente superior em 2008 (ROE). Encontramos também uma associação positiva entre a dualidade entre os cargos de CEO e presidente do conselho e todas as outras variáveis de desempenho empresarial analisadas, embora sem significância estatística.

Palavras-chave: Brasil. Governança corporativa. Conselho de administração. *CEO duality.* Desempenho empresarial

INTRODUCTION

Effective governance is critical to all economic transactions, especially in emerging and transitioning economies (DHARWADKAR ET AL., 2000). The financial scandals and failures in the 1980s and 1990s reignited the debate on the most appropriate mechanisms for making corporate governance more effective, and new governance paradigms are being actively discussed (HUSE, 2007) because there has been an erosion of investor trust in firms' corporate governance capabilities (SCHMIDT AND BRAUER, 2006). Most prior studies on corporate governance have focused on US firms (KIEL AND NICHOLSON, 2003), but an increasing body of research on the effectiveness of governance in Brazil has emerged (a comprehensive review of the Brazilian literature can be found in Leal, 2004).

Understanding whether board leadership features affect the performance and value of firms is an important question of interest to academics, practitioners and regulators. Several different governance prescriptions have been suggested in the literature to align interests of shareholders, management, workforce and other stakeholders. Board leadership mechanisms have attracted particular attention as one of the focal points of most governance systems (RHOADES ET AL., 2001). Within developing countries, board functioning is particularly important for attracting foreign direct investment and managing domestic investment efficiently (JUDGE ET AL., 2003).

This paper investigates the relationship between CEO duality and the performance of Brazilian public companies in 2008. CEO duality exists where the roles of CEO and Chairman of the Board are held by the same person. CEO duality has been the dominant board leadership structure of US corporations, as observed in 70-80 percent of them (RECHNER AND DALTON, 1991; RHOADES ET AL., 2001). However, the practice of separating the positions is almost universal in Europe (LAM AND LEE, 2008), while 90% of UK publicly-listed companies segregate the two roles (KANG AND ZAARDKOOHI, 2005). The Brazilian case lies between these two extremes. The proportion of CEO duality in local public companies ranges from 25 to 42 percent (DA SILVEIRA, 2002; CARVALHAL-DASILVA AND LEAL, 2005; ANDRADE ET AL., 2008).

The terminology that can be found in the literature regarding CEO duality is diverse and can be misleading. Some scholars refer to the combination of the CEO and chairperson functions as CEO duality (RECHNER AND DALTON, 1991; FINKELSTEIN AND D'AVENI, 1994; JUDGE ET AL., 2003, LAM AND LEE, 2008), CEO-chair duality (BHAGAT AND BOLTON, 2008), unitary leadership structure (BRICKLEY ET AL., 1997), joint CEO/chairperson (DAILY AND DALTON, 1997), CEO as chairperson (DA SILVEIRA, 2002), among others. In this research we define the combination of the CEO and chairperson roles as CEO duality, and the separation of these roles as CEO non-duality.

Our choice of Brazil as research context is motivated by a number of reasons. As a globally important transition economy, Brazil has undergone significant structural change in its corporate governance practices, resulting from massive privatizations, foreign institutional investment, economic growth, legal framework reforms and regulation of local financial markets. Among emerging economies, Brazil was one of the first to publish corporate governance guidelines and codes of best practice. Finally, board leadership issues seem to be particularly relevant in the Brazilian corporate environment, characterized by concentrated ownership and family control (DA SILVEIRA, 2004). We time-delimited our analysis to 2008. We find of particular interest that, during 2008, some Brazilian firms such as Sadia S/A (a multinational food processing company) changed its leadership structure towards CEO duality in an attempt to respond to the global systemic crisis.

Thus, we aim to address the question of whether the separation of duties between CEO and chairperson contributes to the financial performance of publicly-traded firms in Brazil. In doing this, we intend to contribute to the literature in two ways. First, by specifically examining CEO duality, a setting that has been more frequently analyzed in a context of multiple governance prescriptions. Second, by offering more recent evidence of potential relevance to transition economies, and to Brazil in particular.

This paper is organized into six sections. Section 1 introduces the paper. The next session summarizes the institutional framework for corporate governance in Brazil. Section 3 reviews the previous literature and develops the hypotheses. Section 4 describes the data and methodology. Section 5 presents the analyses of the sample data and the empirical findings. Section 6 discusses and concludes the paper.

THE INSTITUTIONAL FRAMEWORK FOR CORPORATE GOVERNANCE IN BRAZIL

There are considerable differences in corporate governance frameworks and practices between Brazil and most developed economies. Most large public companies in Brazil display concentrated ownership structures and controlling rights, and a separation between them, with extensive issuance of preferred stocks without voting rights (LEAL ET AL., 2002). In several instances, controlling groups run firms directly or appoint the CEO and Chairman of the Board. Board directors are mostly non-independent (DA SILVEIRA, 2002). As a result, the Brazilian corporate environment is characterized by power asymmetries among controlling shareholders, minority shareholders and management, in favor of the first (DA SILVEIRA, 2004). In order to improve the corporate governance environment in Brazil, an array of institutional and government initiatives have been implemented in the last years. Institutional investors, namely major Brazilian pension funds, have increased their participation as minority shareholders of large public companies and currently play an important role in developing local corporate governance practices (DA SILVEIRA, 2004). The legal framework was reinforced with the passing of a new Law of Corporations in 2002, aimed toincrease minority shareholder rights. The Brazilian Institute of Corporate Governance-IBGC, founded in 1995, issued the first local reference Code of Best Practices of corporate governance in 1999; currently, it is in its third edition (INSTITUTO BRASILEIRO DE GOVERNANÇA CORPORATIVA, 2004). Since 2001, the São Paulo Stock Exchange (BOVESPA) launched four differentiated corporate governance listing segments which trade shares of companies that voluntarily comply with stricter, contractually-binding disclosure and governance requirements (Table 1).

Table 1: Listing requirements for BOVESPA corporate governance levels

	Novo Mercado	Level 2	Level 1	BOVESPA Mais	Traditional
Free float	25% free float minimum	25% free float minimum	25% free float minimum	25% free float until the seventh year of listing or minimally acceptable liquidity conditions	No rule
Issued shares characteristics	Allows for ordinary shares only	Allows for ordinary and preferred shares (with additional rights)	Allows for ordinary and preferred shares	Only ordinary shares may be traded and issued but firm may have preferred shares	Allows for ordinary and preferred shares
Board of directors	Minimum five members -- at least 20% independent	Minimum five members -- at least 20% independent	Minimum three members (per legislation)	Minimum three members (per legislation)	Minimum three members (per legislation)
International accounting standards	US GAAP or IFRS	US GAAP or IFRS	Optional	Optional	Optional
Tag-along	100% for ordinary shares	100% for ordinary shares; 80% for preferred shares	80% for preferred shares (per legislation)	100% for ordinary shares	80% for preferred shares (per legislation)
Adoption of market arbitrage chamber	Mandatory	Mandatory	Optional	Mandatory	Optional

Source: BOVESPA S/A. Available at<http://www.BOVESPA.com.br/Principal.asp>.

THEORETICAL BACKGROUND

There is a long-developed research tradition that examines the relationship between the composition of board structures and firm performance. To date, the relationship between board structure and company performance has been the most-studied aspect among all board investigations (ONG AND WAN, 2001). In the corporate governance literature, this perspective is fundamentally grounded in the agency theory, which is concerned with the alignment of interests of owners and managers (JENSEN AND MECKLING, 1976). Within the agency framework, separation of ownership and control in corporations creates information asymmetries between shareholders and management that expose owners to agency risk as managers run the firm on behalf of them. In order to avoid management opportunism, the delegation of responsibilities by owners requires the presence of mechanisms that either align interests of principals and agents by legally-binding contracts, or monitor the performance of managers, or provides them with sufficient incentives to ensure that they pursue shareholder wealth at acceptable agency costs. Thus, owners bear residual risk efficiently, but only to the extent that their collective interests are safeguarded by effective governance mechanisms (BAYSINGER AND HOSKISSON, 1990).

Board leadership is one of the most controversial topics in the corporate governance

literature (LAM AND LEE, 2008), which seems to provide persuasive, but competing, predictions (RECHNER AND DALTON, 1991). In essence, there are two opposing views regarding board leadership structures. Under the agency framework, boards of directors are a governance mechanism that plays an information role in controlling management actions (FAMA AND JENSEN, 1983), by the assumption that when the principal has information to verify and influence management behavior, the agent is more likely to behave in the interests of the principal. One key monitoring feature advocated by the agency perspective is the separation between the roles of the CEO from the chairperson (JUDGE ET AL., 2003). According to this view, combining both functions impairs the board's ability to monitor management opportunism (DAILY AND DALTON, 1993) because the CEO will tend to dominate the board. CEO duality is detrimental to the firm as the same person will be monitoring his own actions. A dual CEO will tend to pursue his own interests rather than the interests of shareholders (WEISBACH, 1988). It is also suggested that firms with dual leadership are less likely to remove a dysfunctional CEO, because he may have influence not only on senior management but also on other board members (CARVALHAL-DA-SILVA AND LEAL, 2005). Boards under CEO dominance will tend to operate ceremonially, communicate poorly and "rubber-stamp" management decisions (CHARAN, 2005). Separation of duties will avoid CEO entrenchment and establish independence between board and management (FAMA AND JENSEN, 1983; BAYSINGER AND HOSKISSON, 1990). As stated by Harold Geneen, former CEO and chairman of ITT (1984, p.29, *APUD* RECHNER AND DALTON, 1991):

> If the board of directors is really there to represent the interests of the stockholders, what is the chief executive doing on the board? Doesn't he have a conflict of interest? He's the professional manager. He cannot represent the shareholders and impartially sit in judgment on himself. He should not.

Therefore, CEO duality is expected to erode shareholder value and impair firm performance. Thus, under the agency framework it is hypothesized that:

H1a: There is a negative association between CEO duality and firm performance.

On the other hand, agency theory has received criticism on its oversimplified "economic man" assumptions (DAVIS ET AL., 1997). The stewardship theory offers a contrasting perspective, by stating that managers are good stewards of company resources (DONALDSON AND DAVIS, 1991). Stewardship theorists advocate that there is no inherent conflict of interest between owners and management because, among other reasons, managers will not risk their reputation and careers by pursuing interests that collide with the owners'. Managers also derive intrinsic job satisfaction from non-financial incentives such as individual reputation, industry recognition, career advancement and power. These incentives promote an alignment of interests and prevent management opportunism.

The CEO duality proposition is also founded on a long tradition in administrative studies which postulates that clear lines of authority and unity of command will reduce conflict, improve coordination and decision making (GALBRAITH, 1977; WEBER, 1947). Without strong leadership, firms may be unable to pursue a clear strategic direction (MILLER AND FRIESEN, 1977). A unified leadership structure may be able to demonstrate that a firm has a clear sense of direction (FINKELSTEIN AND D'AVENI, 1994). Companies with CEO duality will display stronger leadership, eliminate potential conflicts between CEO and chairperson, obtain efficiency gains through unity of command, and benefit from faster decisions since the chairperson is not an outsider to the industry (DAVIS ET AL., 1997; DONALDSON AND DAVIS, 1991; ONG AND WAN, 2001; BRICKLEY ET AL., 1997). Therefore, under the stewardship framework it is hypothesized that:

H1b: There is a positive association between CEO duality and firm performance.

There is an increasing body of research which shows that there is not a single model that adequately depicts corporate governance in all national contexts (LA PORTA ET AL., 1997, 1998). Firms outside the US have different institutional expectations than American boards, and such different institutional contexts may lead to a different relationship with firm performance (JUDGE ET AL., 2003). In this sense, most non-US codes on corporate governance do not endorse appointments of chairmen from CEOs in the same company. The UK Combined Code on Corporate Governance, in such cases, states that "a chief executive should not go on to be chairman of the same company. If exceptionally a board decides that a chief executive should become chairman, the board should consult major shareholders in advance and should set out its reasons to shareholders at the time of the appointment and in the next annual report" (p.7). The same holds in the case of the IBGC Code (INSTITUTO BRASILEIRO DE GOVERNANÇA CORPORATIVA, 2004), which states that "in order to minimize concentration of power in detriment of proper management supervision, the accumulation of (the CEO and Chairman of the Board) functions by the same person should be avoided" (p.20). The Brazilian Securities and Exchange Commission-CVM prescribes the same in its Corporate Governance Recommendations (COMISSÃO DE VALORES MOBILIÁRIOS, 2002): "The board of directors monitors the acts of management. Therefore, in order to avoid conflict of interest, the Chairman of the Board must not be the company's CEO also". (p.5).

An analysis of the recent empirical research on CEO duality reveals a mixed and inconclusive picture. While a number of studies supported CEO duality, several others concluded otherwise, and an additional set of studies did not reveal significant relationships between board leadership features and firm performance. Some more recent studies also noticed that the association between CEO duality and firm performance was moderated by a family control factor. Although most of the empirical research on the relationship between CEO duality and firm performance has focused on large corporations within America (DALTON ET AL., 1998), some recent papers researched transition economies. See Table 2 for a list of some of these studies.

In a Brazilian study which analyzed a number of corporate governance prescriptions, Da Silveira (2002) found a negative relationship between CEO duality and performance and CEO duality and firm value, a finding which corroborated the IBGC and CVM guidelines on CEO duality. Andrade et al. (2008) found no statistically significant relationships between CEO duality and firm value or performance in their study of public firms in Brazil between 2004 and 2006.

Table 2: Relationship between CEO duality and firm performance

Study	Sample	Findings
Berg and Smith (1978)	Fortune 200 firms	CEO non-duality was positively related with ROI. No relationship with other indicators
Rechner and Dalton (1991)	Fortune 500 firms	CEO non-duality was positively related with ROE and ROI
Donaldson and Davis (1991)	US firms from S&P	CEO duality was positively related with ROE
Daily and Dalton (1992)	Inc. 100 firms	No relationship with financial performance
Daily and Dalton (1993)	Small firms	No relationship with financial performance
Daily and Dalton (1994)	*Inc.* firms and small corporations	CEO non-duality was positively related with ROA
Boyd (1995)	US firms	CEO duality was positively related with ROI
Tian and Lau (2001)	Chinese firms	CEO duality was positively related with ROA and ROE
Lam and Lee (2008)	Hong Kong firms	CEO duality was positively related with ROA, ROE and ROC in non-family firms CEO duality was negatively related with ROA, ROE and ROC in family firms

RESEARCH METHOD

SAMPLE

The employed data were collected from Dun & Bradstreet's Capital IQ database. Information from firms' annual reports was also used in order to validate the data on board membership and composition. All data are as of December 31st. 2008. An initial sample of 363 companies with shares traded at the São Paulo Stock Exchange (BOVESPA) was selected. Of these, 18 financial service companies were excluded due to their industry-specific capital structure (LAM AND LEE, 2008). Other 224 observations were excluded from the initial sample due to missing or inconsistent data. Two observations were excluded as extreme outliers. Thus, the final sample size was 121.

MULTIVARIATE REGRESSION MODELS

Four multivariate regression models were specified to analyze the relationship between CEO duality and firm performance, as follows:

$$ROE = C + \beta_{11}DUAL + \beta_{21}UTIL + \beta_{31}L\_MCAP + \beta_{41}L\_AT + \beta_{51}L\_REC + \beta_{61}LIQCOR + \beta_{71}ENDIV + \beta_{81}MLIST + \beta_{91}L\_TCONS + \beta_{101}IGC + \varepsilon \quad (1)$$

$$ROA = C + \beta_{12}DUAL + \beta_{22}UTIL + \beta_{32}L\_MCAP + \beta_{42}L\_AT + \beta_{52}L\_REC + \beta_{62}LIQCOR + \beta_{72}ENDIV + \beta_{82}MLIST + \beta_{92}L\_TCONS + \beta_{102}IGC + \varepsilon \quad (2)$$

$$ROC = C + \beta_{13}DUAL + \beta_{23}UTIL + \beta_{33}L\_MCAP + \beta_{43}L\_AT + \beta_{53}L\_REC + \beta_{63}LIQCOR + \beta_{73}ENDIV + \beta_{83}MLIST + \beta_{93}L\_TCONS + \beta_{103}IGC + \varepsilon \quad (3)$$

$$MTBV = C + \beta_{14}DUAL + \beta_{24}UTIL + \beta_{34}L\_MCAP + \beta_{44}L\_AT + \beta_{54}L\_REC + \beta_{64}LIQCOR + \beta_{74}ENDIV + \beta_{84}MLIST + \beta_{94}L\_TCONS + \beta_{104}IGC + \varepsilon \quad (4)$$

DEPENDENT, EXPLANATORY AND CONTROL VARIABLES

The variables employed in our equations are described in Table 3.

Firm performance. The variables employed for firm profitability were ROE (return on equity), ROA

(return on assets) and ROC (return on capital). MTBV (market-to-book value of equity) was used to measure firm value. According to Bai et al. (2004), previous research has shown the MTBV and the Tobin's Q are strongly correlated, therefore MTBV may be used as a surrogate for Tobin's Q in empirical studies.

CEO Duality. CEO duality (DUAL) is a dummy variable that assumes the value one if the firm's CEO and Chairman of the Board are the same person, or zero otherwise. Lam and Lee (2008) observed that the separation of these roles does not necessarily improve a board's monitoring capabilities if the CEO and Chairman of the Board belong to the same family. Therefore, following Lei and Song (2004) and Lam and Lee (2008) we consider as CEO duality the observations in which these two roles are performed by individuals of the same controlling family.

Table 3: Description of variables

Variable	Description
C	Intercept
ε	Error term
Dependent variables	
ROE	Return on equity
ROA	Return on assets
ROC	Return on capital
MTBV	Market-to-book value of equity
Explanatory variable	
DUAL	CEO duality (1 for duality, 0 otherwise)
Control variables	
UTIL	Utilities industry sector (1 for utilities, 0 otherwise)
L_MCAP	Natural logarithm of market capitalization
L_AT	Natural logarithm of total assets
L_REC	Natural logarithm of sales
LIQCOR	Current ratio (current assets over current liabilities)
ENDIV	Debt-to-equity ratio (long-term debt over common equity)
MLIST	Multiple listing (1 for multiple listing, 0 otherwise)
L_TCONS	Natural logarithm of board size
IGC	Listing at the BOVESPA's IGC portfolio (1 for listing, 0 otherwise)

Board Size. Following Lam and Lee (2008), the board size variable (L_TCONS) was operationalized in its natural logarithmic form. According to Judge and Zeithaml (1992), there is evidence that larger boards are less efficient because directors are less participative and less cohesive, making consensus more difficult to achieve. Therefore, we expect board size to influence firm performance negatively (Yermack, 1996). However, other empirical studies also found evidence in contrary, such as Kiel and Nicholson (2003) and Dalton et al. (1999).

Firm Liquidity and Leverage. Chen and Jaggi (2000) and Hutchinson and Gul (2004) argued that a firm's liquidity and leverage may lead to increased external control because creditors would monitor its capital structure more intensively in order to protect their interests. In line with Chen and Jaggi (2000), current ratio (LIQCOR) was employed as measurement of firm liquidity, and debt-to-equity ratio (ENDIV) was used to measure firm leverage.

Multiple listing. Firms listed in more than one stock market must comply with all their listing rules. Such firms tend to be perceived as having better corporate governance practices (LAM AND LEE, 2008). Therefore, MLIST is a control variable that assumes the value one if the firms' shares were actively traded in more than one stock market, or zero if shares were traded only at the BOVESPA stock exchange.

Industry sectors. Utilities firms may generate more stable income streams and improve performance

(CHEN AND JAGGI, 2000). Therefore, the utilities industry was included as a control variable (UTIL). Financial service companies have a sector-specific capital structure and must comply with stricter regulatory standards (CHEN AND JAGGI, 2000), and thus were excluded from the sample, in line with Lam and Lee (2008).

Firm size. Previous empirical studies demonstrated that firm performance was negatively related to total assets (LANG AND STULZ, 1994) and positively related to market capitalization (WALLACE AND NASER, 1995; YERMACK, 1996) and sales (WALLACE AND NASER, 1995). Therefore, in order to control for firm size we included the variables natural logarithm of total assets (L_AT), natural logarithm of market capitalization (L_MCAP) and natural logarithm of sales (L_REC). Because each of these measures may affect performance differently (WALLACE AND NASER, 1995; CHEN AND JAGGI, 2000), all three were initially included in our empirical tests.

Listing on differentiated corporate governance portfolios. Firms listed as such are generally perceived to conduct good corporate governance practices. The BOVESPA's Corporate Governance Index (IGC) is formed by a portfolio of selected stocks that are traded at the special listing segments of *Novo Mercado*, *Level 1* or *Level 2* (see Table 1). Firms in the IGC portfolio voluntarily agree to comply with stricter corporate governance practices and transparency requirements Thus, IGC is a control variable that assumes the value one if the firm's stock is included in the IGC portfolio, or zero if otherwise.

DATA ANALYSIS AND RESULTS

DESCRIPTIVE STATISTICS

Tables 4 and 5 report descriptive statistics for the continuous and dichotomous variables used in our analysis. Sample firms have a lower ROA than ROE and ROC, the other accounting performance measures. As shown, the variation in earnings is higher than in assets or capital (ROE: 35.22 percent vs. 6.99 and 12.31 respectively). Sample firms have a mean MTBV of 2.4x. As size measures, the average market capitalization, assets and revenues are of US$ 4, 6 and and 3.7 billions respectively. The average board size is of 7.88. The recommendation of the IBGC is of a board size ranging for 5 to 9 directors.

CEO duality was found in 36.4% of our sample (44 out of 121 firms), having taken family relationships into consideration. In previous studies with Brazilian companies, CEO duality ratios ranged between 42% (DA SILVEIRA, 2002) and 25% (ANDRADE ET AL., 2008). This downward trend in CEO duality may indicate that Brazilian firms are progressively adopting the IBGC and CVM recommendation of segregating duties between the CEO and the Chairman of the Board.

Table 4: Descriptive statistics for full sample – continuous variables

Variable	unit	Minimum	Maximum	mean	median	Standard deviation
ROA	%	-18.20	29.60	6.43	5.63	6.99
ROE	%	-133.30	138.20	9.23	11.20	35.22
MTBV	ratio	0.26	46.56	2.39	1.13	5.64
ROC	%	-19.70	81.80	10.01	7.39	12.31
MCAP	US$ M	32.7	107,438.6	3,987.8	612.7	14,290.0
AT	US$ M	131.5	139,587.8	6,063.5	1,302.1	18,519.2
REC	US$ M	2.5	92,903.7	3,708.1	844.8	11,616.6
LIQCOR	ratio	0.50	14.30	2.11	1.68	1.79
ENDIV	%	0.02	2,724.20	140.45	70.90	298.90
TCONS	members	3	10	7.81	8	2.00

Note: n = 121, 2008

Table 5: Descriptive statistics for full sample – dichotomous variables

Variable	Unit	1 Yes	2 No
DUAL	%	36.4	63.6
UTIL	%	13.2	86.8
MLIST	%	45.5	54.5
IGC	%	66.9	33.1

Note: n = 121, 2008

Of sampled firms, 45.5% had stocks actively traded in more than one stock exchange (MLIST). Most of them were in the IGC portfolio (IGC: 66.9%) and complied with BOVESPA's corporate governance requirements for special listing.

EMPIRICAL FINDINGS

The hypotheses were tested by correlation and multivariate regression analysis. We investigated for near multicollinearity among the explanatory variables by means of correlation analysis. Total assets (L_AT) was positively and strongly correlated with revenues (L_REC) and market capitalization (L_MCAP) at a 0.01 level of significance. To address this, we excluded L_AT from further analyses, keeping L_REC and L_MCAP as firm size measures. The final correlation matrix is presented in Table 6.

Table 6: Correlation coefficients between the explanatory variables *correlation / probability*

	DUAL	ENDIV	IGC	L_MCAP	L_REC	L_TCONS	LIQCOR	MLIST	UTIL
DUAL	1.000								

ENDIV	0.036	1.000							
	0.698	-----							
IGC	-0.053	0.034	1.000						
	0.563	0.714	-----						
L_MCAP	-0.113	-0.074	-0.085	1.000					
	0.215	0.419	0.353	-----					
L_REC	0.007	0.055	-0.056	0.769	1.000				
	0.939	0.551	0.539	0.000 ***	-----				
L_TCONS	-0.006	-0.020	-0.002	-0.008	0.021	1.000			
	0.951	0.829	0.984	0.931	0.820	-----			
LIQCOR	0.115	-0.164	-0.002	-0.247	-0.498	-0.039	1.000		
	0.210	0.071 *	0.984	0.006 ***	0.000 ***	0.668	-----		
MLIST	-0.138	0.019	0.042	0.467	0.353	0.037	-0.091	1.000	
	0.131	0.840	0.650	0.000 ***	0.000 ***	0.689	0.320	-----	
UTIL	0.009	-0.073	0.119	0.224	0.147	-0.002	-0.214	0.085	1.000
	0.920	0.427	0.195	0.013 **	0.107	0.984	0.018 **	0.356	-----

Notes: n = 121, 2008; *** correlation is significant at the 0.01 level (two-tailed); ** correlation is significant at the 0.05 level (two-tailed); *

We then tested our reduced regression equations for heterocedasticity using White's general test. Residuals showed to be non-homocedastic at a 0.01 level of significance for MTBV and ROC and at 0.05 significance for ROE. We found no evidence of heterocedasticity for ROA residuals. Thus, per Brooks (2008), we estimated our final regressions with correction procedures for heterocedasticity-robust standard error estimates (see Table 7).

The results indicate that CEO duality is positively associated with all performance measures. This relationship is statistically significant for ROE (b =12.044, p=0.023), but is not statistically significant for the other measures employed. Thus, H1a (CEO duality and firm performance are negatively related) is not supported. Conversely, the empirical evidence supports H1b (CEO duality and firm performance are positively related) for ROE, but not for ROA, ROC and MTBV.

Table 7: Regressions of firm performance measures

Least squares - White heterocedasticity-consistent standard errors and covariance

	ROE			ROA			ROC			MTBV		
Dependent variables	n	p-value		n	p-value		n	p-value		n	p-value	
C	-100.367	0.043	**	-17.149	0.131		-15.007	0.481		4.721	0.501	
DUAL	12.044	0.023	**	0.416	0.726		0.522	0.772		0.601	0.282	
UTIL	8.673	0.403		2.385	0.229		2.012	0.524		-0.771	0.466	
L_MCAP	11.689	0.001	***	1.257	0.092	*	3.635	0.053	*	2.089	0.014	**
L_REC	-4.985	0.145		0.391	0.551		-1.226	0.497		-1.954	0.025	**
LIQCOR	-3.163	0.085	*	-0.720	0.201		-1.640	0.061	*	-0.679	0.063	*
ENDIV	-0.048	0.005	***	-0.002	0.223		-0.001	0.748		0.012	0.000	***
MLIST	-12.180	0.050	**	-3.300	0.027	**	-4.359	0.085	*	-0.574	0.410	
L_TCONS	-6.293	0.563		-3.462	0.115		-8.500	0.097	*	-2.158	0.356	
IGC	-1.465	0.837		-0.691	0.624		-2.878	0.251		-1.026	0.245	
Adjusted R^2	0.329			0.187			0.185			0.490		
F-statistic	7.553	0.000	***	4.076	0.000	***	4.034	0.000	***	13.825	0.000	***

Notes: *** 0.01 significance level; ** 0.05 significance level; * 0.1 significance level (two-tailed tests)

All regression coefficients for board size (L_TCONS) are negative. The reverse relationship with firm performance is statistically significant at the 0.1 level for ROC, but is insignificant for other performance measures. This provides limited empirical support to the proposition that smaller boards are related with higher firm performance, as per Yermack (1996).

For the other control variables, the coefficients for market capitalization (L_MCAP) show a positive and statistically significant relationship with firm performance, which is consistent with prior empirical studies. Revenues (L_REC) are negatively related with all firm performance measures except ROA, and the relationship with MTBV is negative and significant at the 0.05 level. In line with expectations, the utilities sector (UTIL) was positively associated with accounting performance measures, albeit statistically insignificant. Firm leverage (ENDIV) shows a positive, statistically significant relationship with ROE, but a negative, statistically significant relationship with firm value (MTBV). Contrary to expectations, liquidity (LIQCOR), multiple listings (MLIST) and IGC listing are negatively related to firm performance. However, IGC displayed statistically insignificant coefficients.

In summary, the empirical results support the hypothesis that firms in which the roles of CEO and Chairman of the Board are held by the same person have higher performance as measured by ROE.

CONCLUSION

Academic research suggests that firm performance is associated with board leadership structures. The purpose of the study was to investigate the relationship between CEO duality and the performance of Brazilian public companies in 2008. The theoretical and empirical literature on corporate governance offers two alternative perspectives. The agency perspective advocates that the separation of the two roles is an important determinant of a board's independence and effectiveness. Conversely, the stewardship theory postulates that firms with a unified leadership structure operate more efficiently through better coordination and unambiguous command, thus dealing more effectively with strategic challenges. The leadership structure of the majority of Brazilian listed companies is characterized by a separation of the roles of CEO and chairperson.

Our empirical results suggest that Brazilian listed companies with dual CEOs delivered superior returns on equity in 2008, in contrast with expectations derived from the agency theory and local codes of best practice. This is consistent with the notion that CEO duality is conducive to superior performance by means of better strategic direction and execution.

However, these results must be interpreted with limitations, for several reasons. First, we found no statistically significant associations between CEO duality and return on assets, return on capital or market-to-book value of equity, although they were consistently positive across all measures. Second, our sample may be biased in favor of larger and more structured firms. Since several listed companies were not included in the sample due to missing data on board composition, the governance practices of firms included in our sample may be better than those of companies excluded by incomplete information. Our results may also be timebiased, since we employed cross-sectional data of 2008 which may be impacted by the global systemic crisis. We did not investigate if the relationships between dependent and independent variables would be better explained by a panel data structure due to a lack of reliable historical data on CEO duality. Third, as suggested by Lam and Lee (2008), a dual leadership structure may be preferable in certain circumstances but not in others. Some prior studies indicated that the association between CEO duality and firm performance may be contingent on factors such as ownership structure, namely family control (CHEN ET AL., 2005). Brazilian firms are characterized by concentrated family ownership. Controlling families may prefer a CEO-chairperson structure in order to gain access to self-servicing activities and private benefits (SHLEIFER AND VISHNY, 1997; CHEN ET AL., 2005). In family-controlled companies with dual leadership structure, the costs associated with expropriation of minority shareholders and management entrenchment may outweigh potential benefits (LAM AND LEE, 2008). On the other hand, non-family firms with a unified CEO-chairperson may be more able to achieve gains of coordination without incurring the agency costs of monitoring the CEO. Thus, CEO duality-performance association may be moderated by the family control factor. Finally, as suggested by Chen et al. (2008), a firm's leadership structure and its performance may be endogenously related. Further investigation on this possibility would require the use of different estimation techniques.

An implication for further research in Brazil relates to several areas of "boundary conditions" of the agency, stewardship and organizational theories in corporate governance (FINKELSTEIN AND D'AVENI, 1994). Multidisciplinary studies of this nature may contribute to a better understanding of what drives the effectiveness of Brazilian boards. For example, future work can investigate the specific situations and circumstances in which CEO duality may be beneficial for Brazilian listed firms. Investigating the factors of board effectiveness with multiple theoretical lenses may help develop more effective corporate governance models.

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