

# **Differential Pricing of Equity Classes, Majority Control, and Corporate Governance: Evidence from the Brazilian Equity Market<sup>1</sup>**

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# DIFFERENTIAL PRICING OF EQUITY CLASSES, MAJORITY CONTROL, AND CORPORATE GOVERNANCE: EVIDENCE FROM THE BRAZILIAN EQUITY MARKET

## **Abstract**

*This paper examines price differences between different equity classes in listed companies in Brazil with particular emphasis on privatized companies, and discusses the role of majority control, liquidity, and governance issues that may influence these differentials over time. We also include a brief discussion on the Brazilian corporate law system, its effects on the shareholders, and the characteristics of the Brazilian privatization process, before proceeding to the econometric analysis. We find empirical evidence to support that non-voting equity to total equity, liquidity, type of majority control, and changes in regulation are significant in determining equity prices differential.*

**JEL Codes:** G34, G38

**Keywords:** Corporate Governance, Privatization, Equity Classes.

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## I. INTRODUCTION

Two different equity classes with the same cash-flow rights but different voting rights should, in principle, convey to equal prices. However, a series of empirical studies have confirmed a premium<sup>1</sup> for voting shares over non-voting shares. For most equity markets, voting shares trade at a premium between 5 percent and 20 percent<sup>2</sup>. The possible determinants of the voting premium include: the value of control benefits the controlling shareholder enjoys; market segmentation (e.g. restricting the purchase of shares by foreign or domestic investors); the ownership structure (e.g. existence of a large shareholder, and the role minority voting shareholders have in the case of transfer control); and liquidity preferences.

In Brazil contrary to most equity markets<sup>3</sup>, voting shares were actually trading at a discount relative to non-voting shares prior to privatization of each Company adjusted to cash-flow rights. This paper analyzes two factors that have directly impacted the premium relationship on the most liquid shares of recently privatized companies: (i) the pool of large shareholders which formed a consortium to bid for the controlling stake; and (ii) the change in bid requirements for minority voting and non-voting shareholders pre and post 1997.

This article argues that although the probability that marginal shareholders play a key role in being crucial in the transfer of control increases after privatization, marginal shareholders have a clear preference towards liquidity. In addition, preferred non-voting shareholders might benefit from a higher leveraged position of the controlling shareholder (or block of shareholders), since a higher dividend stream may be required to pay off BNDES (or other source of) financing for the acquisition of the control.

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<sup>1</sup> The difference between voting and non-voting share prices divided by the non-voting share price measure the premium of voting rights.

<sup>2</sup> For example, several empirical studies on the pricing premium of voting with respect to non-voting shares range from 5% to 82%. For example, for the US, the UK premia are 5.4% (Lease, McConnell and Mikkelsen [1983], and Megginson (1990), while premia amount 45.5% for Israel (Levy [1982]), and 82% for Italy (Zingales [1994]).

<sup>3</sup> A similar phenomenon has occurred in the Norwegian equity market (Odegaard, [1998]).

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Another key aspect in investigating the differential pricing between ordinary and preference shares is the local regulation regarding share capital structure. Prior to May 1997, the candidate to controlling shareholder was required to make an offer to the remaining voting shareholders at a price not lower than its book value. After Law #9457 was enacted on May 5, 1997, the minimum tender offer was no longer required. The main rationale for this change was to allow the Government to sell off its controlling stakes in power and telecom companies without any likely lawsuits sponsored by minority shareholders. The empirical results in this paper support the hypothesis that the voting premium is significantly smaller for companies who have the statutory amendments requiring a clear dividend payment to preferred shareholders.

This paper contributes to the existing literature in three ways. First, we review the legal institutions in Brazil and its impact on voting premium and corporate governance rules in the equity markets. Second, we analyze how privatization has impacted the value of control rights in Brazil. Third, we evaluate how corporate governance rules may negatively effect minority shareholders as for the case of change in corporate law legislation occurred in May 1997.

This paper is structured as follows. Section 2 provides some background on the legal structure of corporations in Brazil, the legal determinants of the composition of the shares with voting and non-voting powers and the degree of protection it offers to shareholders against expropriation risks. This section also highlights some characteristics of the Brazilian privatization process. Section 3 presents the empirical results of our analysis. Section 4 concludes.

## **II. Background on Share Capital Structure**

As pointed out Shleifer and Vishny [1997], an essential element of corporate governance is the legal protection of investors' rights. In Brazil, publicly-traded companies are required to be incorporate in the form of an “Sociedade Anônima” (SA).

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## II.1 Prior to May 1997

An SA is governed by Law #6404 of December 15, 1976 (the Corporate Law), which was amended by law #9457 of May 5, 1997. According to the Corporate Law, shares represent the capital stock, and the shareholders' liability are limited to the amount of the issued share capital they have subscribed to. Publicly-traded SA can sell its securities on the primary market which are subsequently traded on the local stock exchange, following registration at the Brazilian Securities and Exchange Commission ("Comissão de Valores Mobiliários").

The share capital of an SA may consist of ordinary (voting) shares, and preferred (non-voting) shares. The maximum allowable preferred share participation in the company's share capital depends on (i) whether the controlling shareholder is a foreigner; and (ii) whether the company is a financial institution as follows:

- Foreign Capital Law #4131/1962 prescribes that companies whose controlling shareholder is foreigner can only issue voting shares, where one share is one vote (Article 40); and
- Financial institutions can issue up to 50% of share capital in preference non-voting shares (Law 4595/64, article 25);

Corporations not subject to the above rules can have up to two thirds of its shares as preferred non-voting shares.

Under this capital structure, Brazilian non-financial firms need to own 16.7% of the total share capital to control the corporation. The Corporate Law establishes a minimum dividend payment of 25% of net income. If the company fails to distribute dividends for three years in a row (e.g. due to losses), preferred non-voting shareholders acquire full voting rights until the Company starts repaying dividends, although no minimum amount is specified.

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## II.2 May 1997 Amendments to Corporate Law

To avoid likely lawsuits from minority shareholders, the Congress approved amendments to the Brazilian Corporate Law – known as Law #9457/1997 – in May 1997. Under this new legal framework, it was no longer required to the new controlling shareholder to publicly offer a tender with equal terms to the minority shareholders as those offered to the Government. This change has led to some opportunistic behaviors from large shareholders who could jeopardize minority shareholders.

To mitigate the impact on minority shareholders, the new regulation entitles preferred non-voting shareholders an additional 10% dividends compared to those paid to ordinary voting shareholders. This requirement could not be applied to cases where the corporate charters specify the size and features of the dividend rights of preference shares.

However, current main criticisms against the Corporate Law rely on the expropriation against minority shareholders in the case of corporate control transfer. Since the current legislation does not include a minimum payment to minority shareholders nor minority shareholders cannot interfere in any decision at the shareholders' meeting, any decision related to a merger or to a share repurchase may lead to serious losses against minority shareholders.

In fact, the Brazilian capital markets have witnessed recent moves by controlling shareholders which could negatively affected minority shareholders. One example is the merger of between DOC4 Participações S. A. (DOC4, the holding company) and Companhia Paulista de Força e Luz (CPFL), a power distribution company. DOC4 was at the time of merger the controlling shareholder of CPFL. By merging, DOC4 shareholders would benefit by the retained losses to apply against future profits as a tax shield scheme. However, clearly minority shareholders could not get dividend payments, since financial expenses could offset operating income for the coming years as DOC4 was highly leverage as a way to make a leverage buyout for CPFL.

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Recently the Brazilian capital markets have seen actions by the controlling shareholders to lower liquidity in secondary markets as a way to eventually repurchase shares at lower than “fair” share price. Examples include Lojas Renner S. A., Ericsson S. A., Solorrico Fertilizantes S. A. where the strategic investor launches a public tender offer to repurchase shares in a first moment to lower liquidity. After share repurchase, the controlling shareholders could either buy shares in the secondary markets to further lower liquidity or even decide to take the company private by offering lower price terms, since the remaining minority shareholders would have no benchmark to exit their investments.

Therefore liquidity plays an important role in determining the voting premium. Since preferred shares are more liquid, voting premium would be lower the higher the liquidity of preferred shares compared to that of ordinary shares.

### **II.3 Brief on Brazilian Privatization Program**

Since the beginning of the “Programa Nacional de Desestatização” in 1991, sixty-four federal-owned companies and minority shareholding stakes have been sold to the private sector. The privatization program has included companies in steel, chemical and petrochemical, fertilizers, telecom and power sectors, in addition to concession rights of railroads, operations of container terminals, and power companies from the states. The Brazilian privatization program has raised about US\$88 billion in exchange for public debt and cash to year end 1998. Table 1 details year-by-year the number of privatized companies, the cash raised as well as the amount of debt transferred to the private sector.

An important feature of the Brazilian privatization process was the strong role of the state, both in putting the investors together in form of consortium (group of large shareholders) where pension funds play a key role, and in financing these groups via BNDES, the domestic development bank.

According to recent studies by Pinheiro [1996], privatized companies have shown improved operating performance by increasing profitability, operating

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efficiency, higher capital expenditures, and output. In addition, as pointed out by Pinheiro [1996], listed companies have their better performance reflected in their respective share prices. As for an illustrative purpose, we have attached Table 2 which shows how profitability has raised since the privatization date.

We have a particular interest in analyzing the voting premium of privatized companies for two reasons. First, privatized companies have been the most liquid on the local stock exchange, responsible for at least 75% of daily trading volume. Second, privatized companies have experienced changes in corporate governance through new ownership structure, professional senior management, and active board of directors. This sample of privatized companies are far more interesting to analyze than other companies with basically no major changes related to corporate governance issues, except for the market of corporate control.

### **III. Empirical Model on Voting Premium Determinants**

Our empirical model relates the voting premium determinants to two governance issues of interest. First, in analyzing the private benefits under the private sector ownership after privatization, we evaluate how the ratio of non-voting to overall equity as well as financial leverage should be correlated with the voting premium. In considering so, we also consider the liquidity factor to test the hypothesis how crucial marginal shareholders may play a role in transferring control.

Second, in the course of analyzing the local legislation in corporate law in emerging countries like Brazil, we address the issue of to what extent changes in bid rules can negatively affect minority shareholders of preferred and ordinary shares. Specifically, we analyze how May 1997 amendments to the Brazilian Corporate Law is correlated with majority-control and its actions against minority shareholders, particularly for privatized listed companies in Brazil. There have been a lot of lawsuits from minority shareholders against transfer of control by way of taking a public company private or by a merger. Both moves have negatively affected minority shareholders recently. We analyze to what extent changes in bid

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rules have affected by analyzing the voting premium, and related to ownership structure to these changes.

### III.1 The Data

The sample consists of all Brazilian companies with both ordinary and non-voting preferred shares traded on the São Paulo stock exchange. The voting premium is calculated with the average of the share closing prices of the last 10 trading days for each year. There are 75 companies during the first quarter of 1994 to the last quarter of 1998, consisting of 174 observations. The share prices are taken from “*Economática*”<sup>4</sup> and are adjusted for stock splits, etc. Table 3 presents a summary of statistics for some key variables to be used in the regressions.

### III.2 Regression Results

There has been a vast literature on corporate control issues relating the importance of private benefits of control (see e.g. Grossman and Hart [1988], and Harris and Raviv [1988]). Control benefits have been positively correlated with the amount of controlled assets by clearly separating control from cash-flow rights. Debt, non-voting stocks, and pyramiding are three instruments to increase the amount of assets under control with a fixed equity investment.

Given the dual class equity nature in Brazil, non-voting stocks play a key role in leveraging as well as separating control from cash-flow rights. However, marginal ordinary shareholders may not benefit from such leverage, unless they are crucial to determine the control transfer in the market for corporate control. Within this context, we would like to test the following hypotheses:

***Hypothesis 1***      *The ratio of non-voting equity to total equity should be positively correlated with the voting premium.*

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<sup>4</sup> *Economática* provides financial information on Brazilian listed companies.

**Hypothesis 2** For low levels of leverage in the form of capital gearing and non-voting shares, the price differential between voting and non-voting stock should rise, for higher levels of leverage the relation should reverse because of an increasing risk of control change to debt claimants.

The econometric specification follows Hoffmann-Burchardi [1999]. We investigate how voting premium is related to the ratio of preferred equity to total equity,  $NV_{it}$ , and the ratio of debt to total assets,  $CG_{it}$ . To capture the reversion of voting premium at higher leverage levels, we include the square of capital gearing,  $CG_{it}^2$ .  $NL_{it}$  represents the number of preferred non-voting shares owned by the largest shareholder. To capture the dividend policy, we include the dividend dummy variable for the preferred shares,  $DV_{it}$ . Finally, preference for liquidity is included as a dummy variable  $LQ$  equals one if the preferred share trades at least US\$500,000 equivalent in the first two weeks for each year, and zero otherwise. We therefore obtain the following empirical functional form as follows<sup>5</sup>:

$$VP_{it} = \mathbf{b}_0 + \mathbf{b}_1 CG_{it} + \mathbf{b}_2 (CG_{it})^2 + \mathbf{b}_3 NV_{it} + \mathbf{b}_4 NL_{it} + \mathbf{b}_5 DV_{it} + \mathbf{b}_6 LQ_{it} + \mathbf{b}_7 PV_{it} + \mathbf{b}_8 SM_{it} + \mathbf{b}_9 PV_{it} + \mathbf{m} + \mathbf{e}_{it} \quad (1)$$

where  $i$  denoting the company and  $t$  denoting time (the quarter and year).  $SM$  stands for “simple majority”, a dummy variable equals 1 if the controlling shareholder has at least 50% plus one of the ordinary voting shares. Alternatively, we substitute  $QM$  stands for “qualified majority”, a dummy variable equals 1 if there is at least one controlling shareholders (or group of shareholders tied together under a shareholders agreement) holding at least 75%. This variable,  $QM$ , is chosen because most privatized companies were acquired by a group of large shareholders. We argue that although a 50% plus one share of votes are required to any major changes (e.g. changes in corporate charter, increases or decreases of share capital or a merger), large shareholders are likely to jointly agree upon major decisions. Given the Brazilian legal structure, the ownership structure can affect the relative price of

<sup>5</sup> Table 4 provides a description for the main variables in the panel data model.

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voting versus nonvoting shares through the incentives for both the controlling blockholder and the minority shareholders to engage in opportunistic behaviors. Classens et al. (1999) analyze this phenomenon for the East Asian case. The structure of the privatization process, on the other hand, has also an effect on the relative prices, reflecting an improved ownership structure, as La Porta and Lopez-de-Silanes (1997) stress for the Mexican case.

Table 5 presents the results of estimation under alternative specifications to Equation (1). They only differ in the assumption that a 75% shareholding is the critical level to confer control, while specification II requires majority control. The two regressions show that the ratio of controlled equity to invested equity increases the value of the voting rights and thus the voting premium. This provides evidence for Hypothesis 1. Both the economic and statistical significance are superior for specification II. This suggests that majority control implies a higher control value than a qualified minority holding of 75%, implying that a supermajority control may no increase the control value of the company. The impact of capital gearing is not clear, since related variables are not statistical significant. Contrary to the above conjectures, the ratio of non-voting stock to total equity is negatively correlated with the voting premium. A more interesting finding is the positive relationship between the non-voting shares by the controlling shareholder, although its impact is small to the voting premium. Finally, note that the higher the liquidity, the higher the value of non-voting stocks implying a lower voting premium.

The Brazilian market for corporate control has not experienced the same degree of hostile takeover activities as those of the Anglo-Saxon market. However after privatization in addition to openness for foreign capital investments and globalization, public companies have been targets of giant strategic investors. However, we analyze the wealth implications of a corporate control transaction for minority shareholders derived from the enactment of May 1997 amendments to the Brazilian Corporate Law. Therefore, we would like to test the following hypothesis:

***Hypothesis 3***      *The May 1997 amendments to the Corporate Law have a negative impact on both ordinary and preferred marginal shareholders. However,*

*the negative will be stronger for ordinary shareholders, implying lower voting premium.*

The econometric specification tries to capture the privatization effect on changes in the voting premium as well as the change in regulation. We include a dummy variable equals 1 if after May 1997, and zero for data prior to this date,  $AM_{it}$  to capture the impact of May 1997 amendments to Corporate Law. We therefore obtain the following empirical functional form as follows:

$$VP_{it} = \mathbf{b}_0 + \mathbf{b}_1 CG_{it} + \mathbf{b}_2 (CG_{it})^2 + \mathbf{b}_3 NV_{it} + \mathbf{b}_4 NL_{it} + \mathbf{b}_5 DV_{it} + \mathbf{b}_6 LQ_{it} + \mathbf{b}_7 PV_{it} + \mathbf{b}_8 SM_{it} + \mathbf{b}_9 PV_{it} + \mathbf{b}_{10} AM_{it} + \mathbf{m} + \mathbf{e}_{it} \quad (2)$$

Table 5 under specifications III and IV presents the results of estimation for simple majority control and qualified majority control, respectively. The two regressions show that the ratio of controlled equity to invested equity increases the value of the voting right and thus the voting premium. Both the economic and statistical significance are superior for specification II. The impact of capital gearing is not clear, since related variables are not statistically significant. The same applies to the ratio of non-voting stock to total equity. However, as for the functional form (2), there is a positive relationship between the non-voting shares by the controlling shareholder, although its impact is small to the voting premium. The empirical evidence provide evidence for Hypothesis 3, where the 1997 amendments provide a negative effect to the voting premium. Finally, note that the higher the liquidity, the lower the value of non-voting stocks implying a higher voting premium, although it is not significant.

#### **IV. Conclusions**

In this paper, we relate the voting premium determinants to two governance issues of interest. First, in analyzing the private benefits under the private sector ownership after privatization, we evaluate how the ratio of non-voting to overall equity as well as financial leverage should be correlated with the voting premium. Second, in the

course of analyzing the local legislation in corporate law in emerging countries like Brazil, we address the issue of to what extent changes in bid rules can negatively affect minority shareholders of preferred and ordinary shares.

With respect to the first issue, we have found empirical evidence supporting that ratio of non-voting shares to total equity is negatively correlated to the voting premium. No support has been confirmed though for the financial leverage. This provides support to confirm separation of control rights from cash-flow rights in Brazilian listed companies.

Regarding the impact of May 1997 amendments to the Corporate Law, we have found empirical evidence of a negative impact on both ordinary and preferred marginal shareholders. However, the negative will be stronger for ordinary shareholders, implying lower voting premium.

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**Table 1**  
**Privatization Program 1991-1998**

	# of privatized	Cash (US\$ bn)	Transferred debt (US\$ bn)	Total (US\$ bn)
1991	4	1.6	0.4	2
1992	14	2.4	1	3.4
1993	6	2.6	1.6	4.2
1994	9	2	0.3	2.3
1995	8	1	0.6	1.6
1996	11	4.1	0.7	4.8
1997	4	4.3	3.5	7.8
1998*	2	0.4	0	0.4
<b>Total</b>	<b>58</b>	<b>18.4</b>	<b>8.1</b>	<b>26.5</b>

(\*) until July/31/98

Source: BNDES

**Table 2**  
**Selected Privatized Companies' Net Income (US\$ million)**

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Acesita	(58)	6	(17)	(86)	(97)	31	79	32	3	2	(165)
Copene	116	137	73	(56)	10	(101)	137	149	6	59	83
Copesul	n/a	n/a	n/a	n/a	(3)	0	21	66	86	112	58
Cosipa	n/a	n/a	n/a	(30)	(297)	(579)	45	74	(240)	(109)	(13)
Embraer	(35)	64	(278)	(235)	(263)	(114)	(310)	(300)	(118)	(30)	124
Escelsa	n/a	n/a	n/a	n/a	n/a	(56)	38	(103)	77	77	(140)
Fosfertil	n/a	n/a	n/a	(16)	(12)	9	114	43	93	82	58
Light	132	119	(82)	(146)	(317)	(244)	144	(113)	167	291	(167)
LightPar	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	191	299	(58)
Petroflex	n/a	n/a	n/a	n/a	2	(1)	14	3	(35)	(21)	(29)
Petroq.Uniao	n/a	n/a	n/a	n/a	n/a	4	(2)	(5)	(31)	13	42
CSN	(482)	(37)	(751)	31	125	22	154	110	245	409	402
Sid Tubarao	40	148	(215)	(13)	(149)	33	241	190	110	113	50
Usiminas	55	337	(9)	60	123	246	345	336	228	315	293
Vale Rio Doce	208	735	106	252	300	262	645	338	497	677	890

**Table 3**  
Summary Statistics

	Voting Premium	Non-Voting Stock	Non Voting Stock of Largest Shareholder	Capital Gearing
Mean	-0,016293	48,41977	23,12069	40,78448
Median	-0,265356	50,00000	8,000000	34,10000
Maximum	6,713096	66,66667	100,0000	99,40000
Minimum	-0,924239	1,694228	0,000000	1,500000
Std. Dev.	0,991948	16,00830	29,37169	26,77439
Skewness	3,680695	-0,930468	1,080442	0,577317
Kurtosis	21,21838	3,210879	2,733081	2,360179
Jarque-Bera Probability	2799,221 0,000000	25,42978 0,000003	34,36982 0,000000	12,63348 0,001806
Observations	174	174	174	174
Cross sections	70	70	70	70

**Table 4**  
Description of Variables

Variable		Description
Voting Premium	<i>VP</i>	(Avg. Price Voting Shares – Avg. Price Non voting shares)/ Avg. Price Non voting shares (Average Price is computed for the first two weeks of each quarter)
Capital Gearing	<i>CG</i>	(Short term liabilities + Long term liabilities)/Total Assets
Nonvoting shares	<i>NV</i>	Fraction of shares without voting powers
Non voting shares of largest shareholder	<i>NL</i>	Shares without voting powers owned by the largest shareholder
Dividends Paid	<i>DV</i>	1 if there has been dividend payments in the year, 0 otherwise
Liquidity	<i>LQ</i>	1 if the volume traded in the first two weeks is greater than US\$500,000, 0 otherwise
Privatization	<i>PV</i>	1 if the company is owned by the private sector, 0 otherwise
May 1997 Amendments	<i>AM</i>	1 after 1997, 0 otherwise
Simple Majority	<i>SM</i>	1 if the largest shareholder owns more than 50% of voting shares, 0 otherwise
Qualified Majority	<i>QM</i>	1 if the largest shareholder owns more than 75% of voting shares, 0 otherwise

**Table 5****Regression Results – Determinants of Voting Premium**

The table below presents the coefficient estimates for a fixed effects panel data model for the voting premium of ordinary voting relative to preferred nonvoting shares for Brazilian listed companies from the first quarter of 1994 to the fourth quarter of 1998. The standard errors are robust to heteroscedasticity and autocorrelation of arbitrary forms. The p-values are reported below the coefficient estimates in parentheses. Specification I is designed to analyze the effect of a simple majority, while specification II includes a dummy for qualifies majority control of 75% of voting shares. Specifications III and IV include a dummy variable to capture the effect of change in regulation for the May 1997 amendments to the corporate law.

Variable		I	II	III	IV
Constant		0.771 (0.001)	0.989 (0.000)	1.143 (0.000)	0.937 (0.000)
Capital Gearing	<i>CG</i>	-0.005 (0.636)	-0.007 (0.415)	-0.009 (0.321)	-0.006 (0.545)
Square of Capital Gearing	$(CG)^2$	6.22E-05 (0.554)	7.95E-05 (0.407)	9.82E-05 (0.309)	7.95E-05 (0.449)
Privatization	<i>PV</i>	-0.005 (0.975)	-0.048 (0.797)	0.034 (0.869)	0.090 (0.618)
Fraction Nonvoting	<i>NV</i>	-0.018 (0.000)	-0.018 (0.000)	-0.018 (0.000)	-0.018 (0.000)
Fraction Nonvoting of Largest Shareholder	<i>NL</i>	0.009 (0.039)	0.008 (0.014)	0.008 (0.018)	0.009 (0.038)
Liquidity	<i>LQ</i>	-0.314 (0.007)	-0.338 (0.004)	-0.324 (0.004)	-0.294 (0.008)
Qualified Majority	<i>QM</i>	-0.321 (0.154)			-0.360 (0.107)
Simple Majority	<i>SM</i>		-0.276 (0.031)	-0.279 (0.026)	
Dividends	<i>DV</i>	0.149 (0.287)	0.136 (0.336)	0.143 (0.301)	0.157 (0.249)
Amendments	<i>AM</i>			-0.287 (0.069)	-0.311 (0.043)
R-squared		0.169	0.168	0.188	0.192
Number of Observations		174	174	174	174
F-statistic		4.213	4.168	4.209	4.340
Prob(F-statistic)		0.000	0.000	0.000	0.000