

Can a Development Bank Improve the Governance of Investee Companies? Evidence from BNDES in Brazil

Andre Luiz Carvalho da Silva, and Fernanda Farah de Abreu Zorman

Abstract—There are many studies in the literature on institutional investors' efforts to improve corporate governance, generally focused on the role of pension funds and private equity firms. There are only a few studies that analyze the influence of development banks in the governance of investee companies. The objective of this research is to examine the role of the Brazilian Development Bank (BNDES) in the governance of listed companies. Our analysis provides evidence that companies in which BNDES is a shareholder have better governance.

Keywords—BNDES, corporate governance, development banks, institutional investors.

I. INTRODUCTION

THE role of institutional investors in improving governance practices of investee companies has been the subject of several studies, for example, Carleton, Nelson and Weisbach [1], Gillan and Starks [2,3], Giannetti and Laeven [4] and Aggarwal, Erel, Ferreira, and Matos [5]. Smith [6] and Nesbitt [7,8] analyze the activism of CALPERS (California Public Employees' Retirement System), and Carleton, Nelson and Weisbach [1] examine the role of TIAA-CREF (Teachers Insurance and Annuity Association- College Retirement Equities Fund).

In more aggregated analyses, without specifically studying a particular institutional investor, Gillan and Starks [3] verify the influence of a group of institutional investors in relation to investee companies, and Giannetti and Laeven [4] analyze the activism of pension funds and the increase in the value of investee companies. Aggarwal, Erel, Ferreira, and Matos [5] show that institutional investors make efforts towards improving governance practices, especially in countries with poor legal protection.

This paper examines the role of the Brazilian Development Bank (BNDES) in improving governance practices of Brazilian listed companies. BNDES has the largest stock portfolio in Brazil and among other development banks in the world.

There are few published works on the activism of institutional investors in Brazil. Silveira [9] examines the role of institutional investors in the governance of 239 Brazilian

companies in the 2010-2011 period. The results indicate that the role of institutional investors in relation to governance practices is not uniform. The presence of pension funds as relevant shareholders is associated with worse governance. The presence of mutual funds or private equity firms is positively associated with better governance practices.

Regarding the role of BNDES in the Brazilian capital market, Lazzarini and Musacchio [10], and Lazzarini, Musacchio, Bandeira-De-Mello, and Marcon [11] show that BNDES positively influenced the return on assets and long-term investments of companies from 1995 to 2002, but not in the more recent period (2003 to 2009). Specifically examining the BNDES' influence in corporate governance, Silveira [9] concludes that there was no positive relationship with improvement in the governance of investee companies in 2009 and 2010.

The goal of this paper is to assess whether the companies invested by BNDES have better governance when compared to other listed companies. We use two objective proxies to measure governance quality - the governance index of Leal and Carvalho [12] and the presence of the company on Novo Mercado (New Market) of the Sao Paulo stock exchange (BM&FBOVESPA).

The Novo Mercado is a listing segment of BM&FBOVESPA for the trading of shares issued by companies that commit themselves voluntarily to adopt corporate governance practices in addition to those that are required by law. The Novo Mercado is composed of three segments: Level 1, Level 2 and Novo Mercado itself.

In brief, publicly-held companies listed on Novo Mercado have the following obligations: a) public share offerings have to use mechanisms to favor capital dispersion and broader retail access; b) maintenance of a minimum free float, equivalent to 25% of the capital; c) same conditions provided to majority shareholders in the disposal of the company's control will have to be extended to all shareholders - "tag along"; d) establishment of a two-year unified mandate for the entire board of directors, which must have at least five members, of which at least 20% shall be independent members; e) disclosure of annual balance sheet according to US GAAP or IFRS; f) improvements in quarterly reports, such as the requirement of consolidated financial statements and special audit revision; g) obligation to hold a tender offer by the economic value criteria, in case of delisting or cancellation of registration as publicly-held company; h) compliance with disclosure rules in trades involving securities issued by the company in the name of controlling shareholders; i) capital stock must be solely represented by common shares with voting rights (not required on Levels 1 and 2).

Andre Luiz Carvalho da Silva works in the International Division of the Brazilian Development Bank (BNDES) and is an Assistant Professor of Finance at the IAG Business School of the Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil, (phone: 5521-2172-8246; e-mail: carvalho@bndes.gov.br and andrecavalho@iag.puc-rio.br).

Fernanda Farah de Abreu Zorman works in the Industrial Division of the Brazilian Development Bank (BNDES) and got her MBA from the IAG Business School at the Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil, (phone: 5521-2172-8637; e-mail: fernanda.farah@bndes.gov.br).

Our analysis of 275 companies listed on the BM&FBOVESPA from 2002 to 2009, of which 117 are present in the BNDES' portfolio, indicates that the presence of BNDES as a shareholder is positively related to corporate governance.

II. DATA AND METHODOLOGY

The Brazilian Development Bank (BNDES) is the main financing agent for development in Brazil. Since its foundation, in 1952, the BNDES has played a fundamental role in stimulating the expansion of industry and infrastructure in the country. BNDES offers several financial support mechanisms to Brazilian companies of all sizes as well as public administration entities, enabling investments in all economic sectors. In any supported undertaking, from the analysis phase up to the monitoring, the BNDES emphasizes three factors it considers strategic: innovation, local development and socio-environmental development.

The BNDES has three integral subsidiaries: FINAME, BNDESPAR and BNDES Limited. Together, the four companies comprise the BNDES System. The BNDESPAR is the subsidiary responsible for BNDES's equity participation in Brazilian companies. It carries out capitalization operations of undertakings controlled by private groups, while abiding by the BNDES' plans and policies. Among the other goals, the subsidiary is responsible for contributing to the strengthening of Brazil's capital market by expanding the offer of securities and democratizing the ownership of company capital.

Table I shows the main financial ratios of BNDES in 2011. The bank is one of the largest development banks in the world, with total assets of XX US\$ billion, shareholder's equity of XX US\$ billion, and net income of XX US\$ billion. The profitability of BNDES reached 1.65% (ROA) and 23.12% (ROE) in 2011. The BIS capital position of 20.6% was much higher than the 11% required by the Central Bank of Brazil, and the 8% required by Basle II. The non-performing loans was the lowest in the Brazilian financial system (0.14%).

TABLE I
BNDES'S MAIN ECONOMIC-FINANCIAL INDICATORS

Indicator	Value
Total assets (US\$ billion)	333.10
Shareholder's equity (US\$ billion)	32.53
Disbursements (US\$ billion)	82.25
Net income (US\$ billion)	4.82
ROA	1.65%
ROE	23.12%
BIS Ratio	20.6%
Nonperforming loans	0.14%

Selected economic-financial indicators of BNDES in 2011. Source: BNDES's annual statements and corporate website.

BNDES disbursed US\$ XX billion in 2011. As can be seen in Table II, BNDES's disbursements have increased significantly in recent years as a result of strong support provided to large-scale structuring projects. In 2011, the infrastructure sector received the majority of resources, 40%. The industrial segment received 32%, trade and services

received 21%, while the agriculture and cattle-raising sector received 7%. It is important to note that the global financial crisis initiated in 2008 also explains the increase of the balance sheet of BNDES and other public banks in order to support the credit market and investments in Brazil.

TABLE II
BNDES'S EVOLUTION OF ANNUAL DISBURSEMENTS

Year	Disbursements (US\$ billion)
2003	12
2004	14
2005	20
2006	24
2007	34
2008	50
2009	72
2010	96
2011	82

Evolution of BNDES's disbursements from 2003 to 2011. Source: BNDES's annual statements and corporate website.

In order to analyze whether BNDES influences positively the governance of its investee companies, we study all firms listed on the BM&FBOVESPA with data available for research, amounting to 275 companies from 2002 to 2009, of which 117 the BNDES invested in. The database was built from public information, available on the website of the Brazilian Securities Commission (CVM) and in the Economica database. The information from the 117 companies the BNDES invested in was collected from the BNDES' database.

We have established a database with information on CGI (corporate governance index developed by Leal and Carvalhal [12]), N2NM (dummy variable equal to 1 if the company is listed under Level 2 or Novo Mercado), NGC (dummy variable equal to 1 if the company is listed in Levels 1, 2 or Novo Mercado), P/B (price-to-book, a ratio between the market value of the company and its book value), Lev (leverage, measured by the ratio of liabilities relative to total assets), ROA (return on assets, measured by the ratio of operating income in relation to total assets), Size (firm size, measured by the natural logarithm of net income), Grow (average sales growth in the last 3 years), and Tang (tangibility, measured as the ratio of fixed assets to total assets).

Our objective is to assess if companies in which BNDES is shareholder have better governance. Given the activism and the importance of BNDES in the Brazilian capital market, the hypothesis of the research is:

H0: Companies in which BNDES is a shareholder have better governance.

First, we divide the sample into two groups: those with and those without the participation of the BNDES as a shareholder in the company. Difference tests are conducted to verify if firm characteristics are different between the two groups.

To measure the corporate governance of the companies, we used the governance index (CGI) of Leal and Carvalhal [12], which has four attributes: disclosure and transparency, board of directors, ethics and conflict of interests and shareholder rights. To calculate CGI, each company receives a score for

each attribute, and the total score represents the CGI. In this paper, we normalize the CGI from 0 to 10 to facilitate visualization and interpretation.

We examine the effect of BNDES on firm governance by modeling the latter as a function of firm characteristics. We define our measure of corporate governance (CGI) as:

$$CGI_{i,t} = \alpha_0 + \alpha_1 BNDES_{i,t} + \alpha_2 X_{i,t} + \varepsilon_{i,t}$$

where $BNDES_{i,t}$ is a dummy variable equal to 1 if BNDES is a shareholder of the company i and 0 otherwise; $X_{i,t}$ is a set of exogenous observable characteristics of the firm (P/B, leverage, ROA, firm size and growth), and $\varepsilon_{i,t}$ is the random error.

III. RESULTS

Table III compares the economic and financial variables of companies segmented in accordance with the presence of the BNDES as a shareholder in 2009. We perform tests of differences to verify if firm characteristics vary according to the presence or absence of the BNDES as shareholder.

The results indicate that companies with BNDES as a shareholder have higher CGI. In 2009, the average CGI of companies with BNDES (6.32) was higher than that of companies without the BNDES (5.65), and the difference is statistically significant at 1%. The superior governance of companies invested by BNDES is also noted in the other years (from 2002 to 2009).

Companies the BNDES invested in tend to be listed more at the governance levels of BM&FBOVESPA. In 2009, approximately 66% of the companies the BNDES invested in were listed in at least one of the three governance segments, which is a significantly higher percentage than the 40% found for companies without BNDES as a shareholder (the difference in proportions is significant at 1%). Considering only the stronger governance segments (Level 2 and Novo Mercado), the proportion of companies is greater when the BNDES is a shareholder (39% versus 32%) although the difference is not statistically significant.

We also can note that, in general, the companies the BNDES invested in have higher value (P/B), are larger and more leveraged, have more fixed assets, and have lower concentration of capital in the hands of the largest shareholder.

TABLE III

FIRM CHARACTERISTICS AND PRESENCE OF BNDES AS A SHAREHOLDER		
Variables	With BNDES	Without BNDES
CGI	6.32***	5.65
N2NM	0.39	0.32
NGC	0.66***	0.40
P/B	2.36*	1.98
Lev	65.12***	56.28
ROA	4.47	4.62
Size	6.92***	6.06
Grow	12.51	15.82
Tang	32.78**	27.74

Characteristics of companies segmented into two groups (with and without the BNDES as a shareholder) in 2009. The definition of the variables can be found in Section II. ***, ** and * indicate differences (between companies

with and without BNDES) statistically significant at 1%, 5% and 10%, respectively.

Then, we estimate the relationship between the BNDES's presence as a shareholder and corporate governance through ordinary least squares (OLS), fixed effects, and generalized methods of moments (GMM) panels. Table IV shows the results for CGI as a dependent variable.

The BNDES coefficient is positive and statistically significant at 1% (fixed-effects and GMM) and 5% (OLS), indicating that corporate governance is positively related to the BNDES's presence as a shareholder. This result is consistent with the hypothesis that the companies BNDES invested in adopt better governance practices.

TABLE IV
 CORPORATE GOVERNANCE AND BNDES AS A SHAREHOLDER

	OLS	Fixed-Effects	GMM
BNDES	0,09** (0,04)	0,29*** (0,00)	0,83*** (0,01)
P/B	0,29*** (0,00)	0,08** (0,04)	0,12* (0,07)
Grow	0,02*** (0,00)	0,01* (0,06)	-0,01 (0,52)
Lev	-0,01*** (0,00)	-0,01** (0,05)	-0,01 (0,92)
ROA	-0,01** (0,05)	-0,01 (0,70)	0,02 (0,67)
Size	0,66*** (0,00)	0,76*** (0,00)	1,64*** (0,00)
Adj R ²	0,39	0,83	0,86
# Obs	1.285	1.285	1.285

Ordinary least squares, fixed-effects, and generalized methods of moments (GMM) panels to estimate the relationship between the BNDES's presence as a shareholder and corporate governance. The dependent variable is CGI (governance index of Leal and Carvalho [12]). The definition of each variable can be found in Section II. The BNDES variable is a dummy that takes the value 1 when the BNDES is a shareholder of the company, and 0 otherwise. Standard errors are corrected for autocorrelation and heteroscedasticity, and the corresponding p-values are shown in parentheses. ***, ** and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table V shows the results of GMM panels to estimate the relationship between governance (CGI) and different measures of the BNDES's participation in the capital of the company: BNDESV (BNDES's voting capital in the company), BNDES5 (dummy that takes the value 1 when the BNDES's percentage in the capital is greater than 5%), and BNDESIG (dummy that takes the value 1 when BNDES's participation is significant). We classify the BNDES's participation as significant when it has at least 5% of the capital, or enters into shareholder agreements, or appoints members for the board of directors or fiscal council.

All variables related to the BNDES's participation are positive and statistically significant at 1% in all specifications, indicating that the BNDES's ability to influence corporate governance is greater when it has more shares with voting rights.

TABLE V
CORPORATE GOVERNANCE AND BNDES SHAREHOLDING STAKE

	I	II	III	IV
BNDES	0.29*** (0.00)			
BNDES V		0.06*** (0.00)		
BNDES V5			1.38*** (0.00)	
BNDESIG				0.59*** (0.00)
P/B	0.08** (0.04)	0.09** (0.03)	0.09** (0.03)	0.09** (0.03)
Grow	0.01* (0.06)	0.01** (0.05)	0.01** (0.06)	0.01* (0.05)
Lev	-0.01** (0.05)	-0.01** (0.03)	-0.01** (0.02)	-0.01** (0.02)
ROA	-0.01 (0.70)	0.00 (0.62)	0.00 (0.71)	0.00 (0.66)
Size	0.76*** (0.00)	0.75*** (0.00)	0.73*** (0.00)	0.76*** (0.00)
F stat	22.38*** (0.00)	22.67*** (0.00)	23.26*** (0.00)	22.42*** (0.00)
Adj R ²	0.83	0.83	0.83	0.83
# Obs	1,285	1,285	1,285	1,285

GMM models to estimate the relationship between governance and the BNDES's participation in the capital of the company. The dependent variable is CGI (governance index of Leal and Carvalho [12]). The independent variables related to the BNDES's participation are: BNDES V (BNDES's voting capital in the company), BNDES5 (dummy that takes the value 1 when the BNDES's percentage in the capital is greater than 5%), and BNDESIG (dummy that takes the value 1 when the BNDES' participation is significant). We classify the BNDES's participation as significant when it has at least 5% of the capital, or enters into shareholder agreements, or appoints members for the board of directors or fiscal council. The definition of each variable can be found in Section II. Standard errors are corrected for autocorrelation and heteroscedasticity, and the corresponding p-values are shown in parentheses. ***, ** and * indicate statistical significance at 1%, 5% and 10%, respectively.

IV. CONCLUSION

There are several studies in international literature on the activism of institutional investors and their role in improving corporate governance. In general, researchers concluded that these investors' efforts are related to improving corporate governance. Most empirical studies focus on the activism of pension funds and private equity firms.

This paper contributes to the literature by analyzing the influence of a development bank (BNDES) on governance practices adopted by companies in its portfolio. Our results indicate that BNDES is positively related to corporate governance. These results are robust for different econometric specifications and governance metrics.

REFERENCES

- [1] W. Carleton, J. Nelson, and M. Weisbach, "The influence of institutions on corporate governance through private negotiations: evidence from TIAA-CREF", *Journal of Finance*, vol. 53, pp. 1335-1362, 1998.
- [2] S. Gillan, and L. Starks, "A survey of shareholder activism: motivation and empirical evidence", *Contemporary Finance Digest*, vol. 2, pp. 10-34, 1998.
- [3] S. Gillan, and L. Starks, "Corporate governance, corporate ownership, and the role of institutional investors: a global perspective", *Journal of Applied Finance*, vol.13, pp. 16-17, 2003.
- [4] M. Giannetti, and L. Laeven, "Pension reform, ownership structure, and corporate governance: Evidence from a natural experiment", *The Review of Financial Studies*, vol. 22, pp. 4091-4127, 2009.

- [5] R. Aggarwal, I. Erel, M. Ferreira, P. Matos, "Does governance travel around the world? Evidence from institutional investors", *Journal of Financial Economics*, vol. 100, pp. 154-181, 2011.
- [6] M. Smith, "Shareholder activism by institutional investors: evidence from CALPERS", *Journal of Finance*, vol.51, pp. 227-252, 1996.
- [7] S. Nesbitt, "Long term rewards from shareholder activism: a study of the CALPERS effect", *Journal of Applied Corporate Finance*, vol. 6, pp. 75-80, 1994.
- [8] S. Nesbitt, "The CALPERS Effect on targeted company share prices", *NACD Directorship*, vol. 2, 2001.
- [9] A. Silveira, "Institutional investors and corporate governance in Brazil", available at <http://ssm.com/author=443083>, 2011.
- [10] S. Lazzarini, and A. Musacchio, "Leviathan as a minority shareholder: a study of equity purchases by BNDES", *Harvard Business School Working Paper* 11-073, 2011.
- [11] S. Lazzarini, A. Musacchio, R. Bandeira-De-Mello, and R. Marcon, "What do development banks do? Evidence from Brazil, 2002-2009", available at <http://ssm.com/abstract=1969843>, 2011.
- [12] R. Leal, and A. Carvalho, "Corporate governance and value in Brazil (and in Chile)", In: A. Chong, and F. Silanes, (Org.). *Investor Protection and Corporate Governance: Firm-Level Evidence Across Latin America*. 1 ed. Palo Alto: Stanford University Press, p. 213-288, 2007.