Evolution and determinants of firm-level corporate governance quality in Brazil

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RESUMO

Evolução e determinantes da qualidade da governança corporativa das companhias no Brasil

Neste artigo, analisam-se a evolução e os determinantes das práticas de governança das empresas brasileiras de 1998 a 2004 por meio de amplo índice de governança corporativa. Uma contribuição-chave é a análise da adoção totalmente voluntária de diretrizes de governança ao longo de um período de tempo de seis anos, visto que na maioria dos estudos se analisam amostras de seção cruzada com dados de apenas um ou poucos anos. Adicionalmente, trata-se de um dos primeiros artigos em que se analisa o impacto da estrutura de propriedade sobre a qualidade da governança corporativa, isolando-se o efeito do direito de controle e do direito sobre o fluxo de caixa. No geral, a qualidade da governança corporativa nas empresas brasileiras vem melhorando lentamente, mas ainda pode ser considerada pobre. A adoção voluntária também tem gerado maior divergência do que convergência nas práticas de governança, levando a maior heterogeneidade na qualidade da governança das empresas analisadas. A adesão voluntária a segmentos de listagem mais rígidos, como os Níveis Diferenciados de Governança da Bolsa de Valores de São Paulo (Bovespa) e a adesão a *American Depositary Receipts* (ADR) Nível 2 ou Nível 3 no mercado norte-americano, é associada positivamente a maior qualidade da governança corporativa. Observou-se, ainda, que a concentração do direito de voto e a presença de uma família como acionista controlador são associadas com piores práticas de governança, enquanto a presença de um bloco de acionistas com controle compartilhado é associada a melhores práticas.

***Palavras-chave*:** governança corporativa, mecanismos de governança, índice de governança corporativa, teoria de agência, estrutura de propriedade.

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1. INTRODUCTION

For the most part, the recent literature compares corporate governance mechanisms and standards among countries, trying to assess whether different

levels of investor protection impacts ownership concentration or the adoption of better corporate governance practices. This approach, based on the seminal work of La Porta *et al.* (1998), builds on the principle that the level of legal protection offered to external investors to prevent the expropriation of their wealth by managers and/or controlling shareholders is the key element that explains different corporate governance patterns across countries. From this perspective, firm ownership structures and consequently their corporate governance model can be seen as an equilibrium response to the legal environment in which they operate.

However, firms within the same country may have markedly different corporate governance standards and overall quality. Furthermore, differences between firms' corporate governance quality could be due to some of their observable characteristics. This idea is corroborated by Klapper and Love (2004), who have noted a large degree of variation in the quality of corporate governance practices of firms that are submitted to the same contractual environment, finding examples of firms with high corporate governance ratings in countries with weak investor protection and vice-versa.

In this paper, we try to answer two broad questions:

- Have firms in Brazil voluntarily improved their corporate governance standards over time?
- What drives some firms in Brazil to voluntarily adopt better corporate governance, namely, the practices recommended by market agents through codes of best practices?

First, we examine the evolution of governance practices among Brazilian listed firms from 1998 to 2004, analyzing a broad corporate governance index and its four sub-indices (disclosure; board composition and functioning; ethics and conflicts of interest; and shareholder rights) throughout the period. Then we investigate the determinants of corporate governance quality at firm level among Brazilian listed companies, in order to identify the firm characteristics that are associated with higher corporate governance ratings, using panel data regression methods.

This line of research is important because most academic papers on corporate governance have focused on evaluating the impact of corporate governance mechanisms and practices on firm value. However, analyzing the evolution of corporate governance quality at firm level and relating voluntarily adopted practices to firms' characteristics is also important, since it helps one to understand what can lead firms to improve their governance practices in places where the level of corporate governance quality reflects decisions voluntarily taken by firms (or, to be more specific in the Brazilian case, decisions mainly taken by the firms' controlling shareholders).

Our empirical results suggest that recent years have seen a sluggish increase in the overall level of corporate governance in Brazil and that corporate governance quality at firm level in Brazil is still rather unsatisfactory. Moreover, we did not observe a convergence towards voluntary adoption of corporate governance practices, but an increasing divergence instead, leading to a higher heterogeneity of corporate governance quality among Brazilian firms. Additionally, this divergence is reflected in all governance dimensions (board of directors, disclosure, shareholder rights, and ethics).

"This is one of the few papers to analyze the impact of ownership structure on the quality of voluntarily adopted corporate governance practices and it is probably the first whose analysis segregates the impact of control rights from the cash flow rights of controlling shareholders."

Regarding the determinants of corporate governance quality at firm level, we confirm the hypotheses that growth prospects, financial leverage, the issuance of Levels 2 or 3 American Depositary Receipts (ADRs), and joining the premium listing segments (Level 2 or New Market) of the São Paulo Stock Exchange (Bovespa) are positively associated with corporate governance quality at firm level. We also found that the type of controlling shareholder can be an important factor in the firm's decision to voluntarily improve its governance practices. Specifically, we found that firms controlled by different and large blockholders associated through shareholders' agreements enjoy higher corporate governance quality on average. On the other hand, we observed a negative relation between family-controlled firms and corporate governance quality. We also found that greater ownership concentration relates negatively to the voluntary adoption of governance practices.

Based on our results, we describe below the main contributions of this study.

- Because of the period of time our sample comprises, we were able to examine whether firms changed their governance standards in the absence of major legal requirements to do so over a fairly long time-span.

- Thanks to corporate governance laws and regulations that came into effect in Brazil and abroad during this period, such as the reform of Brazil's Corporate Law, the institution of Bovespa's three special listing segments in 2000, the enactment of the Sarbanes-Oxley Bill and the issuance of CVM's[1] Recommendation on Corporate Governance in 2002, we had a unique opportunity to qualitatively evaluate whether these events had a positive overall impact on the level of firms' compliance with better governance practices.

- This is one of the few papers to analyze the impact of ownership structure on the quality of voluntarily adopted cor-

porate governance practices and it is probably the first whose analysis segregates the impact of control rights from the cash flow rights of controlling shareholders.

- Our results indicate that a special ownership structure arrangement, called shared blockholding (firms with different and large blockholders associated through shareholder agreements) may positively influence corporate governance quality at the firm level. To the best of our knowledge, this is the first paper to observe the influence of this type of controlling stake on the level of governance practices voluntarily adopted by firms.

The paper is structured as follows: following the above introduction, section 2 presents the evolution of corporate governance regulation and self-regulation in place in Brazil from 1998 to 2004; section 3 presents an overview of the literature on this line of research; section 4 presents the research methodology, including the model and the definition of the variables; section 5 presents and discusses the empirical results; and section 6 presents our conclusions.

2. THE BRAZILIAN CASE: VOLUNTARY ADOPTION OF CORPORATE GOVERNANCE PRACTICES

Some countries, such as the UK and Germany, have adopted a "comply or explain" approach to improve their corporate governance practices: although firms are not obliged to implement corporate governance guidelines, they must publicly disclose which practices they have implemented and explain why they chose not to comply with the others. Brazil has taken a different approach regarding voluntary adoption of good corporate governance practices. Firms do not have to adopt any governance practices other than what is legally required, of course, and legal requirements, in general, are mild, focusing on disclosure, directors' duties and a mandatory bid rule.

For the sake of brevity, we will mention only some of the most important initiatives introduced or initiated during our sample period. As far as legal requirements go, in 2001 a new Corporate Law was passed, with better provisions pertaining to shareholder rights, such as a mandatory bid rule in favor of minority shareholders when controlling shareholders sell the firm. Authorities have also issued recommendations about good corporate governance practices, as the Securities Commission (CVM) did in 2002.

One key innovation was the introduction of the so-called New Market (*Novo Mercado*). It has an interesting strategy for dealing with firms' potentially expensive signaling needs to compete with US cross listings. In 2001, the São Paulo Stock Exchange (Bovespa) launched its Trading Levels with Differentiated Corporate Governance Practices, often referred to as the New Market. These are premium listings with specific disclosure and corporate governance practices requirements beyond what Brazilian Corporate Law mandates. Companies pledge to comply with the premium listing requirements by means of a private agreement with Bovespa. To make migration easier for traditionally listed firms, Bovespa created three premium listings: Level 1 (L1), which mainly requires additional disclosure; Level 2 (L2), which requires everything in L1 plus an assortment of corporate governance practices; and, finally, the New Market (NM) proper, which amounts to L2 plus added requirement banning companies from resorting to non-voting shares. By mid-2007 (August 7), Bovespa had 432 listed firms, of which 78 in the NM, 19 in L2, and 41 in L1, besides 294 in the traditional listing. De Carvalho and Pennacchi (2007) studied migration to Bovespa's NM and reported positive and significant abnormal returns on the day of joining the new listing segment. They also reported greater liquidity and potentially lower control premiums. Details can be found at the Bovespa website.

In addition, several studies were carried out in Brazil in the last few years to evaluate the importance of firm-level governance mechanisms for corporate performance. Saito (2003), Silveira, Barros and Famá (2004), Procianoy and Schnorrenberger (2004), Saito and Dutra (2006), and Okimura, Silveira and Rocha (2007), cover examples of such studies.

Finally, we could also mention the efforts of the Brazilian Corporate Governance Institute (IBGC) to introduce its code of best practices. It is possibly the best- known among companies in general because other codes were introduced by interested parties, such as pension funds and companies. The IBGC began operating in 1995. It introduced an initial version of the code in 1998; the current and third version is from 2003.

3. LITERATURE REVIEW AND DETERMINANTS OF CORPORATE GOVERNANCE QUALITY AT FIRM LEVEL

This paper belongs to a corporate governance body of literature that evaluates why firms within the same contractual environment voluntarily choose different corporate governance quality at firm level (understood as governance practices recommended by market agents). Below, we present results of related studies and a table summarizing the determinants to be tested in this paper.

Klapper and Love (2004) indicate three main potential determinants of corporate governance quality at firm level: the utility of corporate governance, the nature of the firm's operations, and the firm's size. First, because the main goal of corporate governance is to reduce the firm's cost of capital by improving investors' confidence about earning a proper return on their investment, we should expect that firms in greater need of future funding (firms with better future growth prospects) will perceive a greater utility in adopting better corporate governance practices, as compared to firms with poor prospects for raising money from external investors. Next, in

line with Himmelberg, Hubbard and Palia (1999, p.358), some firms would find it easier to expropriate investors' wealth due to the nature of their operations. For instance, firms with a lot of tangible assets would find it harder to divert or appropriate investors' resources, since these assets are easier to monitor, making it hard to channel them into other uses. Conversely, firms with a lot of intangible assets would have stronger incentives to adopt better corporate governance practices, as they would have to signal to investors that they do not intend to use the latter's resources improperly. The size of the firm is the third potential determinant of firm-level corporate governance. According to Klapper and Love (2004), firm size influences corporate governance quality ambiguously. On the one hand, larger firms could face greater agency costs due to their greater free cash flow, leading them to voluntarily adopt better corporate governance practices in order to mitigate this problem. On the other hand, smaller firms are expected to grow faster and, therefore, to need more external financing. This can drive them to adopt better governance practices as well. Thus, both kinds would have an incentive to voluntarily achieve better corporate governance standards.

"This paper had two major goals: to provide an in depth analysis of the voluntary adoption of better governance practices among Brazilian listed firms between 1998 and 2004; and to investigate the potential determinants of firm-level corporate governance quality in Brazil considering that firms in the same contractual environment might still have sharply different levels of corporate governance quality."

Durnev and Kim (2005) also analyzed the potential determinants of corporate governance quality at firm level, investigating how certain company attributes influence the choice of governance practices and interact with the surrounding legal environment. The authors developed a theoretical model resulting in three predictions: growth opportunities, the need for external funding and ownership concentration are the three main attributes that drive firms to adopt better governance practices; markets value firms with better governance more highly; and adopting better governance practices is more important in countries with weaker legal investor protection. Subsequently, the authors carried out empirical tests and found evidence corroborating the three model predictions.

Anand, Milne and Purda (2006) empirically examined to what extent firms adopt recommended but non-mandatory corporate governance guidelines in Canada. They found evidence that voluntary inclination toward better corporate governance practices has been rising over time and that a convergence toward the adoption of the suggested practices is taking place in Canada. As for the determinants of the voluntary adoption of recommended corporate governance practices, they found that the presence of a majority shareholder or executive blockholder is negatively associated with better governance standards. On the other hand, they also found that the existence of significant investment opportunities encourages the firm to improve the value of its index, reflecting board quality. The authors argue that this indicates that a prime determinant of firms' implementation of governance mechanisms is the appeal of this to prospective investors.

Besides the potential determinants of corporate governance quality at firm level previously tested in the literature (as described above), we will test the following potential determinants: ownership structure, including control rights and cash flow rights, issuance of Level 2 or Level 3 ADRs, joining Bovespa's premium listing segments (L2 or NM), and type (identity) of controlling shareholders. Table 1 presents a summary of all variables tested as potential determinants in our paper, including an explanation of their expected relationship with corporate governance quality.

4. RESEARCH METHODOLOGY

4.1. Theoretical and operational definition of variables

4.1.1. Corporate governance quality

The proxy for corporate governance quality used in this paper was originally built by Leal and Carvalhal-da-Silva (2007), who created an index called Corporate Governance Practices Index (CGI). The CGI is computed from the responses to 24 binary, objective questions, all of which are assessed using publicly available secondary data. Each positive answer adds one point, so that the final score for each firm ranges from 0 to 24 (worst to best corporate governance quality). The index was built taking into account 4 dimensions considered important in the assessment of corporate governance quality, according to the literature: disclosure; board structure and operation; ethics and conflicts of interest; and shareholder rights. We use an equally weighted version of the index because it is easier to reproduce. Moreover, although equally weighting all 24 questions entails a subjective evaluation, it has been argued in the literature that this procedure is probably less questionable than imposing more complex weighting schemes[2]. The CGI questions are presented in table 2. Further information about how the index is built (including evidence supporting the inclusion of each question) can be found in Leal and Carvalhal-da-Silva (2007).

Table 1

Potential Determinants of Firm-Level Corporate Governance, with Cause-and-Effect Rationale

Potential Determinants of Firm-Level Corporate Governance	Rationale	Variable Code
Future Growth Opportunities	Firms with a large number of future growth opportunities should need to raise more external financing. Therefore, they should tend to voluntarily adopt better corporate governance (CG) practices to make the obtainment of funding easier (KLAPPER and LOVE, 2004).	GROWTH
Nature of Operations (Tangibility of Assets)	Firms with more intangible assets should have, all else being equal, a higher risk of resources diversion (intangible assets are more difficult to observe and monitor). Therefore, firms with a greater proportion of intangible assets should voluntarily adopt better CG practices to offset this (HIMMELBERG, HUBBARD and PALIA, 1999).	TANG
Firm Size	The relation between firm-level corporate governance and firm size is not clear ex ante. On the one hand, larger firms might face greater agency costs as a result of their free cash flow, requiring better CG practices to mitigate this problem; moreover, larger firms have more financial resources available to implement costly corporate governance practices. On the other hand, smaller firmstend to grow faster and, thus, require more external capital. Therefore, both have incentives to voluntarily adopt better CC practices (KLAPPER and LOVE, 2004).	SIZE
Issuance of ADRs	Firms that issue ADRs (American Depositary Receipts), especially level 2 and 3 ADRs, must commit to higher CG standards. Therefore, these firms should have better CG than their home-country peers.	ADR23
Adhesion to Bovespa's Special Listing Segments	Firms that voluntarily adhere to Bovespa's corporate governance special listing segments, especially Level 2 and the New Market, must commit to higher transparency and CG standards. Therefore, these firms should have higher firm-level CG than firms listed in the traditional segment.	N2NM
Ownership Structure (OWN)	The relation between firm-level corporate governance and ownership structure is not clear ex ante. Higher concentration of control rights (1VDIR or 3VDIR, percentage of voting shares) held by controlling shareholders/managers might lead them not to need to secure the votes of minority shareholders to control the firm. Therefore, Anand, Milne and Purda (2006, p.13) hypothesize that large shareholders (controlling more than 50% of voting shares) would be less likely to voluntarily implement recommended governance guidelines, leading to a prediction of weaker firm-level CG. On the other hand, a higher concentration of control rights might lead firms to voluntarily adopt better CG practices to compensate for the greater probability of expropriation of minority shareholders' wealth.	1VDIR or 3VDIR
	Regarding the cash flow rights of controlling shareholders/managers (1TDIR or 3TDIR, percentage of total shares), there should be a negative relation between cash flow rights and the probability of expropriation of external shareholders and investors. This could lead to higher firm-level CG as a result of better alignment of interests. However, it could also lead to a lower firm-level CG, since the high percentage of total shares held by controlling shareholders could be seen as a governance mechanism that would reduce the need for voluntary adoption of better corporate governance practices (improving other CG mechanisms).	1TDIR or 3TDIR
	Regarding the wedge between control rights and cash flow rights there should be a positive (WEDGE1 or WEDGE3), relation between the wedge of rights and the probability of external investors' expropriation.Therefore, the same rationale for the concentration of voting rights applies (1VDIR or 3VDIR).	WEDGE1 or WEDGE3
Performance — Market Value (VALUE) and Profitability (PROFIT)	There should be a positive relation between firm performance and firm-level CG as a result of lower expropriation of minority shareholders and other external investors. Moreover, firms with better operating performance might be more willing to be more transparent, resulting in a higher corporate governance rating. Additionally, perhaps firms with poor performance might voluntarily improve their CG level to offset their weak performance. However, this would be captured by a lagged performance variable (not a simultaneous one).	Q
		PBV
		ROA
		ROE
Industry	Industry can influence firm-level corporate governance. For instance, in more regulated sectors, such as telecommunication, firms might be forced to adopt stricter levels of disclosure.	IND
Type of Controlling Shareholder(s)	The type of controlling shareholder (state, family, foreign, shared, etc.) might influence voluntary adoption of corporate governance practices.	TYPE

Table 2

Questions for Construction of the Corporate Governance Index (CGI)

Governance Dimension	#	Corporate Governance Index (CGI) Questions
Disclosure	1	Does the firm's annual report, website or public disclosure include information about potential conflicts of interest such as related party transactions?
	2	Does the firm specify in its charter, in its annual reports or by other means sanctions against management in the case of violations of its desired corporate governance practices?
	3	Does the firm produce its legally mandatory financial reports by the required deadline?
	4	Does the firm use international accounting standards?
	5	Does the firm use one of the leading global auditing firms?
	6	Does the firm disclose compensation information for its CEO and board members in its website or annual report?
Board Composition and Functioning	7	Are its Board of Directors Chair and its CEO different persons?
	8	Does the firm have monitoring committees such as a compensation and/or nominations and/or audit committee?
	9	Is the board clearly made up of outside and possibly independent directors?
	10	Is the board size between 5 and 9 members, as recommended by the IBGC Code of Best Practices?
	11	Do board members serve consecutive one-year terms, as recommended by the IBGC Code of Best Practices?
	12	Is there a permanent Audit Board?
Ethics and Conflicts of Interest	13	Is the firm free of undergoing CVM enquiries regarding governance malpractices?
	14	Is the firm free of CVM convictions and/or fines for governance malpractices or other securities law violations in the last five years?
	15	Does the firm submit to arbitration in lieu of regular legal procedures in the case of corporate governance malpractices?
	16	Do the ultimate controlling shareholders, considering shareholder agreements, own less than 50% of the voting shares?
	17	Is the percentage of non-voting shares less than 20% of the firm's total capital?
	18	Is the ultimate controlling shareholders' ratio of cash-flow rights to voting rights greater than 1?
Shareholder Rights	19	Does the firm charter, or do verifiable actions, facilitate the process of voting to all shareholders beyond what is legally required?
	20	Does the firm charter grant additional voting rights beyond what is legally required?
	21	Does the firm grant tag-along rights beyond what is legally required?
	22	Are there pyramid structures that decrease the control concentration of the ultimate controlling shareholder?
	23	Does the firm have shareholder agreements that diminish control concentration?
	24	Is the free-float greater than or equal to what is required in the Bovespa L1 trading segment (25%)?

Original Source: Leal and Carvalhal-da-Silva (2007).

Note: Each question has a yes or no answer. If the answer is yes, then the value of 1 is attributed to the question, otherwise the value is 0. The index is the sum of the points for each question. The maximum index value is 24. Index dimensions are simply for presentation purposes and the questions are not weighted. All questions are answered using public information disclosed by listed companies rather than through potentially subjective interviews. Sources of information are firm filings, charters, and annual reports, such as those made available by <infoinvest.com.br>.

Table 3

Summary of Research Variables and Operational Definitions

#	Code	Name of Variable	Operational Definition
1	CGI	Corporate Governance Quality	Corporate Governance Index proposed by Leal and Carvalhal-da-Silva (2007), based on binary questions, and scaled on a 0-24 range.
2	DISC	Disclosure	Sub-index of CGI containing six questions relating to disclosure practices. Ranging from 0 to 6.
3	BOARD	Board of Directors	Sub-index of CGI containing six questions relating to the structure of the Board of Directors. Ranging from 0 to 6.
4	ETHIC	Ethics and Conflicts of Interest	Sub-index of CGI containing six questions relating to mechanisms designed to deal with matters of ethics and conflicts of interest. Ranging from 0 to 6.
5	SHARIG	Shareholder Rights	Sub-index of CGI containing six questions relating to shareholder rights' rules. Ranging from 0 to 6.
6	1VDIR	Control Rights — largest shareholder	Percentage of common stock (voting capital) owned directly by the largest shareholder.
7	1TDIR	Cash Flow Rights — largest shareholder	Percentage of total shares (voting and non-voting capital) owned directly by the largest shareholder.
8	3VDIR	Control Rights — three largest shareholders	Percentage of common stock (voting capital) owned directly by the three largest shareholders.
9	3TDIR	Cash Flow Rights — three largest shareholders	Percentage of total shares (voting and non-voting capital) owned directly by the three largest shareholders.
10	WEDGE1	Wedge Between Control Rights and Cash Flow Rights — largest shareholder	Difference between the percentage of voting capital and total capital owned directly by the largest shareholder (voting capital minus total capital).
11	WEDGE3	Wedge between control rights and cash flow rights — three largest shareholders	Difference between the percentages of voting capital to total capital owned directly by the three largest shareholders (voting capital minus total capital).
12	ADR23	Participation in Level 2 or 3 ADR Program	Dummy variable equal to 1 if the firm issues Level 2 or Level 3 ADRs.
13	N2NM	Participation in Bovespa's Governance Listing Segments	Dummy variable equal to 1 if the firm is listed in the top two listing segments of the São Paulo Stock Exchange (Bovespa Level 2 or New Market).
14	VOTE	Percentage of Voting Shares to Total Shares	Ratio of voting capital to total capital.
15	LEVER	Leverage	Ratio of total (non-equity) liabilities to total assets at year-end.
16	GROWTH	Growth/Investment Opportunities	Cumulative percentage variation of net revenues over the last three years.
17	Q	Tobin's Q	Estimated as the ratio of market value to book value of assets. Market value of assets is computed as the market value of equity plus book value of assets minus book value of equity at year-end. The numerator market value of equity was computed directly by the Economatica database as the most liquid share class (voting or non-voting) market price times the total number of shares (voting and non-voting).
18	PBV	Price-to-Book-Value	Market value of shares divided by their book value.
19	ROA	Return on Assets	Estimated as the ratio of operating income to total assets at year-end.
20	ROE	Return on Equity	Net income divided by equity.
21	TANG	Tangibility of Assets (proxy for the nature of operations)	Total fixed assets divided by net operational revenues.
22	LIQ	Share Liquidity	Standard formula used by Bovespa based on share trading volumes throughout the previous 12 months.

(continues...)

Table 3

Summary of Research Variables and Operational Definitions

(...continued)

#	Code	Name of Variable	Operational Definition
23	FLOAT	Percentage of Free Float Among Total Shares	Percentage of outstanding shares available for trading.
24	SIZE	Firm Size	Natural logarithm of book value of total assets in thousands of Brazilian reais at year-end.
25	MKTCAP	Market Capitalization	Stock price of the most liquid share times total number of shares (voting and non-voting) issued.
26	PAYOUT	Payout Ratio	Cash paid per share divided by net income per share.
27	DIVYIELD	Dividend Yield	Annual dividends per share divided by the share price at the beginning of the year.
18	PBV	Price-to-Book-Value	Market value of shares divided by their book value.
19	ROA	Return on Assets	Estimated as the ratio of operating income to total assets at year-end.
20	ROE	Return on Equity	Net income divided by equity.
21	TANG	Tangibility of Assets (proxy for the nature of operations)	Total fixed assets divided by net operational revenues.
22	LIQ	Share Liquidity	Standard formula used by Bovespa based on share trading volumes throughout the previous 12 months.
23	FLOAT	Percentage of Free Float Among Total Shares	Percentage of outstanding shares available for trading.
24	SIZE	Firm Size	Natural logarithm of book value of total assets in thousands of Brazilian reais at year-end.
25	MKTCAP	Market Capitalization	Stock price of the most liquid share times total number of shares (voting and non-voting) issued.
26	PAYOUT	Payout Ratio	Cash paid per share divided by net income per share.
27	DIVYIELD	Dividend Yield	Annual dividends per share divided by the share price at the beginning of the year.
28	TYPE1...TYPE4 (FOR, SBH, FAM, SOE)	Type of Controlling Shareholder	Four dummy variables regarding the identity of the controlling shareholder(s): TYPE1 = family-owned (FAM), TYPE2 = state-owned (SOE), TYPE3 = shared block-holding (SBH), and TYPE4 = foreign ownership (FOR).
29	IND1... IND17	Industry Dummies	Seventeen dummy variables, equal to one for firms belonging to a specific industry and zero for those belonging to other industries (using the Economatica classification, comprising twenty categories, three of which were not represented in the sample).
30	YEAR(1)... YEAR(4)	Year Dummies	Dummy variables YEAR(t) defined as YEAR(t) = 1 in the t^{th} year and YEAR(t) = 0 otherwise, with t = 1, ...,4 (1998, 2000, 2002, and 2004).

4.1.2. Explanatory and control variables

All variables employed, including their operational definitions and data source, are presented in table 3.

4.2. Population, sample and data collection

The sample comprises the financial and non-financial firms listed with the São Paulo Stock Exchange (Bovespa) but does excludes firms with: incomplete or unavailable information; negative book value of assets; negative book value of common equity; and no trading (firms without a minimal level of stock liquidity). The final sample comprises about 200 firms each year (823 firm-year observations); they represent around 90% of the Brazilian stock market's capitalization.

The questionnaire was answered using secondary data collected from the INFOINVEST (www.infoinvest.com.br) and ECONOMATICA (www.economatica.com.br) databases. Data

on firms' annual filings was obtained for 1998, 2000, 2002, and 2004. Public companies are required to file information about the preceding calendar year by the end of April of each year.

4.3. Research model and methodological discussion

Based on the hypotheses described in table 1, we estimated the model below using the Pooled OLS and Fixed Effects panel data regression procedures.

$$CGI_{it} = \alpha + \beta_1 GROWTH_{it} + \beta_2 TANG_{it} + \beta_3 SIZE_{it} + \beta_4 ADR23_{it} + \beta_5 N2NM_{it} + \beta_6 OWN_{it} + \beta_7 VALUE + \beta_8 PROFIT_{it} + \sum_{j=1}^{16} \delta_j \, IND_{jit} + \sum_{l=1}^{3} \gamma_l \, TYPE_{lit} + \sum_{m=1}^{3} \varphi_m \, YEAR_{mit} + u_i + \varepsilon_{it} \quad [1]$$

In Equation [1], i represents the firm and t the year (with $t = 1998, 2000, 2002, 2004$). ε_{it} is the random error term for the i^{th} firm in the t^{th} year. The term u_i captures unobserved firm characteristics that do not vary over time. Based on the hypothesis summarized in table 1, we expect statistically significant coefficients with the following signs:

- $\beta_1, \beta_4, \beta_5, \beta_7, \beta_8 > 0$
- $\beta_2 > 0$;
- Since the direction of the relationship between firm size and firm-level corporate governance, and between ownership structure and firm-level corporate governance is ambiguous, we do not have an expected sign for the coefficients β_3 and β_6;
- δ, γ and φ are coefficients related to several binary control variables.

5. ANALYSIS OF RESULTS

5.1. Evolution of corporate governance practices in Brazil

The summary statistics of the corporate governance index (CGI) and its four sub-indices from 1998 to 2004 scaled to a 0 to 10 range are presented in table 4.

According to table 4, five main conclusions can be drawn:

- Overall corporate governance quality at firm level is improving in Brazil, but sluggishly: the CGI index increases systematically from a mean grade of 4.16 in 1998 to a mean grade of 5.0 in 2004. Conventional mean comparison tests show that these differences are statistically significant (specifically, the change from 2000 to 2002 and from 2002 to 2004 are statistically significant at the 5% and 1% levels, respectively).

Table 4

Summary Statistics for the Corporate Governance Index (CGI) and Sub-Indices (Scaled on a 0 to 10 Range)

	1998	2000	2002	2004
Corporate Governance Index (CGI)				
Mean	4.16	4.21	4.39	5.00
Standard-Dev	2.07	2.22	2.64	2.88
Minimum	1.67	2.08	2.08	2.50
1st Quartile	3.33	3.75	3.75	4.17
Median	4.17	4.17	4.17	5.00
3rd Quartile	4.58	5.00	5.00	5.83
Maximum	6.25	6.67	7.92	8.75
N (sample)	225	225	199	175
Disclosure Sub-Index (DISC)				
Mean	6.26	6.40	6.47	6.64
Standard-Dev	0.88	0.89	1.01	1.03
Minimum	1.67	0	1.67	1.67
1st Quartile	5.00	5.00	5.00	5.00
Median	6.67	6.67	6.67	6.67
3rd Quartile	6.67	6.67	8.33	8.33
Maximum	8.33	10.00	10.00	10.00
N (sample)	225	225	199	175
Board of Directors Sub-Index (BOARD)				
Mean	3.48	3.42	3.69	4.77
Standard-Dev	1.10	1.22	1.30	1.24
Minimum	0	0	0	0
1st Quartile	1.67	1.67	1.67	3.33
Median	3.33	3.33	3.33	5.00
3rd Quartile	5.00	5.00	5.00	6.67
Maximum	8.33	8.33	10.00	10.00
N (sample)	225	225	199	175
Ethics and Conflicts of Interest Sub-Index (ETHIC)				
Mean	4.16	4.17	4.30	4.59
Standard-Dev	0.77	0.80	0.87	1.05
Minimum	0	0	0	0
1st Quartile	3.33	3.33	3.33	3.33
Median	3.33	3.33	3.33	3.33
3rd Quartile	5.00	5.00	5.00	5.00
Maximum	8.33	8.33	8.33	10.00
N (sample)	225	225	199	175
Shareholder Rights Sub-Index (SHARIG)				
Mean	2.75	2.85	3.11	4.02
Standard-Dev	0.87	0.90	1.08	1.12
Minimum	0	0	0	0
1st Quartile	1.67	1.67	1.67	3.33
Median	3.33	3.33	3.33	3.33
3rd Quartile	3.33	3.33	5.00	5.00
Maximum	8.33	8.33	10.00	10.00
N (sample)	225	225	199	175

- Despite improvement of overall corporate governance, the quality of corporate governance at the firm level in Brazil still seems unsatisfactory. The mean CGI of 5.0 out of 10.0 can be seen as low average corporate governance quality, because the CGI comprises several questions (such as 2, 3, 9, 13, 14, and 24) checking easy to implement governance practices.

- Rather than convergence toward voluntary adoption of corporate governance practices, we observed a divergent trend in Brazil, leading to a greater heterogeneity of corporate governance quality among Brazilian firms over the years. The standard deviation of CGI increases steadily from 2.07 (1998) to 2.88 (2004), suggesting greater variability of corporate governance quality at firm level in 2004 than in 1998.

- The divergent evolution of the voluntary adoption of corporate governance practices is reflected in each one of the four CGI sub-indices as well, indicating that the variance in firm-level corporate governance practices is increasing in all governance dimensions[3].

- Brazilian firms appear to fare better when it comes to disclosure (mean grade of 6.64 in 2004), with poorer scores on shareholder rights (mean grade of 4.02 in 2004).

A correlation matrix between the CGI, its sub-indices, and selected explanatory variables is shown in table 5. We can highlight interesting associations[4] from the correlation matrix:

- According to our hypothesis, CGI correlated positively with the issuance of Level 2 or 3 ADRs, with listing in the premium Bovespa segments, and with performance variables. On the other hand, CGI correlated negatively with the concentration of voting shares and with the wedge between voting rights and cash flow rights of controlling shareholders. The reduced version of CGI (CGI21, excluding three ownership structure questions and explained in detail in the next section) shows similar correlation patterns.

- The issuance of Level 2 or 3 ADRs correlates positively with Tobin's Q and ROA, suggesting that cross-listings are associated with better firm performance.

- Joining one of Bovespa's premium listing segments (L2 and NM) correlated positively with performance variables (Tobin's Q and ROA), suggesting that firms that formally decide to voluntarily join stricter governance listing segments are also associated with superior corporate performance.

- The ratio of voting shares to total shares correlated positively with Tobin's Q, suggesting a positive association between the adoption of the one share/one vote rule and firm value.

- Financial leverage correlated positively with market value variables (Tobin's Q and PBV), and negatively with operating performance (ROA).

- Family controlled firms showed lower mean scores in both CGI and CGI21, and in all four CGI dimensions.

- Firms controlled by large blockholders associated through contracts showed greater CGI, CGI21, CGI sub-index scores.

- The quality of the Board of Directors correlated positively with all other three governance dimensions, suggesting a complementarily effect between corporate governance mechanisms.

5.2. Determinants of firm-level corporate governance quality

The results of pooled OLS regressions of CGI on its main potential determinants are presented in table 6. Each column corresponds to a distinct regression using alternative variables for ownership structure and firm value. For instance, column (1) represents an OLS regression using 1VDIR as an ownership variable and Tobin's Q as a performance variable.

"A key contribution is to examine the nature of totally voluntary adoption of corporate governance guidelines in the Brazilian environment, which has almost no listing requirement, over a reasonable time span, given that most studies use cross-section samples covering one or very few years only."

The results of OLS regressions, however, should be analyzed with caution, because this method does not account for unobserved firm characteristics that might hinder the correct relationship identification between firm-level corporate governance and its potential determinants. If some of these omitted variables affect corporate governance quality at the firm-level and correlate with the regressors included in the model, then the estimated coefficients would be inconsistent, reflecting a spurious relationship between the variables of interest. To mitigate this problem, we also performed a Fixed Effects (FE) regression procedure on the model. The results from the FE procedure are presented in table 7.

Table 5

Correlation Matrix Between CGI, CGI Sub-Indices, and Explanatory Variables

	CGI	CGI21	3VDIR	3TDIR	WEDGE3	ADR23	N2NM	GROW	Q Tobin	PBV	ROA	VOTE	LEVER	TANG
CGI	1													
CGI21	0.952 0.000	1												
3VDIR	–0.221 0.000	–0.127 0.000	1											
3TDIR	–0.067 0.057	–0.107 0.002	0.649 0.000	1										
WEDGE3	–0.130 0.000	0.015 0.666	0.132 0.000	–0.668 0.000	1									
ADR23	0.344 0.000	0.367 0.000	–0.091 0.009	–0.100 0.004	0.041 0.239	1								
N2NM	0.375 0.000	0.357 0.000	–0.040 0.247	0.003 0.930	–0.044 0.212	0.099 0.005	1							
GROWTH	0.064 0.069	0.077 0.028	0.046 0.193	0.061 0.079	–0.035 0.311	0.061 0.079	0.028 0.419	1						
Q Tobin	0.358 0.000	0.329 0.000	–0.038 0.281	0.043 0.221	–0.093 0.008	0.189 0.000	0.319 0.000	0.033 0.345	1					
PBV	0.140 0.000	0.122 0.001	–0.053 0.130	0.012 0.725	–0.068 0.052	0.067 0.053	0.072 0.040	0.008 0.825	0.545 0.000	1				
ROA	0.274 0.000	0.270 0.000	–0.063 0.071	–0.007 0.843	–0.053 0.132	0.180 0.000	0.083 0.017	0.021 0.542	0.411 0.000	0.113 0.001	1			
VOTE	0.179 0.000	–0.019 0.588	–0.023 0.509	0.398 0.000	–0.542 0.000	–0.057 0.104	0.106 0.002	–0.030 0.390	0.115 0.001	0.056 0.108	–0.018 0.610	1		
LEVER	0.1041 0.0028	0.101 0.0037	–0.0663 0.0573	–0.0893 0.0104	0.0516 0.1395	–0.0084 0.8088	0.0264 0.4502	0.016 0.648	0.245 0.000	0.224 0.000	–0.122 0.001	–0.006 0.867	1	
TANG	0.0002 0.9943	0.0119 0.7335	0.0195 0.5762	–0.0493 0.1576	0.0834 0.0167	–0.0019 0.9555	–0.0021 0.9514	–0.066 0.060	–0.014 0.695	–0.011 0.760	–0.029 0.403	–0.072 0.040	0.023 0.516	1

	CGI	CGI21	DISC	BOARD	ETHIC	SHARIG	FAM	FOR	SBH	SOE
CGI	1									
CGI21	0.952 0.000	1								
DISC	0.632 0.000	0.694 0.000	1							
BOARD	0.755 0.000	0.763 0.000	0.313 0.000	1						
ETHIC	0.426 0.000	0.149 0.000	–0.017 0.628	0.170 0.000	1					
SHARIG	0.624 0.000	0.673 0.000	0.281 0.000	0.226 0.000	0.020 0.568	1				
FAM	–0.235 0.000	–0.234 0.000	–0.176 0.000	–0.301 0.000	–0.026 0.461	–0.035 0.319	1			
FOR	–0.023 0.503	–0.034 0.327	–0.025 0.475	0.065 0.064	–0.039 0.263	–0.081 0.021	–0.479 0.000	1		
SBH	0.238 0.000	0.230 0.000	0.196 0.000	0.202 0.000	0.073 0.037	0.103 0.003	–0.545 0.000	–0.321 0.000	1	
SOE	0.088 0.012	0.117 0.0008	0.045 0.198	0.137 0.0001	–0.013 0.704	0.021 0.5455	–0.237 0.000	–0.139 0.000	–0.159 0.000	1

Table 6

Determinants of Firm-Level Corporate Governance — OLS Regressions

	Corporate Governance Practices Index (CGI)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GROWTH	–0.006 (–0.05)	0.053 (0.43)	0.001 (0.01)	0.059 (0.49)	–0.006 (–0.05)	0.052 (0.42)	0.001 (0.01)	0.059 (0.49)
TANG	0.001 (0.57)	0.001 (0.63)	0.001 (0.54)	0.001 (0.60)	0.001 (0.61)	0.001 (0.67)	0.001 (0.57)	0.001 (0.63)
SIZE	0.575*** (10.32)	0.551*** (9.85)	0.576*** (10.34)	0.553*** (9.88)	0.579*** (10.31)	0.556*** (9.84)	0.580*** (10.33)	0.558*** (9.87)
ADR23	0.868*** (3.92)	0.825*** (3.71)	0.868*** (3.90)	0.819*** (3.66)	0.908*** (4.09)	0.871*** (3.90)	0.907*** (4.07)	0.864*** (3.85)
N2NM	5.066*** (11.36)	5.078*** (11.54)	5.055*** (11.37)	5.067*** (11.52)	5.343*** (12.17)	5.375*** (12.42)	5.329*** (12.19)	5.363*** (12.40)
1VDIR	–1.415*** (–5.01)				–1.387*** (–4.92)			
3VDIR		–2.386*** (–6.50)				–2.332*** (–6.33)		
1TDIR			–1.484*** (–5.06)				–1.462*** (–5.00)	
3TDIR				–2.443*** (–6.52)				–2.392*** (–6.37)
WEDGE1			–1.123** (–2.33)				–1.071** (–2.21)	
WEDGE3				–2.041*** (–4.06)				–1.965*** (–3.90)
Q	0.341** (2.37)	0.365** (2.49)	0.340** (2.37)	0.366*** (2.51)				
PBV					0.280 (1.47)	0.266 (1.29)	0.228 (1.49)	0.278 (1.34)
ROA	0.815 (0.96)	0.830 (0.99)	0.859 (1.01)	0.857 (1.02)	1.400* (1.74)	1.465* (1.84)	1.442* (1.80)	1.490* (1.87)
VOTE	1.282*** (4.20)	1.196*** (4.01)	1.413*** (3.91)	1.356*** (3.87)	1.330*** (4.38)	1.252*** (4.22)	1.471*** (4.09)	1.421*** (4.08)
AGE	0.001 (0.48)	0.001 (0.26)	0.001 (0.48)	0.001 (0.27)	0.001 (0.44)	0.001 (0.23)	0.001 (0.45)	0.001 (0.24)
LEVER	0.459 (1.41)	0.336 (1.03)	0.444 (1.36)	0.299 (0.90)	0.561* (1.77)	0.458 (1.44)	0.541* (1.69)	0.415 (1.28)
FAM	–0.156 (–0.76)	–0.202 (–1.03)	–0.173 (–0.84)	–0.228 (–1.14)	–0.175 (–0.85)	–0.222 (–1.12)	–0.194 (–0.94)	–0.250 (–1.23)
FOR	<dropped>	<dropped>	<dropped>	<dropped>	<dropped>	<dropped>	<dropped>	<dropped>

(continues...)

Table 6

Determinants of Firm-Level Corporate Governance — OLS Regressions

(...continued)

	Corporate Governance Practices Index (CGI)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SBH	0.896*** (4.63)	0.855*** (4.50)	0.888*** (4.60)	0.844*** (4.44)	0.894*** (4.61)	0.856*** (4.49)	0.886*** (4.58)	0.843*** (4.43)
SOE	–0.223 (–0.73)	–0.135 (–0.43)	–0.250 (–0.81)	–0.180 (–0.56)	–0.293 (–0.95)	–0.213 (–0.67)	–0.322 (–1.03)	–0.260 (–0.81)
Intercept	2.898*** (3.13)	4.420*** (4.28)	2.811*** (3.01)	4.345*** (4.20)	2.988*** (3.23)	4.478*** (4.31)	2.895*** (3.08)	4.399*** (4.23)
R^2	52.5%	53.5%	52.5%	53.6%	52.3%	53.3%	52.4%	53.4%
Prob. (F)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Firms (n)	823	823	823	823	823	823	823	823

Note: The Corporate Governance Practices Index (CGI) is the dependent variable. CGI construction is described in section 4.1.1. The operational definition of all explanatory variables is presented in table 3. Binary variables related to the firms' industry (IND) and year (YEAR) were included in the regressions below, being omitted from the tables for space reasons. The sample is comprised of 823 firm-year observations for 1998, 2000, 2002 and 2004. Figures between parentheses indicate the *t* statistic. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% respectively. The coefficients were estimated through the Ordinary Least Squares method (OLS) with heteroscedasticity-robust standard errors.

Table 7

Determinants of Firm-Level Corporate Governance — Fixed-Effects Regressions

	Corporate Governance Practices Index (CGI)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GROWTH	0.279* (1.85)	0.298** (2.02)	0.305** (2.03)	0.313** (2.12)	0.273* (1.81)	0.290** (1.96)	0.297** (1.97)	0.303** (2.05)
TANG	0.001 (1.28)	0.001 (1.30)	0.001 (1.29)	0.001 (1.31)	0.001 (1.28)	0.001 (1.31)	0.001 (1.29)	0.001 (1.31)
SIZE	0.288* (1.64)	0.326* (1.89)	0.293* (1.68)	0.328* (1.91)	0.284* (1.62)	0.318* (1.85)	0.288* (1.65)	0.318* (1.86)
ADR23	0.982** (1.97)	0.851* (1.74)	0.986** (1.99)	0.827* (1.69)	0.981** (1.97)	0.855* (1.74)	0.986** (1.99)	0.833* (1.70)
N2NM	4.845*** (8.93)	4.815*** (9.08)	4.856*** (8.99)	4.830*** (9.13)	4.875*** (8.91)	4.827*** (9.01)	4.885*** (8.96)	4.842*** (9.06)
1VDIR	–1.182*** (–2.85)				–1.186*** (–2.86)			
3VDIR		–3.132*** (–5.37)				–3.110*** (–5.32)		
1TDIR			–1.343*** (–3.21)				–1.345*** (–3.21)	
3TDIR				–3.130*** (–5.38)				–3.106*** (–5.32)

(continues...)

Table 7

Determinants of Firm-Level Corporate Governance — Fixed-Effects Regressions

(...continued)

	Corporate Governance Practices Index (CGI)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
WEDGE1			–0.048 (–0.07)				–0.085 (–0.13)	
WEDGE3				–2.052*** (–2.56)				–2.077*** (–2.59)
Q	–0.087 (–0.52)	–0.146 (–0.89)	–0.116 (–0.70)	–0.175 (–1.07)				
PBV					0.004 (0.27)	–0.001 (–0.11)	0.004 (0.21)	–0.002 (–0.15)
ROA	–0.012 (–0.15)	–0.362 (–0.45)	–0.043 (–0.05)	–0.264 (–0.33)	–0.231 (–0.29)	–0.538 (–0.69)	–0.188 (–0.24)	–0.478 (–0.62)
VOTE	0.838* (1.63)	0.801 (1.59)	1.299** (2.36)	1.192** (2.21)	0.825* (1.60)	0.790 (1.57)	1.271** (2.31)	1.161** (2.15)
AGE	0.204*** (6.60)	0.230*** (7.65)	0.210*** (6.79)	0.235*** (7.82)	0.198*** (6.63)	0.222*** (7.65)	0.202*** (6.79)	0.226*** (7.78)
LEVER	0.600 (1.26)	0.495 (1.06)	0.564 (1.19)	0.449 (0.95)	0.547 (1.15)	0.437 (0.94)	0.503 (1.06)	0.380 (0.81)
Intercept	–3.047 (–1.57)	–2.849 (–1.50)	–3.748* (–1.91)	–3.538* (–1.83)	–2.742 (–1.44)	–2.477 (–1.33)	–3.358* (–1.75)	–3.071 (–1.63)
R^2 within	0.391	0.414	0.397	0.419	0.391	0.413	0.397	0.417
Prob. (F)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Obs. (n)	823	823	823	823	823	823	823	823

Note: Corporate Governance Practices Index (CGI) is the dependent variable. CGI construction is described in section 4.1.1. The operational definition of all explanatory variables is presented in Table 3. Binary variables related to the firms' industry (IND) and year (YEAR) were included in the regressions below, being omitted from the tables for space reasons. The sample is comprised of 823 firm-year observations for 1998, 2000, 2002 and 2004. Figures between parentheses indicate *t* statistic. ***, **, and * correspond to statistical significance at 1%, 5%, and 10% respectively. The coefficients were estimated through the Fixed-Effects procedure (FE).

Taking into account the results of the OLS and FE regressions presented in tables 6 and 7 (particularly the results of the Fixed Effects procedures, considered more robust), we observed the following, according to our hypotheses:

- Growth perspectives (GROWTH) positively influenced CGI.

- The issuance of Level 2 and 3 ADRs and joining the premium L2 and NM Bovespa listings relate positively with corporate governance quality[5].

We also observed a positive association between firm size and the CGI index regarding all specifications. Although we had no clear hypothesis about this coefficient's expected sign, our results are in keeping with the idea that larger firms may face higher agency costs associated with free cash flow but, at the same time, have more financial resources to implement costly corporate governance practices.

Interesting results also emerged from the ownership structure proxies, for which we also had no clear hypotheses regarding the sign of their impact on CGI. Specifically, both measures of voting and cash flow rights showed a negative relation with CGI. This result supports the hypothesis of Anand, Milne and Purda (2006), namely, that large shareholders, as they do not need to secure the votes of minority shareholders to control the firm, are less likely to voluntarily implement recommended governance guidelines. Moreover, the wedge between control and cash flow rights had negative relation with CGI while the

percentage of voting rights over total shares had a positive relation with CGI.

We also observed a positive influence of Tobin's Q on firm-level corporate governance. This result is in line with the idea that corporate governance is an endogenous variable and that there is a reverse causality mechanism between corporate governance quality and firm performance. Finally, the indicators for the type of controlling shareholder also yielded interesting results. The shared blockholding control dummy showed a positive association with CGI, whereas our family control dummy showed a negative association with corporate governance quality.

Nevertheless, all results above may be sensitive to CGI specifications. Given that there are three questions in the construction of CGI related to the ownership structure of firms (questions 16, 17, and 18), the results obtained for the ownership variables are particularly prone to being biased. Therefore, we built a reduced index (CGI21) with 21 questions (eliminating questions 16, 17, and 18) and conducted new tests as a robustness check. The results of the OLS and Fixed Effect regressions using CGI21 as the dependent variable (not presented in the tables for reasons of space, but available from the authors upon request) were qualitatively the same for all variables, except for two of the ownership structure variables: the wedge between voting and cash flow rights and the ratio of voting shares over total shares issued. WEDGE1 and WEDGE3 had a null or positive association with the reduced CGI, but a negative relationship with the full CGI. Furthermore, VOTE had a negative relation with the reduced CGI, but a positive relation with the full CGI. Because the regressions with CGI21 have a lower probability of being biased by the firms' ownership structure, the overall result is that we have not found a clear relation between governance quality and both WEDGE and VOTE variables yet.

6. CONCLUDING REMARKS

This paper had two major goals: to provide an in depth analysis of the voluntary adoption of better governance practices among Brazilian listed firms between 1998 and 2004; and to investigate the potential determinants of firm-level corporate governance quality in Brazil considering that firms in the same contractual environment might still have sharply different levels of corporate governance quality. A corporate governance index (CGI) was built for approximately 200 listed firms throughout the period. A key contribution is to examine the nature of totally voluntary adoption of corporate governance guidelines in the Brazilian environment, which has almost no listing requirement, over a reasonable time span, given that most studies use cross-section samples covering one or very few years only. This is also one of the few papers to analyze the impact of ownership structure on the quality of corporate governance practices by segregating control and cash flow rights.

Regarding the first goal, we drew five main results.

- Overall corporate governance quality at firm level is improving slowly.
- Despite overall corporate governance improvement, the overall quality corporate governance at firm level is still poor.
- The voluntary adoption of corporate governance practices, rather than inciting convergence, seems to increase divergence, leading to greater corporate governance quality heterogeneity among firms throughout the period.
- Divergence about the voluntary adoption of corporate governance practices is happening in each one of the four CGI sub-indices as well (board of directors, disclosure, shareholders rights, and ethics).
- Firms appear to perform better with regard to disclosure and less well with regard to shareholders rights.

Concerning the second goal, there are three main findings.

- Proxies for growth prospects, firm size, firm value, issuance of Level 2 or 3 ADRs, and joining Bovespa's L2 or NM premium listing segments are positively associated with the quality of corporate governance at firm level. The positive relationship between value and corporate governance practices supports the notion that corporate governance is endogenous and that reverse causality between these variables may be present.
- Voting and cash flow rights concentration relate negatively to CGI, suggesting that large shareholders could be less prone to voluntarily implementing improved governance practices.
- The identity of the controlling shareholder matters. Firms controlled by different, large blockholders associated through shareholder agreements show better corporate governance quality, whereas family-controlled firms have weaker practices.

These results should be interpreted with caution given the limitations of the proxies for corporate governance quality and corporate attributes. Moreover, even though we took great care, the econometric procedures applied may not have correctly dealt with the potentially endogenous nature of some explanatory variables, weakening causal inferences[6].

In connection with the recent literature, our results point in the same direction as those of Durnev and Kim (2005) on

the positive association between investment opportunities and corporate governance quality at firm level. However, instead of the positive relation between ownership concentration and corporate governance quality in their findings, we observed the opposite. In this case, our results are closer to those of Anand, Milne and Purda (2006), who found a negative link between the presence of large shareholders (blockholders controlling more than 50% of voting shares) and the voluntary adoption of recommended corporate governance guidelines.

Broadly speaking, although we saw only a sluggish improvement in overall corporate governance quality in Brazil, the trend is clearly positive and there is a reasonable chance that future studies including firms from the 2004 – 2007 IPO wave may yield a more favorable picture of the overall quality of corporate governance practices at firm level.◆

NOTES

(1) Comissão de Valores Mobiliários (CVM) is the Brazilian Securities and Exchange Commission.

(2) Alternatively, we tested different versions of the CGI index assigning different weights for specific questions (that the authors subjectively felt were more important). The "weighted CGI" did not change the disposition of the firms in the overall ranking substantially, which made us more comfortable regarding the chosen index.

(3) We checked the statistical significance of these differences by computing Levine and Brown-Forsythe equality of variance robust tests. In most cases, the change in variance is statistically significant at least at the 5% level. The results of these testing procedures are available from the authors.

(4) All the correlations highlighted in this section are above 0.10 in absolute value and statistically significant at the 1% level.

(5) In this paper, we do not want to be conclusive about the direction of the causality relation between a higher CGI, on one hand, and the issuance of Level 2 and 3 ADRs and/or joining Bovespa's premium L2 or NM listings, on the other hand. Firms can improve some corporate governance practices prior to issuing Level 2 and 3 ADRs and/or adhering to NM or L2. On the other hand, the adoption of certain good corporate governance practices is only required after joining these special governance segments. For instance, firms must comply with the Sarbanes Oxley Act or issue 20-F reports (which require a higher level of disclosure) only after they issue Level 2 or 3 ADRs. Regarding Bovespa's premium segments, firms need to grant tag-along rights beyond legal requirements, formally submit to the Market Arbitration Panel for resolution of corporate disputes, or maintain a minimum volume of free-floating shares only after adhering to L2 or NM, not before.

(6) The estimation by OLS or by fixed effects carried out on this study may be inappropriate because both methods fail to address important potential sources of endogeneity (any phenomena that creates some degree of correlation between the error term and one or more regressors, thus violating a key assumption of these methods and rendering the coefficient estimator inconsistent). If this problem occurs, it becomes necessary to handle the endogeneity arising from the simultaneous determination of the governance index and its explanatory variables by employing econometric techniques such as the GMM-Sys. The GMM-Sys estimator allows the efficient use of appropriate lags of the potentially endogenous regressors as their own instrumental variables and is the subject of a separate paper by the authors on this same subject. We tank an anonymous referee for this observation.

REFERENCES

ANAND, A.; MILNE, F.; PURDA, L. *Voluntary adoption of corporate governance mechanisms*. 2006. Working paper presented at the 2006 annual meeting of the American Law and Economics Association.

DE CARVALHO, G.; PENNACCHI, G. *Can a stock exchange improve corporate behavior?* Evidence from firm's migration to premium listings in Brazil. 2007. Disponível em: <ssrn.com/abstract=678282>. Acesso em: 02 maio 2007.

DURNEV, A.; KIM, H. To steal or not to steal: firm attributes, legal environment, and valuation. *Journal of Finance*, v.60, n.3, p.1461-1493, June 2005.

HIMMELBERG, C.; HUBBARD, G.; PALIA, D. Understanding the determinants of managerial ownership and the link between ownership and performance. *Journal of Financial Economics*, Elsevier, v.53, n.3, p.353-384, Sept. 2004.

KLAPPER, L.; LOVE, I. Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, Elsevier, v.10, n.5, p.703-728, Nov. 1998.

LA PORTA, R.; SHLEIFER, A.; LOPEZ-DE-SILANES, F.; VISHNY, R. Law and finance. *Journal of Political Economy*, Chicago, v.106, n.6, p.1113-1155, Dec. 1998.

LEAL, R.P.C.; CARVALHAL-DA-SILVA, A.L. Corporate governance and value in Brazil (and in Chile). In: CHONG, A.; LOPES-DE-SILANES, F. (Org.). *Investor protection and corporate governance* — firm level evidence across Latin America. Palo Alto, CA: Stanford University Press, 2007. p.213-287.

OKIMURA, R.T.; SILVEIRA, A.M.; ROCHA, K.C. Estrutura de propriedade e desempenho corporativo no Brasil. *RAC-Eletrônica — Revista de Administração Contemporânea*, Curitiba, v.1, n.1, p.119-135, jan./abr. 2007.

PROCIANOY, J.L.; SCHNORRENBERGER, A. A influência da estrutura de controle nas decisões de estrutura de capital das companhias abertas brasileiras. *Revista Brasileira de Economia*, Rio de Janeiro, v.58, n.1, p.121-146, jan./mar. 2004.

SAITO, R. Determinants of the differential pricing between voting and non-voting shares in Brazil. *Brazilian Review of Econometrics*, Rio de Janeiro, v.23, n.1, p.77-111, jan./mar. 2003.

SAITO, R.; DUTRA, M.G. Board of directors of publicly-held companies in Brazil: profile and implications for minority shareholders. *Corporate Governance: An International Review*, Blackwell Publishing, v.14, n.2, p.98-106, Mar. 2006.

SILVEIRA, A.M.; BARROS, L.A.; FAMÁ, R. Determinantes da qualidade da governança corporativa das companhias abertas brasileiras. In: ENCONTRO BRASILEIRO DE FINANÇAS, 4., July 22 and 23, 2004, Rio de Janeiro. *Procedings...* Rio de Janeiro, 2004. (CD-ROM). Dispónível em: <www.sbfin.org.br>.

ABSTRACT

Evolution and determinants of firm-level corporate governance quality in Brazil

This paper analyzes the evolution and the determinants of corporate governance practices at firm level in Brazil from 1998 to 2004, using a corporate governance practices index. A key contribution is that it examines the voluntary adoption of corporate governance guidelines over a reasonably long time span, whereas most studies use cross-section samples covering one or very few years only. This is probably one of the few papers to analyze the impact of ownership structure on the quality of corporate governance practices that segregate control and cash flow rights. Overall corporate governance quality at firm level is slowly improving, but is still poor. Voluntary adoption leads to divergence rather than convergence, resulting in greater heterogeneity of corporate governance quality. Voluntarily adhering to stricter listing requirements, either by cross-listing in the US or by joining Bovespa's New Market, is positively associated with corporate governance quality at firm level. Concentration of control rights and family ownership are associated with weaker practices, while large blockholders' agreements are related to better practices.

***Keywords*:** corporate governance, governance mechanisms, corporate governance index, agency theory, ownership structure.

RESUMEN

Evolución y determinantes de la calidad del gobierno corporativo de las compañías en Brasil

En este artículo se analizan la evolución y los determinantes de las prácticas de gobierno de las empresas brasileñas de 1998 a 2004, por medio de un amplio índice de gobierno corporativo. Una contribución clave es el análisis de la adopción totalmente voluntaria de directrices de gobierno a lo largo de un período de seis años, dado que en la mayor parte de los estudios se analizan muestras de sección cruzada con datos de sólo uno o pocos años. Además, se trata de uno de los primeros artículos que estudia el impacto de la estructura de propiedad sobre la calidad del gobierno corporativo, aislando el efecto del derecho de control y del derecho sobre el flujo de caja. En general, la calidad del gobierno corporativo en las compañías brasileñas ha mejorado lentamente, sin embargo aún se puede considerar pobre. La adopción voluntaria también ha generado mayor divergencia en las prácticas de gobierno, llevando a una mayor heterogeneidad en la calidad del gobierno de las empresas analizadas. La adhesión voluntaria a segmentos de listado más rigurosos, como los Niveles Diferenciados de Gobierno de la *Bolsa de Valores de São Paulo* (Bovespa) y la adhesión a programas de *American Depositary Receipts* (ADR) Nivel 2 o Nivel 3, está asociada a una mayor calidad de gobierno corporativo. Asimismo, se observó que la concentración del derecho de voto y la presencia de una familia como accionista controlador están asociadas con peores prácticas de gobierno corporativo, mientras que la presencia de un grupo de accionistas con control compartido está asociada con mejores prácticas.

***Palavras clave*:** gobierno corporativo, mecanismos de gobierno, índice de gobierno corporativo, teoría de la agencia, estructura de propiedad.