CORPORATE GOVERNANCE AND FIRM PERFORMANCE: NEW EVIDENCE FROM BRAZIL

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Abstract

The relationship between governance and firm performance has been vastly studied in the academic literature. Although most studies indicate a positive relation between governance and performance, this result is not clear and conclusive to many experts. This paper uses a new methodology to analyze the relation between governance and performance. We compute the change in the quality of governance and classify the firms into three groups (positive, neutral and negative variation). Then we calculate the current and future performance for each group and check if there is a relation between changes in governance and firm performance. Analyzing Brazilian data from 2002 to 2008, our results indicate that positive (negative) changes on corporate governance are associated with positive (negative) changes on firm performance.

Keywords: Corporate Governance, Firm Performance, Corporate Governance Index, ROA

1. Introduction

Corporate governance has been vastly subject of numerous research articles and debates around the world. It has gained a lot of importance in the academic and corporate world, mainly after the financial frauds of large companies in the U.S. and other developed countries.

In the academic literature, there are many studies that examine the relationship between governance, value and performance of firms (La Porta et al. (2002), Claessens et al (2002), Gompers, Ishii and Metrick (2003), Klapper and Love (2004), Durnev and Kim (2005), Black, Jang and Kim (2006)). Although most studies indicate a positive relation between governance and firm performance, this result is not clear and conclusive to many researchers. Many of the questions refer to the methodology used and how corporate governance is measured.

Several authors use indices to measure corporate governance. Some indices are composed of subjective questions, answered by the companies themselves or by analysts or academics, and the results may be biased. Other authors use objective indices based on binary questions that can be answered with public data (Black, Jang and Kim (2003), Gompers, Ishii and Metrick (2003), Chidambaran (2006), Da Silveira (2004) and Leal and Carvalhal (2007)).

This paper uses a new methodology to analyze the relation between governance and performance of Brazilian companies. We measure the quality of corporate governance using the corporate governance index (CGI) developed by Leal and Carvalhal (2007).

Based on the CGI, we compute the change in governance quality and classify firms into three groups (positive, neutral and negative variation). Then we check if there is a relation between changes in governance and firm performance. Analyzing data from 2002 to 2008, our results indicate that positive (negative) changes on corporate governance are associated with positive (negative) changes on firm performance.

This study is structured in five sections. The next section presents the literature review on governance and firm performance, and the third section shows the data and methodology used. Section 4 reports the results, while Section 5 concludes the paper.

2. Literature Review

The relationship between corporate governance, value and firm performance has been subject of several studies in the literature. One of the key questions in governance studies is how to measure corporate governance. Gompers, Ishii and Metrick (2003) analyze the relationship between firm performance and shareholder rights by constructing a governance index. They conclude that corporate governance is positively related with Tobin's Q.

Klapper and Love (2004) analyze the relationship between corporate governance and firm performance in 14 emerging markets. They use the governance index created by Credit Lyonnais Securities Asia (CSLA). The results show a positive relationship between governance and firm performance.

Durnev and Kim (2005) show that the quality of governance practices is positively related to growth opportunities. The results also indicate that firms with better governance have higher market value. Black, Jang and Kim (2006) examine whether corporate governance affects stock prices in Korea. The results indicate that there is a significant relationship between stock prices and the existence of independent

members on the board. There is no evidence that firms with better governance are more profitable.

Bohren and Odegaard (2003) present two methodologies to analyze the relationship between governance and performance in Norway. To measure governance, they use various mechanisms, including ownership structure, and origin and characteristics of the controlling shareholder. First, they run multiple linear regressions and report a significant relationship between governance and firm performance. On the other hand, when governance and firm performance are modeled through simultaneous equations, the results have no statistical significance or have signs contrary to the theory.

La Porta et al. (1999) show that, in countries where there is little protection for shareholders, companies are penalized with a low valuation in the market. Claessens et al. (2002) show that firm value decreases when there is separation between ownership and control.

Chidambaran et al. (2006) analyzes the relationship between governance and firm performance by measuring the changes in the quality of governance. To measure the changes in corporate governance, they create an index of variation, which ranges from -13 to +13, according to different governance mechanisms (board characteristics, CEO compensation, controlling shareholders, CEO turnover and shareholder rights). They examine whether firms with positive changes in governance have better performance when compared to firms with negative changes in governance. The results are not significant, and do not support the hypothesis that firms with positive governance changes have better performance.

In Brazil, Leal and Carvalhal (2007) calculate a corporate governance index (CGI) for Brazilian firms. The CGI is a questionnaire with 24 questions measuring the quality of governance in four dimensions: transparency, board, ownership and control structure, and shareholder rights. The great advantage of CGI is that it can be answered objectively through public data, which allows evaluating the governance practices of a large number of companies without biased qualitative interviews or questionnaires. To control for the endogeneity, the authors apply two-stage and three-stage regressions (2SLS and 3SLS), and the results show a significantly positive relationship between governance and firm value.

Da Silveira (2004) also constructs a corporate governance index to measure the quality of corporate governance of Brazilian companies. The data are obtained through a questionnaire with 20 questions answered by the researcher through publicly available information. The hypothesis that better corporate governance has positive impacts on firm performance has not been confirmed.

Since the results of Leal and Carvalhal (2007) are different from those of Da Silveira (2004), we can conclude that there is no clear evidence of a positive relation between governance and firm performance. Therefore, this paper uses the methodology of Chidambaran et al. (2006) to analyze the relationship between governance and firm performance in Brazil, by associating changes in the quality of governance with changes in current and future firm performance.

3. Data and Methodology

The sample includes 142 companies listed on BM&FBovespa stock exchange from 2002 to 2008. We use return on assets (ROA, measured by EBITDA/total assets) as a proxy for firm performance, and CGI as a proxy for governance quality. Financial and accounting data come from Economatica and the CGI is obtained directly from the authors (Leal and Carvalhal (2007)).

Using the CGI changes from year t-1 to year t, we classify companies into three groups according to the changes in the quality of governance (positive, null, and negative). For each group, we calculate the changes in current performance (from year t-1 to year t) and future performance (from year t to year t +1 and from year t +1 to year t +2).

Since our sample contains 142 companies over 7 years (2002-2008), fixed-effects panel models are estimated to examine the relationship between governance changes and firm performance. The result of Hausmann tests (not reported) shows that the fixed-effects are more appropriate than common-effects and random-effects. The models are estimated according to the following equations, and are adjusted for autocorrelation and heteroskedasticity:

$$DROA_{i,t+k} = \beta_1 + \beta_2 DCGI_{i,t} + \beta_3 VOT_{i,t} + \beta_4 VOT/TOT_{i,t} + \beta_5 P/B_{i,t} + \beta_6 LEV_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 GROW_{i,t} + \varepsilon_{i,t}$$

$$DROAIND_{i,t+k} = \beta_1 + \beta_2 DCGI_{i,t} + \beta_3 VOT_{i,t} + \beta_4 VOT/TOT_{i,t} + \beta_5 P/B_{i,t} + \beta_6 LEV_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 GROW_{i,t} + \varepsilon_{i,t}$$

where DROA is the change in return on assets (EBITDA/total assets) from year t to year t+k, DROAIND is the change in return on assets adjusted for industry (DROA of the firm minus the average DROA of the industry to which the firm belongs) from year t to year t+k, DCGI is the change in corporate governance index (CGI) from year t to year t+k, VOT is the percentage of voting shares owned by the largest shareholder, VOT/TOT is the ratio between the percentage of voting shares and total shares held by the largest shareholder, P/B is the price-to-book (ratio between the share price and its book value), LEV is firm leverage (ratio of outstanding liabilities and total assets), SIZE is firm

size (logarithm of total assets), GROW is the average annual growth in net revenues over the past three years.

This study uses the CGI as a proxy for good corporate governance practices. Therefore, we should expect a positive relation between DCGI, DROA and DROAIND. We use six control variables (VOT, VOT/TOT, P/B, LEV, SIZE, and GROW), which were previously identified in the literature as determinants of firm performance. We expect a negative coefficient for VOT, VOT/TOT and LEV, because control concentration, separation of voting to cash flow rights and firm leverage are negatively related to firm performance. On the other hand, there should be positive coefficients for SIZE, GROW, and P/B, since firm performance is positively related to firm size, growth opportunities and price-to-book.

4. Results

Table 1 shows the descriptive statistics of the variables used in this study. On average, the changes in operating performance (DROA) are positive (ranging from 0.33% to 0.49%), and the changes in industry-adjusted performance (DROAIND) are negative (ranging from -0.15% to -0.12%). The average change in corporate governance is positive (0.31), with great variation among firms (-4.66 to 9.91).

Table 1. Descriptive Statistics

Descriptive statistics of the variables used in the study from 2002 to 2008. The definition of each variable can be seen in Section 3.

	Mean	Median	Min	Max
$DROA_t$	0.43	0.37	-14.05	16.68
$DROA_{t+1}$	0.49	0.30	-14.28	12.20
$DROA_{t+2}$	0.33	0.31	-16.96	8.68
$DROAIND_t$	-0.12	0.00	-16.13	17.25
$DROAIND_{t+1}$	-0.15	0.00	-47.89	19.03
$DROAIND_{t+2}$	-0.14	0.00	-35.39	22.63
DCGI	0.31	0.00	-4.66	9.91
VOT	56.67	57.70	0.00	100.00
VOT/TOT	1.57	1.39	0.00	3.00
P/B	1.92	1.30	-11.40	49.80
LEV	73.50	65.50	1.10	90.06
SIZE	14.35	14.37	9.45	19.51
GROW	13.83	13.55	-100.00	130.90

There is a large concentration of control (the largest shareholder owns, on average, 57% of the votes) and a strong separation between ownership and control (the controller has an average of 1.57 votes per share). On average, Brazilian firms have a P/B of 1.92, leverage of 73.5%, and annual growth rate of 13.8%.

Table 2 shows the change in current and future performance of Brazilian companies classified in three groups according to the change in governance practices (positive, negative and zero). We conduct a test to analyze if firms with positive changes in governance have higher performance.

We can note that firms with positive changes in governance have higher current and future DROA and DROAIND. All differences are significant at 5% and 10%. On average, the DROA of firms with governance improvement ranges from 0.78% to 1.42%, much higher than the DROA of firms with governance worsening (ranging from 0.43% to 0.74%). Furthermore, the DROAIND of firms with governance improvement ranges from 0.08% to 0.25%, much higher than the DROA of firms with governance worsening (ranging from -0.84% to -0.52%).

Table 2. Test of Means Between Governance and Firm Performance

Changes in current and future performance (DROA and DROAIND) of Brazilian companies classified in three groups according to the change in governance practices (ΔCGI). We conduct a test of means to check if firms with positive changes in governance have higher performance. ***, **, and * indicate that firms with positive changes in governance have higher performance at 1%, 5% and 10% levels, respectively.

	$DROA_t$	$DROA_{t+1}$	$DROA_{t+2}$	$DROAIND_t$	$DROAIND_{t+1}$	$DROAIND_{t+2}$
ΔCGI < 0	0.74	0.43	0.66	-0.66	-0.84	-0.52
ΔCGI = 0	-0.28	-0.31	-0.66	0.24	-0.20	-0.13
ΔCGI > 0	0.95*	1.42**	0.78*	0.08*	0.25*	0.19*

Table 3 presents the fixed-effects panel models for DROA and DROAIND. The DCGI variable is positive and statistically significant at 1% and 5% in 5 of 6 models. Therefore, we conclude that positive (negative) changes on the quality of governance have a positive (negative) effect on current and future performance of companies.

Table 3. Governance and Firm Performance

Fixed-effects panel models for DROA and DROAIND from 2002 to 2008. The definition of each variable can be seen in Section 3. The p-values, adjusted for autocorrelation and heteroskedasticity, are shown in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10% levels, respectively.

	$DROA_t$	$DROA_{t+1}$	$DROA_{t+2}$	$DROAIND_t$	$DROAIND_{t+1}$	$DROAIND_{t+2}$
Constant	-1.80***	-3.01***	-0.54	4.04***	3.43***	2.02**
	(0.00)	(0.00)	(0.29)	(0.00)	(0.00)	(0.02)
DCGI	0.15**	0.31***	0.09**	0.06	0.24***	0.31***
	(0.03)	(0.00)	(0.03)	(0.31)	(0.00)	(0.00)
VOT	-0.01	-0.00*	0.00	0.00	0.00	0.01
	(0.14)	(0.07)	(0.39)	(0.35)	(0.45)	(0.13)
VOT/TOT	-0.40***	-0.38***	-0.43***	-0.58***	-0.48***	-0.49***
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
P/B	0.03	0.01	-0.04**	0.36***	0.27***	0.22***
	(0.43)	(0.91)	(0.03)	(0.00)	(0.00)	(0.00)
LEV	0.01***	0.01**	0.00	-0.06***	-0.07***	-0.06***
	(0.00)	(0.01)	(0.61)	(0.00)	(0.00)	(0.00)
SIZE	0.02	0.23***	0.13***	-0.02	0.05	0.01*
	(0.65)	(0.00)	(0.00)	(0.68)	(0.40)	(0.06)
GROW	0.01***	0.00	-0.01	0.03***	0.02***	0.01***
	(0.01)	(0.84)	(0.14)	(0.00)	(0.00)	(0.00)
R^2 adj	0.33	0.31	0.19	0.60	0.37	0.52

5. Conclusion

In the academic literature, there are many studies that examine the relationship between governance, and firm performance. Although many studies find a positive relationship between governance and firm performance, there are several questions about the validity of the results, since they vary depending on the methodology used and how governance is measured.

This paper uses a new methodology to analyze the relationship between governance and performance of Brazilian companies. The quality of corporate governance is measured through the CGI index by Leal and Carvalhal (2007).

Based on the CGI, we compute the change in the quality of governance and classify firms into three groups (positive, neutral and negative change in CGI). Then we calculate the changes in current and future performance for each group and analyze whether there is relation between changes in governance and in firm performance.

Our results indicate that positive (negative) changes on the quality of governance are associated with positive (negative) changes in current and future performance of companies. All the results are significant both in economic and statistical terms. Therefore, we can conclude that firms with improvement in the quality of governance have higher performance in Brazil.

6. References

1. BLACK, B.; JANG, H.; KIM, W. Does corporate governance affect firms' market values? Evidence from Korea. Journal of Law, Economics and Organization, v. 22, p. 366-413, 2006.
2. BOHREN, O.; ODEGAARD. B.A. Governance and performance revisited. ECGI Working Paper, v. 28, 2003.
3. LEAL, R.; CARVALHAL, A.; 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: Stanford University Press, p. 213-288, 2007.
4. CHIDAMBARAN, N. K.; PALIA, Darius ; ZHENG, Yudan. Does better corporate governance "cause" better firm performance? Rutgers University Working Paper, v. 19, 2006.
5. CLAESSENS, S.; DJANKOV, S.; LANG, L.; FAN, J. Disentangling the incentive and entrenchment effects of large shareholdings. Journal of Finance, v. 57, p. 2741-2771, 2002.
6. DA SILVEIRA, A. M. Governança Corporativa e Estrutura de Propriedade: Determinantes e Relação com o Desempenho da Empresa. Ph.D. Thesis, Sao Paulo University, 2004.
7. DURNEV, A.; KIM, H. To steal or not to steal: firm attributes, legal environment, and valuation. Journal of Finance, v. 60, p. 1461-1493, 2005.
8. GOMPERS, P.; ISHII, J.; METRICK, A. Corporate governance and equity prices. Quarterly Journal of Economics, v. 118, p. 107-55, 2003.
9. KLAPPER, L.; LOVE, I. Corporate governance, investor protection, and performance in emerging markets. Journal of Corporate Finance, v. 10, p. 703-728, 2004.
10. LA PORTA, R.; LOPEZ-DE-SILANES, F.; SHLEIFER, A. Corporate ownership around the world. Journal of Finance, v. 54, p. 471-518, 1999.
11. LA PORTA, R.; LOPEZ-DE-SILANES, F.; SHLEIFER, A.; VISHNY, R. Investor protection and corporate valuation. Journal of Finance, v. 57, n. 3, 2002.