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Corporate Governance, Ownership Structure and Performance in Mexico

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Abstract

This article studies the relation between ownership structure and performance of 90 Mexican firms for the period 2005-2009. We used a two-stages least squares (2SLS) and generalized method of moments (GMM) because we consider the ownership structure as endogenous, and wish will be the most appropriate given the characteristics of the environment in which the company operates (Shlelifer & Vishny, 1997; La Porta *et al.*, 2000). The results obtained show a greater performance as to how ownership is concentrated in the Mexican market. This result derives from the institutional framework prevailing in the country where the companies were analyzed. In the Mexican case, the firms with high levels of ownership concentration, especially families, seek a better way to protect their interests. However, this high concentration in families leads to the use of additional governance mechanisms, such as debt or board structure, that have peculiar results (works such as substitutes or reinforcing components).

Keywords: ownership structure, governance mechanisms, performance

1. Introduction

The study of ownership structure in the economic and financial areas, began since the existence of property rights, and these relationships are fundamental in the economic theory of the firms; just like Coase (1937) identified. However, the relevance of these relationships took relevance in the literature, from Berle and Means (1932), who asserted the ownership dispersion, as one of the most common challenges for the modern corporation, they emphasize that it may lead to internal conflicts in the firm. This conflict is explained by agency theory. The agency theory is the most important theoretical basis that examines and explains the relationship between ownership structure and financial performance. This relationship has been studied from different approaches, and has led to mixed results, leading to different interpretations.

There is a growing interest in academic literature in this topic, specifically on the effects of ownership concentration (particularly in families), in their financial performance. Evidence shows that family businesses have superior performance, and it is even more evident in emerging markets, where they are view as the "engines" of the economy (Whyte, 1996). Large family controlled groups, are dynamic and versatile, and they represent a significant proportion of gross national product in high-growth emerging markets (Carney, 2005; Claessens et al., 2002). In Mexico, a majority of firms, as in most developing countries, are considered family businesses. Nevertheless, very few studies refer to Mexican family businesses, so it is a research opportunity.

In this study, we analyze the relationship between family ownership and firm performance (under de measure of Q-tobin) for the companies listed in the Mexican Stock Exchange. We used a two-stages least squares (2SLS) and generalized method of moments (GMM) to show the effect on performance of different mechanisms, like ownership structure, board of directors and leverage characteristics (the last two habr different impacts depending on ownership structure). We used this methodology, because we consider the ownership structure as endogenous, and because it should be the most appropriate consideration, under the characteristics of the environment, in which the company operates (Shlelifer & Vishny, 1997; La Porta et al., 2000). While previous

research has focused on how different incentives of family members impacting performance, this paper examine the relationship between ownership structure (family) and other governance mechanisms (debt and board structure) with financial performance. Our main focus is to analyze the relationship between these variables, after controlling for the endogeneity issue. In this way, we will try to disentangle, if they are potentially substitutes or reinforcing components, as family structure varies.

The remainder of this paper is structured as follows. After the introductory section, section two provides a theoretical background, while Section three presents data collection and variables. In Section four we describe the used methodology and results. Finally, in Section five, we present the conclusions of our research.

2. Relationship between Corporate Governance and Firm Performance

The importance of ownership and its implications for the company has been widely studied in economic theory. One of the main theories is about the relationship between ownership and control of the firm, is the agency theory. This theory establishes the existence of interest conflict between owners and managers, (principal and agent problem). Ross (1973) defines an agency relationship, as a link between two or more parts, one designated as the "agent", acting as the representative of the other, named the "principal". However, monitoring and controlling the agent is expensive, as the agent can engage in decision making and behaviors that may be inconsistent with maximizing shareholder wealth (Daily et al., 2003). Thus, owners have as main objective maximization profits, but due to incomplete information, they cannot make contracts that allow them to eliminate the managerial discretion (Jensen & Meckling, 1976). It also creates information asymmetries that make it possible for agents to engage in activities that, if left unchecked, would threaten firm performance and may ultimately harm the welfare of owners and agents alike. Information asymmetries and incentives therefore combine and pose a moral hazard to agents, which owners can reduce by monitoring agents conduct, gaining access to their firms' internal information flows, and providing incentives that encourage agents to act in the owners' best interests (Schulze et al., 2001).

Accordingly, Jensen and Meckling (1976) the cost of reducing information asymmetries and the accompanying moral hazard, are lowest when owners directly participate in the management of the firm. Owner managed firms thus have little need to guard against this agency threat. Thus, one could argue that family involvement in ownership and management of the business, should be more efficient in firms where there is a separation between ownership and control, given the problems of opportunistic behavior of the agent; with respect to the principal and the costs associated with supervision (Cabrera, et al., 2000).

Although for Fama (1980) and Fama and Jansen (1983), the separation of ownership and control leads to an efficient organization, to others the existence of agency relationship does not lead to Pareto-efficient solutions (Note 1) (Ross, 1973; Coase, 1937; Demsetz, 1969). In the corporate organization form Anglo-Saxon model, separation between control and ownership has prevailed and has serious implications for the way in which the firm operates in the market. That is, the goal of every business is profit maximization, but when there is separation between ownership and control monitoring costs arise, the need for control and costs from the shareholders puts at risk the possibility of a profit deviation by managers. Shareholders, therefore, must make use of mechanisms to reduce those costs, and align the objectives of management in order to achieve maximizing value behavior of the company.

2.1 Ownership Structure, Leverage, Board and Performance

Some of the pioneers in the study of corporate ownership and its consequences, were Demsetz and Lehn, who in 1985, wrote about the causes and effects of corporate ownership structure, concluding that corporate ownership varies systematically and consistently with the maximization of value, and found that the variables that can explain this variation are the firm size, volatility and rate of return. Added to this, their work presents different ways to measure the ownership structure as the percentage of shares controlled by top five shareholders, percentage of shares controlled by top 20 shareholders, the Herfindal rate of concentration, percentage of shares controlled by the five major families or percentage of shares controlled by institutional investors.

Other authors as Demsetz and Villalonga (2001) mentioned that the measures of corporate ownership that Demsetz and Lehn (1985) includes in their study incorporated only owners, but the studies that were written after (Morck et al., 1988; McConnell & Servaes, 1990; Loderer & Martin, 1997; Cho, 1998; Himmelberg et al., 1999; Holderness et al., 1999) also considered the shares of board members, the president of the company and senior management. Thus, Demsetz and Villalonga (2001) consider that the fraction of shares held by top five shareholders of the company as one of the most representative measures of skill that allows them to control the management team. La Porta et al. (1999) published a study describing the ownership structure around the world, define the ownership structure of voting rights rather than cash flows, and determine that the final owners may

be: a family or an individual, the State, a financial institution, corporation or other. The resulting corporate structures include: pyramids groups and cross shareholdings.

Demsetz (1986), explained that there is a relationship between ownership concentration and firm-specific risk, i.e., firms with higher volatility have greater incentive to be monitored and, therefore, to concentrate property. Schleifer and Vishny (1997) consider that when the legal protection does not allow control rights to small investors, then investors will have more effective controlling rights if shareholders own large parts of property. When control rights are concentrated in the hands of a small number of investors, the lines of action to be taken are easier to coordinate. The authors argue that concentration may take different forms such as: shareholders, takeovers and major creditors.

Hart (1995) agrees with the idea that ownership concentration serves as a regulatory mechanism of the managers, however, the author says that it does not completely eliminate the agency problem because the agency costs incurred by a controlling shareholder do not compensate for the increase in profits and also because a majority shareholder can improve their position at the expense of another owner.

Despite the approach of Berle and Means (1932) about ownership dispersion, many markets (unlike Anglo-Saxon model), have important ownership concentrations, it is common that the concentration be held by families. Villalonga and Amit (2006) paper, argue that family businesses are as common as public enterprises. Other studies found family ownership is an important part of the structure of interest in the company and has important implications for the firm (Schleifer & Vishny, 1986; La Porta et al., 1999; Classens et al., 1999; Castrillo & San Martin, 2007).

2.2 Family Firm

The discussion about the importance of ownership structure and its impact on the firm began with Berle and Means (1932) work, which describes the characterization of a modern corporation as dispersed. However, not all markets have as main characteristic the existence of small shareholders, as the United States and United Kingdom markets, many others are characterized by block shareholders, especially in family groups (Morck & Yeung, 2003).

Although many authors consider ownership concentration as an effective regulatory mechanism for the manager, because have a lower cost of supervision due to lower agency costs (Shleifer & Vishny, 1997; Jensen & Meckling, 1976). Other authors, such as Morck and Yeung (2003), consider that family ownership has its own agency problems, because the director may act only for the family interests. Some agency problems of family businesses, that the authors found, include the use of pyramidal groups, entrenchment and the absence of transactions free of influences that is detrimental to public investors.

Schulze et al. (2001) also consider that the control by an owner does not necessarily mitigate the agency problem, because in the case of family businesses, in particular family dynamics, agency problems, can be exacerbate because families invest time and many resources in the firm, creating many difficulties in handling the conflict. Because there is no clear separation between the amount of work and control that families exert, as well as their position in the firm. Arosa et al. (2010) even consider the existence of different types of shareholders (family members and non members), which leads to other agency problems between minority and majority shareholders, and between family members and public investors. Thus, family ownership has its own agency problems, which can affect firm performance.

In fact, the literature show different results and there is not a general consensus on characteristics of this relationship. For example, Morck et al. (1988) consider the theoretical arguments of the agency problem which cannot predict adequately how it will be the relationship between ownership structure and firm performance, because the principal-agent relationship involves two effects: on one hand, the entrenchment hypothesis argues that managers who have significant shares have sufficient power to ensure their job. This hypothesis establishes that the market valuation (performance) may be negatively affected by high ownership shares (ownership structure), because the corporate assets may have a lower valuation when they are administered by individuals with high levels of control. On the other hand, there is the convergence interest hypothesis, which argues a positive relationship between ownership structure and firm performance from the aligned interests and leads to higher valuations by the market.

There is also a line of thought within agency theory that argues a relationship between ownership and firm performance, which provide evidence about non-monotonic relationship between performance and manager ownership Morck et al. (1988). Cho (1998) found very similar relationship, while Hermanlin and Weisbach (1988) estimated the effect of managerial ownership and board composition and found no relationship between

board composition and performance, but did find a non-monotonic relationship between performance and managerial ownership.

Loderer and Martin (1997) determined that managers' property cannot predict performance, but find that performance can predict managerial ownership. Holderness et al. (1999) found a significant relationship between firm performance and managerial ownership. Classen et al. (1999) analyze the Czech Republic, which is of particular attention because of recent massive privatization. Using a correction for endogeneity, they used cross-sectional data and concluded that the higher the ownership concentration brought about, higher profitability and productivity of the firm. On the other hand, Goud (2002) makes a study of the 25 countries of ex Soviet Union and does not find any valid conclusions, due to endogeneity presence. Likewise, Kuznetsov and Muravyev (2001) studied Russian family firms and concluded that the ownership concentration have a greater technical efficient, however, ownership concentration affect the firm's performance negatively. Pervan et al., (2012) studied the relationship between performance and ownership for firms in Croatia and argue that ownership concentration is negatively related with performance.

Other European studies such as Earle et al. (2004) measure the impact of ownership concentration on performance for companies listed on the Budapest Stock Exchange (the property is highly concentrated in blocks), and find that large block holders increases strongly and monotonically the profitability and efficiency of firms. However, when the ownership concentration is on smaller blocks, this relationship is not statistically significant. Anderson et al. (2004) explores the relationship between ownership structure and performance between companies in Sweden and find a spurious relationship between the firm voting concentration and performance, and also find that when considering endogeneity and heterogeneity the owner characteristic plays a fundamental role.

In an analysis conducted for non-listed firms in Spain, Arosa et al. (2010), find that in first-generation family firms' results show a positive relationship between ownership concentration and corporate performance at low level of control rights as a result of the monitoring hypothesis and a negative relationship of high level of ownership concentration as a consequence of the expropriation hypothesis. Alonso and Alonso (2007) also conducted a study for Spain, considering not only the endogenous effect but the peculiarities of the Spanish market and find a positive effect of ownership concentration on performance. Villalonga and Amit (2006) also determined how ownership, control and family management affect performance in Spanish firms and show that family ownership improves the performance only when the founder is the CEO or a senior member of board. Sacristán et al. (2011) make a description of Spanish family firms, showing the main shareholders of public Spanish firms and their most common combinations and concluded that no one combination has significant influence on firm performance. Garcia and Garcia (2011) find that board size has a positive effect on firm performance when the company is under founder leadership and opposite, the effect is negative (the board size has a negative effect on performance) when the manager is not the founder. Furthermore, the presence of independent directors has a positive effect when the company is managed by the founder and the effect becomes negative when the company manager is a descendant.

Nagar et al. (2002) analyzed the relationship between ownership and performance for private U.S. corporations, and conclude that in a closed corporation there cannot exist endogeneity problems, because the property is predetermined. The authors therefore propose that closed firms have lower returns on assets and higher spending on wages. In firms that are not public, owners can become more involved in administrative decisions, and the biggest problem of these firms is that the majority shareholders seek to acquire ownership from minority shareholders. Anderson and Reeb (2003) find that family firms have a better performance. In the Asian markets analyzed by Kim et al. (2004) the performance of Thai firms when these become public, and find that for high and low levels of managerial ownership there exists a positive relationship between ownership and performance, while for intermediate levels the relationship is negative. Shah et al. (2011) researched firms from South Asia and find that ownership structure is negatively related with performance. In a similar research from Chile, Espinosa (2009) finds a negative relationship between ownership structure and performance.

In the Mexican case, very few studies exists, for example Ruiz-Porras and Steinwascher (2008) find that regarding strategy and performance, there do not exist associated trends with separation between ownership and control. Husted and Serrano (2001) show that 53 percent of the directors or senior executives of Mexican firm are also directors of others companies of the same group, or are relatives of executives of the company, but the study is not closely related with the relation between ownership structure and performance. Castañeda (1999) argue that for Mexican cases the high ownership concentration is explained not only because there exists family ownership but also because the pyramidal structure is common. Moreover, the existence of non-voting shares, which leads to extract rents problem also needs to be considered. Castrillo and San Martin (2007) argue that

family ownership is an element that functions as a mechanism for manager monitoring. Moreover, San Martin and Duran (2012) found that family businesses in Mexico adopt corporate governance structures very different from family and non-family firms, and also find that this may have some impact on the performance of these firms. Chong and Lopez de Silanes (2006) made an analysis of the recent capital market developments and their effect on the availability of external financing in Mexico and show that firms with better corporate governance practices are associated with better assessments, better performance and better returns for investors, after controlling for endogeneity.

As the above studies show, there is conflicting evidence about the effect of ownership concentration (families) on the performance. In this respect, Dyer (2006) considers that existing research fails to explain the effects of family in the firm. Usually these factors are explained by: industry, corporate governance, firm characteristics and management. But Dyer (2006) found that families have an influence on performance through family goals, relationships, resources and assets of the family depending of the assets and agency costs of each family. Figure 1 below show four quadrants suggesting four types of family firms: (I) the *clan* family firm, (II) the *professional* family firm, (III) the *mom & pop* family firm, and (IV) the self-interested family firm. These quadrants explain the mixed results, because each company has a set of agency costs and different assets.

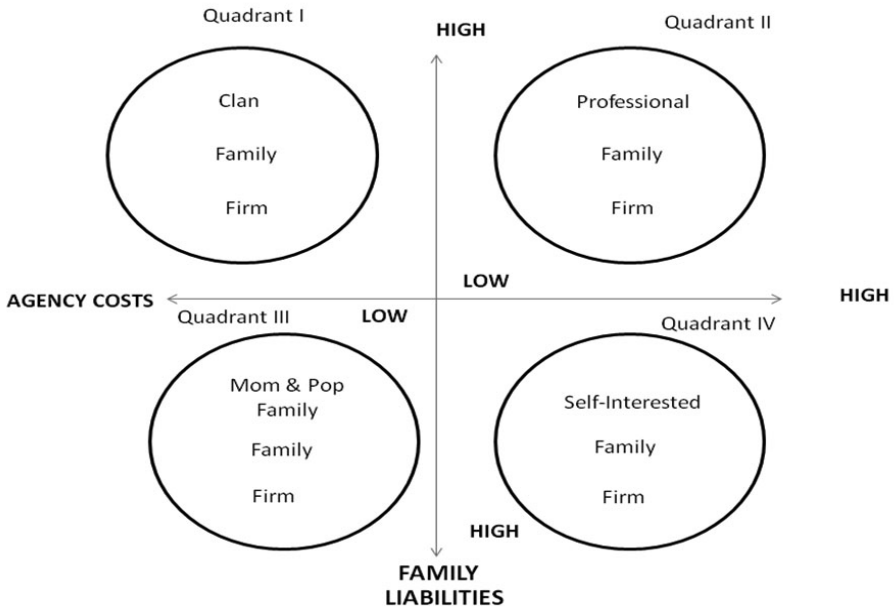

Figure 1. Typology of Family Firms

Source: Dyer (2006).

Furthermore, the mixed results that the literature show about the relationship between ownership structure and performance can be explained also, according to Demsetz and Villalonga (2001), due to differences in measures and samples, estimation methodology and the endogeneity problem. Demsetz (1983) argues that ownership structure should be considered as an endogenous outcome of decisions that reflect the influence of owners in the stock market, because ownership structure reflects the decisions of those who own shares and those who buy them. Demsetz and Lehn (1985) and Demsetz and Villalonga (2001) confirmed this endogenous relationship. Kole (1995) suggests an inverse causality between ownership and performance, and argues that performance would be a determinant of ownership structure, rather than being determined by the ownership structure (Cho, 1998).

Murphy (1985) concludes that manager compensation is positively and strongly related with performance, thus establishing that the ownership structure may represent an endogenous outcome of the compensation contractual process. Cho (1998) argue that endogeneity has significant effects on investment and hence on performance. His work states that investment affects corporate value, which in turn affects the ownership structure, but not vice versa. Therefore it supports the implicit assumption of exogeneity of the ownership structure, which severely affects the results and leads to deviant interpretations. Himmelberg et al. (1999) address the problem from the perspective of contract, and see which companies are governed by a network of representative contracts, allowing them to finance, have a capital structure, maintain a property management and provide compensation to

directors. Due to these contractual arrangements, it is difficult to identify the correspondence between the contractual choice and firm performance. Their analysis leads them to conclude that, the results are robust to controlling for endogeneity induced by unobserved heterogeneity that varies over time. Coles et al. (2011) present a structural model for the relationship between property managers and corporate performance and give an endogenous treatment by various methods to correct when there are panel data, although the method presented (instrumental variables) has yet to show robust results.

Academic literature emphasizes differences in corporate variables that can affect firm performance, such as board characteristics; for example, family dynamics undermine effectiveness of outside boards. The advantages external directors in widely held firms are clear (Schulze et al., 2001), as they are better able to monitor firm performance, oversee discipline, or even dismiss managers when they are not beholden to the firm (Finkelstein & D'Aveni, 1994; Lin, 1996; Walsh & Seward, 1990). They also bring needed expertise and perspective to boards which might otherwise lack these skills (Finkelstein & Hambrick, 1996).

Despite the advantages of outside directors, family firms are less likely to use them. First, outsiders almost never attain the status of large-block ownership that they sometimes do in widely held firms, and they are likely to be less motivated than family directors (Alderfer, 1988). Second, while their "impartial" status can enhance their ability to offer advice on some decisions, they have little influence on decisions involving family members or other family matters (Nelsen & Frishkoff, 1991). Therefore, outside directors can be restricted to work efficiently, mainly by high levels of ownership concentration in family firms particularly (Rubenson & Gupta, 1996). Consequently, we anticipate problems associated with family businesses and the composition of their boards of directors. Finally, the last theme highlighted is debt (Gallo & Vilaseca, 1996; McConaughy et al., 2001). Indebtedness reinforces financial risk (Nam et al., 2003) which correlates positively with the risks of bankruptcy and loss of control (Gilson, 1990; Mishra & McConaughy, 1999; Allouche et al., 2008).

The aversion of family business to debt is mainly for current liabilities (Mishra & McConaughy, 1999) which are associated most strongly with the risk of loss of control (Allouche et al., 2008). However, on the other hand, benefits associated with the decision to increase the indebtedness in the firm are also recognized. Debt requiring periodic payments reduces free cash flows and creates incentives for management to have lower discretional behavior (Jensen, 1986). This reasoning stems from the free cash flow Jensen hypothesis (cash flow hypothesis). According to this hypothesis, agency problems are connected with cash flow distribution.

This flow represents resources that exceed the amount needed to finance all profitable investment projects as debt forces managers to release these resources to avoid invested in an inefficient form and -over investment problem- (Andres et al., 2000). In these circumstances, the debt issue involves periodic payments over time, thus reducing the unrestricted funds for managers, because some of them should go to pay and control possible discretionary behavior (Jensen, 1986; Grossman & Hart, 1980).

3. Sample and Data Collection

3.1 The Sample

The sample includes the companies listed in the Mexican Stock Exchange for the period 2005–2009. Out of 132 listed companies, non-profit companies, companies that do not include enough information in their financial statements, as well as financial institutions, were excluded. We were thus left with 90 companies. We obtained the annual reports and financial indicators from Economatica, and Isi Emerging Markets. Information about industrial sector was obtained from company annual reports published by the Mexican Stock Exchange on its website. Table 1 shows the companies that make our sample, according to sectors to which they belong.

Table 1. Number and Percent of Family Ownership by Sector (Mexican Stock Exchanges -BMV-)

Sector	Num. of Firms	% of total	% of family ownership by sector
Materials	18	20%	55.5%
Industry	22	24.4%	77.2%
Services and goods of consumer non-basic	17	18.8%	70.5%
Common consumer products	20	22.2%	80%
Health	4	4.4%	75%
Telecommunications services	9	10%	66.6%
Total	90	100%	71.1%

Note: Number and percent of firms by sector agree with Mexican Stock Exchange classification code. Family ownership refers to family business in the specific sector.

3.2 Variables

Financial performance is measured using Tobin's Q ratio or the asset market-to book ratio (Note 2). Moreover, we used Industry-adjusted Q (qadj) is then defined as a firm's Tobin's Q less the average Q form firms in the same industry according to the Mexican Stock Exchange's industry classification. According to Espinosa (2009), the quality of Tobin's Q is lost when the shares are not very liquid and adjusted Tobin's Q is a proxy for Tobin's Q.

A key aspect of our study is to define ownership concentration, measure by family concentration. In some works, such as Anderson and Reeb (2003), they consider the proportion of ownership of the founding family and family presence on the board. Similarly, authors, such as McConaughy et al., (2001), consider a company as a family-owned company when the CEO is from the controlling family. We adopted as a definition of family control, the one used by Mroczkowski and Tanewski (2007), who define a family-controlled firm as an entity controlled by a private individual, directly or indirectly, in conjunction with close family members. Inclusion is based upon the following criteria: the existence of a founding member or descendant involved in management with more than 20 percent of voting shares; the shareholder is CEO or a key member of the board (that is, chairperson); at least one other related party is a member of the board; and the original shareholder and the related parties hold more than 50 percent of the voting shares of the company. That is, 50 percent of the equity of each family firm in the sample is held by family members, because only in this case the family has the ability to control 100 percent of the decisions and management of the company.

The variable *ceown* indicates the proportion of CEO own. These variables can show a majority control and proxy of measures of ownership and control specialization (see Table 2 for some descriptive statistics). The remaining corporate governance variables include the composition of the board (*out* and *sha*) and debt (*lev*). We use Weisbach's (1988) classification scheme to determine board composition. A director who is a full-time employee of the company is classified as an inside director (*sha*). A director who is neither an employee nor has extensive dealings with the company is referred to as an outside director (*out*). Debt (*lev*) is measured by total liabilities divided by total assets. In addition to the abovementioned variables, we include some control variables in order to assess more clearly the effect of independent variables of performance. Based on what has been done in previous works (De Andres et al., 2005; Wang, 2006; Warfield et al., 1995; Espinosa, 2009), we have included the firm size (*ta*) and market risk (β) -Annex 1 provides variable abbreviations and their respective definitions.

Table 2. Descriptive Statistic

Variable	Obs.	Mean	Standard Deviation	Mini.	Max.
qtobin	450	1.2059	0.6708	0.1908	3.6239
qadj	450	0.1552	0.9142	-1.5292	3.7885
own	450	0.4427	0.3219	0	1
ceown	450	0.4222	0.4944	0	1
lev	450	0.4098	0.2006	0.0152	1.1189
out	450	4.6933	3.1324	0	14
sha	450	5.3622	2.683	0	17
β	450	0.6375	1.2177	-5.8935	7.2064
lta	450	16.1303	1.7350	11.9387	20.2510

Table 2 presents descriptive statistics of the used variables. We can see the importance of ownership concentration (in families) in the Mexican market, because the values vary from 0 to 1, with an average of 44% family-owned. The average firm has a Tobin's Q of 1.20, and Industry-adjusted Q of 0.15. The average debt of companies in the analysis period is 40% of total funding. The measure of risk (β) has a mean of 0.63 (Note 3). The average Mexican firms have a less β than the market risk. The board composition shows that the number of outside directors (*out*) is on average lower than number of inside directors. Finally, the log of total assets of the company (*lta*) has a mean of 16.13.

According to the literature (Jensen & Merckling, 1976; Morck et al., 1989) the relationship between ownership structure and firm performance could be endogenous (Demsetz & Villalonga, 2001). Data available for the Mexican case is presented as a panel, so when we analyzed the relationship between ownership structure and performance we used the panel data methodology. However, this method does not assume endogeneity between the variables, so the estimators could be unbiased estimators. Thus it is necessary to adopt methods that will solve this problem. Therefore, the model is estimated using two stages least squares (2SLS), and to give greater

robustness to model, also we used the generalized method of moments (GMM) to solve the endogeneity problem. The model can be expressed as follows, where *i* refers to companies and *t* refers to years (i = 1 .... 90, t = 1 ... 5)

$$q = a_{it} + \beta_1 own_{it} + \beta_2 ceown_{it} + \beta_3 lev_{it} + \beta_4 out_{it} + \beta_5 sha_{it} + \beta_6 b_{it} + \beta_7 lta_{it} + \mu_{it}$$

$$qajus = a_{it} + \beta_1 own_{it} + \beta_2 ceown_{it} + \beta_3 lev_{it} + \beta_4 out_{it} + \beta_5 sha_{it} + \beta_6 b_{it} + \beta_7 lta_{it} + \mu_{it}$$

3.3 Regression Analysis

The sample combines 90 observations with five cross-sections or years, amounting to 450 observations in the panel data. Given the aim of the study, we used panel data methodology. Also, due to differences in size and performance of the Mexican companies analyzed we used Industry-adjusted Q (qadj). The results of the panel data estimation are displayed in Table 3. The results show that ownership structure has a positive relationship with performance, similar to that reported by authors such as Shleifer and Vichny (1986); Classens and Djankov (1999); Alonso and Alonso (2007); Garcia and Garcia (2011) and San Martin and Duran (2012).

Table 3. Estimation with panel data methodology

	Panel A			Panel B		
	Dependent Variable Tobin's Q			Dependent Variable Industry-adjusted Q		
	Coefficient	Statistic t	P Value	Coefficient	Statistic t	P Value
own	0.265	0.41	[0.681]	0.49	0.57	[0.570]
ceown	-0.056	-0.45	[0.650]	-0.051	-0.35	[0.729]
lev	0.443	1.84	[0.066]	0.428	1.56	[0.119]
out	0.017	0.88	[0.378]	0.008	0.35	[0.725]
sha	-0.056	-1.95	[0.052]	-0.069	-2.09	[0.037]
β	-0.013	-0.74	[0.461]	-0.028	-1.41	[0.159]
lta	0.192	2.15	[0.033]	0.387	3.76	[0.000]
Constant	3.494	2.49	[0.013]	5.926	3.67	[0.000]
R^2 adjusted	0.07			0.07		
Hausman test	42.56		[0.000]	21.33		[0.006]

Description: The table shows estimated coefficients, t-statistics and p-value. The dependent variable is the performance measured by Tobin's Q and Industry-adjusted Q (the dependent variable is defined in Appendixes). The Panel A shows the results for Tobin's Q. Panel B reports the results for Industry-adjusted Q. Ownership concentration is represented by main shareholder participation (own). Board structure comprises (*out)* number of independent director in the board and number of shareholder director in the board (*sha*). Leverage (*lev*) is total liability/total asset that is measured as the book value of debt divided by the book value of total assets. Market risk (β) and firm size as the natural log of the book value of total assets (*lta*). Hausman test allows testing fixed versus random effects hypothesis. Hausman test follows a χ^2 distribution.

However, this estimation assumes that the variables are exogenous and incurs heterogeneity bias. To correct this problem we assume the ownership structure as endogenous (Demsetz & Lehn, 1985; Demsetz & Villalonga, 2001). To solve the endogeneity problem we used two stage least squares -2SLS- (see Table 4). In general, we confirm a positive relationship between ownership structure and performance (Shleifer & Vischny, 1986; Classens & Djankov, 1999; Alonso & Alonso, 2007; Garcia & Garcia, 2011; San Martín & Duran, 2012). This result is consistent with the evidence presented, because family ownership variable (*own*) has a positive influence on performance. This result, statistically significant, suggests that a greater concentration of ownership (in families) is an associated factor with improved firm performance, consistent with the traditional assumption that the concentration of ownership provides closer supervision on the functioning of the company.

The influence of the composition board and debt, as evidence in Table 4, show a positive relation between leverage, outside directors and performance. However, the result from CEO ownership (*ceown)* and shareholder directors' (*sha*) is opposite, because we find a negative and significant relation with performance. From our perspective, the explanation for this may be related with the agency problems and asymmetry information that differ depending on the institutional environment in which the firm operates.

In the case of Mexico, as we have seen, the ownership structure plays a main role in the monitoring functions, so the owners do not need the help of more agents to do this work. Thus, higher levels of manager ownership or the shareholders presence on the board has a negative impact on performance, mainly due to entrenched problems that could be presented and lack of objectivity because firm management do not find objection in decision-making processes, since high levels of managers and board directors ownership are linked with the

controlling family. However, a strong presence of outside directors as well as higher debt levels help to give and equilibrium to the decision making process, the outside directors on the board counteract the family power in decision-making, providing an external and professional view, while the management team control firms debt through free cash flow (Jensen, 1986).

Authors such as Andres et al., (2000) identified that the failure of control systems to guide a good company strategy is an argument to conjecture and, agree with the free cash flow hypothesis of Jensen (1986), that the resources excess remaining in the firm after financing all profitable investment projects could be used by management to increase investments to maximize their utility function, but not necessarily to maximize the company value, leading to adopt more lucrative projects but also riskier ones (Jesnse & Meckling, 1976). Several controls in a few family hands could lead to expropriation problem by large shareholders (control family) over small owners (rest of public investors).

As can seen in Table 2, the ownership concentration in the Mexican market is very high, justified by prevailing institutional framework and the lower investors' protection.

However, excessive control of public company could be dangerous to the firm, as we see the family monitoring closely the company, thus a CEO with a high ownership level and high number of shareholders directors on the board, would leave the company almost to the mercy of the family. In contrast, the presence of outside directors and institutions shareholders would help to have external vision on making decisions process to generate a counterweight in decision-making through appropriate governance mechanisms use.

Finally, with respect to control variables in the model, the variable of market risk (β), is not statistically significant. Nonetheless, measured by the variable lta, firm size, however, comes out positive in all.

The result with the Industry-adjusted Q (qadj) model is very similar to Tobin's Q model, the signs are maintained and the variations are very small, even the statistical significance remains valid for Industry-adjusted Q (qadj). The coefficient of family and CEO ownership is minor in the regression with the Q set. Debt also has a greater impact when the model is inferior for Industry-adjusted Q. The same applies to the board structure and size variables, so with the Industry-adjusted Q model the impact on dependent variable is greater.

Table 4. Estimation with two stages least squares (2SLS)

	Panel A			Panel B		
	Dependent Variable Tobin's Q			Dependent Variable Industry-adjusted Q		
	Coefficient	Statistic t	P Value	Coefficient	Statistic t	P Value
own	0.714	2.27	[0.023]	0.699	2.05	[0.041]
ceown	-0.478	-2.35	[0.498]	-0.112	-0.47	[0.640]
lev	0.382	2.42	[0.016]	0.907	4.32	[0.000]
out	0.431	2.00	[0.045]	0.769	2.74	[0.006]
sha	-0.040	-3.32	[0.001]	-0.056	3.58	[0.000]
β	-0.002	-0.08	[0.940]	-0.006	-0.19	[0.848]
lta	0.048	2.33	[0.020]	0.080	2.92	[0.003]
Constant	0.453	1.47	[0.141]	1.134	2.87	[0.004]
R^2 adjusted	0.1			0.13		

Description: The table shows estimated coefficients, t-statistics and p-value. The dependent variable is the performance measured by Tobin's Q and Industry-adjusted Q (the dependent variable is defined in Appendixes). The Panel A shows the results for Tobin's Q. Panel B reports the results for Industry-adjusted Q. Ownership concentration is represented by main shareholder participation (*own*). Board structure comprises (*out*) number of independent director in the board and number of shareholder director in the board (*sha*). Leverage (*lev*) is total liability/total asset that is measured as the book value of debt divided by the book value of total assets. Market risk (β) and firm size as the natural log of the book value of total assets (*lta*).

One of the study's concerns is to know whether the results that have been obtained are contingent upon the specification of the model. In order to assess the robustness of the results to alternative specifications and variable measurements a sensitivity analysis is added by generalized method of moments (GMM), following the Arellano and Bond (1991) methodology. The GMM is appropriate according to Arellano and Bond (1991) when the sample is large and the time section is small. In our case the sample includes 90 firms and five years, so it is appropriate to apply the GMM model. These authors propose GMM as an instrument for the explanatory variables using lagged values of the original regressors and thus solving the endogeneity problem. The GMM model can control the correlation of errors over time, the heteroskedasticity among firms, simultaneity and

measurement errors caused by the use of orthogonal conditions covariance matrix (Espinosa, 2009).

The results of the GMM model are show in Table 5 below and confirm the findings with the 2SLS model, as well as the positive relationship between performance and ownership structure, and the negative correlation with CEO own (*ceown*) and, the number of shareholders directors on the board (*sha*). The signs for debt ratio (*lev*) remain statistically significant and positive, as well as the results for outside directors (*out*). The control variables size and β are maintained, with only the first significant value (Note 4). In the case of the Industry-adjusted Q model, the results are replicated.

Table 5. Estimation with generalized method of moments (GMM)

	Panel A			Panel B		
	Dependent Variable Tobin's Q			Dependent Variable Industry-adjusted Q		
	Coefficient	Statistic t	P Value	Coefficient	Statistic t	P Value
own	0.650	2.36	[0.018]	0.699	2.50	[0.012]
ceown	-0.470	-2.49	[0.013]	-0.112	-0.46	[0.642]
lev	0.355	1.93	[0.053]	0.907	4.12	[0.000]
out	0.471	2.07	[0.039]	0.939	3.47	[0.001]
sha	-0.039	-3.11	[0.002]	-0.064	-4.33	[0.000]
β	-0.002	-0.01	[0.992]	-0.009	-0.02	[0.986]
lta	0.054	2.32	[0.020]	0.104	3.39	[0.001]
Constant	0.455	1.47	[0.142]	1.181	2.66	[0.008]
Sargan Test	34.62		[0.251]	30.31		[0.300]
AR1	-0.48		0.628	-0.715		[0.447]
AR2	-1.22		0.224	-0.962		[0.338]

Description: The table shows estimated coefficients, t-statistics and p-value. The dependent variable is the performance measured by Tobin's Q and Industry-adjusted Q (the dependent variable is defined in Appendixes). The Panel A shows the results for Tobin's Q. Panel B reports the results for Industry-adjusted Q. Ownership concentration is represented by main shareholder participation (*own*). Board structure comprises (*out*) number of independent director in the board and number of shareholder director in the board (*sha*). Leverage (*lev*) is total liability/total asset that is measured as the book value of debt divided by the book value of total assets. Market risk (β) and firm size as the natural log of the book value of total assets (*lta*).

4. Conclusions

Research about relationship between ownership and performance begins with the work of Berle and Means (1932), who described the importance of ownership dispersion in modern corporations. These authors argued that widely held firms involved the loss of control and diversion of interest from management, trying to serve your self-interests that not always involved the maximization of company profits. Despite the theoretical importance of their work, many studies have suggested the influence of ownership in many different ways when the environments vary (Dyer, 2006). Also recent research find that widely held firm are not representative for many markets, especially not Anglo-Saxon markets (Shleifer & Vishny 1986; La Porta et al., 1999; Claessens & Djankov, 1999). Thus, Mexico study is a research opportunity to analyze, because it is a market with large ownership concentration, particularly in family businesses.

According to our sample, on average, Mexican firms have a concentration of 44 percent of ownership in family hands. The results of this paper are a reflection of these and other conditions of the Mexican market. The Mexican case is consistent with the version presented by Shleifer and Vishny (1986) and La Porta et al., (1999) which emphasizes that the ownership concentration serves as a mechanism to keep aligned the interests of shareholders and management.

We estimated three models to analyze the relationship between performance and ownership concentration, and the interaction with other control mechanism such as the composition of board and leverage.

The first one (panel data model) do not considered the endogenous problem between ownership concentration and performance Demsetz and Villalonga (2001). Thus two other methods were applied (2SLS and GMM models) and the results are more consistent because these deal the endogeneity problem. The results obtained corroborate the evidence of emerging markets previously presented and suggest a greater performance as to how ownership is concentrated in the Mexican market. This result derives from the institutional framework prevailing in the country where the companies were analyzed. In the Mexican case, the firms with high levels of ownership concentration, especially families, seek a better way to protect their interests.

However, this high concentration in families leads to the use of additional governance mechanisms, such as debt or board structure, that have peculiar results. For example, in the case of outside directors and debt, our results show a positive relationship between these and performance. These results go together with a negative relationship between firm performance and CEO ownership, and shareholder directors on the board. Thus, in our study, we can conclude that high levels of CEO ownership or the presence of owners on the board have a negative impact on performance, mainly due to the problems of entrenchment and lack of objectivity in the decisions making process, because the family does not find opposition. This high ownership concentration and conglomerate structures also have an important effect on the board room composition.

Most board members in Mexican companies are related to the controlling shareholders through family ties, friendship, business relationships and labor contracts. Therefore, the presence of outside directors and debt will serve as a counterweight in the decision making process, on the one hand, with outside directors and inside the board, to counteract the family power on decision making, while providing an external and professional view; and other hand, with debt control (Jensen, 1986). It would seem that there is substantial evidence to suggest that family firms adopt distinctly different corporate governance structures based on the context in which the company develops.

Therefore, it is important to understand the effects of ownership structure and other governance mechanisms on the firms' performance, considering different institutional framework, endogeneity problems and ownership structures in each country. It is also important to continue the analysis about the effects of the firms' strategic design on firm performance. Questions such as: what is the decision making process that relate better with performance? Which ownership levels are adequate for firm performance?

Nevertheless, based on these results, it is of interest to reflect deeply on the idea of agency problems between controlling and minority shareholders for firms in emerging economies (Morck & Yeung, 2003). In these nations, shareholders' rights are not sufficiently protected, and the concentration of the ownership in the hands of large block holders may act finally to the detriment of minority shareholders. Moreover, the institutional environment in which the corporation operates can affect not only firm performance, but also new investment opportunities for the company as new shareholders would reject to participate in a company whose future performance depends on a few decision-makers.

Actually, one of the main strengths of this paper, is that provides evidence about performance and control mechanisms in another context of previous study, where most are based in developed markets such as North American and European countries. Thus, we believe this study contributes by new insights to the literature, on emerging markets and to the Latin American context.

Moreover, it will be a real contribution to Mexican literature given the low number of studies about Mexico. In particular, we focus on the Mexican market because it is one with a greater ownership concentration, as well as by the high ownership concentration in the hands of a few shareholders.

Of course, there are a number of limitations to this study. First, our sample comes only from Mexican public firms. Even though this provides an interesting case, it does constrain the generalization of our results. Second, these findings require confirmation in other Latin-American countries, besides Mexico. Third, we have also concentrated our attention on measuring performance by the Tobin's Q, but concentrated ownership in family businesses may privilege other types of measuring success, such as ROE, ROA, sales or employment growth, as well as other non-economic metrics.

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Notes

Note 1. Pareto optimality definition refers to no one can be made better off without making at least one individual worse off.

Note 2. Tobin's Q typically is used as a performance measure (Cho, 1998, Morck et al., 1988; McConnell & Servaes, 1990; Hermanlin & Weisbach, 1988; Loderer & Martin, 1997; Stultz 1988; Himmelberg et al., 1999; Holderness et al., 1999; Anderson et al., 2004; Shah et al., 2011; San Martin & Duran, 2012). We use the Q as a proxy for financial Tobin's Q. According to Chung and Pruitt (1994), by comparing the values of financial Q values of Tobin's Q, Linderberger and Ross (1981) found that the financial Q explains at least 96.6% of Tobin's Q.

Note 3. When the measure of β risk is less than one, the risk of shares -or firm- is less than the market and when the value is superior to one, it indicates that the risk is greater.

Note 4. To test the consistency of the GMM estimator (in which the error term must not have second-order serial correlation and should validate the instruments used), we follow Arellano and Bond (1991). Nonetheless, we first applied the Sargan test to assess the validity of the instruments selected and analyzed the second order correlation.

Appendix

Glossary of Variables

Abbreviation: equity market value (EMV); value of debt (BVD); total assets (TA)

Abbreviation		Definition
Q	EMV + BVD /TA	Financial q value creation.
OWN	Main shareholder participation (family)	We consider a family firm when a family controls over 40 percent of the shares of the company
CEOWN	proportion of CEO own	Proportion of manager ownership.
LEV	total liability/total asset	Indebtedness of the company
SHA	Director who is a full-time employee	Shareholder director
OUT	A director who is neither an employee nor has extensive dealings with the company is referred to as an outside director	Independent director
LTA	Logarithm of total assets	Size proxy
B	$\frac{\beta = (Cov\ Ra, Rp)}{(Var\ Rp)}$	Market risk