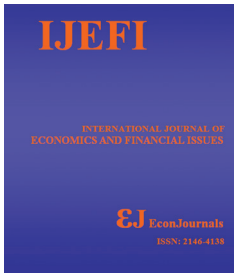

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Does Ownership Structure Influence Firm Value? An Empirical Research towards the Bucharest Stock Exchange Listed Companies

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ABSTRACT

The aim of this study is to research the influence of ownership structure on firm value in order to provide, from our knowledge, the first results for the case of the Bucharest stock exchange listed companies. Therefore, we have considered the shareholdings of the following types of shareholders: insiders, companies from financial intermediation sector, state, and employees' organizations, over the period 2007-2011. Thus, after the econometric estimations using panel data regression models, we have concluded a negative influence of insider shareholdings and employees' organizations ownership on firm value. However, the results showed a lack of association between state shareholdings and firm value. There resulted a nonlinear relationship between the shareholdings of the companies from financial intermediation sector and firm value. Furthermore, the impact of ownership structure, 1 year lagged, on contemporaneous firm value was the same, although the magnitude of the influence was higher.

Keywords: Corporate Governance, Ownership Structure, Firm Value, Romania, Panel data models
JEL Classifications: G32, G34

1. INTRODUCTION

Starting from the fact that there are companies managed by persons other than their owners, Berle and Means (1932) emphasized the separation between ownership and control in modern corporations with dispersed ownership and the negative influence on firm value. In this context, the management benefit from more freedom in the use of firm's resources than would exist if the company was managed by his owner, or if ownership interests were more concentrated. Often, the studies regarding the influence of ownership structure on firm value were underlined by the association with agency dilemma (Jensen and Meckling, 1976) which highlighted the concerns of agents in taking some decisions mostly contradictory with the goal of shareholder wealth maximization. Besides, when members of the board of directors own significant shareholdings, the agency problem is mitigated thanks to the alignment of financial incentives between managers and owners (Fama and Jensen, 1983).

The aim of this study is to provide, from our knowledge, the first empirical evidence regarding the impact of all types of shareholders out of ownership structure on firm value, by using a sample of companies listed on the Bucharest stock exchange (hereinafter 'BSE'), over the period 2007-2011. Before starting our research, we employed an extensive investigation, including particularly prior work on the relationship between ownership structure and firm value in Central and Eastern Europe, and not only. Thereby, we concluded the fact that the studies employed for the case of Romania researched only the phenomenon of privatisation, started in this country after 1989. Besides, we will show only compendious some standpoints regarding the phenomenon of privatisation emerged in Romania, in order to emphasize the ownership structure resulted after this act.

The remainder of this paper is organized as follows. Section 2 presents an overview of the privatisation process and ownership structure in Romania. Section 3 shows the results of previous studies, considering the impact of every type of shareholder out

of ownership structure on firm value, based on this review being established the hypotheses of our study. The description of the database and the research methodology are presented in Section 4. The results from the empirical research are showed and discussed in Section 5, including descriptive statistics, comparisons with other countries, and econometric models estimations. Section 6 relates the conclusions, the limitation of our study and future research directions.

2. AN OVERVIEW OF PRIVATISATION PROCESS AND OWNERSHIP STRUCTURE IN ROMANIA

After 1989, in Romania, similar to rest of countries from Central and Eastern Europe, there was established the legal framework in order to transform the state-owned companies during the communist regime in commercial companies or autonomous administrations. Therefore, the privatisation phenomenon of companies entirely owned by the state until that moment started after 1989. Thus, this process envisaged that the state ownership in the commercial companies established according to the new legislation should be transferred 30% to five regional funds of private property, actually named financial investment companies (specialised investment funds [SIFs]), the rest of 70% remaining in the ownership of state and being managed by the State Property Fund (Fondul Proprietății de Stat - FPS). The aim of the Mass Privatization Programme (MPP) was a free distribution to the Romanian citizens of 30% from the shareholdings of the state owned companies. The state property fund and five regional funds of private property were established in order to oversee and uphold the privatisation phenomenon. Besides, the privatisation process through the specialized institution, named initially the state property fund, afterwards the Romanian Agency for Recover the State Receivables, actually the Authority for Capitalization of the State Assets, was not entirely finished. For this reason, the authority for privatisation was not disincorporated, actually being in the ownership structure of some companies for which the privatisation process was not entirely completed.

However, another significant element during the privatisation process was represented by the management employee buyouts (MEBO) method, emerged over the period 1993-1995, after which there resulted an increase of employee shareholdings in the companies where they were employed. Thus, through establishing the employees' organizations (hereinafter 'PAS') via the Programme for the Employee Shareholders, some companies listed on the BSE are supervised by their own workforce. This method of privatisation contributed to the transformation of State ownership in private ownership.

Additionally, in 2005, the Romanian Government established the Property Fund (Fondul Proprietatea - FP) with the purpose of providing the required financial resources in order to compensate the persons which were abusively expropriated during the communist regime. However, Romania was the sole country in the Eastern Europe in which the authorities tried to find a solution in order to refund at real value the seized properties. Thus, the compensation consisted into the distribution of shares representing the real value of fixed assets which were not returned in nature. The property fund is a stock company established for an unlimited time as an investment closed-end company, incorporated in Romania and listed on the BSE since January 2011. Besides, at the foundation moment, the Romanian State was the sole shareholder of the fund, but through the apportionment of the shares intially owned to the eligible petitioners, the Romanian Government became minority shareholder.

Thereby, by summarizing these aspects we could distinguish the following types of shareholders out of ownership structure within the companies listed on the BSE: insiders of the companies (represented by the chief executive officer and by the members of the board of directors), the companies from financial intermediation sector (five financial investment companies - SIFs, financial investments services companies - SSIFs, and property fund, the last since 2011 when the Romanian state became minority shareholder), the Romanian state (represented by the resort ministers, the authority for capitalization of the state assets, and property fund, the last only for the period 2007-2010, when the Romanian state was majority shareholder), and the employees of the companies through the employees' organizations - PAS.

3. OWNERSHIP STRUCTURE AND FIRM VALUE: PREVIOUS EMPIRICAL RESULTS AND HYPOTHESES DEVELOPMENT

3.1. Insider Ownership and Firm Value

According to Jensen and Meckling (1976), as well as Fama and Jensen (1983), insider owenrship could cause two different types of corporate behaviour, respectively a convergence of interests between managers and shareholders, or the management entrenchment effect. Jensen and Meckling (1976) mentioned the fact that as insider shareholdings increases, the susceptibility of an irrational use of company resources falls. Thus, the conflicts between directors and shareholders are declining, being emphasized the convergence of interests. Han and Suk (1998) identified a positive relationship between insider ownership and stock returns, motivating the fact that as insiders' equity ownership increases, their interests concur more with those of outside shareholders. Likewise, Hrovatin and Uršič (2002), using a sample of companies from Slovenia, concluded a positive influence of insider shareholdings on firm performance.

On the other hand, if directors hold significant voting rights thanks to considerable shareholdings, there could prevail the tendency of them to achieve their own goals. In this scenario, there is underlined the entrenchment effect, which signifies the fact that higher insider shareholdings negatively influence firm value. Thereby, a concentrated ownership structure could determine the majority shareholder to expropriate minority shareholders. Han and Suk (1998) showed a negative relationship between the square of the level of insider ownership and stock returns, indicating the association with management entrenchment. According to Itturalde et al. (2011), these different effects suggest a non-linear relationship between insider ownership and firm value.

By researching the relationship between firm performance and corporate governance mechanisms, individually considered in separate regression equations, Agrawal and Knoeber (1996) concluded a positive association between insider ownership and performance. Subsequent, taking into consideration the interdependence between corporate governance mechanisms and firm performance, in a simultaneous equations framework, the relationship previously identified has disappeared. Core and Larcker (2002) examined the effects induced by the target ownership plans. There was found that prior to plan adoption, the companies which embraced target ownership plans exhibited lower stock price performance and directors' shareholdings. However, in the 2 years following plan adoption, there resulted higher excess accounting returns, and higher excess stock price returns in the first 6 months of the fiscal year in which the plan was announced. Thus, the rise of managers' equity ownership from below equilibrium level determined an improvement of firm performance.

Pursuant to Morck et al. (1988), there are companies in which the managers' shareholdings are under a level considered optimum, and the performance could be improved through increasing equity ownership. On the other hand, Demsetz and Lehn (1985) mentioned that the companies are optimizing the level of shareholdings in the moment of contracting, and at that level there is no relationship between ownership structure and performance. As much, there are studies (Morck et al., 1988; McConnell and Servaes, 1990; Holderness et al., 1999) which consider the insider ownership as exogenous variable, the compensation contracts being ineffective and suboptimal. However, there is another strand of literature (Demsetz, 1983; Demsetz and Lehn, 1985; Cho, 1998; Demsetz and Villalonga, 2001) which considers insider ownership as endogenous variable, the compensation contracts being efficient. Cho (1998) exhibited the fact that investment influence corporate value which, in turn, influence ownership structure, but not vice versa. His results emphasize the fact that managerial ownership could not represent an effective incentive mechanism in order to maximize investment decisions.

Morck et al. (1988) ascertained an increase of average Tobin's Q as ownership rises from 0% to 5%, subsequent a fall of average Tobin's Q as ownership rises further to 25%, followed by a moderate rise of average Tobin's Q as board ownership rises beyond 25%. There was argued that for lower levels of management ownership, an increase of shareholdings could determine a convergence of interests between managers and shareholders, resulting an increase of corporate value. Also, for higher levels of management ownership, an increase of shareholdings could determine the management entrenchment and the decline of corporate conduct and discipline, resulting the decrease of firm value. McConnell and Servaes (1990), for 1976, identified that at low levels of insider ownership, a 10% increase in insider ownership increases Tobin's Q by approximately 10%. As well, for 1986, there resulted that at low levels of insider ownership, a 10% increase in insider ownership increases Tobin's Q by approximately 30%. However, at high levels of insider ownership, the relation between Tobin's Q and insider ownership was negative. Attempting to reproduce the regression equations designed by Morck et al. (1988), there was confirmed only the positive relationship between insider ownership in the range 0-5% and firm value. Holderness et al. (1999) confirmed the relationship identified by Morck et al. (1988) only for the first two intervals representing insider ownership. Short and Keasey (1999) underlined an alignment of insiders' interests with firm goals for levels of ownership corresponding to the thresholds under 12% and beyond 40%. Additionally, Bhabra (2007) confirmed the curvilinear relationship between insider ownership and firm value, the thresholds representing positive relationships being under 14% and beyond 40%.

Based on these previous empirical evidences, we will consider the following hypothesis:

Hypothesis 1: A negative relationship is expected between insider ownership and the value of the companies listed on the BSE.

3.2. Institutional Ownership and Firm Value

Pursuant to Shleifer and Vishny (1986), as well as Bhojraj and Sengupta (2003), active monitoring hypothesis argues the fact that institutional investors own incentives in order to oversee corporate performance. Thus, institutional investors have higher benefits than minority shareholders due to their important voting power. However, they could sustain several corrective measures against management. Monks and Minow (2001) motivated that this fact is harmonious with the perception according to which institutional investors develop all the required activities in order to protect the value of their assets, including monitoring of the companies where they invest. Hartzell and Starks (2003) sustained that institutional investors could alleviate the agency problem between managers and shareholders. Therefore, Hartzell and Starks (2003) concluded that a concentrated institutional ownership structure positively influences performance sensitivity of managerial compensation and negatively impact on the level of that compensation. On the other hand, the opponent perspective is passive monitoring hypothesis according to which institutional investors own lower incentives in order to develop an active monitoring process against management.

Pound (1988) mentioned both a positive relationship (efficient-monitoring hypothesis) and a negative influence (conflict-of-interest hypothesis and strategic-alignment hypothesis) between institutional ownership and firm value. According to efficient-monitoring hypothesis, institutional investors dispose of more information, having the ability to oversee management at lower costs than minority shareholders. Further, conflict-of-interest hypothesis highlights the fact that institutional investors could develop profitable affairs, current or potential, with the companies where they hold stakes, thus being less interested in restriction of the managerial discretion. Not ultimately, strategic-alignment hypothesis emphasizes the fact that institutional investors and managers identify a common advantage in the sense of cooperation. Besides, through this cooperation occur an impairment of the monitoring function related to institutional investors.

According to Brickley et al. (1988), we could differentiate two types of institutional investors: institutional investors who have not business relationships with the firm (pressure-insensitive institutional investors) and institutional investors

who have business relationships with the firm (pressure-sensitive institutional investors). Almazan et al. (2005) identified a positive relationship between pressure-insensitive institutional investors and a better discipline regarding directors' remuneration. Also, the increase of the pressure-insensitive institutional investors' number determine an enhancement in management monitoring. Chen et al. (2007) concluded a positive relationship between independent long-term institutions and acquisition decisions. However, when monitoring benefits exceed costs, institutional investors will assist the monitoring process detrimental to trading, because through monitoring activities they gather informational advantages that they could use to adjust their portfolios over time.

McConnell and Servaes (1990) showed a positive relationship between institutional ownership and Tobin's Q, sustaining the active monitoring hypothesis proposed by Pound (1988). Han and Suk (1998) identified a positive relationship between stock returns and institutional investors shareholdings, arguing their role in the active monitoring process against management. Likewise, Davis (2002) concluded a positive influence of institutional ownership on firm performance. Cornett et al. (2007) identified a positive relationship between return on assets and pressure-insensitive institutional ownership, as well as between return on assets and the number of institutional stockholders. However, Cornett et al. (2007) expressed that institutional investors with potential business relations with the companies in which they invest are compromised as monitors of the firm, due to their interests in order to protect their business relations.

On the other hand, David and Kochhar (1996) mentioned the fact that institutional investors, although they have the ability to lessen the managers' power, there are several barriers which minimize this efficiency, of which: business relations with the firms in which they invest, excessive Government regulations which are constraining their activities, and limitations of their information processing skills required to monitor the companies. Duggal and Millar (1999) concluded that through the presence of institutional investors, there was not established an enhancement within the corporate control market. Leech (2000) argued the fact that institutional investors are not always pursuing to exert control within the companies in which they invest, due to the fact that there is a likelihood of the investor gaining information which would compromise the trading activity. Thus, they seek power in the form of influence rather than control.

Based on these previous empirical evidences, we will consider the following hypothesis:

Hypothesis 2: The ownership of the companies from financial intermediation sector exhibits a nonlinear relationship with the value of the companies listed on the BSE.

3.3. State Ownership and Firm Value

There prevail the belief that private ownership is better than public ownership. However, the reduced efficiency of public companies is proved through the higher costs of activities' execution. We notice the following theories which are supporting private ownership: residual claimant theory, dispersed knowledge theory, and property rights theory.

Anwar and Sam (2006) mentioned the fact that the agency problem appears also in the public sector, the owners being represented by citizens, while the agents are the Government elites or the bureaucrats. In a perfect world, the owners of public positions are expressing a veritable interest in order to insure the public welfare. Nevertheless, there are persons which follow to maximize their interests, different than the public interests. However, this problem is worsening because the citizens does not dispose the required resources for monitoring. According to Boycko et al. (1996), public enterprises are ineffective because the applied strategies are ineffective, as for example excessive workforce occupation, pursuant to the political aims of the board members, others than efficiency maximization. Thus, in public companies, the agency dilemma is shown within political environment rather than that within managers. Bradbury (1999) mentioned the fact that state ownership determine the removal of managerial incentives which are improving the performance. By using data of the 93 central owned firms and 182 private firms related to China's stock market, during period of 2007-2010, Ding and Qian (2014) stated that the sensitivity of investment to internal cash flow in China's central state-owned companies can be explained by "hypothesis of free cash flow," whereas the sensitivity of investment to internal cash flow in China's non-state owned companies supports the explanation of "hypothesis of financial constraints."

Boardman and Vining (1989) concluded the fact that state enterprises and mixed enterprises are less profitable and less efficient than private corporations. Also, mixed companies performed lower than state enterprises and private corporations. Megginson and Netter (2001) exhibited that in the middle-income countries, the companies with private ownership were more efficient and more profitable than the companies where state hold shares. Additionally, this fact was supported by Djankov and Murrell (2002), which mentioned that the State ownership within traditional state companies is less effective than all other ownership types, except for worker-owners, which have a negative effect in transition economies. Tran et al. (2014) found a negative effect of state ownership on firm profitability and labor productivity, by using the annual business surveys of the Vietnamese General Statistics Office for the period 2004-2012.

Although previous studies support the negative influence of state ownership on firm value, there are studies which confirm mixed results or a negative impact of state shareholdings. Sun et al. (2002) identified an inverted U-shape between government ownership and performance. Eng and Mak (2003) noticed a positive relationship between government ownership and voluntary disclosure. Tian and Estrin (2008) identified an U-shaped relationship between government ownership and corporate value. The last result is explained through the political interests exerted by the government, which lead to resource reallocation detrimental to the companies. On the other hand, when there are not followed the financial interests, the government could determine a beneficial corporate governance, depending by the level of ownership. The value of companies is decreasing until a certain threshold, because the government is minority shareholder and he does not dispose by the required authority in order to counterbalance the disadvantages resulted from the interference with political interests. However,

in order to ensure the beneficial effects of the state' attendance in ownership structure, there is required a significant ownership. Wei and Varela (2003) documented a convex relationship between Tobin's Q and state ownership.

Based on these previous empirical evidences, we will consider the following hypothesis:

Hypothesis 3: A negative relationship is expected between state ownership and the value of the companies listed on the BSE.

3.4. Employee Ownership and Firm Value

Previous studies which researched the relationship between employee ownership and firm value followed to identify the influence of different employee stock plans, respectively a comparative analysis regarding the performance between companies which adopted such plans and the others companies. Thereby, the employee stock ownership plans (ESOPs) were established in order to enhance firm perfomance through the improvement of work productivity. However, such plans were considered as development means to an industrial democracy by introducing the employee in the companies' corporate governance. Thus, the workforce understand the way in which company is evolving, following on the other hand the consolidation of the relationship between management and employee.

Earle and Telegdy (2001) identified a positive influence of MEBO and MPP privatisation methods on performance in Romania over the period 1992-1998. They argued the fact that the shares of the companies which were free distributed could determine the development of the incentives to work, the faithfulness against the company, and support for reorganization. However, if the ownership is dispersed, there exist the convenient framework for an outside taking over. Also, the employee have not several elements as the required skills, capital, access to markets and technologies, essential for the development of their companies. Black et al. (2000) identified that during the privatisation period in Russia, managers bought the shareholdings of workers at lower costs because the employee were not aware of the value of that shares, or they accepted the managers' engagements regarding a successful future of the companies. Smith et al. (1997), using a sample of companies from Slovenia, concluded the fact that a percentage point increase in employee ownership was associated with about a 1.4% increase in value-added. Kumbhakar and Dunbar (1993) identified that with the age of the ESOP, the productivity effect increased at the rate of 1.8-2.7% per annum, and with the age of the profit sharing plan, the productivity effect increased at the rate of 3.9-4.6% per annum. Also, Jones and Kato (1995) ascertained the fact that the introduction of an ESOP in Japanese companies, lead to a 4-5% increase in productivity, and this productivity payoff takes 3-4 years. Blasi et al. (1996) mentioned that employee stock ownership lessen the conflicts between employee and management and encourage the effort, cooperation, and the information transferability by the employee. There was not identified a positive or a negative influence of employee ownership, but in those situations where the differences occured, these favoured the companies with employee ownership, and especially for the small companies.

Although the phenomenon of privatisation through distributing the shares of the companies to the employee is considered positive, being emphasized the workforce' incentives and the advantages of stakeholders' involvement in transition process, there are points of view which sustain the lack of improvement brought by this privatisation method (Lipton and Sachs, 1990; Black et al., 2000; Djankov and Murrell, 2002). Lipton and Sachs (1990) remarked major differences regarding the distribution of shares to the employee from the Polish industrial sector due to high differences in profitability. Thus, the investors avoid to invest in the companies in which the employee own majority shareholdings because the workers could adopt an opportunistic behaviour characterized by company profit absorption through compensations. Also, Djankov and Murrell (2002) identified a negative influence of employee-owners in the reorganization process of the companies.

On the other hand, there are studies which sustain a mixed relationship or a negative influence of the employee ownership on firm value. Guedri and Hollandts (2008) identified an inverted U-shaped relationship between employee ownership and invested capital ratio, relationship not supported when market to book ratio was used. Meng et al. (2011) ascertained small differences regarding firm performance between the companies which adopted ESOPs and the companies without such plans. This result was argued through the contract theory which mentions the fact that a highly dispersed ownership does not cause significant incentives. Because shares are distributed to a higher number of employee, such plans are likely to incur a serious free-rider problem, being ineffective in motivating workers.

Based on these previous empirical evidences, we will consider the following hypothesis:

Hypothesis 4: A negative relationship is expected between employees' organizations ownership and the value of the companies listed on the BSE.

4. DATA AND METHODOLOGY

4.1. Sample Construction and Variable Definitions

The empirical research will be employed by using a sample of companies listed on the BSE on all the three tiers, over the period 2007-2011, as follows: 63 companies in 2007, 67 companies in 2008, and 68 companies between 2009 and 2011, counting 334 statistical observations. We did not consider in our sample the listed financial firms (11), including three credit institutions, five financial investment companies, one financial investments services company, BSE, and the property fund, because this sector of activity is subject to different disclosure requirements. However, our sample does not comprise the companies from unlisted tier (25 companies) and from international tier (two companies). In order to test the hypotheses which were developed, we have considered variables related to corporate governance and financial variables. Information about ownership comes from the BSE' webpage and from the Annual Reports of the Administrators. Financial information comes from the annual reports of the companies. All the data were hand-collected.

Table 1 reveals the industry membership of the companies covered within our selected sample.

Table 2 summarizes the definition and measurement of all the variables used in this paper. However, we have considered the direct shareholdings in the companies. We did not consider the stakes through other companies. Besides, we included the shareholdings below 1%. After the collecting process was finished, we could not get data regarding the shareholdings of chief executive officer from 22 companies and data regarding insider shareholdings from 18 companies due to the lack of this information in the Annual Reports of the Administrators. Also, we ascertained the existence of employees' organizations (PAS) in only seven companies from the total sample. We followed Morck et al. (1988), McConnell and Servaes (1990), and Holderness et al. (1999) for the construction of the insider ownership variables.

Table 1: Industry membership of the selected sample

Industry	Number of companies/year		
	2007	2008	2009-2011
Wholesale/retail	4	4	4
Construction	8	8	8
Pharmaceuticals	3	3	4
Manufacturing	19	19	19
Plastics	2	3	3
Machinery and equipment	7	8	8
Metallurgy	4	4	4
Food	3	3	3
Chemicals	4	4	4
Basic resources	4	4	4
Transportation and storage	2	2	2
Tourism	2	3	3
Utilities	1	2	2
Total	63	67	68

Source: Author's processing

Consistent with previous studies regarding the relationship between corporate governance and firm value, we will consider Tobin's Q ratio as a proxy for firm value. Similar Gompers et al. (2003) and Bebchuck et al. (2009), we follow Kaplan and Zingales' (1997) method for the computation of Q (the definition of Tobin's Q ratio is listed in Table 2). However, we have not considered the market value of debt at the numerator, respectively the replacement cost of assets at denominator, consistent with previous studies (La Porta et al., 2002; Doidge et al., 2004; Gozzi et al., 2008). After we have computed the Tobin's Q ratio for each company, we have adjusted it according to the industry membership, following the methodology described by Eisenberg et al. (1998), because in our sample were included companies from 13 economic sectors. Thus, the difference between firm Q ratio and the industry's median Q ratio is ΔQ, while the industry-adjusted measure of Q (QAdj) is defined as follows:

$$QAdj = sign(\Delta Q)*sqrt(\Delta Q),$$

Where sign(ΔQ) is the sign of the difference between firm Q and the industry's median Q, while sqrt(ΔQ) is the square root of ΔQ. We decided to use median instead of mean because our data did not follow a normal distribution.

There are many firm characteristics that could be related with both Tobin's Q ratio and corporate governance. Therefore, we included several control variables. Thus, we used the logarithm of the annual average number of employees to control for the size of the companies. Fama and Jensen (1983) argued that large companies are more diversified than small companies, the failure risk being reduced. According to Short and Keasey (1999), size positively influences firm performance, because large companies could obtain funds, both internal and external, more easily.

Table 2: Definition and measurement of variables

Variables	Definition and measurement
Firm value variables	
QAdj	Industry-adjusted Tobin's Q ratio. Tobin's Q was computed as the market value of assets divided by the book value of assets, where the market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity
Ownership variables	
CEO share	The shareholdings of the chief executive officer (%)
Insider share	Insider ownership (%)
Insider 0-5	If insider ownership<5%, Insider 0-5=insider ownership (%) If insider ownership≥5%, Insider 0-5=5%
Insider 5-25	If insider ownership<5%, Insider 5-25=0% If 5%≤ insider ownership<25%, Insider 5-25=insider ownership - 5% If insider ownership≥25%, Insider 5-25=20%
Insider over 25	If insider ownership<25%, Insider.over 25=0% If insider ownership≥25%, Insider.over 25=insider ownership - 25%
Institutional share	The shareholdings of the companies from financial intermediation sector (%)
Institutional share^2	The percentage of shares held by the companies from financial intermediation sector squared (%)
Stateshare	The percentage of shares held by the Romanian state (%)
Employee share	The percentage of shares held by the employee through the employees' organizations (%)
Firm-level control variables	
Size	Firm size, as annual average number of employees (logarithmic values)
Lev	Leverage, computed as debt/book value of assets
SGrowth	Sales growth, as the relative increase of sales from the previous year (%)
Listing	Number of years since listing on the BSE (logarithmic values)

Source: Author's processing, BSE: Bucharest stock exchange

However, large corporations could create barriers to entry through the economies of scale.

Consistent with McConnell and Servaes (1990), Morck et al. (1988), and Short and Keasey (1999), we included leverage to control for the level of indebtedness. Large companies could support a higher debt-contracting sustained by the disclosure in the information flow to the creditors. Besides, indebtedness could determine several problems as overinvestment (Jensen, 1986) or underinvestment (Myers, 1977). While Jensen (1986) emphasized the importance of indebtedness in order to limit the managerial discretion regarding the use of cash flow, according to Myers (1977), the inclusion of the debt in capital structure determine a reduction of the investments in profitable projects. Stulz (1988) mentioned the fact that high inside ownership should be associated with higher leverage. Also, inside ownership concentration decreases the chance that hostile takeovers are successful.

The next control variable included in the empirical analysis is sales growth as a measure of growth opportunities. Morck et al. (1988) argued that if managers own high shareholdings in younger, faster growing companies that tend to have high Qs, the positive relationship between board ownership and Q might be spurious. McConnell and Servaes (1995) provided support for a negative correlation between corporate value and leverage for high-growth firms and a positive correlation for low-growth firms, as a consequence of monitoring function induced by indebtedness. The last control variable we used is the logarithm of the number of years since listing on the BSE in order to reflect the age of the company. According to Black et al. (2006) and Balasubramanian et al. (2010), younger firms are likely to be faster-growing and perhaps more intangible asset intensive, which can lead to higher Tobin's Q.

4.2. Empirical Research Design

In order to assess the relationship between ownership structure and firm value, we will employ a multivariate regression model with panel data, with the following specification:

$$Firm\_Value_{it} = \alpha + \beta X_{it} + \gamma Z_{it} + u_{it}\ i = 1., N;\ t = 1., T \quad (1)$$

where for the i^{th} company in year t, we will use as dependent variable the industry-adjusted Tobin's Q ratio as a proxy for firm value, respectively several explanatory variables as below: X_{it} is a vector of variables related to the shareholdings of the following types of shareholders: Insiders, companies from financial intermediation sector, state, and employees' organizations, while Z_{it} is a vector of control variables.

Given the fact that there is expected a nonlinear relationship between the ownership of the companies from financial intermediation sector and firm value, we will estimate the following multivariate regression model for panel data:

$$Firm\_Value_{it} = \alpha + \beta X_{it} + \gamma X_{it}^2 + \phi Z_{it} + u_{it}\ i = 1., N;\ t = 1., T \quad (2)$$

where X_{it} is the variable representing the shareholdings of the companies from financial intermediation sector, X_{it}^2 is a variable representing the percentage of shares held by the companies from financial intermediation sector squared, and Z_{it} is a vector of control variables. If the parameters β and γ have different signs after estimation, we reach support for a nonlinear relationship, conditioned by the statistical validation. We will find the inflection points by setting the partial derivatives $\partial Firm\_Value/\partial X$ equal with zero, and after that solving for X.

Furthermore, in order to research the impact of the shareholdings from previous year on the contemporaneous firm value, we will estimate a multivariate regression model with panel data, as follows:

$$Firm\_Value_{it} = \alpha + \beta X_{it-1} + \gamma Z_{it-1} + u_{it}\ i = 1., N;\ t = 1., T \quad (3)$$

X_{it-1} being a vector of variables representing the shareholdings from previous year, and Z_{it-1} a vector of control variables from previous year.

5. EMPIRICAL FINDINGS

5.1. Descriptive Statistics

Table 3 shows descriptive statistics of the variables employed in the empirical research. Therefore, in mean, the companies from financial intermediation sector record the highest shareholdings (15.79%), while the state records, in mean, the lowest level of shareholdings out of ownership structure (5.75%). However, the percentage of shares held by the employees through the employees' organizations is, in mean, 7.06%, while insider ownership is near the level recorded by the companies from financial intermediation sector. If we consider the insider ownership similar Morck et al. (1988), McConnell and Servaes (1990), as well as Holderness et al. (1999), the highest level of ownership is, in mean, in the range 5-25% (6.22%), and the lowest level is, in mean, in the range 0-5% (2.24%).

Besides, the descriptive statistics reported in Table 3 are strongly influenced by the observations with shareholdings below 1%. Thus, if we remove the observations with shareholdings below 1%, the mean ownership record significantly higher levels, as follows: the chief executive officer ownership (20.76%), insider ownership (30.76%), the shareholdings of the companies from financial intermediation sector (37.16%), state ownership (41.47%), employees' organizations ownership (56.05%). If we consider insider ownership following Morck et al. (1988), McConnell and Servaes (1990), and Holderness et al. (1999) and removing the observations with shareholdings below 1%, the mean ownership in the range 0-5% is 4.65%, in the range 5-25% the mean ownership is 13.37%, while for shareholdings over 25%, the mean ownership is 12.73%.

The ownership frequency over 2007-2011 is showed in Annex A. Thus, with the exception of employees' organizations ownership, the most shareholdings are in the first range, between 0% and 10%.

Table 4 exhibits the Pearson correlation coefficient matrix. We distinguish the fact that there are not high correlation coefficients between variables.

5.2. International Comparative Evidence Regarding Ownership Structure

Klapper et al. (2006) analysed the ownership structure in four Eastern European countries, by using a sample of 74 firms from the Czech Republic, 56 firms from Hungary, 56 firms from Poland, and 38 firms from the Slovak Republic, corresponding to the year 2000. From the government ownership point of view, in the Czech Republic, 27% of companies recorded government shareholdings over 20%, in the Slovak Republic 18% of companies, while in Hungary and Poland, only 7% and 11% of companies were controlled by the government. Alves (2010) identified the following mean shareholdings of the government: France (11%), Belgium (3.3%), Germany (4.9%), Austria (11.3%), Spain (0.5%), Great Britain (0%), United States (0%), based on a sample of 640 companies from more countries, over the period December 2005-March 2006. We found that in Romania the mean state ownership is 5.75% (Table 3). Therefore, we distinguish the fact that in the Anglo-Saxon corporate governance system, the state ownership is non-existent, compared with the corporate governance system from continental Europe. Our results suggest the fact that within 9% from the BSE listed companies, the government shareholdings are over 20%. By researching the ownership structure in Bulgarian companies, Tchipev (2001) concluded the fact that the ownership resulted after MEBO privatisation was in mean 10.2%, identified only within the industrial companies. Also, from the government stakes point of view, the mean ownership was 9.6%. Kapopoulos and Lazaretou (2007) identified a mean chief executive officer ownership within the companies from Greece of 32.21% for the year 2000. Likewise, López-de-Foronda et al. (2007), based on a sample consisting of 1216 companies from 15 European countries, concluded a mean chief executive officer ownership of 7.9% in common law states and 10.5% in civil law states.

Mínguez-Vera and Martín-Ugedo (2007) reported the following results regarding the institutional investors shareholdings: France (8%), Germany (30.3%), Japan (35.8%), Spain (28%), Great Britain (50.1%), United States (44.5%). Therefore, in Romania, the shareholdings of the companies from financial intermediation sector are in mean 15.79% (Table 3). Thus, we could conclude that institutional ownership is higher in the Anglo-Saxon companies, compared with the institutional ownership from continental European companies.

5.3. Multivariate Regression Models Results

Table 5 shows the results of panel least squares regressions of industry-adjusted Tobin's Q ratio on ownership structure and firm-level control variables. Thus, by using panel least squares method, without cross-sectional effects, from the first model we could notice the fact that, although the sign of the variable regarding the shareholdings of the chief executive officer is negative, the relationship was not statistically validated (probabilty=0.5216). From the second regression model resulted a negative relationship between insider ownership and firm value, considering additionally all the others shareholders out of ownership structure, and the firm-level control variables. Thus, hypothesis 1 is validated, between insider ownership and the value of the companies listed on the BSE being a negative relationship.

Furthermore, we considered the insider ownership on three ranges similar Morck et al. (1988), McConnell and Servaes (1990), and Holderness et al. (1999). Thus, there resulted a negative relationship between insider equity stakes and firm value, for the shareholdings between 5% and 25% (Models 3 and 5) and for the shareholdings over 25% (Model 6). However, when we have considered simultaneously the insider ownership on the three intervals, without the others shareholders out of ownership structure, we cannot identify any statistically valid relationships (Model 7). The results confirm the studies of Morck et al. (1988) and Holderness et al. (1999) only for the range between 5% and 25% related to insider ownership. Besides, of the three insider shareholdings, the stakes between 5% and 25% record the higher negative influence on firm value. Thus, a 1% point increase in insider ownership between 5% and 25% is associated with about 1.48% decrease in firm value (if we consider additionally the others insider shareholdings, Model 3) or with about 0.89% decrease (if we do not consider the others insider shareholdings, Model 5). When we have researched the influence of all the shareholders out of ownership structure on firm value, from the magnitude point of view, we concluded the fact that employees'

Table 3: Descriptive statistics of the variables employed in the empirical research

Variables	N	Mean	Median	Min	Max	Standard deviation
Firm value variables						
QAdja	334	0.089281	0.000000	−0.811778	1.870603	0.570688
Ownership variables						
CEO share	228	0.070627	0.000278	0.000000	0.656589	0.148568
Insider share	245	0.143965	0.005680	0.000000	0.783595	0.221293
Insider 0-5	245	0.022492	0.005680	0.000000	0.050000	0.023248
Insider 5-25	245	0.062222	0.000000	0.000000	0.200000	0.089334
Insider over 25	245	0.059251	0.000000	0.000000	0.533595	0.131701
Institutional share	334	0.157990	0.000000	0.000000	0.966513	0.264133
State share	334	0.057543	0.000000	0.000000	0.885078	0.185618
Employee share	334	0.058736	0.000000	0.000000	0.838381	0.177932
Firm-level control variables						
Size	334	2.728380	2.745854	1.146128	4.482845	0.526265
Lev	334	0.387540	0.353737	0.006916	1.940834	0.285651
SGrowth	334	0.070588	0.045353	−0.913607	2.503076	0.356558
Listing	334	0.968339	1.041393	0.000000	1.204120	0.253036

Source: Author's computations. Notes: The description of the variable is provided in Table 2

organizations ownership have the highest negative impact on firm value (by considering the global insider shareholdings). Given the fact that insider holdings are mostly between 0% and 5% (Table 4), we distinguish the likelihood of agency problem occurrence between outside shareholders and insiders. This fact is argued by the low levels of insider ownership which could not cause enough incentives in order to raise a convergence of interests with company aims.

Also, we have not identified any relationship between state ownership and firm value. Thus, hypothesis 3, of a negative relationship between state ownership and the value of the companies listed on the BSE is rejected. Although the privatization process was not entirely finished, the State remained majority shareholder in a small number of listed companies. Likewise, hypothesis 4 is confirmed, between employees' organizations ownership and the value of the companies listed on the BSE being a negative relationship (Models 1-6). The employees' organizations negatively influence firm value, similar Djankov and Murrell (2002), also being sustained one of the points of view issued by Earle and Telegdy (2001), respectively the employee disability to establish important decisions regarding the future

Table 4: Pearson correlation coefficient matrix

Variables	1	2	3	4	5	6	7	8	9	10
QAdj	1	−0.033	−0.218**	0.006	0.074	−0.105	0.198**	0.321**	0.072	−0.021
CEO share	−0.033	1	0.725**	−0.249**	−0.150*	−0.081	−0.114	0.168*	−0.067	−0.159*
Insider share	−0.218**	0.725**	1	−0.234**	−0.186**	−0.094	−0.216**	−0.019	−0.076	−0.184**
Institutional share	0.006	−0.249**	−0.234**	1	−0.143**	−0.175**	−0.197**	−0.376**	−0.038	−0.079
State share	0.074	−0.150*	−0.186**	−0.143**	1	−0.103	0.432**	0.003	−0.012	−0.248**
Employee share	−0.105	−0.081	−0.094	−0.175**	−0.103	1	0.053	0.028	−0.012	0.143**
Size	0.198**	−0.114	−0.216**	−0.197**	0.432**	0.053	1	0.098	0.06	−0.06
Lev	0.321**	0.168*	−0.019	−0.376**	0.003	0.028	0.098	1	0.082	0.047
SGrowth	0.072	−0.067	−0.076	−0.038	−0.012	−0.012	0.06	0.082	1	0.009
Listing	−0.021	−0.159*	−0.184**	−0.079	−0.248**	0.143**	−0.06	0.047	0.009	1

Source: Author's computations. Notes: **Significant at 1% level, *significant at 5% level. The description of the variable is provided in Table 2

Table 5: Panel least squares regressions of industry-adjusted Tobin's Q ratio on ownership structure and firm-level control variables

Variables	1	2	3	4	5	6	7
Without cross-sectional effects							
Intercept	−0.796129**	−0.836943**	−0.876753**	−0.999594***	−0.857245**	−0.892930**	−0.542681*
	(−2.810938)	(−3.028959)	(−3.152022)	(−3.617581)	(−3.119155)	(−3.312637)	(−2.090120)
CEO share	−0.162843						
	(−0.641974)						
Insider share		−0.376787*					
		(−2.241224)					
Insider 0-5			4.027842	−1.327413			1.570604
			(1.484739)	(−0.835622)			(0.598278)
Insider 5-25			−1.484890†		−0.899590*		−1.225928
			(−1.811001)		(−2.141161)		(−1.542293)
Insider over 25			−0.295122			−0.570383*	−0.297644
			(−0.836107)			(−2.091535)	(−0.823327)
Institutional share	0.412056**	0.313806*	0.296561*	0.391033**	0.306872*	0.347259*	
	(2.924448)	(2.240714)	(2.087603)	(2.820140)	(2.156953)	(2.548821)	
State share	0.067143	0.047195	0.072573	0.102281	0.039331	0.083527	
	(0.309411)	(0.219340)	(0.334200)	(0.466800)	(0.181566)	(0.392217)	
Employee share	−0.415835*	−0.455189*	−0.561330**	−0.383654†	−0.461053*	−0.447799*	
	(−2.043835)	(−2.246683)	(−2.642041)	(−1.891959)	(−2.266930)	(−2.209527)	
Size	0.270405***	0.266342***	0.278156***	0.284645***	0.270473***	0.272723***	0.221082**
	(3.342642)	(3.319165)	(3.455835)	(3.507741)	(3.376480)	(3.408094)	(2.956998)
Lev	0.802805***	0.745388***	0.743362***	0.767059***	0.734488***	0.764201***	0.635334***
	(6.017128)	(5.743788)	(5.688452)	(5.839234)	(5.615318)	(5.917333)	(5.323511)
SGrowth	0.089614	0.070859	0.060698	0.084812	0.070554	0.074180	0.065189
	(1.045081)	(0.840862)	(0.719244)	(1.000542)	(0.836045)	(0.880001)	(0.755936)
Listing	−0.226159	−0.111197	−0.130306	−0.051572	−0.093421	−0.109337	−0.196996
	(−1.483976)	(−0.840149)	(−0.979745)	(−0.395548)	(−0.713062)	(−0.822998)	(−1.466585)
N	228	245	245	245	245	245	245
F-statistic	8.818489***	10.06095***	8.339662***	9.351085***	9.988974***	9.954497***	9.343523***
Adj R-square	0.216019	0.229038	0.231246	0.214951	0.227633	0.226958	0.193134

Source: Author's computations. Notes: †p<0.10; *p<0.05; **p<0.01; ***p<0.001. The t-statistic for each coefficient is reported in parentheses. The description of the variables is provided in Table 2

of the company, as well as difficulties in the acquirement of resources for investments, compared with outside shareholders. However, another argument could be represented by the employee shareholders entrenchment, given their higher levels of ownership. Thus, there could result a divergence of their objectives with company aims.

From the Models 1-6, we conclude a positive influence of the companies from financial intermediation sector ownership on firm value, considering the others shareholders and firm-level control variables. However, we examine a possible nonlinear relationship between the stakes of the companies from financial intermediation sector and firm value, estimating both a fixed-effects regression model and a random-effects regression model.

Table 6 exhibits the results of panel least squares regressions of industry-adjusted Tobin's Q ratio on companies from financial intermediation sector ownership and firm-level control variables. However, in order to choose between the fixed-effects regression model and the random-effects regression model, we will employ the Hausman test. The low probability (probability=0.0002) indicates us a fixed-effects regression model.

Therefore, we conclude a nonlinear relationship between the shareholdings of the companies from financial intermediation sector and firm value, but until the level of ownership of 48.19%, beyond which the relationship become negative. Thus, hypothesis 2 of a nonlinear relationship between the ownership of the companies from financial intermediation sector and firm value is confirmed. However, at the BSE we found in 2007, 10 companies with shareholdings of companies from financial intermediation sector over 48.19%, 11 companies in 2008 and 2009, respectively 12 companies in 2010 and 2011. We argue that until the level of ownership of 48.19%, the positive influence of these shareholders stresses the presence of pressure-insensitive investors, the active monitoring hypothesis being confirmed. Subsequent, the negative influence on firm value, beyond the level of ownership of 48.19% highlights the presence of pressure-sensitive investors. However, the negative relationship identified after this threshold emphasizes the conflict-of-interest hypothesis (Pound, 1988). We could mention several cases well-known through ongoing of contracts by the SIFs administrators with companies controlled by the family members. Thus, this fact caused the impairment of the companies from SIFs portfolios, confirming Leech (2000), according which the shareholders seek power in the form of influence rather than control.

Table 6: Panel least squares regressions of industry-adjusted Tobin's Q ratio on companies from financial intermediation sector ownership and firm-level control variables

Variables	Fixed effects	Random effects
Intercept	−0.335278	−0.818861**
	(−0.550646)	(−3.005988)
Institutional share	3.513697***	1.910500***
	(4.256161)	(3.503334)
Institutional share^2	−3.645288*	−1.885342**
	(−2.498665)	(−2.670499)
Size	0.257795	0.237307**
	(1.462983)	(3.140989)
Lev	1.092791***	0.883756***
	(6.326078)	(6.999498)
SGrowth	0.003800	0.040193
	(0.049150)	(0.554660)
Listing	−0.943012***	−0.220023
	(−3.524703)	(−1.549505)
N	334	334
F-statistic	4.441760***	11.25004***
Adj R-square	0.430037	0.155894
Test cross-section random effects		
Test summary	**Chi-square statistic**	**Chi-square d.f.**	**Probability**
Cross-section random	26.301948	6	0.0002

Source: Author's computations. Notes: †p<0.10; *p<0.05; **p<0.01; ***p<0.001. The t-statistic for each coefficient is reported in parentheses. The description of the variables is provided in Table 2

Table 7 presents the results of panel least squares regressions of contemporaneous industry-adjusted Tobin's Q ratio on ownership structure and firm-level control variables, 1 year lagged.

The sense of statistical relationships identified in Table 7 is similar with those identified in Table 5, the changes occuring in the relationships validation. Thus the results from Table 7 will be showed relative with those from Table 5. Although in Model 4 from Table 5 we established a lack of influence of insider ownership between 0% and 5% on firm value, the results from Model 4 (Table 7) show a negative influence of insider ownership, 1 year lagged, on contemporaneous firm value (probabilty=0.0867), also considering the others shareholders out of ownership structure and the firm-level control variables. Addtionally, we researched the relationship between the insider ownership, 1 year lagged, simultaneously for the three intervals, on contemporaneous firm value, without considering the influence of the others shareholders (Model 7). Thus, we identified a negative influence of insider ownership between 5% and 25%, 1 year lagged, on contemporaneous firm value.

However, the influences of the shareholdings corresponding to the companies from financial intermediation sector and employees' organizations, 1 year lagged, on contemporaneous firm value were not validated in all the estimated models. When we followed the magnitude of the negative influence corresponding to insider ownership, 1 year lagged, on contemporaneous firm value (Model 2), we concluded a higher negative influence compared with the results from Table 5 (Model 2). Also, the insider shareholdings, 1 year lagged, exert the highest negative influence on contemporaneous firm value. Additionally, the insider ownership between 0% and 5%, 1 year lagged, exert the highest negative influence, considering the intervals of insider shareholdings.

By analysing the influence of firm-level control variables on firm value, there resulted a positive relationship between leverage and firm value, validating the importance of debt as mean to limit the managerial discretion is cash-flow use (Jensen, 1986). The relationship between sales growth and firm value was not statistically validated. However, the size of the companies

Table 7: Panel least squares regressions of contemporaneous industry-adjusted Tobin's Q ratio on ownership structure and firm-level control variables, 1 year lagged

Variables	1	2	3	4	5	6	7
Without cross-sectional effects							
Intercept	−0.900570**	−0.767360**	−0.793572**	−0.893861***	−0.767828**	−0.865565**	−0.582148*
	(−3.269934)	(−2.884596)	(−2.959531)	(−3.341507)	(−2.922592)	(−3.318398)	(−2.354132)
CEO share (−1)	−0.136530						
	(−0.576010)						
Insider share (−1)		−0.450224**					
		(−2.812856)					
Insider 0-5 (−1)			3.070450	−2.596484†			0.709118
			(1.178058)	(−1.722441)			(0.285759)
Insider 5-25 (−1)			−1.708671*		−1.182887**		−1.281495†
			(−2.179739)		(−2.989471)		(−1.707844)
Insider over 25 (−1)			−0.152674			−0.596000*	−0.169412
			(−0.460470)			(−2.285276)	(−0.503509)
Institutional share (−1)	0.297718*	0.171039	0.143140	0.240924†	0.153066	0.221637†	
	(2.159805)	(1.278178)	(1.059586)	(1.821404)	(1.136457)	(1.691162)	
State share (−1)	0.107329	0.036216	0.034455	0.068315	0.014270	0.086640	
	(0.514502)	(0.179141)	(0.169270)	(0.331310)	(0.070400)	(0.430235)	
Employee share (−1)	−0.349274†	−0.402752*	−0.499921*	−0.303750	−0.418436*	−0.385217*	
	(−1.785831)	(−2.117803)	(−2.482995)	(−1.591244)	(−2.199409)	(−2.013601)	
Size (−1)	0.196423*	0.180776*	0.191225*	0.193698*	0.182422*	0.193961*	0.147858*
	(2.402662)	(2.280166)	(2.400117)	(2.402220)	(2.314166)	(2.442350)	(2.011018)
Lev (−1)	0.816964***	0.747467***	0.741501***	0.772625***	0.738809***	0.771638***	0.685283***
	(5.963061)	(5.716025)	(5.665654)	(5.838743)	(5.652205)	(5.897211)	(5.783181)
SGrowth (−1)	0.024686	0.009638	−0.003927	0.023079	0.003867	0.016937	0.013382
	(0.313464)	(0.127575)	(−0.051767)	(0.302499)	(0.051221)	(0.223018)	(0.175238)
Listing (−1)	−0.028728	−0.024637	−0.032057	0.032441	−0.009318	−0.015245	−0.074534
	(−0.205631)	(−0.205938)	(−0.266666)	(0.273452)	(−0.078936)	(−0.126128)	(−0.618581)
N	182	195	195	195	195	195	195
F-statistic	6.844538***	9.030189***	7.520759***	8.206945***	9.200783***	8.582445***	9.138599***
Adj R-square	0.205291	0.248765	0.251565	0.229105	0.252714	0.238199	0.227000

Source: Author's computations. Notes: †p<0.10; *p<0.05; **p<0.01; ***p<0.001. The t-statistic for each coefficient is reported in parentheses. The description of the variables is provided in Table 2

positively influences industry-adjusted Tobin's Q ratio. We ascertained the fact that between the number of years since listing on the BSE and firm value is a negative relationship, validated only in the fixed-effects regression model from Table 6, the mean tenure being 10 years.

6. SUMMARY AND CONCLUSION

By employing this research, we gathered from our knowledge, the first empirical results regarding the relationship between ownership structure and the value of the companies listed on the BSE, over the period 2007-2011, estimating the influence of all shareholders out of ownership structure. Therefore, we found a negative influence of insider ownership, considering both global shareholdings and the shareholdings on ownership intervals similar Morck et al. (1988), McConnell and Servaes (1990), and Holderness et al. (1999). Additionally, the negative influence on contemporaneous firm value, although higher, was identified for the insider ownership, 1 year lagged. Taking into consideration the fact that most of the insider ownership was between 0% and 5%, we concluded the lack of insiders' concerns regarding the convergence with outside shareholders' interests. Although we found employees' organizations ownership in only seven BSE listed companies, the lack of resources and strategic vision was emphasized through the negative influence on firm value. Therefore, we identified a positive relationship between the shareholdings of the companies from financial intermediation sector and firm value, but until a level of ownership of 48.19%, beyond the influence become negative. We could stress the fact that the investors holding equity ownership over the level of 48.19% are using the information in their interest. As regards the state ownership, the results provided support for a lack of a statistically significant relationship between state shareholdings and firm value, as measured by industry-adjusted Tobin's Q ratio.

The limits of current study comes from the reduced dimension of our sample, and from the insufficient data regarding insider ownership, caused by the fact that these data were not reported for all the companies. Therefore, as future research directions we foresee the empirical study of the relationship between insider ownership and firm value, considering other corporate governance mechanisms as the dimension of the board of directors. However, we intend to consider separately the executive and non-executive directors and to take into account several chief executive officer characteristics such as origin, age, and tenure.

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Annex A: Ownership frequency over 2007-2011

Variables	2007		2008		2009		2010		2011	
	N	%	N	%	N	%	N	%	N	%
CEO share										
0%≤ CEO share <10%	34	77.27273	36	78.26087	37	80.43478	37	80.43478	40	86.95652
10%≤ CEO share <20%	3	6.81818	2	4.34783	2	4.34783	2	4.34783	1	2.17391
20%≤ CEO share <30%	4	9.09091	4	8.69565	3	6.52174	3	6.52174	2	4.34783
30%≤ CEO share <40%	1	2.27273	1	2.17391	1	2.17391	1	2.17391	1	2.17391
40%≤ CEO share <50%	1	2.27273	1	2.17391	1	2.17391	1	2.17391	1	2.17391
50%≤ CEO share <60%	0	0.00000	0	0.00000	0	0.00000	1	2.17391	0	0.00000
60%≤ CEO share <70%	1	2.27273	2	4.34783	2	4.34783	1	2.17391	1	2.17391
CEO share ≥70%	0	0.00000	0	0.00000	0	0.00000	1	0.00000	0	0.00000
Insider share										
0%≤ Insider share <10%	29	63.04348	32	65.30612	37	80.43478	35	70.00000	35	70.00000
10%≤ Insider share <20%	4	8.69565	2	4.08163	2	4.34783	0	0.00000	0	0.00000
20%≤ Insider share <30%	5	10.86957	5	10.20408	3	6.52174	2	4.00000	3	6.00000
30%≤ Insider share <40%	3	6.52174	3	6.12245	1	2.17391	4	8.00000	4	8.00000
40%≤ Insider share <50%	1	2.17391	1	2.04082	1	2.17391	3	6.00000	3	6.00000
50%≤ Insider share <60%	1	2.17391	2	4.08163	0	0.00000	2	4.00000	1	2.00000
60%≤ Insider share <70%	2	4.34783	2	4.08163	2	4.34783	2	4.00000	2	4.00000
70%≤ Insider share <80%	1	2.17391	2	4.08163	0	0.00000	2	4.00000	2	4.00000
Insider share ≥80%	0	0.00000	0	0.00000	0	0.00000	1	0.00000	0	0.00000
Institutional share										
0%≤ Institutional share <10%	38	60.31746	42	62.68657	42	61.76471	43	63.23529	38	55.88235
10%≤ Institutional share <20%	9	14.28571	12	17.91045	11	16.17647	10	14.70588	15	22.05882
20%≤ Institutional share <30%	5	7.93651	1	1.49254	3	4.41176	3	4.41176	3	4.41176
30%≤ Institutional share <40%	1	1.58730	0	0.00000	0	0.00000	0	0.00000	0	0.00000
40%≤ Institutional share <50%	0	0.00000	1	1.49254	1	1.47059	0	0.00000	0	0.00000
50%≤ Institutional share <60%	3	4.76190	3	4.47761	2	2.94118	3	4.41176	3	4.41176
60%≤ Institutional share <70%	1	1.58730	2	2.98507	3	4.41176	2	2.94118	2	2.94118
70%≤ Institutional share <80%	3	4.76190	4	5.97015	4	5.88235	5	7.35294	5	7.35294
80%≤ Institutional share <90%	3	4.76190	1	1.49254	1	1.47059	1	1.47059	1	1.47059
90%≤ Institutional share <100%	0	0.00000	1	1.49254	1	1.47059	1	1.47059	1	1.47059
State share										
0%≤ State share <10%	58	92.06349	61	91.04478	62	91.17647	62	91.17647	61	89.70588
10% ≤ State share <20%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
20%≤ State share <30%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	1	1.47059
30%≤ State share <40%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
40%≤ State share <50%	1	1.58730	1	1.49254	1	1.47059	1	1.47059	1	1.47059
50%≤ State share <60%	2	3.17460	2	2.98507	2	2.94118	2	2.94118	3	4.41176
60%≤ State share <70%	1	1.58730	1	1.49254	1	1.47059	1	1.47059	0	0.00000
70%≤ State share <80%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	2	2.94118
80%≤ State share <90%	1	1.58730	2	2.98507	2	2.94118	2	2.94118	0	0.00000
90%≤ State share <100%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
Employee share										
0%≤ Employee share <10%	56	88.88889	60	89.55224	61	89.70588	61	89.70588	61	89.70588
10%≤ Employee share <20%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
20%≤ Employee share <30%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
30%≤ Employee share <40%	0	0.00000	1	1.49254	1	1.47059	1	1.47059	2	2.94118
40%≤ Employee share <50%	2	3.17460	1	1.49254	1	1.47059	1	1.47059	1	1.47059
50%≤ Employee share <60%	3	4.76190	3	4.47761	3	4.41176	3	4.41176	2	2.94118
60%≤ Employee share <70%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000
70%≤ Employee share <80%	2	3.17460	2	2.98507	1	1.47059	1	1.47059	1	1.47059
80%≤ Employee share <90%	0	0.00000	0	0.00000	1	1.47059	1	1.47059	1	1.47059
90%≤ Employee share <100%	0	0.00000	0	0.00000	0	0.00000	0	0.00000	0	0.00000

Source: Author's computations. Notes: The description of the variable is provided in Table 2