CORPORATE GOVERNANCE AND OWNERSHIP STRUCTURE IN BRAZIL: CAUSES AND CONSEQUENCES

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Abstract

The literature indicates that, mainly in countries with high stock concentration, the ownership structure is an important internal mechanism of control of the corporate governance, with effects in the companies' value and performance. In Brazil, the existing relationship among corporate governance - ownership structure - performance is still not conclusive. The present study investigates if there is any relationship among ownership structure, financial performance and value in the Brazilian non-financial public companies with stocks negotiated in the São Paulo Stock Exchange, between the period of 1997 to 2001, as well as the determinant of the level of concentration of the ownership in these companies. In the empiric investigation it was used a multiple regression analysis through the estimators of the Ordinary Least Squares with heteroscedasticity in accordance with White (1980). Concerning the used methodology, the results indicate that the variables of ownership structure as defined do not have influence on the financial performance and value of the companies. Remaining to the determinant of the ownership structure of the Brazilian non-financial public companies, the results indicate that the ownership structure can be explained by the size of the firm, market instability and regulation, being the latter the main determinant of the ownership structure.

Keywords: Ownership Structure, Corporate Governance, Agency Theory

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Introduction

In countries with high stock concentration and less developed stock markets as in Latin America and special in Brazil, one of the main corporate governance issues is the agency conflict between main and minority shareholders. In accordance with Silveira (2002, p.31) "the companies' high stock concentration (share holding) and control (decision making), allied with the low legal protection of the shareholders, enables the country's main conflict of agency to be between the controlling and minority shareholders".

The stock concentration in Brazil results in an overlapping among management and ownership, and the controlling shareholders, searching for the maximization of its interests, act with opportunism expropriating the minority shareholders. In accordance with Carvalhal-da-Silva (2004, p.350):

> Several researches suggest that the concentration of the right to vote on the hands of the controlling shareholders can be associated with higher degree of expropriation of the minority ones, since the controlling shareholders prefer to gain the private benefits of control, that are not shared with the minority shareholders. Thus, a greater concentration of the rights to vote on the controlling shareholders would be associated with a higher expropriation of the minority shareholders.

Analyzing a sample of 49 countries, including Brazil, La Porta *et al.* (1998) conclude that the concentration of shareholding ownership is negatively related to the protection of the shareholders rights with a consequent loss of the company's value, where countries with better legal protection tend to present a higher dispersion of the company's ownership. A later study of the same authors demonstrated that countries with less efficient mechanisms of protection of the shareholders possess a great number of companies under familiar or state control, and in the case of the familiar companies, with a high degree of separation between management and ownership (LA PORTA *et al.*, 1999).

Therein, considering La Porta *et al.* (1998 and 1999) studies, the ownership structure becomes an important mechanism of corporate governance for the companies' valuation and performance as a consequent propellant of the national stock market. In Brazil, according to Andrade and Rosseti (2004), some studies have been developed aiming at the analysis of the existing relation among corporate governance - ownership structure - performance, however, these studies considered as a set are still not conclusive, justifying researches on this relation based on new methodologies.

This research main objective is to investigate which relation exists among ownership structure, financial performance and companies' value, and which are the determinants of the stock concentration in Brazil, taking into consideration the studies of Demsetz and Lehn (1985), Pedersen and Thomsen (1997) and Siqueira (1998).

Theoretically, the study is delimited by applying a strict perspective of agency. Initially developed by Jensen and Meckling (1976), the reasoning of the Agency Theory is based on the relations between "agents" and "principals", in which the agents represent, in thesis, the interests of the principals. As there are possible conflicts of interests when the same individual has 100% of the capital of the company and accumulates the management function, the agency problem appears as the ownership begins to be split on the hands of other individuals. In this sense, the conflicts are extended by the potential of expropriation of the wealth of the minority shareholders by the controlling shareholders in a situation in which the controllers exert their power on almost the whole company.

This work is structured in five sections considering this one. In the next section it is presented the theoretical review in the perspective of the corporate governance based on the agency theory, being the ownership structure an internal mechanism of corporate governance. It intends to evidence in this section the causes and consequences of the stock concentration and its characteristic in Brazil. Section three is to show the development of the research methodology. In this section it is presented: 1) the variables operated in the study; 2) the quantitative methods adopted; and 3) the modeling adopted. In section four the results are presented on the basis of the quantitative methods adopted, adding the descriptive analysis of the variables and the limitations of the study. The last section presents the final aspects of the study.

Literature review

Demsetz and Lehn (1985) when discoursing on the subject of the ownership structure, categorize the shareholding degree of concentration into causes and consequences. The causes relate to the factors that determine the level of concentration, such as market instability, regulation of the market sector, company size and capital structure. The consequences of the level of concentration are associated to the costs and benefits for the companies' performance and value.

Causes of the Stock Concentration

Siqueira (1998, p.1) states that several researches since the eighties, considering European, North American and Asian companies, have tested the hypotheses that forces such as the degree of the sectors regulation, the size of the firm, the market instability, the company's capital structure and the kind of controlling shareholders exert a relevant role on the level of stock concentration.

Market Regulation

Demsetz and Lehn (1985) argue that the definition of the performance rules of the companies can stimulate the reduction of the stock concentration of the property due to reduction of uncertainties. This effect can even minimize the conflict of interests between managers and controllers, widening the managers' autonomy in monitoring. Moreover, the ownership structure of companies in regulated markets also suffers from the influence of the State's high participation as a controlling shareholder.

A strong regulation of the company's sector restricts the shareholders investments options, beyond the fact that these sectors already suffer a certain monitoring by the market agents. These combined effects stimulate the reduction of the stock concentration of companies in regulated sectors.

Size of the Firm

In accordance with Siqueira (1998, p.4), the big size companies can be associated with high costs of capital and with high risk of maintenance of the level of concentration of the shareholding control – due to the risk aversion, the large companies would tend to present a low stock concentration. Demsetz and Lehn (1985, p.1,158) argue that the size of the companies varies within the sectors and among the various sectors, in such a way that as larger the company, thus depending on its position and competitiveness in its market, the greater the availability of resources, and the higher the market value of a part of its control. In accordance with Okimura (2003, p.34), this would influence the stock concentration in a reverse way, since, as higher the market value and the company's absolute value, the lower the probability and the possibility of a greater part of the control being withheld by one controlling shareholder.

Market Instability

The market instability exerts influence on the stock concentration due to the conflict of interests between managers and owners (SIQUEIRA, 1998, p.4). Thus, the conflict of interests would be lesser or bigger depending on the markets instability. The reduction of the degree of market instability (associated with changes of prices, technology and market-share) causes the reduction of the stock concentration, also being able to increase the managers' freedom for monitoring. According to Siqueira (1998, p.4),

> (...) the way of measuring this effect (...) can be some measure of instability of the economic-financial performance of the companies, such as a profitability index. A high variation of the profitability during a certain period could increase the conflict among managers and owners and could cause, therefore, a change in the ownership structure (...) the level of stock concentration tends to be high in markets with high instability, with the controllers remaining, also, ahead of the businesses.

Capital Structure

The capital structure affects positively or negatively the stock concentration. The hypothesis of Pedersen and Thomsen (1997), is that the increase of the relation equity/total assets, or in another way, the increase on equity be followed by the reduction of the companies' stock concentration, mainly due to the objective of sharing the controlling shareholders' risks. Siqueira (1998, p.11) presents that the capital structure of the companies can have "(...) a positive effect on the stock concentration, indicating that, the higher the specific investments in large scale plants, the greater should be the stock concentration of the shareholding control".

Type of the Controlling Shareholder

Literature presents a classification with five types of controlling shareholders being the most relevant: 1) the controlling individual or family; 2) the institutional investor (pension funds); 3) the financial institution (banks, insurance companies, etc); 4) the government; and 5) the groups of investors (corporate holdings, companies that withhold participation in other local or foreign companies, etc). The explanation for such classification is based on the fact that the effect of the controlling shareholder in the performance of the companies can vary in accordance with the type of controller.

"The companies controlled by other foreign companies frequently present technological advantages in the business and advantages proceeding from its connection to the matrix overseas, such as cash flow, guarantees and commercial and banking relations" (OKIMURA, 2003, p.31). In addition, sometimes the foreign companies possess legal advantages and incentives to be installed in the country. In another measure, the aspect of the controller being foreign and the headquarters being in another country leads to a greater difficulty in monitoring the management, in hypothesis. Companies in other countries, like in the U.S.A. and in the United Kingdom, presents a more dispersed ownership and thus, they tend to be dispersed in the countries where they invest.

La Porta *et al* (1999) argue that for many times the familiar control places the family interests above the interests of all the other shareholders, due to the predominant voting power and involvement with the management. Such condition leads to the implementation of politics and projects that benefit the family in detriment of the corporate performance. On the other hand, the presence of a controlling family leads to a better monitoring of the management, reducing the cost of agency associated with ownership and control.

According to Okimura (2003), the financial institutions tend to prefer the liquidity of its portfolios, getting a smaller part in the control and monitoring of the management. The government as a controller plays for many times a political role with few clear and indefinite objectives.

Consequences of Stock Concentration

Costs

The existence of controlling shareholders can have deleterious effect for a company due to the possibility of the interests of the controlling shareholders not being lined up with the interests of the others shareholders (SHLEIFER and VISHNY, 1997). Moreover, the concentration of rights on the cash flows clear the path, beyond the conduction of someone's own interests inside the company, such as the nomination and destitution of managers, for the impossibility of the company to suffer a hostile take over. The controlling shareholders can expropriate the wealth of the other shareholders in several ways: 1) payments of wages in excess for itself; 2) self-nomination for privileged executive positions and positions on the board for itself or for relatives (nepotism); 3) to pay or to receive high transfer prices for their own companies; 4) transfer of shares with discount or acts of inside trading; 5) the use of company's asset as a pledge to personal transactions or to borrow funds from the company with commercial advantages; 6) propensity to the practice of under-investment, because if the investments are not recovered the costs will be divided in equal parts with all the shareholders (JENSEN and MECKLING, 1976); and 7) allocation of resources in investment projects that reduce its risks and do not maximize the company's wealth. In accordance with Andrade and Rossetti (2004, p.126), the private benefits of control can lead investors to assure themselves of returns through mechanisms that confer them the corporate control. According to the authors, the most common are:

1. Issues of shares with limited voting rights (preferred shares);
2. Cross ownership of shares of two or more companies, making it difficult the loss of control;
3. Pyramidal structure, through *holdings* that, in turn, withhold the ownership of the target companies object of control.

Claessens *et al.* (2002) summarize the costs of the stock concentration as an entrenchment effect, when the company's ownership and votes' concentration takes place (Exhibit 1). In the entrenchment effect, the increase of the share of votes and of the company's ownership withheld by the controller, lets the same to be less dependant and subject to the decisions of the board of directors and of the mergers and acquisitions market, allowing the expropriation of wealth for the private benefit, while the costs would be shared among all the shareholders (OKIMURA, 2003, p.32)

Benefits

The most important advantages related to the stock concentration are linked to the possibility of the owners to monitor the management with the probable reduction of conflicts and costs of agency. Hitt, Ireland and Hoskisson (2002, p.411) observe that,

> In general, the *diffuse property* (a great number of shareholders with a small number of shares (*holdings*) and few, if existing, shareholders carrying big batches of shares) produces a weak monitoring of the management decisions. Among others problems, the diffuse property makes it difficult for the owners to coordinate its shares efficiently. A result of the weak monitoring could be a diversification of the company's product lines beyond the excellent level for the shareholders. Higher levels of monitoring could encourage the managers to prevent strategic decisions that do not create value anymore for the shareholders.

Okimura (2003, p.29) and Andrade and Rossetti (2004, p.126) point out that empirical evidences exist showing that the presence of controlling shareholders increase the monitoring benefits/costs relation, implying optimized solutions for the agency conflict issue.

La Porta *et al.* (1998 and 1999) argue that the existence of controlling shareholders is an attempt of minimizing the conflicts of agency in countries with investors' low legal and institutional protection. The main argument is that in low protection environments the only way of balancing the interests would be the existence of a controlling shareholder, what would show a signal of commitment to the external investors that the controlling shareholders would not deviate the company's assets.

> This signaling would be positive for external investors due to the fact that the valuation of the shares price is based on expectations of an *ex-post* expropriation by the controlling shareholders. If the controlling shareholders expropriate the company's cash flow, the external investors will appraise the shares with a discounting prize and consequently the controlling shareholders will have the value of its shares destroyed (OKIMURA, 2003, p.29).

Claessens *et al.* (2002) summarize the benefits of stock concentration as an alignment effect, when the company's ownership and stock concentration takes place (Exhibit 1). In the alignment effect as the amount of shares withheld by the controller increases, it increases the incentives for monitoring, at the same time as the expropriation costs also increase. At this point, the ownership of a great amount of shares brings the controller commitment of not devaluating the company's shares; therefore it would substantially reduce its wealth: such condition represents a high cost comparable to the private benefits of the minority expropriation.

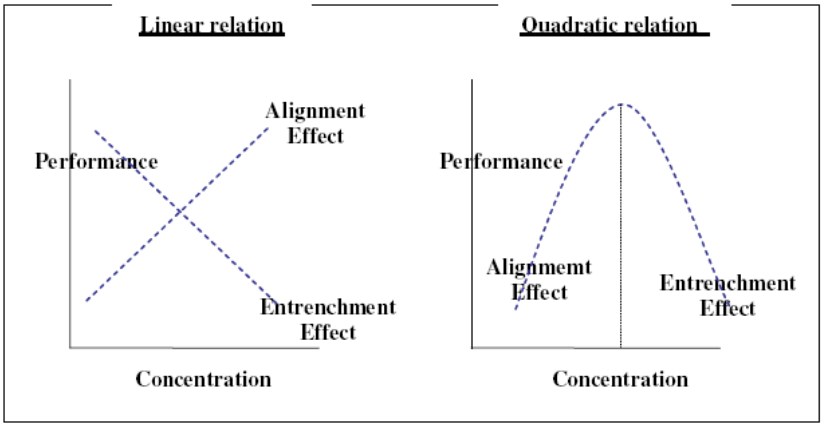

Exhibit 1. Entrenchment and Alignment Effect in the Level of Stock Concentration

Ownership Structure in Brazil

In Brazil, the ownership structure is predominantly concentrated, excessively contributing for the main conflict of agency existing in the country: between controlling and minority shareholders.

A survey realized with data from the years of 1990, 1995 and 1997 of the 100 largest non-financial companies based on its net operational revenue, in Brazil, taking into consideration Thomsen and Pedersen (1997) ownership classification, resulted that the ownership structure is concentrated and in the hands of families or foreign multinationals (SIFFERT FILHO, 1998). Due to this fact, the ownership structure presents itself as the main and most studied internal mechanism of corporate governance in Brazil.

The big changes that occurred in the Brazilian economy – the opening of the local economy and privatizations – implied in changes more in the identity of the controllers than in the level of concentration (SIFFERT FILHO, 1998). The privatization process in the nineties was probably the most significant event for the corporate governance in Brazil since the end of the industrialization phase. Exhibit 2 presents a summary of the studies that discuss these subjects.

Level of Concentration

Table 1 presents the results of significant samples of companies listed in the São Paulo Stock Exchange (BOVESPA), for the years of 1998 up to 2002, according to a survey carried through by Okimura, Silveira and Rocha (2004). Silveira (2002) finds

similar results for the period of 1998/2000 with data from the CVM (Brazilian Securities and Exchange Comission). The results of surveys with data from the beginning of the nineties and of the end of the century are not significantly different as to the presence of controlling shareholders (ANDRADE and ROSSETTI, 2004, p.315). According to Leal *et al.* (2000) and Carvalhal-da-Silva (2004) the companies' control is dominated on average by the three main shareholders: having kept, in accordance with Andrade and Rossetti (2004, p.315), a participation higher than 80% of the voting capital in most of the large companies.

Subjects	Empirical evidences and studies that discuss the subjects
Level of Concentration	Siqueira (1998), Valadares and Leal (2000), Leal *et al.* (2000), Carvalhal-da-Silva (2002), Saito (2002), Okimura (2003), Leal and Saito (2003), Carvalhal-da-Silva (2004), Silveira *et al.* (2004), Okimura, Silveira and Rocha (2004), Silveira, Barros and Fama (2004), Carvalhal-da-Silva and Leal (2005).
Identity of the Controllers	Siffert Filho (1998), Siqueira (1998), Rabelo and Silveira (1999), Rabelo and Coutinho (2001), Okimura (2003), Leal and Saito (2003), Carvalhal-da-Silva (2004), Okimura, Silveira and Rocha (2004)
Indirect Control	Leal *et al.* (2000), Valadares and Leal (2000), Rabelo and Coutinho (2001), Procianoy (2002), Carvalhal-da-Silva (2002), Leal and Saito (2003), Carvalhal-da-Silva (2004)

Exhibit 2. Recent subjects and studies on Ownership Structure

In accordance with Table 1, the common shares kept by the controlling shareholder (or group of control) reached 76.1% in the average of 1998/2002 in relation to the total voting shares issued. Adding the preferred shares to these ones that belong to the group of control, the relation with the total of shares issued falls to 53.7%, thus evidencing, a discrepancy between the right to the ownership and to the cash flow of the company. It is still observed in Table 1, that the concentration, not only of the common shares in relation to the total shares, but also of the common shares plus the preferred ones in relation to the total shares, has lightly increased in the analyzed period.

With the year 2000's data, Carvalhal-da-Silva (2004) evidenced that 90.2% of the companies researched possessed a main shareholder and only 9.8% presented more dispersed ownership structures, but still with dominant participation of the main shareholder (Table 2). In companies with main shareholders, the main shareholder withheld 76% of the voting capital; the three main shareholders, 88%; the five main shareholders, 89%. It is also made evident in Table 2, the high level of concentration in companies without a main shareholder: in these, the main shareholder withheld 37%; the three main shareholders, 62%; the five main shareholders, 66%.

Table 1. Level of Concentration of the Brazilian Companies

Years	Common shares of the controlling shareholder (or group of control) in relation to the total of common shares issued	Common and preferred shares of the controlling shareholder (or group of control) in relation to the total issued
1998	75.7%	52.0%
1999	75.5%	53.5%
2000	76.1%	54.0%
2001	77.3%	54.6%
2002	76.2%	54.6%
Average	76.1%	53.7%
Median	79.5%	51.5%
Standard Deviation	20.0%	24.6%

Source: Okimura, Silveira and Rocha (2004, p. 8) with adaptations.

Identity of the Controllers

Siffert Filho (1998) in a study undertaken with the 100 biggest non-financial companies in Brazil in the period of 1990/1997 evidenced: 1) the reduction in 45% of the number of state-owned companies, due to the privatization process; 2) a significant growth on the form of the dominant minority ownership control; 3) increasing participation of companies with foreign control and relative reduction of the familiar control; and 4) the dispersed and cooperative properties were not and continued not to be significant as a type of ownership structure in Brazil. Table 3 presents these observations and corroborates the author's conclusion, which affirms that the transformations evidenced during the period had contributed for a relative change of the shareholding control according to the studied typology, however the ownership structure continued concentrated.

Most recently, Okimura, Silveira and Rocha (2004) observe that the concentration possesses a dominant characteristic (Table 4): throughout the period of 1998/2002, the individual controllers or family groups represented almost half (47%) of the others owner's identities, followed by foreign private groups (23.3%). The participation of Banks, Financial Institutions (FI's) and Pension Funds remained relatively small in the period, thus observing, according to Andrade and Rossetti (2004, p.316), an asymmetry among the participation of the institutional investors and of the financial institutions in the

country's stock market and the retention of the companies' control, therefore, even so the banks and the pension funds in the period withheld, respectively, more than 50% and more than 15% of the total applications in the Brazilian stock market, its participation as controlling categories, were of 5.2% and 0.6%.

Table 2. Direct shareholding participation of the Brazilian's company in 2000

Shareholder	Companies with Main Shareholders (203)		Companies without Main Shareholders (22)		Sample's Total (225)	
	Voting Capital	Total Capital	Voting Capital	Total Capital	Voting Capital	Total Capital
Main	76%	54%	37%	23%	72%	51%
Three Main	88%	65%	62%	41%	85%	62%
Five Main	89%	65%	66%	44%	87%	63%

Note: Average direct shareholding participation of the 225 Brazilian companies listed in the São Paulo Stock Exchange. A company with a main shareholder is the one in which a shareholder possesses 50% or more of the voting capital. Number of companies in each group between brackets.

Source: Carvalhal-da-Silva (2004, p.353).

Table 3. Ownership of the 100 larger non-financial companies in Brazil – 1990, 1995 and 1997 (percentile in the participation of the total revenues of the 100 larger companies)

	Dispersed ownership	Dominant ownership	Familiar ownership	State ownership	Foreign ownership	Cooperatives
1990	0.4%	3.5%	22.6%	44.3%	26.9%	2.3%
1995	2.1%	7.9%	17.1%	32.8%	37.9%	2.1%
1997	1.8%	12.4%	16.5%	31.8%	37.2%	0.4%

Source: Siffert Filho (1998, p.13) with adaptations.

Carvalhal-da-Silva (2004) still analyzes the shareholding structure of the Brazilian companies by group of controllers. Table 5 presents the author's results confirming other surveys: the dominant categories of controllers are family groups (48%) and foreigners (27%). In accordance with the Table, on average, institutional investors possess 80% of the voting capital, while the foreigners, the government and the families possess, respectively, 79%, 75% and 73%. In relation to the total capital, the institutional investors, the foreigners, the government and the families possess, respectively, 66%, 62%, 57% and 46%.

Indirect control

According to Rabelo and Coutinho (2001, p.15), two mechanisms strengthen the main shareholders' control of the Brazilian companies: the use of pyramids and the possibility of issuing two types of shares (preferred and common). According to the authors, the use of pyramids in the ownership structures makes it possible to control some companies even with a small part of its total capital. Rabelo and Coutinho (2001, p.15) show that more than half of the companies in Brazil that have families as controlling shareholder uses pyramids in its ownership structures.

Table 4. Ratio of controllers of the companies in Brazil, according to identity (% over the total)

	Foreign Private	Local Private	Familiar or Individual	Banks or FI's	Pension fund
1998	28.4	18.0	47.9	0.5	5.2
1999	29.5	17.9	46.8	0.5	5.3
2000	27.5	19.2	46.2	0.5	6.6
2001	26.9	18.7	46.8	0.6	7.0
2002	27.3	18.8	48.1	0.6	5.2
Average	27.9	18.5	47.1	0.6	5.8

Source: Okimura, Silveira and Rocha (2004, p.8) with adaptations.

Table 5. Shareholding participation of the several controlling groups in 2000

		Firms		Direct participation (%)		Indirect participation (%)	
		Number	%	Voting Capital	Total Capital	Voting Capital	Total Capital
Total Sample		225	100	72	51	66	38
Firms With Controlling Shareholder	Family	108	48	73	46	86	31
	Government	16	7	75	57	77	51
	Foreign	60	27	79	62	74	56
	Institutional	19	8	80	66	84	33
	Total	203	90	76	54	69	40
Firms Without Controlling Shareholding		22	10	37	23	40	24

Note: The companies that possess a controlling shareholder had been classified according to the origin of the equity (foreign, state, familiar and institutional) and each one of the shareholding structure was analyzed.

Source: Carvalhal-da-Silva (2004, p.355).

In relation to the possibility of issuance of two types of shares, Rabelo and Coutinho (2001, p.16) cite four cases: families Setubal and Villela control Banco Itaú with only 8.5% of its total capital; family Moreira Salles does the same with Unibanco with 10.9% of the total capital; Odebrecht family uses pyramid and common and preferred shares to obtain the control of the petrochemical company Trikem with 10.7% of its total capital; and Gerdau S.A. is controlled with 8.3% of the total capital by the Gerdau family. The authors ponder that it is difficult to say which one of the instruments – two types of shares or pyramids – is more important for the corporate control in Brazil, the most reasonable would be to say that the combinations of the two instruments supply an efficient method for the main shareholders to guarantee the corporate control with a small percentage of the total capital (RABELO and COUTINHO, 2001, p.15-16).

However, the results of Carvalhal-da-Silva (2004) point out that the possibility of the issuance of two types of shares is more important than the pyramidal structure for the main shareholders to guarantee the corporate control. Table 2 shows that, in a company with only one main shareholder, this possesses an average of 76% of the votes, but only 54% of the total capital. Considering the entire sample, the five main shareholders possess 87% of the votes, but only 63% of the total capital. Table 6 presents the indirect structure of control and ownership of the Brazilian companies, in 2000, evidencing that, in the case of companies whose main shareholder possesses 50% of the voting capital directly, the indirect ownership is weaker.

In the direct form, the main shareholder possesses, on average, 76% of the voting capital and 54% of the total [Table 2], while indirectly the participations are, respectively, 69% and 40% [Table 6]. On the other hand, this reduction in the participation of the main shareholder does not occur in companies where a main shareholder does not exist. On the opposite, the data show a small increase in the capital invested for these cases. In the direct form, the main shareholder possesses, on average, 37% of the voting capital and 23% of the total [Table 2], while indirectly the participations are, respectively, 40% and 24% [Table 6]. This fact can indicate the use of pyramidal structures to keep the control with reduced investment in the company (CARVALHAL-DA-SILVA, 2004, p.354).

Table 6. Indirect shareholding participation of the Brazilian companies in 2000

Shareholder	Company With Main Shareholder (203)		Company Without Main Shareholder (22)		Total of the Sample (225)	
	Voting Capital	Total Capital	Voting Capital	Total Capital	Voting Capital	Total Capital
Main	69%	40%	40%	24%	66%	38%
Three Main	83%	51%	61%	39%	81%	50%
Five Main	85%	54%	64%	41%	83%	52%

Note: Average indirect shareholding participation of the 225 Brazilian companies listed in the São Paulo Stock Exchange. A company with a main shareholder is that one in which a shareholder possesses 50% or more of the voting capital. Number of companies of each group among brackets.

Source: Carvalhal-da-Silva (2004, p.354) with adaptations.

Thus, it is presented that the use of pyramidal structure does not seem to be an effort to prevent the rule "one share - one vote" in Brazilian companies. Although the Brazilian legislation accepts the possibility of having a direct control of the company with 17% of the total direct capital, it is not this that Table 6 shows: the main shareholder indirect participation in the total capital, when it keeps the control indirectly, is on average 43% and 16% when it does not keep the control; the participation in the voting capital is also higher than 50% in most part of the cases, even indirectly.

Table 7 shows the presence of shareholders agreements, pyramids structures and percentage of common shares in the total capital of the company per controlling group. According to Carvalhal-da-Silva (2004, p.354), these three mechanisms are closely connected to the ownership structure and control and with the possibility of expropriation of the minority stockholders, "since they can magnify the separation between the right to vote and the cash flow". It is evidenced in the table that most of the companies (86%) possess pyramidal structures, that tend to be less used in state-owned companies (63%) and more used in familiar (91%) and foreign companies (87%).

Table 7. Mechanisms of separation between control and ownership in Brazil (%)

		Companies with Shareholder Agreements	Companies with Pyramid	Common Shares in the Total Capital
Total sample		23	86	53
Firms with Controlling Shareholder	Family	27	91	49
	Government	6	63	64
	Foreign	28	87	56
	Institutional	21	79	51
	Total	23	86	53
Firms Without Controlling Shareholder		27	82	59

Note: The company that possesses a controlling interest had been classified according to the capital's origin (foreign, state, familiar and institutional) and it was analyzed the presence of three mechanisms of control and ownership separation: agreement of shareholders, pyramids and percentage of common shares in the total capital.

Source: Carvalhal-da-Silva (2004, p.355).

It is concluded, in accordance with the empirical evidences described, that despite the opening of the economy and the privatizations occurred in Brazil, in the nineties, had significantly changed the identity of the controllers, the ownership remains concentrated in the hands of family and foreign groups, being dominated on average by the three main shareholders. Another relevant aspect of the ownership structure refers to the fact that mechanisms such as the use of pyramids and the possibility of issuance of two types of shares (common and preferred) strengthen the degree of concentration in Brazil.

Research Methodology
Variable Definition
3.2.1 Ownership Structure and Control

In accordance with Okimura (2003, p.44), there is not yet in the academic literature a consensus about the choice of measures of ownership structure and control for the analysis of the companies' value and performance. The choice of the appropriate measure, in accordance with the author, depends on the availability of data and its adequacy to the applicability of the study.

According to Okimura, Silveira and Rocha (2004, p.3), the researches that aim at analyzing the impact of the stock concentration tend to use the Herfindahl index (HCON), that is, the sum of the main shareholders participation in the company's voting shares (usually the 5 main). Demsetz and Lehn (1985, p.1163) and Demsetz and Vilalonga (2001, p.218) suggest a logistic transformation of this measure in order to convert discrete values into continuous ones. The authors, who study the ownership concentration in developing countries, as do Okimura (2003), Okimura, Silveira and Rocha (2004) and Siqueira (1998), in Brazil, tend to directly use only the main shareholding stock concentration as a percentile.

In this research, further than this variable, other three were defined:

- Voting concentration or right of control concentration (CON), defined in accordance with equation 1:

$$CON = \frac{P_i}{P} \times 100 \quad [1]$$

Where, P_i is the number of common shares of a company i belonging to the main shareholder and, P represents the total amount of common shares of the considered company.

- Voting concentration or right of control concentration of the three main shareholders (CON3), defined in accordance with equation 2:

$$CON3 = \sum_{i=1}^{3}\left(\frac{P_i}{P}\times 100\right) \quad [2]$$

Where, P_i and P are defined as in variable CON.
An observation about this variable is important since the study consider only the three main shareholders instead of five as it is most commonly used (OKIMURA, 2003, p.44). The fact of considering only the three main shareholders is justified therefore Carvalhal-da-Silva (2004, p.353) and Leal *et al.* (2000, p.6) emphasize that the Brazilian companies are controlled, on average, by its three main shareholders, being that in the research carried through by the authors above cited average participations of 85% and 79% of the three main shareholders were found, respectively.

- Herfindahl Index of the sum of the parcel of common shares withheld by the three main shareholders (HCON), defined in accordance with equation 3:

$$HCON = \sum_{i=1}^{3}\left(\frac{P_i}{P}\times 100\right)^2 \quad [3]$$

Where, P_i and P are defined as in variable CON.
This index has the advantage of giving more weight to the companies who possess higher concentration. The value of HCON is maximized when the participation of one only shareholder represents 100% of the ownership of the company and in these terms HCON = 10,000. When the shareholders have egalitarian participation, the index assume the lesser value, HCON = 10,000/n (n=3).

- Entropy Coefficient of the participation of the company's three main shareholders (CE), defined in accordance with equation 4:

$$CE = \sum_{i=1}^{3} P_i \times \log\frac{1}{P_i} \quad [4]$$

Where, P_i is defined as in variable CON.
When there is only one shareholder, CE = 0; when all the shareholders present equal participation in the company's ownership, the entropy is maximized and CE = log N. In this study the value of CE is maximized when CE = log 3 ≅ 0.47712.

Further to these control and ownership variables, it was also considered the kind of controlling shareholder, defined as:

- Type of controlling shareholder (TCON), as considered by Siqueira (1998). This variable assumes the dichotomy form (*dummy*) being that:
  - TCON = 0, if the company is controlled by foreign groups; and
  - TCON = 1, if the company is controlled by Brazilian individuals or groups.

Performance and Company Value

The metrics used to assess the companies' financial performance are not yet unanimous in the academy. Amongst those that are most adopted, in accordance with Barney (1997), four categories can be highlighted: a) the survival (as a cash flow measure); b) the accounting indexes of performance; c) the measures of value creation for the *stakeholders* and; d) the measures of net present value. In the research, it was considered one of each measure of groups b and c.

As a performance measure by accounting indexes (related with the ownership structure) it was used, as did Demsetz and Lehn (1985) and Siqueira (1998), the equity profitability (RPL) defined in accordance with equation 5:

$$RPL_i = \frac{LL_i}{PL_i} \quad [5]$$

Where, LL_i is the net profit of company *i* and PL_i express the accounting value of the equity of company i.

As a measure of value creation for the shareholders it was prioritized the Tobin's q ratio (Q), as defined in accordance with equation 6:

$$Q = \left(\frac{VMO + VMAP + DIVT}{AT}\right) \quad [6]$$

Where, VMO = market value of the common shares; VMAP = market value of the preferred shares; DIVT = short and long term debt accounting value less current assets, after the exclusion of the supplies value; and AT = accounting value of the total assets.

This measure is defined by Chung and Pruit (1994, p.72) and discussed by Famá and Barros (2000) as an approach of what was initially considered by Tobin and Brainard (1968) *apud* Okimura (2003, p.47).

The essence of this equation is that the replacement costs are a reasonable measure for the values of alternative uses of the assets; therefore the companies' value by this index is defined as the ratio between the market value of the shares and debts by the replacement cost of the assets (OKIMURA, 2003, p.47).

Some recent empirical studies that relate the ownership structure and control with the performance of the companies in the world and in Brazil use the Tobin's q, such as: Demsetz and Vilalonga (2001), Leal *et al.* (2000), Okimura (2003), Carvalhal-da-Silva (2004), Okimura, Silveira and Rocha (2004), Silveira (2004), Silveira *et al.* (2004), Carvalhal-da-Silva and Leal (2005), and Silveira, Barros and Famá (2005).

Other variables

The size of the firm

The company size is defined as the nominal accounting value of the total assets (AT) as used by Demsetz and Lehn (1985), Pedersen and Thomsen (1997), Demsetz and Vilalonga (2001) and Siqueira (1998). Demsetz and Lehn (1985), Pedersen and Thomsen (1997) and Demsetz and Vilalonga (2001) identified a negative effect of the size of the firm on the level of concentration of the shareholding control, that is, according to both studies the increase of the size of the firm provides a greater dispersion of the shareholding control. However, for Brazil, Siqueira (1998) found a positive relation between the company size and level of concentration of the shareholding control.

The instability in the profitability

It was used as a *proxy* of the instability in the profitability, the standard deviation of the equity profitability (INST) for the period in analysis. This *proxy* was also used by Demsetz and Lehn (1985), Pedersen and Thomsen (1997), Demsetz and Vilalonga (2001) and Siqueira (1998). In Brazil, Siqueira (1998) did not find a significant statistical relation between this variable and the concentration of the shareholding control diversely from the results found by Demsetz and Lehn (1985) and Pedersen and Thomsen (1997), which identified a positive correlation between the instability in the profitability and the ownership concentration, that is, the increase of the instability generates an increase on the concentration of the ownership control.

Capital Structure

This variable is used in the models developed by Siqueira (1998) for the Brazilian economy. The capital structure (ESTCAP) is defined in accordance with equation 7:

$$\text{ESTCAP} = \frac{\text{PL}_i}{\text{AT}_i} \qquad [7]$$

Where, PL = accounting value of the equity of a company i; and AT = accounting value of the total assets of a company i.

Demsetz and Vilalonga (2001), Okimura (2003), Okimura, Silveira and Rocha (2004), Silveira (2004) and Silveira, Barros and Famá (2005) make use of this control variable to study the relations between performance and governance structures, however, consider as *proxy* the value of the debts over the total asset (leverage) what it is equivalent approximately, to one less variable ESTCAP considered by Siqueira (1998) and herein prioritized.

Net revenue

This control variable is defined as the average growth rate of the net revenue for the considered period, in nominal Real (equation 8):

$$\text{CRL} = \frac{\text{Vendas}_{i+1} - \text{Vendas}_i}{\text{Vendas}_i} \qquad [8]$$

Capital intensity

The *proxy* of the capital intensity (INTCAP) as a control variable is included in the agreement research as in Demsetz and Vilalonga (2001) and Siqueira (1998), being that this one is measured in equation 9:

$$\text{INTCAP} = \frac{\text{AT}_i}{\text{RL}_i} \qquad [9]$$

Where, RL = value of the net revenue of a company i; and AT = accounting value of the total assets of a company i.

Market regulation

Demsetz and Lehn (1985) and Siqueira (1998) identified that utility companies (UTIL) presented strong statistical significance in relation to the concentration of the shareholding control. The first authors found a negative relation while Siqueira (1998) found a positive relation for these two variables in Brazil. The UTIL variable in the research assumes the dichotomy form in which utility companies = 1 and the other companies = 0. The public utility companies in the research comprise those of the telecommunications, energy and gas sector.

Sampling and Data Collection

In May 2001, there were 459 companies listed in the São Paulo's Stock Exchange (BOVESPA), 289 had data available in the Economática®'s data base. For the development of the study, it were considered all the public non-financial companies with stocks negotiated in the São Paulo Stock Exchange, with available data for, at least three of the five studied years (1997 until 2001), resulting in a total of 176 companies. The non use of the data of the financial companies comes from the fact that these companies present a bias historically evidenced of better performance in comparison to the non-financial companies.

For the variables of ownership structure and performance and the other *dummy* variables, it were considered its positions in the last year of study as the methodology developed by Demsetz and Lehn (1985) and Siqueira (1998). That is, variables CON, CON3, HCON, CE, TCON and UTIL assumed the value of the year 2001. Also as proposed by Demsetz and Lehn (1985) and Siqueira (1998), for the other variables: RPL, Q, AT, INST, ESTCAP, CRL and INTCAP; it were considered the average of the available observations for the period of 1997 until 2001.

Modeling and Statistical Method Adopted

This study aims at answering the issues referring to the determinants of the level of concentration of the shareholding control of the non-financial public companies negotiated in the SÃO PAULO STOCK EXCHANGE and its respective impacts on the companies' financial performance and value. Considering dependant the performance variables one searches to verify if the same ones suffer a linear and/or quadratic influence from the concentration of the shareholding control (entrenchment and/or alignment effect). Thus, the empirical models to be estimated can be written in the form of equation 10 and alternatively in the form of equation 11:

$$Y_i = \beta_1 X_i + \beta_2 UTIL + \beta_3 AT_i + \beta_4 ESTCAP_i + \beta_5 INST_i + \beta_6 CRL_i + \beta_7 INTCAP_i + \beta_8 TCON_i \quad [10]$$

Where, Y_i = performance variables of: RPL and Q; and X_i = ownership structure variables: CON, CON3, HCON and CE.

$$Y_i = \beta_1 X_i + \beta_2 X^2_i + \beta_3 UTIL + \beta_4 AT_i + \beta_5 ESTCAP_i + \beta_6 INST_i + \beta_7 CRL_i + \beta_8 INTCAP_i + \beta_9 TCON_i \quad [11]$$

The coefficients' expected signs are in accordance with the literature review expressed in sections 2.1 and 2.2. In this stage 16 models will be estimated (MOD1 to MOD16): one for each dependant variable (RPL and Q) and for each ownership structure variable (CON, CON3, HCON and CE) in accordance with equation 10 – in the total of 8 models; and one for each dependant variable (RPL and Q) and for each ownership structure variable (CON, CON3, HCON and CE) in accordance with equation 11 – in the total of 8 models.

Later the determinants of the ownership structure will be analyzed in such way that, at this moment, the variables of the shareholding control concentration will be considered as dependants. Schematically, it derives to equation 12:

$$X_i = \beta_1 UTIL + \beta_2 AT_i + \beta_3 ESTCAP_i + \beta_4 INST_i + \beta_5 TCON_i \quad [12]$$

Where, X_i = are the ownership structure variables CON, CON3, HCON and CE.

It is important to notice that it will be enclosed in the determinant analysis models of the ownership structure, only the variables identified in the literature as its main influent (DEMSETZ and LEHN; PEDERSEN and THOMSEN, 1997; SIQUEIRA, 1998). The coefficients expected signs are in accordance with the literature review expressed in section 2.1 and 2.2. In this stage, 4 models will be estimated (MOD17 to MOD20): one for each dependant variable (CON, CON3, HCON and CE).

For the valuation of all the models, the interval variables (except for the *dummy* variables) will be standardized, as in equation 13, in such a way that:

$$\frac{X_j - \bar{X}}{S_X} \quad [13]$$

Where, X_j = research interval variable j (section 3.2); $\bar{X}$ = average of the interval variable j; and= S_X standard deviation of the interval variable j.

The idea behind the standardization of the variables is to have the estimated coefficients (β_i) describing the relative importance of the explanatory variables in a multiple regression model. In other words, "the standardized coefficient adjusts the estimated parameter that represents the inclination by the ratio between the standard deviation of the explanatory variable and of the dependant variable" (PINDYCK and RUBINFELD, 2004, p.111). Thus, a standardized coefficient of any interval variable in equations 10 to 12 of 0.7 means that a change of 1 in the standard deviation of the explanatory variable will lead to a change of 0.7 in the standard deviation of the dependant variable. This procedure makes it possible to compare the importance of the explanatory variables in the determination of the dependant variables, mainly for the models developed in equation 3.13 where the objective is to analyze the main determinants of the ownership structure. With the variables standardization the angular coefficients in equations 10 to 12 are equal to zero.

All the models will be estimated by the method of the Ordinary Least Squares (OLS) in such a way that, the validity of the inferences will be evaluated by its adherence to the presumed normality and heteroscedasticity. As the existence of heteroscedasticity is *a priori* suspected, the models will be estimated with standard errors consistent with the heteroscedasticity according to White (1980).

Results of the Research
Descriptive analysis of the data

Ownership Structure of the non-financial companies

Much though in the development of the models it has been taken the position of each variable of the ownership structure and control in the year of 2001, these data had been described with the objective of identifying the average profile of the public non-financial companies based on the sample collected in each year of the study.

In Table 8 it can be observed that the average concentration of votes of the controlling shareholders is high in the non-financial Brazilian companies, presenting a general average of approximately 60%. The three main shareholders (CON3) on average possess approximately 81% of the votes, confirming the findings of Leal *et al.* (2000) and Carvalhal-da-Silva (2004) that affirm that in general the Brazilian public companies are controlled by the three main shareholders. The analysis of the evolution of the

numbers throughout the years, as well as in Okimura (2003), shows a weak increase of the level of concentration of votes of the main shareholder and the three main ones, going from respectively, of 55.36% in 1997 to 62.24% in 2001, and 79.36% in 1997 to 82.61% in 2001.

Table 8. Ownership Structure of the non-financial companies 1997 to 2001

	Year	Variables	
		CON (%)	CON3 (%)
Average	1997	55.36	79.36
	1998	57.63	79.71
	1999	60.71	81.85
	2000	60.90	82.13
	2001	62.24	82.61
General Sample	Average	59.48	81.18
	Median	59.95	84.90
	Standard Deviation	26.23	18.60

Financial performance and value of the non-financial companies

The data relative to the variables of Tobin's Q value and financial performance, measured for the RPL, are summarized in Table 9. As it can be observed, on average the Brazilian non-financial companies have destroyed value or invested in projects that do not maximize the value for the shareholders throughout the analyzed period – at least in the perception of the market. This finding is also shared by Okimura (2003). In the general, the Q variable presented an average of 0.34 for the analyzed period, substantially lower to 1. The financial performance variable comes to prove the value reduction suffered by the companies in the period analyzed, once the variable RPL presented on average a negative value of 10.8%. It is also noticed, for the variable RPL, the great variability of financial performance among the companies, fact evidenced by the high standard deviation of 62.7%. Another important factor, as it can be noticed not only for the Q variable, but also for the RPL variable, the companies performance improved from 1997 to 2001, showing ascending evolution in the values of the two variables.

Table 9. Financial performance and value of the non-financial companies 1997 to 2001

	Year	Variables	
		Q	RPL
Average	1997	0.29	-17.37
	1998	0.27	-14.07
	1999	0.40	-13.51
	2000	0.36	-3.19
	2001	0.37	-6.26
General Sample	Average	0.34	-10.80
	Median	0.32	2.70
	Standard Deviation	0.36	62.71

Other variables of the non-financial companies

Table 10 presents the other variables considered in the study, except variables UTIL and TCON. These variables had shown constant ratio in the analyzed period, in general approximately 5% of the sample were composed of public utility companies: telecommunications, energy and gas (UTIL=1); and in about 6.5% of the sample the type of control was of foreign capital (TCON=0).

Table 10. Other variables of the non-financial companies 1997-2001

	Year	Variables				
		AT (R$000)	ESTCAP	CRL (%)	INTCAP	INST
Average	1997	1,438,900	0.45	9.02	1.23	-
	1998	1,393,086	0.44	0.29	2.67	-
	1999	1,540,878	0.40	17.69	4.18	-
	2000	1,776,069	0.40	17.01	7.63	-
	2001	1,982,239	0.40	11.63	7.85	-
General Sample	Average	1,633,347	0.42	11.29	4.82	30.36
	Median	360,396	0.41	10.50	0.88	11.40
	Standard Deviation	5,002,028	0.23	32.68	41.90	47.54

In relation to the data described on Table 10, it becomes necessary to emphasize some evidences: a) the high variability and asymmetry of the size of the companies – coefficient of variation of 306.24% (5,002,028 ÷ 1,633,347 x 100) and median substantially far from the average for the variable AT; b) capital structure (ESTCAP) relatively constant throughout the years, with an average of 42% of equity in relation to the asset; c) lack of trend in the growth of the net revenue (CRL) throughout the years and high variability – coefficient of 289.45% variation (32.68 ÷ 11.29 x 100); d) substantial increase of the capital intensity throughout the years with high variability and asymmetry – going from 1.23 in 1997 to 7.85 in 2001 with a coefficient of variation of 869.29% (41.90 ÷ 4.82 x 100), and substantial distance from the median in relation to the average, and e) the variable profitability instability (INST) measured by the standard deviation of the equity profitability (RPL), presents an average of 30.36% and standard deviation of 47.54, indicating a significant instability of the variable RPL in the period analyzed.

Analysis of the Models

Relation among financial performance and value of the companies with the property structure

All the models for the analysis were estimated by OLS with standard deviation consistent with the heteroscedasticity in accordance with White (1980),

mainly due to the presence of heteroscedasticity in the residues. As the samples in all the models are big enough the Central Limit Theorem is used and it is inferred, through Test *t* and *F*, the individual and joint significance of the estimated coefficients. Table 11 to 14 present the developed models in accordance with equation 10 (linear relation) using each one of the performance variables alternatively (Q and RPL) as dependant variables and of ownership structure (CON, CON3, HCON and CE) as independent variables. In total 8 models for the equation 10 had been estimated (MOD1 to MOD8).

Table 11. Models 1 and 2 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CON	-0.0722	0.0475	-1.5189	0.1307
		UTIL	-0.2124	0.1205	-1.7617	0.0800
MOD1		AT	0.0690	0.0262	2.6345	0.0092
		ESTCAP	0.2495	0.1287	1.9391	0.0542
N = 169		INST	-0.2688	0.3524	-0.7627	0.4467
$R^2 = 0.309$		CRL	0.2775	0.1275	2.1756	0.0310
F = 13.74		INTCAP	0.0535	0.0592	0.9040	0.3673
		TCON	0.0066	0.0725	0.0917	0.9271
	Q	CON	0.0832	0.0616	1.3512	0.1786
		UTIL	1.0113	0.3258	3.1036	0.0023
MOD2		AT	0.1996	0.0523	3.8196	0.0002
		ESTCAP	-0.3301	0.0702	-4.7057	0.0000
N = 164		INST	0.2347	0.0818	2.8680	0.0047
$R^2 = 0.314$		CRL	-0.0771	0.0938	-0.8215	0.4126
F = 10.34		INTCAP	-0.0190	0.0638	-0.2980	0.7661
		TCON	-0.0585	0.0713	-0.8205	0.4132

Table 12. Models 3 and 4 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CON3	-0.0342	0.0390	-0.8788	0.3808
		UTIL	-0.2314	0.1211	-1.9114	0.0577
MOD3		AT	0.0715	0.0294	2.4321	0.0161
		ESTCAP	0.2512	0.1289	1.9485	0.0531
N = 169		INST	-0.2767	0.3536	-0.7826	0.4350
$R^2 = 0.305$		CRL	0.2764	0.1280	2.1595	0.0323
F = 12.86		INTCAP	0.0518	0.0584	0.8883	0.3757
		TCON	0.0087	0.0720	0.1205	0.9042
	Q	CON3	0.0720	0.0585	1.2302	0.2205
		UTIL	1.0118	0.3158	3.2040	0.0016
MOD4		AT	0.2025	0.0515	3.9333	0.0001
		ESTCAP	-0.3330	0.0719	-4.6325	0.0000
N = 164		INST	0.2399	0.0807	2.9733	0.0034
$R^2 = 0.312$		CRL	-0.0747	0.0931	-0.8027	0.4234
F = 10.33		INTCAP	-0.0193	0.0636	-0.3030	0.7623
		TCON	-0.0600	0.0716	-0.8387	0.4029

In general, models MOD1 to MOD8 shown: a) coefficients jointly significant: in all models the statistics *F* is significant at 1%; b) the coefficient of determination (R^2) around 0.30: there were no meaningful differences among the different ownership structure variables in explaining the variables Q and RPL; c) individual coefficients of all ownership structure variables equal to zero at 10% significance

level. Specifically, in relation to the models of the RPL dependant variable it was obtained: a) negative and significant effect of the UTIL variable at a 10% level; b) positive and significant effect of the AT variable at a 5% level; c) positive and significant influence of the ESTCAP variable at a 10% level; and d) positive significance of the variable CRL at a 5% level. In relation to the models of the Q dependant variable, the variables UTIL, AT, ESTCAP and INST presented significance at a 1% level. It is also important to notice the contrary signs of the variables UTIL and ESTCAP in the models of the different performance variables: in the models where RPL is the dependant variable, UTIL is negative and ESTCAP is positive; in the models where Q is the dependant variable, UTIL is positive and ESTCAP is negative.

Tables 15 to 18 present the models developed in accordance with equation 11 (quadratic relation) using alternatively each one of the performance variables (Q and RPL) as dependant variables and of ownership structure (CON, CON3, HCON and CE) as independent variables. In total 8 models had been all estimated (MOD9 to MOD16).

Table 13. Models 5 and 6 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	HCON	-0.0595	0.0515	-1.1539	0.2502
		UTIL	-0.2188	0.1233	-1.7750	0.0778
MOD5		AT	0.0683	0.0279	2.4455	0.0155
		ESTCAP	0.2479	0.1291	1.9208	0.0565
N = 169		INST	-0.2718	0.3521	-0.7720	0.4412
$R^2 = 0.307$		CRL	0.2765	0.1279	2.1622	0.0321
F = 13.61		INTCAP	0.0517	0.0586	0.8829	0.3786
		TCON	0.0074	0.0726	0.1017	0.9192
	Q	HCON	0.1019	0.0625	1.6289	0.1054
		UTIL	0.9986	0.3288	3.0366	0.0028
MOD6		AT	0.2054	0.0535	3.8382	0.0002
		ESTCAP	-0.3271	0.0698	-4.6876	0.0000
N = 164		INST	0.2329	0.0823	2.8301	0.0053
$R^2 = 0.317$		CRL	-0.0762	0.0929	-0.8201	0.4134
F = 10.33		INTCAP	-0.0185	0.0633	-0.2920	0.7707
		TCON	-0.0567	0.0709	-0.7999	0.4250

Table 14. Models 7 and 8 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CE	0.0513	0.0560	0.9166	0.3607
		UTIL	-0.2342	0.1190	-1.9684	0.0507
MOD7		AT	0.0740	0.0268	2.7606	0.0064
		ESTCAP	0.2461	0.1297	1.8978	0.0595
N = 169		INST	-0.2738	0.3516	-0.7786	0.4374
$R^2 = 0.306$		CRL	0.2774	0.1278	2.1698	0.0315
F = 13.73		INTCAP	0.0494	0.0584	0.8466	0.3985
		TCON	0.0087	0.0726	0.1205	0.9042
	Q	CE	-0.0718	0.0653	-1.0993	0.2733
		UTIL	1.0306	0.3317	3.1072	0.0022
MOD8		AT	0.1946	0.0523	3.7200	0.0003
		ESTCAP	-0.3241	0.0696	-4.6530	0.0000
N = 164		INST	0.2387	0.0824	2.8981	0.0043
$R^2 = 0.312$		CRL	-0.0773	0.0935	-0.8269	0.4095
F = 10.50		INTCAP	-0.0144	0.0642	-0.2240	0.8230
		TCON	-0.0599	0.0714	-0.8392	0.4026

In general, models MOD9 to MOD16 shown: a) jointly significant coefficients: in all the models *F* statistics is significant at 1%; b) coefficient of determination (R^2) around 0.30: there were no meaningful differences among the different ownership structure variables (and the square ownership structure) in explaining Q and RPL variables; c) joint coefficient of all ownership structure and square ownership structure variables statistically equal to zero at 10% significance level.

Table 15. Models 9 and 10 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CON	-0.0701	0.0497	-1.4117	0.1600
		CON2	0.0235	0.0650	0.3619	0.7179
MOD9		UTIL	-0.2138	0.1242	-1.7218	0.0870
		AT	0.0717	0.0298	2.4053	0.0173
		ESTCAP	0.2529	0.1339	1.8886	0.0608
N = 169		INST	-0.2677	0.3542	-0.7557	0.4509
$R^2 = 0.309$		CRL	0.2778	0.1282	2.1665	0.0318
F = 12.26		INTCAP	0.0558	0.0620	0.8993	0.3698
		TCON	-0.0171	0.0891	-0.1921	0.8479
	Q	CON	0.0909	0.0624	1.4577	0.1469
		CON2	0.0780	0.0629	1.2399	0.2169
MOD10		UTIL	1.0045	0.3345	3.0034	0.0031
		AT	0.2082	0.0538	3.8729	0.0002
		ESTCAP	-0.3176	0.0704	-4.5147	0.0000
N = 164		INST	0.2383	0.0841	2.8324	0.0052
$R^2 = 0.319$		CRL	-0.0773	0.0927	-0.8339	0.4056
F = 9.39		INTCAP	-0.0120	0.0618	-0.1950	0.8457
		TCON	-0.1351	0.0999	-1.3519	0.1784

Table 16. Models 11 and 12 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CON3	-0.0123	0.0708	-0.1731	0.8628
		CON32	0.0192	0.0398	0.4825	0.6301
MOD11		UTIL	-0.2351	0.1238	-1.8990	0.0594
		AT	0.0739	0.0321	2.3044	0.0225
		ESTCAP	0.2534	0.1306	1.9406	0.0541
N = 169		INST	-0.2764	0.3545	-0.7797	0.4367
$R^2 = 0.305$		CRL	0.2787	0.1299	2.1459	0.0334
F = 11.27		INTCAP	0.0531	0.0584	0.9091	0.3647
		TCON	-0.0106	0.0869	-0.1221	0.9029
	Q	CON3	0.1025	0.0913	1.1226	0.2633
		CON32	0.0261	0.0473	0.5504	0.5828
MOD12		UTIL	1.0066	0.3140	3.2053	0.0016
		AT	0.2058	0.0530	3.8811	0.0002
		ESTCAP	-0.3304	0.0717	-4.6113	0.0000
N = 164		INST	0.2403	0.0814	2.9525	0.0036
$R^2 = 0.313$		CRL	-0.0717	0.0936	-0.7661	0.4448
F = 9.16		INTCAP	-0.0177	0.0626	-0.2819	0.7784
		TCON	-0.0861	0.0944	-0.9122	0.3631

Specifically, in relation to the models of the Q dependant variable, it were reached the same findings of the equation 10 models: a) the negative and significant effect of the UTIL variable at a 10% level; b) positive and significant effect of the AT variable at a 5% level; c) positive and significant influence of the ESTCAP variable at a 10% level; and d) positive significance of the CRL variable at a 5% level. Also in relation to the Q dependant variable models, the UTIL, AT, ESTCAP and INST variables had presented significance at a 1% level. The contrary signs of the UTIL and ESTCAP variables in the models of the different performance variable are outstanding: in the models where RPL is the dependant variable, the UTIL is negative and the ESTCAP is positive; in the models where Q is the dependant variable, UTIL is positive and ESTCAP is negative.

Table 17. Models 13 and 14 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	HCON	-0.0577	0.0466	-1.2384	0.2174
		HCON2	-0.0049	0.0694	-0.0702	0.9441
MOD13		UTIL	-0.2201	0.1170	-1.8811	0.0618
		AT	0.0682	0.0286	2.3805	0.0185
		ESTCAP	0.2476	0.1323	1.8712	0.0631
N = 169		INST	-0.2722	0.3558	-0.7650	0.4454
$R^2 = 0.307$		CRL	0.2764	0.1293	2.1375	0.0341
F = 12.06		INTCAP	0.0511	0.0627	0.8151	0.4162
		TCON	0.0124	0.0935	0.1330	0.8944
	Q	HCON	0.0685	0.0645	1.0633	0.2893
		HCON2	0.0984	0.0657	1.4984	0.1361
MOD14		UTIL	1.0217	0.3377	3.0255	0.0029
		AT	0.2074	0.0527	3.9353	0.0001
		ESTCAP	-0.3180	0.0706	-4.5020	0.0000
N = 164		INST	0.2399	0.0850	2.8233	0.0054
$R^2 = 0.324$		CRL	-0.0751	0.0912	-0.8236	0.4114
F = 9.61		INTCAP	-0.0069	0.0608	-0.1143	0.9092
		TCON	-0.1560	0.1004	-1.5527	0.1225

Table 18. Models 15 and 16 Equation

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	RPL	CE	0.0625	0.0550	1.1365	0.2574
		CE^2	0.0290	0.0700	0.4144	0.6791
MOD15		UTIL	-0.2376	0.1234	-1.9258	0.0559
		AT	0.0755	0.0274	2.7522	0.0066
		ESTCAP	0.2474	0.1306	1.8938	0.0601
N = 169		INST	-0.2741	0.3521	-0.7785	0.4374
$R^2 = 0.307$		CRL	0.2770	0.1278	2.1679	0.0316
F = 13.13		INTCAP	0.0524	0.0610	0.8591	0.3916
		TCON	-0.0201	0.0951	-0.2109	0.8332
	Q	CE	-0.0432	0.0716	-0.6029	0.5475
		CE^2	0.0783	0.0803	0.9745	0.3313
MOD16		UTIL	1.0206	0.3418	2.9860	0.0033
		AT	0.1988	0.0520	3.8199	0.0002
		ESTCAP	-0.3204	0.0711	-4.5052	0.0000
N = 164		INST	0.2376	0.0847	2.8072	0.0056
$R^2 = 0.316$		CRL	-0.0791	0.0924	-0.8562	0.3932
F = 9.27		INTCAP	-0.0065	0.0634	-0.1024	0.9186
		TCON	-0.1365	0.1058	-1.2899	0.1990

Determinants of the ownership structure of the non-financial companies

Table 19 presents the models developed in accordance with equation 12, which aims at identifying the determinants of the ownership structure of capital of the non-financial public companies in Brazil: for each ownership structure variable a model was estimated, being a total of 4 models (MOD17 to MOD20).

Analyzing the level of adjustment of the equation 12 models: a) coefficients jointly significant at a 5% level, for the *F* statistics, in models MOD17, MOD18 and MOD19 and joint non significance of the coefficient at a level of 10% in model MOD20; b) coefficients of determination (R^2) low in all the models (around 0.05); c) non significance in all the models for the variables ESTCAP and TCON.

Table 19. Models 17 to 20 Equations

Model	Variable		Coefficient	Standard Deviation	T-Statistics	p-value
	Dependant	Independent				
	CON	UTIL	0.5684	0.2756	2.0627	0.0407
MOD17		AT	-0.0956	0.0633	-1.5116	0.1325
N = 171		ESTCAP	-0.0080	0.0781	-0.1030	0.9181
$R^2 = 0.047$		INST	0.1658	0.0593	2.7960	0.0058
F = 2.97		TCON	-0.0507	0.0819	-0.6184	0.5371
	CON3	UTIL	0.6607	0.1594	4.1461	0.0001
MOD18		AT	-0.1534	0.0313	-4.9024	0.0000
N = 171		ESTCAP	0.0221	0.0703	0.3148	0.7533
$R^2 = 0.050$		INST	0.1243	0.0510	2.4379	0.0158
F = 8.43		TCON	-0.0609	0.0840	-0.7247	0.4696
	HCON	UTIL	0.5712	0.2666	2.1426	0.0336
MOD19		AT	-0.1319	0.0629	-2.0979	0.0374
N = 171		ESTCAP	-0.0328	0.0785	-0.4178	0.6766
$R^2 = 0.055$		INST	0.1564	0.0593	2.6364	0.0092
F = 3.37		TCON	-0.0506	0.0818	-0.6184	0.5371
	CE	UTIL	-0.3727	0.3679	-1.0130	0.3125
MOD20		AT	0.0475	0.0894	0.5315	0.5958
N = 171		ESTCAP	0.0744	0.0815	0.9136	0.3623
$R^2 = 0.040$		INST	-0.1447	0.0709	-2.0422	0.0427
F = 1.77		TCON	0.0346	0.0809	0.4281	0.6692

Final Aspects

In countries with high stock concentration and with little developed stock market as in Latin America and special in Brazil, one of the corporate governance main issues is the conflict of agency existing between minority and main shareholders. Several empirical studies state that a higher concentration of the rights to vote by the controlling shareholders would be associated with a higher expropriation of the minority stockholders and thus lower value and performance of the companies (entrenchment effect).

On the other hand, the stock concentration can be connected to the possibility of the owners to monitor the management with a probable reduction of the conflicts and costs of agency. Existing empirical evidences had shown that the presence of controlling shareholders increases the relation benefits/costs of the monitoring, implying optimized solutions for the agency conflicts issue and increasing the companies' value and performance (alignment effect).

Moreover, the literature also worries, beyond searching evidences for the consequences of the stock concentration on the companies' value and performance, to know the causes of the stock concentration. Several researches since the eighties, considering European, North American and Asian companies, have been testing the hypotheses that forces such as the level of regulation of the sectors, the size of the firm, the instability of the markets, the capital structure of the company and the type of controlling shareholder exert a relevant role on the level of ownership concentration.

This research main objective was to investigate the existence of influence of the ownership concentration on the financial performance and value of the companies (consequences), and which are the determinants of the ownership concentration in Brazil (causes), amongst the five cited variables.

In the empirical investigation, models had been estimated based on the Ordinary Least Squares method (OLS) with standard errors consistent with the heterocedasticity in accordance with White (1980), built based on the theory. The analysis sample was obtained from the population of 459 companies listed in the São Paulo Stock Exchange (BOVESPA) in 2001 with data available in the Economática®'s data base. For the development of the study, it were

considered all the public non-financial companies negotiated in the São Paulo Stock Exchange, with available data for, at least three of the five studied years (1997 to 2001), resulting in a total of 176 companies.

By the methodology adopted, it was not possible to prove the relation between the ownership structure variable and the companies' financial performance and value. In relation to the causes of the ownership structure of the Brazilian public non-financial companies, the results show evidences that the ownership structure can be explained by the size of the firm, by the market instability and regulation. The market regulation variable revealed itself as the main determinant of the ownership structure.

The present research was oriented in the direction of contributing for the theoretical and empirical studies on the causes and consequences of the ownership structure in Brazil. It did not have the intention to deplete the subject discussion, but mainly to stimulate new research subjects and adoption of new methodologies, that can confirm the results obtained or extend the analyzes' horizon. The subject, in spite of its relative importance and increasing discussion in the academy, deserve to be highlighted, due to the need of improving analyzes and conclusions on the best ownership structure and control for the Brazilian companies. It is suggested, as a way of improving the research subjects, the use of alternative statistical methods, for example Least Squares in 2 Stages or 3 Stages and panel data analysis, with a longer and more distinct time horizon than it was adopted, beyond the inclusion of variables different from the ones selected in this research.

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