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Moderating effect of economic instability in the relationship between concentration of control and market value: empirical evidence in Latin America

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ABSTRACT

This paper investigates the moderating effect of economic instability in the relationship between the concentration of control and market value of firms. For this purpose, we built an unbalanced panel dataset composed of 341 Latin American companies from six countries: Argentina, Brazil, Chile, Colombia, Mexico, and Peru. The results of the dynamic models, estimated using the systemic generalized method of moments, indicate, in general, that concentration of control only reduces the market value of firms in environments with high economic instability. Thus, this study provides empirical evidence that times of economic instability encourage controlling shareholders to act even more strongly in their own interests, which may result in the expropriation of the wealth of smaller shareholders.

Keywords: Concentration of Control; Market Value; Economic Instability.

1. INTRODUCTION

Increasing company value, by generating greater returns than cost of capital, represents one of the main objectives of for-profit organizations (Jensen, 2001). However, the creation of value over the long-term may be affected by agency costs, since, among other aspects, a firm's decision makers can act in accordance to their own interests, seeking the private benefits of control (Jensen & Meckling, 1976; Dyck & Zingales, 2004). Such a position, which may be adopted by managers or controlling shareholders, might reduce corporate market value, since decision makers could act according to their own interests alone, giving rise to the entrenchment effect (Shleifer & Vishny, 1986; Stulz, 1988; Claessens, Djankov, Fan, & Lang, 2002).

As ownership/control structure defines the type of agency conflict that occurs in a firm, its probable impact on corporate performance has been investigated by various studies. This literature can be divided into two groups. The first covers research that explores the agency conflict between managers and shareholders, due to fragmented ownership/control, focusing on the shareholder participation of directors and/or board members (Jensen & Meckling, 1976; Morck, Shleifer, & Vishny, 1988; Himmelberg, Hubbard, & Palia, 1999; Fahlenbrach & Stulz, 2009; Coles, Lemmon, & Meschke, 2012). The second includes studies that cover the agency conflict between controlling and

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minority shareholders, resulting from the concentration of ownership/control, analyzing the shareholder participation of large shareholders (Claessens et al., 2002; Lins, 2003; Tam & Tan, 2007; Caixe & Krauter, 2013; Wang & Shailer, 2015).

Part of the scientific literature in finance that focuses on the agency conflict between controlling and minority shareholders tests two hypotheses put forward by Claessens et al. (2002): the alignment effect and the entrenchment effect. The first suggests that, by encouraging controlling shareholders to seek value creation, concentration of ownership (cash flow rights) would increase a firm's market value (alignment effect). The second supposes that the excess voting rights of large shareholders would reduce company value, since these owners might expropriate the wealth of minority shareholders, as a result of their dominance over the control (entrenchment effect). There are studies that have found empirical evidence in favor (Lins; 2003; Caixe & Krauter, 2013; Wang & Shailer, 2015) and against these hypotheses (Demsetz & Villalonga, 2001; Okimura, Silveira, & Rocha, 2007; Schultz, Tan, & Walsh, 2010).

One area of this literature, which still includes few studies, examines the influence of the ownership/control structure of companies over the returns on their shares, in times of economic instability. Lemon and Lins (2003), for example, found evidence that the shares of companies in which the managers presented strong participation in the control had lower cumulative returns during the East Asian financial crisis. Similarly, Baek, Kang and Park (2004) observed that, during the Korean financial crisis, those firms whose controlling shareholders had excess voting rights also achieved inferior cumulative returns. Thus, these studies found indications that the impact of agency conflicts on corporate performance would be intensified in times of economic instability.

Based on the results by Lemon and Lins (2003) and Baek, Kang and Park (2004), this study investigates the moderating role of economic instability in the relationship between the concentration of control and market value of companies. To this end, we use longitudinal data on publicly-traded companies from six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, and Peru), covering the period from 2010 to 2016. Economic instability is measured using three different variables: Gross Domestic Product (GDP); the rating attributed by the agency Moody's; and the volatility of the returns on the main stock index of each country. Seeking to treat possible sources of endogeneity, we estimate multiple regression models using the systemic generalized method of moments (Wintoki, Linck, & Netter, 2012).

The choice of a sample composed of Latin American companies is mainly based on three reasons. First, in such companies, the agency conflict occurs between controlling and minority shareholders, as in most firms around the world (LaPorta, Lopez-de-Silanes, & Shleifer, 1999). Second, the concentration in the control structure of these companies is expressive, due to the issuance of preferred stock, which do not grant voting rights to their holders. This type of mechanism for increasing control is more recurrent in Latin American countries than in other countries where the agency conflict between controlling and minority shareholders also predominates (Claessens & Yurtoglu, 2013). Third, Latin American countries are more subject to macroeconomic shocks due to the economic instability of the region compared to more developed economies, which could directly affect returns on shares and, consequently, the market value of companies (Abugri, 2008).

This study contributes to the literature on corporate governance by showing that economic instability affects the relationship between ownership/control structure and corporate market value. More specifically, the results of the research suggest that times of economic instability increase the negative impact of concentration of control on the value of firms, raising the possibility of expropriation of the wealth of minority shareholders.

This article is organized in five sections, which include this introduction. Section 2 contains the theoretical framework for developing the hypothesis tested. Section 3 describes

the method employed. Finally, sections 4 and 5 present the results and conclusions of the research.

2. THEORETICAL FRAMEWORK

2.1. OWNERSHIP/CONTROL STRUCTURE AND PERFORMANCE

Agency Theory seeks to understand how conflicts of interests between a company's stakeholders can have an impact on corporate decisions, affecting the firm's performance (Ross, 1973; Jensen & Meckling, 1976). Since the predominant type of agency conflict in companies is defined by their of ownership/control structure, the influence of the shareholder participation of managers/controlling shareholders over corporate performance has been the object of various studies, which are discussed in this section.

When shareholder capital is fragmented, the main agency conflict occurs between managers and shareholders, due to the separation between ownership and management, which is characteristic of Anglo-Saxon countries (Gugler, Mueller, & Yurtoglu, 2008). Initially, the shareholder participation of managers would promote a greater alignment between the interests of managers and shareholders, resulting in an increase in company market value (alignment effect) (Jensen & Meckling, 1976). However, above a certain level of ownership concentration, managers might act in their own interests, since shareholders would find it difficult to monitor them, resulting in a reduction in company value (entrenchment effect) (Stulz, 1988; Morck, Shleifer, & Vishny, 1988).

However, outside the Anglo-Saxon countries, the concentration of ownership/control of firms predominates and, consequently, the agency conflict between controlling and minority shareholders (Lin & Chuang, 2011). Under this understanding, Young et al. (2008) state that, despite there not being a single model capable of explaining the functioning of corporate governance in all institutional contexts, the principal-principal conflict is more significant for emerging countries than the traditional principal-agent conflicts.

Even in these less developed countries, there may still be the alignment and entrenchment effects, which, according to Claessens et al. (2002), would be linked to the shareholder participation of controllers in the following way. Concentration in the rights over cash flow (ownership) would benefit corporate performance, since it would encourage large shareholders to seek to maximize firm value, given that a significant portion of their wealth would be invested in the company (alignment effect). On the other hand, the excess voting rights of the controlling shareholders would enable them to pursue private benefits, which would reduce the value of the firm and, consequently, expropriate the wealth of the minority shareholders (entrenchment effect). The various forms of expropriation of minority by controlling shareholders include, for example, payment of lavish salaries to themselves; self-appointment to privileged executive roles and seats on the board for themselves or family-members and relatives (nepotism); use of company assets as a guarantee for personal transactions or borrowing company funds with commercial advantages, among others (Dami, Rogers, & Ribeiro, 2007).

Studies have been identified that have empirically tested the alignment effect and entrenchment effect hypotheses, analyzing companies in different countries. Some studies have presented evidence that corroborate these hypotheses (Lins, 2003; Fahlenbrach & Stulz, 2009; Wang & Shailer, 2015; Caixe & Krauter, 2013; Marques, Guimarães, & Peixoto, 2015), but others have not (Himmelberg, Hubbard, & Palia, 1999; Demsetz & Villalonga, 2001; Okimura, Silveira, & Rocha, 2007; Schultz, Tan, & Walsh, 2010). Among the studies that have found the influence of ownership/control structure over corporate market value, Caixe and Krauter (2013) and Marques, Guimarães and Peixoto (2015) used samples of Latin American companies, more specifically Brazilian ones. Their results indicate that the

participation of controlling shareholders in voting rights reduces firm value, thus capturing
the entrenchment effect.

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2.2. Ownership/Control vs Performance: Relevance of the Economic Environment

Empirical studies in the area of finance discuss the relevance of the organizational environment, as well as its potential effects on the way organizations elaborate their strategies and mold their values (Jensen, 1983). The organizational environment is defined, in a broad sense, as the space where organizations operate, and it can be analyzed and understood in two large groupings: (i) the specific environment; and (ii) the general environment (Schermerhorn, 1999).

The general environment can be interpreted as the one composed of more general elements, but that still has the potential to influence strategic decisions (Daft, Murphy, & Willmott, 2010). Thus, given the range and complexity of the general environment, it is possible to divide it into subenvironments, such as the legal, sociocultural, economic, political, and the ecological/environmental one. In turn, the specific environment involves, in addition to the organization, its clients, suppliers, and regulators. Figure 1 presents a general overview of the organizational environment and its division into specific and general.

Among the various subenvironments existing in the general environment, for the purposes of carrying out this study, we highlight the economic subenvironment, henceforth called the "economic environment" for simplicity. Among the different prisms through which we can analyze the economic environment where organizations operate in, economic instability features as one. Pearson and Clair (1998) highlight that periods of political crises and economic instability, together with a dysfunctional judicial system, can favor the creation of high levels of uncertainty, which can significantly affect the performance of companies in various ways.

Figure 1 – Division of the Organizational Environment: Specific and General
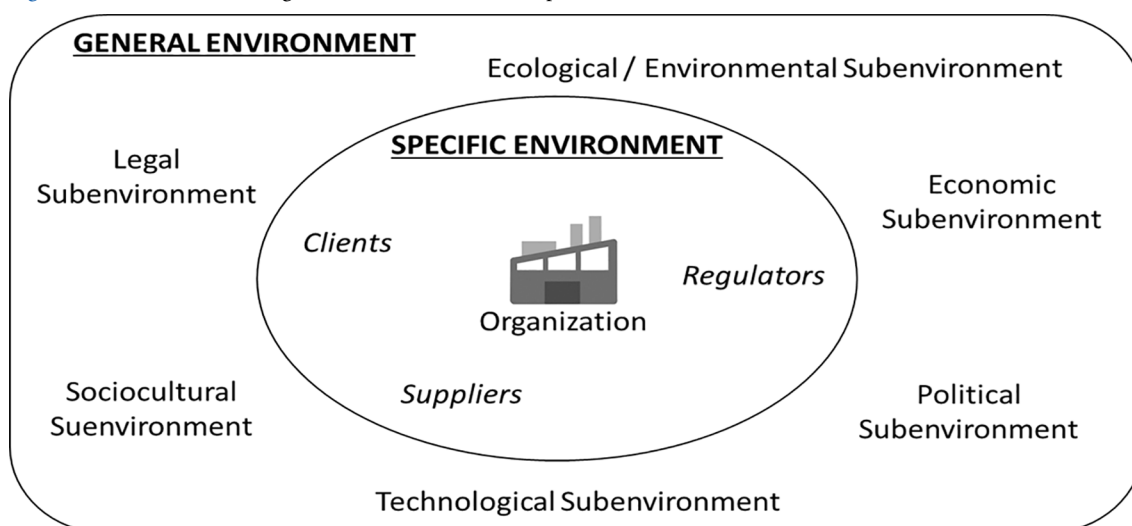
Source: Elaborated by the authors based on Daft, Murphy, and Willmott (2010).

Reductions in the performance of companies in times of economic instability might be partly explained by the opportunistic behavior of decision makers. Empirical studies in the accounting area observe, for example, higher levels of earnings management in times of economic crises (Choi, Kim, & Lee, 2011; Silva, Weffort, Flores, & Silva, 2014),

reinforcing the idea that instability in the economic environment can encourage insiders to act opportunistically in an attempt to preserve their own interests, even at the expense of the other parties involved. In addition, studies in the area of corporate governance, such as Lemmon and Lins (2003) and Baek, Kang and Park (2004), show that in times of economic crises, companies with greater concentration in their control structures present a more expressive fall in the returns on their shares.

For example, in a cross-country analysis of firms in East Asia, Lemon and Lins (2003) present empirical evidence that the shares of companies in which the managers presented a greater share of the control had lower cumulative returns during the financial crisis in the region at the end of the 1990s. Similarly, Baek, Kang and Park (2004) observed that during the Korean financial crisis, companies whose controlling shareholders had excess voting rights also achieved inferior cumulative returns. The results of these studies reinforce the idea that instability in the economic environment can encourage insiders to act opportunistically, in an attempt to preserve their own interests.

Thus, in light of the Agency Theory under the lens of the principal-principal conflict and, in turn, based on the possible implications caused by instability in the economic environment in terms of encouraging opportunistic behavior on the part of decision makers, this study tests the following hypothesis:

Hypothesis: *A greater level of economic instability enhances the effect of concentration of control over corporate market value.*

3. METHOD

3.1. SAMPLE

The study sample covers 341 non-financial companies from six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico, and Peru). The choice of countries was based on the availability of information relating to the economic-financial variables used in the study. The analysis period covers the years from 2010 to 2016, forming an unbalanced panel dataset, totaling 1,305 firm-year observations. With a view to preserving the comparability between the countries with regards to the economic-financial variables investigated, only those companies that disclosed their financial statements in compliance with the International Financial Reporting Standards (IFRS) were inserted into the analysis. The data used in the construction of the study variables were collected from the Capital IQ®, Económática®, and Yahoo Finance databases.

3.2. EMPIRICAL MODEL

The empirical model of the study is described by Equation (1):

$$\frac{EV_{it}}{TA_{it}} = \beta_0 + \beta_1 \frac{EV_{it-1}}{TA_{it-1}} + \beta_2 CONC_{it} \times INST_{High} + \beta_3 CONC_{it} \times INST_{Low}$$
$$+ \beta_4 SIZE_{it} + \beta_5 ROIC_{it} + \beta_6 IND_{it} + \beta_7 ADR_{it} + \sum_{n=1}^{4} \delta_n TYPE\_CON_{i,t}$$
$$+ \eta_i + \omega_t + \upsilon_{i,t}$$

In which: i is the company; t is the year; *EV* is the Enterprise Value, calculated by adding the market value of the shares and the accounting value of the debts, minus the accounting value of the cash equivalents; *TA* is the total assets; *CONC* is the proportion of shares with voting rights belonging to the biggest shareholder; *SIZE* is the size of the company (natural logarithm of total assets); and are dummies that represent countries in periods of high and low economic instability, respectively; *ROIC* is the return on invested capital (net operating income divided by the sum of net equity and interest bearing liabilities); *IND* is the indebtedness (current liabilities divided by total assets); *ADR* is a dummy for the issuance of American Depositary Receipts; *TYPE_CON* are three dummies that represent four cases relating to the shareholder control of the firm (Individual, Institutional, State, and Fragmented), as according to the classification proposed by the Capital IQ® database; is the specific effect of the firm (unobserved heterogeneity); is the temporal component (year dummies); and is the error term.

Given the proposed empirical model, the hypothesis of this study is tested by comparing the coefficients of the variables of interaction between the concentration of control () and the dummies for economic instability (and). Three variables are used to measure the economic instability of the countries analyzed: (i) the annual rating given by the agency Moody's; (ii) the annual volatility of the main stock index; and the annual Gross Domestic Product (GDP) per capita. Annually, the companies were classified, according to the median value of each one of these three variables, into two groups: high instability − (values equal to or greater than the median for the annual rating and volatility, as well as values lower than the median for the GDP per capita); and low instability − (values lower than the median for the annual rating and volatility, as well as values equal to or greater than the median for the GDP per capita).

With the rating from the agency Moody's, we sought to measure the countries' risk of default. Especially in emerging markets, a reduction in rating increases the country's risk, making access to international capital markets difficult and raising interest rates in the economy (Luitel, Vanpée, & Moor, 2016). The volatility of the returns on the main stock indices reflects the uncertainty of the countries' stock markets. This measure is obtained by the standard deviation of the logarithmic daily returns on the main theoretical portfolios of the economies' stocks, calculated based on the closing prices during the 252 trading days in the year (Klomp & Haan, 2009). Finally, GDP is an indicator of the level of economic activity in the countries, and is directly affected by macroeconomic instability (Raddatz, 2007; Ali & Rehman, 2015).

The omission of relevant variables in the model may result in a spurious correlation between the variables of interest. Thus, Equation (1) also includes additional variables indicated by the literature as being capable of controlling the main relationship analyzed. The size of the company (*SIZE*), for example, appears to have important implications for its market value, since, in bigger companies, controlling shareholders would, in theory, face difficulties in maintaining a high participation in total equity (Himmelberg, Hubbard, & Palia, 1999). Regarding the return on invested capital (*ROIC*) and its implication with respect to the value of the firm, it should be noted that when facing the trade-off between selling, buying, or holding their shares, investors may base their decisions on the return on these securities (Caixe & Krauter, 2013; Cho & Pucik, 2005).

Also in this discussion, with regard to the level of indebtedness (*IND*), among other aspects, there are indications that a more indebted firm has greater financial risk, which would lead the market to apply a higher discount rate on its securities, reducing its market value (Braouezec, 2009; Crisóstomo & Pinheiro, 2015). The issuance of American Depositary Receipts (*ADR*) also appears to generate additional benefits for the firm's value, given the

greater coverage of analysts as well as an increase in the precision of their forecasts (Lang, Lins, & Miller, 2003). Finally, we also highlight the relevance of discussions relating to the type of shareholder control (*TYPE_CON*), since, among other factors, different types of controls impose different types of goals and restrictions on the governance of companies, offering distinct opportunities and forms of acquiring resources (Xia & Walker, 2015), which would possibly lead to implications for the market value of the firm.

A summary of the variables used in the model of this research, their definitions, proxies, and basis, is presented in Chart 1.

Chart 1 – Dependent, independent, and control variables: proxies, references, and data sources.

Construct	Variable	Proxy	Basis	Source
Market Value of the Firm	Enterprise Value (ENTERP)	Enterprise Value / Total Assets, where Enterprise Value = Quotation x Total Shares + Interest Bearing Liabilities (Current and Non Current) – Cash and Short Term Investments	Caixe and Krauter (2013); Penman, Richardson, and Tuna (2007)	Capital IQ®
Concentration of Control	Concentration of Shares with Voting Rights (CONC)	Proportion of shares with voting rights belonging to the main shareholder	Caixe and Krauter (2013); Farooq and Zaroauli (2016); Li et al. (2015)	Capital IQ®
Economic Environment	Economic Instability (INST)	Annual risk rating of the countries	Luitel, Vanpée, and Moor (2016)	Moody's Investors Service
		Volatility: standard deviation of the logarithmic daily returns on the main theoretical portfolios, calculated based on the closing prices during the 252 trading days in the year	Klomp and Haan (2009)	Stock exchanges of the countries investigated
		Annual Gross Domestic Product (GDP) per capita	Raddatz (2007); Ali, and Rehman (2015)	F.M.I.
Control Variables	Size	Logaritmo Natural do Ativo Total	Himmelberg, Hubbard e Palia (1999)	Capital IQ®
	(SIZ)	Natural Logarithm of Total Assets	Himmelberg, Hubbard, and Palia (1999)	Capital IQ®
	Profitability (ROIC)	Return on invested capital (net operating income divided by the sum of net equity and interest bearing liabilities)	Caixe and Krauter (2013); Cho and Pucik (2005)	Capital IQ®
	Indebtedness (IND)	Current liabilities divided by total assets	Braouezec (2009); Crisóstomo and Pinheiro (2015)	Capital IQ®
	American Depositary Receipts (ADR)	Dummy variable that takes the value 1 if the company has ADR, and 0 otherwise	Lang, Lins, and Miller (2003)	Capital IQ®
	Type of Shareholder Control	Dummies that represent four cases relating to the shareholder control of the firm (Individual, Institutional, State, and Fragmented)	Xia and Walker (2015)	Capital IQ®

Source: Elaborated by the authors.

3.2.1 ESTIMATION AND ENDOGENEITY

The studies on the relationship between corporate governance mechanisms and corporate performance are subject to endogeneity problems, which can result in the estimation of biased and inconsistent coefficients for the variables of interest (Wintoki, Linck, & Netter, 2012). This section explains the Systemic Generalized Method of Moments (Sys-GMM). Developed by Arellano and Bover (1995) and Blundell and Bond (1998), it can mitigate sources of endogeneity, such as unobserved heterogeneity, the feedback effect (or dynamic endogeneity), and simultaneity (or reverse causality).

Unobserved heterogeneity refers to variables that are difficult to measure or that are not directly observed by the researcher, but that can affect the dependent and independent variables. The company's market power, the ability of the managers (or controlling shareholders), and the management monitoring technology are examples of unobserved heterogeneity (Himmelberg, Hubbard, & Palia, 1999). If such sources of endogeneity are disregarded, the econometric model can suffer from omitted variable bias (Roberts & Whited, 2013). Panel dataset estimators, such as Fixed Effects (FE) and Generalized Method of Moments (GMM), control for unobserved heterogeneity, unlike the Ordinary Least Squares (OLS) method applied to cross-sectional data (Coles, Lemmon, & Meschke, 2012).

The feedback effect arises when the response variable is influenced by its lagged values. Studies indicate that the market value of a firm is affected by its first lag, pointing to the need to employ dynamic models to investigate the relationship between governance and performance variables (Caixe & Krauter, 2013, 2014). The Fixed Effects estimator does not allow for the inclusion of lags of the dependent variable in the model, since it is based on the assumption of strict endogeneity of the regressors, unlike the GMM estimator (Wintoki, Linck, & Netter, 2012). Flannery and Hankins (2013) compared the statistical properties of various dynamic model estimators. According to the authors, the Sys-GMM should be the standard chosen for research in the area of corporate finance.

Another source of endogeneity is reverse causality, which occurs when the dependent variable is affected, but also influences, simultaneously, one or more regressors (Roberts & Whited, 2013). Some studies have found evidence that the value of a firm and its ownership/control structure are determined jointly, highlighting the importance of treating the latter as endogenous (Demsetz & Villalonga, 2001; Lins, 2003; Fahlenbrach & Stulz, 2009). One possible alternative for controlling for simultaneity is by identifying external instruments for endogenous variables, and employing the Two-Stage Least Squares (2SLS) estimator. However, finding valid external instruments is a difficult task, and the Sys-GMM estimator can deal with reverse causality through the selection of valid internal instruments for the endogenous variables and the use of dynamic models (Wintoki, Linck, & Netter, 2012).

In light of what has been discussed in this section, Equation (1) is estimated by Sys-GMM, which uses level and difference equations. The independent variables are instrumentalized: in the level equation, by the second, third, and fourth lags of the difference variables; and, in the differences equation, by the second lag of the level variables (since the other lags are redundant) (Roodman, 2006). The number of lags employed is limited due to the proliferation of instruments problem, which means the Hansen test tends to accept the hypothesis that the instruments are valid (Roodman, 2009).

4. RESULTS

Table 1 presents the descriptive statistics of the microeconomic variables of the study. Note that most of the observations are from Chilean companies, followed by Brazilian, Mexican, Peruvian, and Colombian ones. Considering the total sample, it is also observed that the median participation of the biggest shareholder in the voting rights is 34.33%, signaling that most of the companies in the sample were not under majority control during the period studied. Among the countries analyzed, Argentina and Chile are the ones that present the highest (62.20%) and the lowest (35.51%) means for concentration of control, respectively. With relation to Brazil, the mean participation of the biggest shareholder in the voting rights is 37.48%. This indicates more fragmented shareholder control in the Brazilian market, since studies that considered previous periods, such as Silveira, Barros and Famá (2008) and Caixe and Krauter (2013), found mean values that vary from 73% to 56%, approximately.

Table 1 – Descriptive statistics of the microeconomic variables

Countries	Variable	N	Mean	Median	SD	Min	Max	CV
Argentina	EV/TA	55	1.2820	1.0660	0.7840	0.2316	3.4755	0.6115
	CONC	55	0.6220	0.5900	0.1774	0.2600	0.9600	0.2851
	SIZE	55	5.4863	5.7255	1.1543	3.0445	9.3162	0.2104
	ROIC	55	0.1035	0.0910	0.1407	-0.2990	0.5410	1.3588
	IND	55	0.6448	0.6534	0.1705	0.2919	0.9322	0.2644
Brazil	EV/TA	461	1.0324	0.7643	0.7389	-0.1281	3.7356	0.7157
	CONC	461	0.3748	0.3154	0.2456	0.0014	1.0000	0.6552
	SIZE	461	0.0569	0.0630	0.1583	-2.3730	0.6270	2.7829
	ROIC	461	0.0340	0.0805	0.3939	-3.8811	2.0064	11.5721
	IND	461	0.5512	0.5545	0.1816	0.0131	0.9688	0.3296
Chile	EV/TA	570	0.8248	0.7349	0.5076	-0.3901	3.8708	0.6154
	CONC	570	0.3551	0.3303	0.1839	0.0471	0.9449	0.5180
	SIZE	570	6.1561	6.1405	1.9599	1.5412	10.9347	0.3184
	ROIC	570	0.0556	0.0451	0.1775	-0.4710	3.3260	3.1924
	IND	570	0.4448	0.4529	0.1913	0.0014	0.8823	0.4300
Colombia	EV/TA	22	0.6452	0.5511	0.4125	0.0750	1.5803	0.6394
	CONC	22	0.4162	0.3534	0.2084	0.1685	0.8849	0.5006
	SIZE	22	6.7979	6.3414	2.0670	2.8154	10.6070	0.3041
	ROIC	22	0.0604	0.0410	0.0541	-0.0022	0.1856	0.8965
	END	22	0.4286	0.3965	0.1590	0.1080	0.6998	0.3710
Mexico	EV/TA	172	1.2987	1.1420	0.7133	0.2530	3.7627	0.5492
	CONC	172	0.4352	0.4193	0.2168	0.0622	0.9999	0.4982
	SIZE	172	7.4926	7.4685	1.4870	3.4935	11.3691	0.1985
	ROIC	172	0.0801	0.0690	0.0652	-0.2680	0.4060	0.8136
	IND	172	0.5167	0.4886	0.1757	0.1236	0.9232	0.3401
Peru	EV/TA	25	1.0034	0.9377	0.6296	0.0602	3.1825	0.6275
	CONC	25	0.4132	0.3908	0.2781	0.0618	1.0000	0.6731
	SIZE	25	6.4981	6.9101	1.4311	3.4563	8.0609	0.2202
	ROIC	25	0.0827	0.0800	0.1018	-0.2580	0.2910	1.2301
	IND	25	0.4369	0.4709	0.1685	0.0436	0.6722	0.3858
Latin America	EV/TA	1305	0.9803	0.7849	0.6617	-0.3901	3.8708	0.6750
	CONC	1305	0.3860	0.3433	0.2209	0.0014	1.0000	0.5722
	SIZE	1305	6.7349	6.7899	1.8220	1.5412	12.6965	0.2705
	ROIC	1305	0.0619	0.0570	0.1561	-2.3730	3.3260	2.5207
	IND	1305	0.4998	0.5042	0.1927	0.0014	0.9688	0.3855

Note: *EV/TA = enterprise value* scaled by total assets. *CONC* = proportion of shares with voting rights of the biggest shareholder. *SIZE* = natural logarithm of total assets. ROIC = return on invested capital (net operating income divided by the sum of net equity and interest bearing liabilities). *IND* = current liabilities scaled by total assets.
Source: Elaborated by the authors.

Table 2 contemplates the correlation matrix of the continuous variables investigated. It is possible to observe a negative and statistically significant linear association between the market value (*EV/TA*) and the concentration of control (*CONC*) of the companies. On the other hand, the variables size (*SIZE*) and return on invested capital (*ROIC*) present a positive and significant linear association with *EV/TA*. In addition, the variables *ROIC* and *CONC* are positively correlated.

In Table 3, we investigate the relationship between *EV/TA* and *CONC* through the estimation of Equation (1) by Sys-GMM. The results of the first specification, despite not considering economic instability, indicate that concentration of control reduces corporate market value. This evidence is consistent with the entrenchment effect hypothesis by

Table 2 – Correlation Matrix – Pearson's Coefficient (Continuous Variables)

	EV/TA	CONC	SIZE	ROIC	IND
EV/TA	1.0000				
CONC	-0.1333***	1.0000			
SIZE	0.0978***	-0.0169	1.0000		
ROIC	0.1906***	0.0775***	0.0080	1.0000	
IND	0.0125	0.0198	0.3478***	-0.0294	1.0000

Note: *EV/TA = enterprise value* scaled by total assets. *CONC* = proportion of shares with voting rights of the biggest shareholder. SIZE = natural logarithm of total assets. *ROIC* = return on invested capital (net operating income divided by the sum of net equity and interest bearing liabilities). IND = current liabilities scaled by total assets.*, **, and *** denote statistical significance at 10%, 5%, and 1%, respectively.
Source: Elaborated by the authors.

Tabela 3 – Relationship between concentration of control and market value (Sys-GMM)

	(1)	(2)	(3)	(4)
$(EV_t / TA)_{t-1}$	0.466***	0.458***	0.458***	0.481***
	(0.094)	(0.094)	(0.095)	(0.097)
$CONC_t$	-0.238**			
	(0.119)			
$CONC_t \times INST_{High}$		-0.280**	-0.279**	-0.019
		(0.126)	(0.125)	(0.233)
$CONC_t \times INST_{Low}$		-0.023	-0.021	0.390
		(0.156)	(0.157)	(0.509)
SIZE	0.111**	0.066*	0.065*	0.045*
	(0.045)	(0.036)	(0.036)	(0.032)
$ROIC_t$	0.149	0.093	0.094	0.077
	(0.130)	(0.124)	(0.124)	(0.109)
END_t	-0.251	-0.185	-0.177	-0.463
	(0.167)	(0.164)	(0.166)	(0.324)
ADR_t	0.346	0.534	0.542	-0.058
	(0.390)	(0.333)	(0.338)	(0.184)
$INDIV_t$	0.406	0.425	0.430	0.532**
	(0.203)	(0.166)	(0.169)	(0.182)
EST_t	-0.977	-0.663	-0.651	-0.556
	(0.795)	(0.477)	(0.473)	(0.491)
$INSTIT_t$	-0.096	-0.085	-0.087	-0.062
	(0.091)	(0.089)	(0.089)	(0.093)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Instability Measure	-	Rating	Volatility	GDP per capita
Nº of Observations	1,082	1,082	1,082	1,082
Nº of Instruments	145	162	162	162
AR (1) – p-value	0.002	0.001	0.001	0.002
AR (2) – p-value	0.274	0.234	0.234	0.214
Hansen J Test – p-value	0.291	0.176	0.170	0.160

Note: The dependent variable is the enterprise value scaled by total assets *(EV/TA)*. *CONC* is the proportion of shares with voting rights of the biggest shareholder. $INST_{High}$ and $INST_{Low}$ are dummies for high and low economic instability, respectively. SIZE is the natural logarithm of total assets. *ROIC* is return on invested capital. *ADR* is the dummy for the issuance of ADR. *IND* is indebtedness. *INDIV, STATE,* and *INSTIT* are dummies for individual, state, and institutional control, respectively. Coefficients are estimated by Sys-GMM in two stages with Windmeijer correction (2005). Arellano and Bond tests for autocorrelation of the first and second order residuals are presented - AR(1) and AR(2); as well as the Hansen J Test (1982) for validity of the instruments. Standard errors in parentheses.
*, **, and *** denote statistical significance at 10%, 5%, and 1%, respectively.
Source: Elaborated by the authors.

Claessens et al. (2002) and corroborates the results by Caixe and Krauter (2013) and Marques, Guimarães and Peixoto (2015).

In columns (2), (3), and (4) of Table 3, the coefficient of the *CONC* variable is estimated, separately, for companies that operated in environments with high and low economic instability. The coefficients of and indicate that the negative impact of the concentration of voting rights over corporate market value is only maintained in times of high economic instability, considering all the measures of economic instability proposed, except for GDP per capita (see column 4) – where the coefficient of the variables is not statistically significant for explaining the market value of the firm. These results suggest, therefore, that the risk rating and market volatility variables, representative of the countries' economic environment, are important for understanding the relationship between control structure and corporate performance. More specifically, it could be suggested that by increasing the uncertainty in relation to the company's future performance, economic instability possibly induces controlling shareholders to seek private benefits and not the maximization of corporate market value.

It is also valid to highlight that, in all the specifications tested, the first lag of the response variable [] positively influences corporate market value, as in Caixe and Krauter (2013; 2014). This result reinforces the importance of using dynamic models in corporate finance studies, showing that statistical specifications can be subject to omitted relevant variable bias (Wintoki, Linck, & Netter, 2012). In addition to , the firm size () variable also presents a positive and significant coefficient with at least 90% confidence, in all the columns of Table 3, signaling that the biggest companies tend to have a lower market value and, therefore, confirming the results indicated by Himmelberg, Hubbard and Palia (1999).

The robustness of the Sys-GMM estimations depends on the validity of the instruments used. The *p*-values of the Arellano and Bond test (1991) do not reject the hypothesis of autocorrelation of the second order residuals, indicating that the instruments are exogenous. In turn, the *p*-values of the Hansen test (1982) do not reject the hypothesis that the Sys-GMM instruments are valid.

Finally, it is important to highlight that we also tested models estimated by Ordinary Least Squares (OLS) and Fixed Effects (FE) – see tables A.1 and A.2 of Appendix A. The results of the OLS estimations reveal that the variables *CONC*, , and do not present a statistically significant coefficient for explaining the market value of the firm, considering the different proxies for economic instability. On the other hand, the Fixed Effects estimations demonstrate that has a positive sign, considering the risk rating as a measure of economic instability; and the variable has a negative sign, considering the countries' GDP per capita as a measure of economic instability. These results corroborate the proposed research hypothesis, aligning with the understanding that periods of greater economic instability enhance the negative effects of the concentration of control over the market value of the firm.

However, as discussed in Section 3.2.1, it is appropriate to reiterate that OLS and FE are not dynamic model estimators and, therefore, their results should be analyzed with caution. Studies such as Schultz, Tan and Walsh (2010), Wintoki et al. (2012), and Ullah, Akhtar and Zaefarian (2018) have also observed different results for GMM, OLS, and FE estimations. Just like these authors, as determinants of such differences – between the empirical results presented in Table 3 and Appendix A – we attribute endogeneity problems, which are not controlled by the OLS and EF estimators.

5. CONCLUSIONS

This study investigates the relationship between the concentration of control and market value of 341 Latin American companies, and whether this relationship could be moderated by characteristics relating to the economic environment in which the companies operate. In general, the results show that the participation of the biggest shareholder in the voting rights reduces the market value of the firm – thus aligning with the entrenchment effect perspective (Claessens et al., 2002). In addition, this study presents evidence that the negative impact of the control structure on corporate performance only occurs in times of greater economic instability in the countries.

These results highlight the harmful effects of voting rights concentration over the market value of firms in emerging markets. Thus, given a recessionary scenario, there are indications that controlling shareholders might act even more in their own interests, due to the increase in uncertainty in relation to future company performance. The opportunistic behavior of controlling shareholders in times of increased economic instability could occur, among other examples, through the extraction of private benefits of control, favoring an increase in transactions with related parties, earnings management, and the use of privileged information. We thus reiterate the importance of improving the governance of Latin American companies, which, besides presenting a high concentration of control and low legal enforcement in the protection of minority shareholders, operate in companies with greater economic instability.

This study adds new empirical evidence to the finance literature by raising discussions about the role of the economic environment in the relationship between concentration of control and the market value of companies in emerging markets. Note, however, that the results should be taken with caution, since the classification proposed for the economies between "low" and "high" instability is limited to the countries and the periods analyzed. We therefore suggest developing other studies that are able to examine the relationship between ownership/control structure and corporate performance in other periods of economic instability, with different proxies capable of capturing this effect. The 2008-2009 financial crisis, for example, which affected various economies, could be explored by future research, with the aim of complementing the discussions presented in this article.

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Table A.1 – Relationship between concentration of control and market value (OLS)

	(1)	(2)	(3)	(4)
$(EV_t/TA_t)_{(t-1)}$	0.627***	0.627***	0.627***	0.631***
	(0.084)	(0.084)	(0.084)	(0.083)
$CONC_t$	-0.068			
	(0.063)			
$CONC_t \times INST_{High}$		-0.049	-0.047	-0.054
		(0.069)	(0.069)	(0.034)
$CONC_t \times INST_{Low}$		-0.090	-0.091	-0.094
		(0.071)	(0.072)	(0.083)
$SIZE_t$	-0.006	-0.006	-0.006	-0.006
	(0.007)	(0.007)	(0.007)	(0.007)
$ROIC_t$	0.318	0.320	0.320	0.309
	(0.242)	(0.241)	(0.241)	(0.239)
IND_t	0.042	0.031	0.030	0.043
	(0.093)	(0.098)	(0.098)	(0.093)
ADR_t	0.069	0.069	0.069	0.069
	(0.045)	(0.045)	(0.045)	(0.046)
$INDIV_t$	0.038	0.041	0.042	0.033
	(0.062)	(0.062)	(0.062)	(0.060)
$STATE_t$	0.027	0.024	0.026	0.002
	(0.047)	(0.049)	(0.048)	(0.047)
$INSTIT_t$	-0.004	-0.001	-0.001	0.001
	(0.025)	(0.026)	(0.026)	(0.026)
Firm Fixed Effect	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Instability Measure	-	Rating	Volatility	GDP per capita
Nº of Observations	1,305	1,305	1,305	1,305

Note: The dependent variable is the enterprise value scaled by total assets (EV/TA). *CONC* is the proportion of shares with voting rights of the biggest shareholder. $INST_{High}$ and $INST_{Low}$ are dummies for high and low economic instability, respectively. *SIZE* is the natural logarithm of total assets. *ROIC* is return on invested capital. *ADR* is the dummy for the issuance of ADR. *IND* is indebtedness. *INDIV, STATE,* and *INSTIT* are dummies for individual, state, and institutional control, respectively. Standard errors in parentheses. *, **, and *** denote statistical significance at 10%, 5%, and 1%, respectively.
Source: Elaborated by the authors.

Table A.2 – Relationship between concentration of control and market value (FE)

	(1)	(2)	(3)	(4)
$(EV_t / AT_t)_{(t-1)}$	0.261***	0.260***	0.260***	0.260***
	(0.073)	(0.073)	(0.073)	(0.073)
$CONC_t$	0.223			
	(0.258)			
$CONC_t \times INST_{High}$		0.153	0.175	-0.007*
		(0.430)	(0.409)	(0.056)
$CONC_t \times INST_{Low}$		0.293*	0.271	0.122
		(0.163)	(0.167)	(0.135)
TAM_t	-0.252***	-0.250***	-0.251***	-0.252***
	(0.073)	(0.072)	(0.072)	(0.071)
$ROIC_t$	0.044	0.046	0.045	0.041
	(0.161)	(0.161)	(0.161)	(0.160)
END_t	0.015	0.017	0.016	0.010
	(0.254)	(0.255)	(0.255)	(0.254)
ADR_t	-0.148*	-0.142	-0.144	-0.132*
	(0.088)	(0.089)	(0.089)	(0.077)
$INDIV_t$	0.024	0.024	0.024	0.027
	(0.062)	(0.061)	(0.061)	(0.061)
EST_t	-0.148*	-0.164	-0.159	-0.199***
	(0.076)	(0.110)	(0.105)	(0.042)
$INSTIT_t$	-0.086	-0.087	-0.087	-0.084
	(0.060)	(0.060)	(0.061)	(0.060)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Instability Measure	-	Rating	Volatility	GDP per capita
Nº of Observations	1,305	1,305	1,305	1,305

Note: The dependent variable is the enterprise value scaled by total assets *(EV/TA)*. *CONC* is the proportion of shares with voting rights of the biggest shareholder. *INST*$_{High}$ and *INST*$_{Low}$ are dummies for high and low economic instability, respectively. SIZE is the natural logarithm of total assets. *ROIC* is return on invested capital. *ADR* is the dummy for the issuance of ADR. *IND* is indebtedness. *INDIV, STATE,* and *INSTIT* are dummies for individual, state, and institutional control, respectively. Standard errors in parentheses. *, **, and *** denote statistical significance at 10%, 5%, and 1%, respectively.
Source: Elaborated by the authors.