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Ibero-American corporate ownership and boards of directors: implementation and impact on firm value in Chile and Spain

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ABSTRACT

From a corporate governance point of view, this paper addresses the question of how corporate ownership and board characteristics influence firm value for a sample of Ibero-American companies. Specifically, we analyse indexed non-financial companies from Chile and Spain for the period 2007 – 2016, using the GMM panel data technique. Our research is novel in considering a two-country approach, with one emerging and one developed country, and in analysing how corporate ownership and board characteristics, in addition to contextual variables, determine firm value. Our results assess the efficiency of corporate governance mechanisms. Although findings are intriguing regarding ownership concentration, they confirm the benefits of a good board of directors. This type of board is characterised by a large size, sufficiently independent directors, and a balance in terms of gender diversity. We provide several policy recommendations from our main findings.

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1. Introduction

It is generally accepted that corporate governance refers to the various ways in which suppliers of funds ensure that their capital is intelligently and efficiently managed (Aguilera & Crespi-Cladera, 2016). Thus, regulation and codes of corporate governance are not an end in themselves, but a means to support protection of property rights, economic efficiency, sustainable growth and financial stability (Hai, Roig-Dobón, & Sánchez-García, 2016).¹

Financial literature on governance structures in emerging markets has confirmed that these mechanisms do not behave as they do in developed economies, such as the USA and other Anglo-Saxon countries (Claessens, Djankov, Fan, & Lang, 2002; Claessens & Yurtoglu, 2013; De Jong, Kabir, & Nguyen, 2008; Klapper & Love, 2004).

Various scandals occurring in different corporations around the world in the past few years have highlighted the inefficiency of corporate governance mechanisms in

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preventing damage to firm value (Saona & Muro, 2018). Consequently, there is an increasing interest in academia and the general public concerning corporate governance issues (Claessens & Yurtoglu, 2013), specifically how these mechanisms impact firm value (Durnev & Kim, 2005) as well as on how the development of the financial markets shapes the efficiency of these governance systems (Millar, Eldomiaty, Choi, & Hilton, 2005).

Given that financial stability can suffer the consequences of a lack of good governance, as evidenced by the financial recessions that occurred in Russia, Asia, and Brazil (Claessens & Yurtoglu, 2013), more recent research has highlighted the relative importance that good corporate governance has for countries as a tool to boost financial development that triggers economic growth and increases firm value (Ang, Cole, & Lin, 2000; Beck & Levine, 2004; Claessens & Yurtoglu, 2013; Harris & Raviv, 1991; Jensen, 1986; Setia-Atmaja, 2009). Dyck and Zingales (2004) echo these arguments, confirming that investors are willing to pay a premium for well-governed and controlled firms. Similarly, Chhaochharia and Grinstein (2007) mention that the scandals at corporate or political levels reinforce the need to study the effects that corporate governance mechanisms have on firm value.

Market regulators have issued new legal frameworks in response to a lack of efficient governance systems, like the Sarbanes-Oxley Act in the US in 2002 (Gillan & Martin, 2007) to anticipate corporate scandals, and as a means of establishing and regulating corporate practices that impact firm value (Roe, 2003). Therefore, the demand for third-party governance services keeps increasing by providing, for instance, indexes on the quality of the governance practices of publicly listed firms (Bozec & Bozec, 2012).

This paper focusses on two specific aspects of corporate governance that influence firm value. First, we consider corporate-level governance features, such as the ownership structure and the characteristics of the board of directors. Second, we consider institutional-level features that might impact firm value in a different way depending on the efficiency of the country's legal framework. In doing so, we consider listed companies of comparable but different institutional environments of Chile and Spain.

Chile and Spain, as civil-law countries, have similarities and differences that might affect firm value unevenly. For instance, Chile is an emerging economy in South America, whose companies are characterised by a high level of ownership concentration, even beyond what is necessary to exercise control. Moreover, many of the Chilean companies are affiliated with a limited number of business groups (Farías, 2014).² Additionally, Chile is one of the few countries in the world with the obligation by law to distribute dividends, in this case, at least 30.0% of annual profits (Maquieira & Danús, 1998). Likewise, the Chilean pension system is managed by private companies called pension fund administrators (AFPs by its acronym in Spanish) who are important institutional investors in the financial market. These pension managers act not only as bondholders but also as shareholders, with the ability to appoint a director to the board of directors (Jara, López-Iturriaga, San Martín, Saona, & Tenderini, 2019). Hence, these pension managers as institutional investors play a major role in the governance systems of Chilean companies. On the other hand, Spain, a developed European country, also has significant levels of ownership

concentration-like other civil-law countries (de Miguel, Pindado, & de la Torre, 2004; López & Saona, 2007). The corporate governance of listed companies in Spain is primarily regulated by the standard compulsory corporate legislation and by a corporate governance code, the recommendations of which are generally addressed to listed companies and may be followed voluntarily (García Martín & Herrero, 2018; Paredes & Nuñez-Lagos, 2015). Its main characteristic is voluntariness, subject to the ‘comply and explain’ principle. The Spanish Unified Good Governance Code of Listed Companies adopts modern trends in corporate practices, stated by different entities and institutions such as the Organisation for Economic Co-operation and Development (OECD), the Basel Committee on Banking Supervision, and the European Commission, and it considers the comments and proposals put forth by economic operators and institutions. Although its recommendations are voluntary, the concepts and definitions of the Unified Code are compulsory, and each listed company must explain its level of compliance with its provisions annually. The Unified Code shares the international standards that characterise the recommendations on good governance practices.

Hence, the goal of this paper is to analyse the potential impact that ownership structure and board characteristics, as corporate governance mechanisms, have on corporate value in the context of Chile and Spain.³ The lack of research on both countries in the existing literature on corporate governance mechanisms and their impact on firm value makes the comparative analysis invaluable. Additionally, there are many reasons that make the comparative analysis an appealing contribution to the literature. First, our interest is to break down the paradigm of the empirical literature focussed on firms of countries that follow the common-law legal framework, such as the US and the UK (Hermalin & Weisbach, 1991; Owen & Temesvary, 2018). Hence, we wanted to include two economies that belong to the same legal system, in this case the civil-law, banking-oriented system, but operate in two different regional contexts, South America and Europe. Second, we echo Saona (2011) in recognising the homogeneity of the financial markets of the countries under analysis which makes them an appealing group to be subject to empirical study. Third, another similarity is a comparable overall growth rate during the period of analysis that mitigates estimation biases. Fourth, comparatively speaking, both countries have experienced significant integration of their financial markets in their respective geographic contexts. On the one hand, after the banking crisis in Chile at the beginning of the 80s, companies were gradually allowed to issue equity capital domestically as well as in the foreign markets, primarily in the United States and other South American countries (Fernández, 2005). On the other hand, Spain was urged to reduce its international trade barriers by becoming part of European Union, substantially increasing the flow of international capital (Saona, 2011). Hence, both countries have been exposed to comparable economic integration processes. Finally, regarding their corporate governance systems, both countries have adopted and developed internal governance tools such as highly concentrated ownership structures and sizable boards of directors (Saona & Vallelado, 2010), on top of their shared culture, historical background, and economic interdependence. Therefore, the study of companies of both countries together constitutes a pioneering research in the field of corporate governance and firm value.

Our results concerning the characteristics of ownership structure show a clear asymmetric impact of the ownership concentration as well as the managerial ownership on firm value between Chilean and Spanish companies. This finding is important because in one institutional context the ownership structure enhances firm value and in the other it erodes it. Additionally, board of directors' features are key mechanisms for influencing the value of the firm and in reducing managerial misbehaviour. Policy recommendations will be derived from the main findings.

The paper proceeds as follows. In addition to this introductory section, the next section summarises the literature review and develops the research hypotheses. [Section 3](#) describes the methodology used in the empirical analysis. [Section 4](#) discusses the empirical results and finally, in [Section 5](#), we underline the major conclusions.

2. Literature review and hypotheses

2.1. Chile and Spain as comparable institutional contexts

Regarding the corporate governance structures in Chile and Spain, it has been widely recognised that Chile has suffered dramatic consequences from corporate scandals (Gephart, 2016; Silva, 2016). For example, Penta Group, one of Chile's largest holding companies, was investigated in 2014 for directing funds to the right-wing UDI party's campaign coffers, and evading taxes while doing so. The mining giant SQM, which controls most of Chile's lithium production, is another remarkable example of weak governance. Investigators found that for years SQM has financed the campaigns of presidential candidates from parties across the political spectrum. In addition, there is the La Polar case, in which the managers colluded with some of the board members, carrying out accounting manipulation practices. When the case became public through the media, La Polar shares fell 42.0%, decreasing the company's market capitalisation by US\$670 million in a single day. This involved a loss of US\$350 million to La Polar's minority institutional investors with the subsequent significant erosion of the firm value.

The current corporate governance framework in Chile goes back to 1981 when two laws were enacted: The Corporations Law and The Securities Market Law, which were amended several times (Jara et al., 2019). The new Corporate Governance Law was signed on October 2009. It strengthened the protection of minority shareholders through enhanced transparency standards and mechanisms for addressing the use of privileged information, insider transactions and conflicts of interest, through provisions to improve the definition of independent directors and to strengthen their role in reviewing sensitive issues relevant to minority shareholder protection through the board of directors' committees.

Spain has also suffered the consequences of corporate scandals like Pescanova, Bankia, and Afinsa, among many others (Saona, Muro, & Alvarado, 2020). In the specific case of Bankia, the political party UPyD in 2012 presented a lawsuit before the High Court of Spain against the managers of Bankia for alleged crimes of fraud, misappropriation, falsification of financial statements in connection with corporate crimes, fraudulent administration, and attempts to alter the price of their assets. As

in the Chilean corporate sector, these corporate scandals brought about a subsequent loss of share value.

The comparative analysis between Chile and Spain will shed light on how corporate governance mechanisms affect firm value in two economies where research has been relatively neglected. These two economies also present similarities that make this an attractive study. Both countries belong to the French civil-law legal system and therefore have weak legal protection for minority investors (La Porta, Lopez-De-Silanes, Shleifer, & Vishny, 1998). Anderson and Gupta (2009), with a multi-country analysis, found that the joint effect of a country's financial structure and legal system does matter when explaining the relationship between performance and the overall level of corporate governance in a given country. Furthermore, according to La Porta, Lopez-De-Silanes, and Shleifer (1999) and La Porta, Lopez-De-Silanes, Shleifer, and Vishny (2002), the development of the financial structure of a country will be determined by its legal setting. In this respect, Chilean and Spanish financial structures are based in the bank-oriented model. La Porta et al. (1998) emphasised that financial development promotes economic growth. According to this, both countries present similarities in the sense that they are considered as high-income economies according to the World Bank, are part of the OECD, and present a very high level of human development according to the United Nation Human Development Index. In terms of economic interdependence, Spain is one of the top 10 trading partners with Chile.⁴ Both countries present concentrated ownership structures (insider systems) which generate conflicts of interests between majority (controlling) and weak minority shareholders (Saona, 2011; Saona & Vallelado, 2010).

Most of the literature on corporate governance assumes dispersed ownership as the main reason for the agency conflicts between managers and shareholders (Claessens, Djankov, & Lang, 2000). Nevertheless, contrary to the findings of Berle and Means (1932), empirical evidence has demonstrated that not all the institutional contexts exhibit dispersed ownership, and that in many cases, it can be even difficult to find (Klapper & Love, 2004; Klein, Shapiro, & Young, 2005). La Porta et al. (1999) emphasised that it is not common to find economies with dispersed corporate ownership, except in those with strong shareholder protection and developed capital markets, and in general, where firms are controlled by government or families through pyramidal structures. For instance, Lefort and Walker (2007) concluded that in the case of high ownership concentration, such as in the Chilean and Spanish cases, the most pervasive agency conflict in the firm is between controlling shareholders and minority shareholders (i.e., the horizontal agency problem).

Regarding the institutional factors, both countries rank similarly in the different dimensions of the World Governance Indicator for 2016, except for the control of corruption, in which Chile outperformed Spain. The effectiveness of governance systems is influenced by differences in the countries' legal and regulatory frameworks, historical and cultural factors, and also the structure of product and factor markets (Maher & Andersson, 1999). In the specific case of Chile and Spain, both countries present similarities in their legal systems, and their economies and show a certain level of economic interdependence as well as presenting differences in the factors that determine their corporate governance systems. Regarding corruption perception,

León, Araña, and de León (2013) stated that corruption levels in these two countries perform differently in the assessments of the Transparency International Corruption Perception Index, but have rapidly increased the organisation of public services and the level of development in recent decades. Additionally, León et al. (2013) maintained that the Chilean Administration is one of the most effective public administrations in Latin America, wherein a series of initiatives have been implemented to strengthen transparency, making it comparable to the Spanish context. Finally, as is well known, both countries share cultural, historic, and economic backgrounds which makes it easier to control for particularities at the national level that could potentially affect the efficiency of governance mechanisms on firm value.

2.2. Corporate governance and firm value

Scholarly research about corporate governance is deeply rooted in the agency approach, which is the theoretical body that studies the conflict of interests in corporations caused by the different incentives between the contractual parties (Benavides-Espinosa & Roig-Dobón, 2011; Berle & Means, 1932; Jensen & Meckling, 1976). This conflict of interests highlights the necessity to implement mechanisms that encourage managers to behave in the best interest of shareholders.

Claessens and Yurtoglu (2013) and Vander Bauwhede (2009) broadly defined corporate governance as those mechanisms concerned with the resolution of collective action problems among dispersed investors and the reconciliation of conflicts of interest between various corporate claimholders. Similarly, Zingales (1998)'s approach to corporate governance defined it as a set of contracts that determines the rights on the cash flows generated by the firm. This author indicates that this definition is set on the way these cash flows are generated and distributed, taking into consideration that all corporate governance mechanisms should be included in this definition. In the same line, Kumari and Pattanayak (2014) referred to corporate governance from a more traditional point of view as the set of systems that ensures a company is properly managed in the best interest of stakeholders.

As the goal of this paper is to examine the impact of corporate governance mechanisms from a two-country perspective, we must extend the definition to include rules and institutions. In this respect, our goal is better approached through the definition of corporate governance mechanisms that Shleifer and Vishny (1997) provided, viewed from a wider perspective, suggesting that governance refers to the economic and legal institutions that can be altered through political process. They also stated that corporate governance deals with the ways in which financiers of corporations assure themselves of earning a return on their investment. As observed, this definition is linked to the agency approach. In the same line, Saona and San Martín (2016) defined corporate governance as a set of internally and externally generated mechanisms (e.g., procedures, policies, rules, norms, and institutions, among others) through which firms operate when ownership is separated from management to ensure the maximisation of shareholders' wealth.

There is vast empirical and theoretical evidence about the impact that corporate governance mechanisms have on firm value. For instance, Millar et al. (2005)

indicated that investors will offer their funds to those corporations that, being aware of their incomplete contracts, show efficient corporate governance mechanisms. Klapper and Love (2004) found evidence that firm-level corporate governance provisions are more important in countries with weak legal environments. Durnev and Kim (2005) found that the quality of governance and disclosure practices are related positively to firm valuation, and this relation is stronger in weak legal regimes.

Considering macroeconomic shocks, Baek, Kang, and Suh Park (2004) found that changes in firm value during a crisis is a function of firm-level differences in corporate governance measures. Consequently, there are many corporate governance factors that explain firm value across countries. Some factors are determined at the firm level whilst others are defined at the country or institutional level (Hechavarría, 2016; Stewart, 2018).

2.3. Corporate ownership features and firm value

The literature suggests that ownership structure features bring alternative incentives to monitor a firm's management and to align the interests between the principal and the agents (Ang et al., 2000; Jensen & Meckling, 1976; Morck, Shleifer, & Vishny, 1988; Shleifer & Vishny, 1986). Jensen and Meckling (1976) hypothesised that managers may act according to their own self-interest when the firm's control and ownership structure is diluted. In the same vein, Shleifer and Vishny (1997) found that a high ownership concentration would be effective to solve agency problems only if there is strong investor protection. However, there is an alternative justification to an inverse relation between concentration of the ownership and firm value. In this respect, Shleifer and Vishny (1997) argued that in some institutional contexts the agency problem comes from the conflict between controlling owners and minority shareholders –the type II or horizontal agency problem– instead of between managers and dispersed shareholders, also known as type I or the vertical agency problem. According to de Miguel et al. (2004) large shareholdings are costly under the horizontal agency problem, because majority owners can redistribute wealth from other minority shareholders, whose interests need not coincide. This is known as the expropriation agency problem and erodes firm value.

These arguments suggest that interaction between the monitoring and the expropriation hypotheses justifies a non-linear relationship between the concentration of the ownership structure and firm value. In this case, the monitoring approach becomes relevant when there are no significant differences between the interests of the majority shareholder and managers, meaning that firm value is enhanced with ownership concentration. Conversely, the expropriation approach indicates that when concentration of ownership is beyond the optimal level to exercise efficient monitoring, entrenched shareholders will look for their individual benefits by expropriating the wealth of minority shareholders, with a subsequent deterioration of firm value (Bae, Baek, Kang, & Liu, 2012). Therefore, according to these arguments, firm value shrinks as the ownership structure gets more concentrated.

In the same line, La Porta et al. (1999) documented that ownership concentration correlates with the level of outside shareholders' legal protection. Two arguments

support this association. The first one emphasises a substitution view, arguing that limited shareholder protection increases moral hazard in firms and consequently large blockholders are required to mitigate that risk (La Porta et al., 1998). Hence, blockholders serve as a substitute for weak legal protection of minority shareholders and increases firm value. The alternative approach offers a complementary view, arguing that under weak legal constraints, blockholders collude with the management in order to appropriate corporate resources and enjoy private benefits, with a subsequent dilution in firm value (Rapp & Trinchera, 2017). Hence, both alternative views may justify a non-unidirectional relationship between firm value and ownership concentration.

Regarding the institutional context, the major Chilean conglomerates record an ownership control of more than 70.0% of non-financial listed companies in the country. In fact, according to the OECD's 2017 Corporate Governance Factbook, the median controller holds 67.0% of shares, while less than 1.0% of firms are widely held when applying the threshold of 10.0% of ownership.

In the Spanish context, among IBEX-35 listed companies (25.5% of the total) there is a controlling shareholder that holds most voting rights. In 91 other listed companies (66.0% of the total), the sum of declared significant shareholdings, including shareholdings held by board members, exceeds 50.0% of share capital, without any individual shareholder exercising control, according to the National Stock Exchange Commission (CNMV, 2015). OECD records show a high level of ownership concentration in both countries, but more prominently in the case of Chile. Therefore, regarding corporate ownership concentration, it is very plausible that both competing hypotheses, the monitoring and the expropriation approach, are observed in the context of the Chilean and Spanish corporate sectors. Consequently, we suggest the following hypothesis:

H1: A non-monotonic, inverse U-shaped relationship is expected between corporate ownership concentration and firm value, *ceteris paribus*.

Regarding the managerial ownership, Jensen and Meckling (1976) argued that convergence of interest exists between managers and outside shareholders when insider shareholdings increase. This convergence leads to lower agency costs and, consequently, higher firm value. Later, Morck et al. (1988) and McConnell and Servaes (1990) refined such arguments, suggesting that at low levels of closely held shares there is an alignment of interests between managers and shareholders. However, an entrenchment effect may be observed in the highest levels of insider ownership (Qiang & Warfield, 2005). In this situation, managers can use their decision-making power in their own interest at the expense of shareholders' wealth. Similarly, Ang et al. (2000) emphasised that agency costs are higher when an outsider manages the firm, and that these costs vary inversely with the manager's ownership share and increase with the number of non-manager shareholders. This suggests a non-linear relationship between the managerial ownership concentration and firm value.

Empirically, Morck et al. (1988) found that market value increases with management ownership, but it also decreases at high levels of managerial ownership, justifying a non-monotonic relationship between management ownership and market valuation of the firm. More recently, Lozano, Martínez, and Pindado (2016) found that when the main owner has effective control over the firm, the relation between

ownership concentration and firm value is also non-linear. Therefore, the intertwining of the convergence of interests' approach and the entrenchment arguments suggests that there is a non-linear relationship between insider ownership and firm value as stated in the following hypothesis:

H2: A non-monotonic, inverse U-shaped relationship is expected between insider ownership and firm value, *ceteris paribus*.

2.4. Board features and firm value

According to the OECD-G20 Principles of Corporate Governance, the corporate governance framework should ensure the strategic guidance of the company, the effective monitoring of management by the board, and the board's accountability to the company and shareholders.⁵ In this regard, the board of directors is considered as the authority with more power in corporations, and as a fundamental pillar within the mechanisms of corporate governance, due to its key role in the supervision and control of the company (Coles & Hesterly, 2000; Gillan, 2006; Lefort & Urzúa, 2008). Boards have the responsibility to monitor management and to protect stakeholders' interest, reducing agency conflicts between the principal and the agent (Bertoni, Meoli, & Vismara, 2014; de Andrés & Vallelado, 2008).⁶ However, there is concern about the board's incapacity to guarantee that the management acts in the interest of stakeholders, questioning its role due to the latest financial scandals (Harris & Raviv, 2008). With this in mind, next we develop the research hypotheses derived from the board features that are key in impacting firm value.

2.4.1. Board size

Generally, the literature that deals with corporate governance measures the effectiveness of the board of directors in its role of supervising and advising the administration, based on the different characteristics they have (Coles & Hesterly, 2000; de Andrés & Vallelado, 2008; Raheja, 2005). For instance, Nguyen, Locke, and Reddy (2015) indicated that the effectiveness of the board of directors is based on its size.

Smaller boards of directors will probably be able to make decisions more actively, efficiently, and in a timelier manner, and this could translate to better company results (Eisenberg, Sundgren, & Wells, 1998). This implies that smaller board size might be more functional and effective as a monitoring system and in providing better financial reporting oversight (Karamanou & Vafeas, 2005; Xie, Davidson, & DaDalt, 2003).

On the other hand, larger boards of directors have the advantage of allowing more members to join, thus allowing more diversity (i.e., representativeness), and more information on factors that affect the firm. As Zahra and Pearce (1989) emphasised, larger boards are more difficult to manipulate. As such, the total number of board members is used to represent the extent to which the board decisions are not influenced by insiders' interest (Nguyen, Rahman, Tong, & Zhao, 2016; Raheja, 2005). Anderson and Reeb (2004) indicated that investors believe that the larger boards of directors, the better the financial accounting structures of the firm, because they are better controlled, and therefore experience a reduction in the cost of borrowing.

Civil-law countries are characterised by the development of internal corporate governance systems in which the size of the board tends to be greater than in common-law regimes (Kumar & Zattoni, 2014). Around the world, several legal initiatives have taken place to prevent excessively small boards. For instance, regarding the particularities of the institutional framework, the Chilean Corporations Law 18,046 requires a minimum size of the board of directors of five members and in the case of large companies, this requirement increases to seven members. The Spanish Companies Act requires three members minimum, but the Good Governance Code of listed companies recommends at least five. The average number of members for 2016 was 11 showing a slight decrease in the last 10 years. All these measures concerning board size are designed to increase the number of participants in key corporate decisions. Based on these arguments, we propose the following hypothesis:

H3: The size of the board of directors will positively impact firm value, whilst all other variables remain constant.

2.4.2. Board gender

In the recent years, gender diversity has attracted the interest of not only the academic world but also the business world (Aragon-Mendoza, Raposo, & Roig-Dobón, 2016; McGuinness, Vieito, & Wang, 2019). Research related to economics and psychology in general finds that women are more risk averse and more cautious than men in their financial decisions (Byrnes, Miller, & Schafer, 1999). According to Gul, Srinidhi, and Ng (2011), board gender diversity could improve the quality of board discussions and increase the ability of the board to provide better oversight of a firm's disclosures and financial reporting with subsequent improvement of firm value. There is plenty of literature that positively associates board gender diversity and corporate performance (Carter, D'Souza, Simkins, & Simpson, 2010; Madanoglu, 2018; Reguera-Alvarado, de Fuentes, & Laffarga, 2017). For instance, Gavius, Segev, and Yosef (2012) provided evidence of a negative relationship between the presence of female directors and earnings management. They concluded that the gender of directors has value implications for analysts and investors, suggesting that there is a positive relationship between the proportion of female directors and firm value. These results are supported by the unique characteristics of women with regard to business ethics and risk aversion, as discussed earlier, and by findings regarding women's motivation and achievement, moral values, social stereotypes and the relation between task performance and self-confidence (Gul, Fung, & Jaggi, 2009; Srinidhi, Gul, & Tsui, 2011). Additionally, Francoeur, Labelle, and Sinclair-Desgagné (2007) found that firms operating in complex environments generate positive and significant abnormal returns when they have a high proportion of women officers. Similarly, other studies highlight the benefits of diversity, showing that diverse groups are more innovative (Chattopadhyay & Duflo, 2004).

The Global Gender Gap Report, developed by the World Economic Forum, benchmarks 149 countries on their progress towards gender parity across four thematic dimensions: economic participation and opportunity, educational attainment, health and survival, and political empowerment. For the year 2018, Chile ranked 54 out of 149 economies in terms of global gender gap, where position 1 represents the most

parity in the index. In terms of economic participation and opportunity of female representatives, Chile is ranked 120 out of 149 countries, whilst Spain occupies the 29th position. According to the OCDE statistics for 2016, female share of seats on boards of the largest publicly listed Chilean companies was 4.7%, and in Spain this percentage rises to 20.0%. As suggested by recent academic literature, including more women on boards could bring benefits to corporations in terms of economic value (Kagzi & Guha, 2018). Therefore, we propose the following hypothesis:

H4: Everything else constant, increasing the presence of female board members in the board of directors will positively impact firm value.

2.4.3. Board independence

Agency theory suggests that a greater proportion of independent directors will be able to monitor any self-interested actions by managers (Fama & Jensen, 1983; Jensen & Meckling, 1976). As a result of the monitoring, there will be fewer opportunities for managers to pursue self-interest at the expense of owners (low level of agency costs), and so shareholders will enjoy greater returns, or increased profits. Consistent with the agency theory, research has found that independent directors are key in solving expropriation problems suffered by minority shareholders, which enhances firm value (Anderson & Gupta, 2009; Letza, Sun, & Kirkbride, 2004; Raheja, 2005). Westphal (1998) suggested that independent directors can play an important role in mitigating the expropriation risk of minority shareholders by controlling shareholders among closely-held firms.

Gaur, Bathula, and Singh (2015) indicated that a large part of countries' corporate governance policies emphasises the effectiveness of the board, specifically an increase in the number of independent directors, in order to better supervise the company. The empirical evidence indicates that a greater degree of board independence implies greater efficiency in the supervisory role towards senior management, which translates into fewer conflicts of interest, and therefore generates an increase in the value of the company (Coles & Hesterly, 2000; Dalton & Dalton, 2005). Anderson and Reeb (2004) added that independent directors are a defence mechanism that prevents controlling shareholders from increasing their wealth at the expense of minority shareholders. Aligned with this idea, Baysinger and Butler (1985) provided evidence on the effectiveness of the corporate governance reform movement in suggesting a positive relationship among the proportion of independent directors and company performance.

Chilean Corporate Law 18,046 requires the separation of the CEO and chair of the board. A mandatory independent board member is required for listed companies, but only if the listed equity is above 1,500,000 UF^s (from its Spanish acronym of *Unidades de Fomento*)⁷ and at least 12.5% of its shares with voting rights are owned by shareholders who do not individually own or control more than 10.0% of such shares.

The Code of Good Governance in Spain states that when the chair of the board is also a company executive, additional powers should be given to the lead independent director. It recommends at least half of the directors in the boardroom be independent, but at the same time establishes that when the percentage is excessive in some

cases, the threshold recommendation decreases to one third of board members. Independent directors in Chile represented 17.3% of the total for 2016, whilst in the international arena this ratio represented almost 29.0% of total directors. In the case of Spain, independent directors represented 44.0% of the total for 2016.

Both countries have included in their regulations requirements in favour of increasing independent board members for efficiency. As recently stated by Uribe-Bohorquez, Martínez-Ferrero, and García-Sánchez (2019), the moderating role of institutional factors, such as regulatory requirements, have a significant and positive impact on board features in improving firms' efficiency. Based on these arguments, we suggest the following hypothesis:

H5: *Ceteris paribus*, a greater proportion of independent directors on the boards of Chilean and Spanish companies will impact positively a firm's value.

3. Methodology design

3.1. Econometric strategy

Our goal in this part of the study is to assess to what extent and direction the governance systems impact the firm value in the sample of Chilean and Spanish companies. The drivers of firm value are measured at the company level and at the institutional level to control for those factors that may cause an asymmetric impact on firm value because of the characteristics of the institutional and legal systems in both countries. The first part of the empirical analysis is focused on a univariate analysis that describes the behaviour of each variable. The second part develops the multi-variate analysis through panel data technique.

Panel data analysis allows us to tackle individual heterogeneity issues typically observed in the literature. Gormley and Matsa (2014) stated that controlling for unobserved heterogeneity is fundamental in empirical finance research, because asset prices and most corporate policies depend on factors that are unobservable to the econometrician but must be considered in the analysis. Constant and unobservable heterogeneity refers to specific factors of each firm that remain constant over time (e.g., differences in local economic environments, management quality, attitude toward risk, and internal policies, to name a few). If these factors are correlated with the variables of interest, results can lead to biased estimations of parameters if the individual and unobservable effect is not properly treated.

The other econometric caveat widely recognised in the literature is the endogeneity problem (Arellano, 2002; Roberts & Whited, 2013). This problem takes place when there is not a clear direction of the causality between the corporate governance systems and the proxies of firm value (Wintoki, Linck, & Netter, 2012). Hence, it is expected that this simultaneity problem may cause biases in the predictions (Brown, Beekes, & Verhoeven, 2011). Consequently, when the endogeneity issue is ignored, results are at the very least incomplete.

The two-stage Generalised Method of Moments System Estimator (GMM-SE) is a superior technique that controls for both econometric problems by using as instruments the lagged right-hand-side variables in the model (Alonso-Borrego & Arellano,

1999). Alternatively, the unobservable fixed-effect method is also used for robustness purposes as a second order method, although the results are not reported.

The consistency of the estimates depends critically on the absence of second-order serial autocorrelation and on the validity of the instruments. To deal with these conditions, the AR(2) test is used to measure the second-order serial correlation, and the Hansen (1982) contrast of over-identified restrictions is used to check if the instruments are exogenously determined. Additionally, we used the Wald test of joint significance for all independent variables and test the potential multicollinearity problems through the Variance Inflation Factor (VIF). Finally, in order to test the inverse U-shaped relationships suggested in the first two research hypotheses, the appropriate Lind and Mehlum (2010) test is used.

In addition to the advantages of the panel data technique mentioned above, it allows us to gain higher informative content than cross sectional analysis as a consequence of the simultaneous use of time series and cross-sections. It also allows higher variability, lower collinearity among explicative variables, more degrees of freedom, and higher efficiency (Baltagi, 2013).

3.2. Sample of firms and source of information

The study is performed with information of a sample of Chilean and Spanish listed companies in their respective exchanges. The financial information and information concerning the ownership structure features were obtained from Thomson Reuters EIKON from 2007 to 2016. Given their regulated status and different financial reporting system, financial institutions were excluded from the sample. The advantage of the Thomson Reuters EIKON is that it has homogenised data and enables comparison and analytical work of data obtained from both countries under analysis. Board feature variables were obtained from the Bloomberg data set in the case of Spain and manually collected from the firms' annual reports in the case of Chile.

The composition of the panel data by country is described in Table 1. To compose an efficient panel of data, we included a minimum of five continuous year observations per firm with an average of 7.09. The total sample includes 1060 observations for Chilean companies and 845 for Spanish companies.

Regarding the contextual variables, we used the Economic Freedom Index of the Heritage Foundation and the Global Gender Gap Index sourced by the World Economic Forum. Both indexes are publicly available.

3.3. Variable definition

3.3.1. Dependent variable: firm value

Given that firm value is estimated, several alternative proxies are used to provide robustness to the results. Tobin's Q is a variable widely used in the literature as a proxy for firm value (Demsetz & Villalonga, 2001; Jara, López-Iturriaga, San-Martín, & Saona, 2018). It is defined as the market value of equity plus the book value of total debt over the book value of total assets ($FV1$). In this case, total debt is measured as the short- and long-term interest-bearing debt related to operating activities

Table 1. Panel composition.

Year	Chile	(%)	Spain	(%)	Total
2007	39	3.68	73	8.64	112
2008	37	3.49	76	8.99	113
2009	38	3.58	80	9.47	118
2010	108	10.19	81	9.59	189
2011	108	10.19	84	9.94	192
2012	137	12.92	83	9.82	220
2013	153	14.43	85	10.06	238
2014	149	14.06	86	10.18	235
2015	148	13.96	94	11.12	242
2016	143	13.49	103	12.19	246
Total	1060	100.00	845	100.00	1905

Notes: This table shows the number of firms by country and year to compound the panel data.

(with no consideration of other sources of debt such as accruals, accounts payable, etc.). Alternatively, we use an adjusted measure of Tobin's Q (*FV2*) variable that considers only in the nominator the book value of total short- and long-term liabilities, defined as the market value of equity plus the book value of total liabilities over the book value of total assets. The market to book ratio is also used as a measure of firm value (*FV3*), and finally, we follow a similar approach to López and Crisóstomo (2010) and calculate a sector-adjusted Tobin's Q ratio (*FV4*). Given the literature has underlined the influence of some sectorial issues on this variable, such as sector-specific patterns of tangible to non-tangible assets, risk, and growth, among others, we believe it is suitable to consider a sector-adjusted version of the dependent variable. This is computed as the difference between a firm's *FV2* variable and its mean value for the firms operating in the same sector, year, and country.⁸

3.3.2. Corporate governance variables

Two variables were used to measure the ownership structure features. Concentration (*Conc1*), corresponding to the proportion of outstanding shares in the portfolio of the majority shareholder, representing their voting rights; and the percentage of closely held shares (*PCHSh*), which corresponds to the proportion of shares in the portfolio of managers, directors, controlling shareholders, holding groups, and any stakeholder of reference who, though not having executive responsibilities, holds a certain level of power in the most important corporate decisions.

Concerning the variables that measure the board of directors' features, board size (*BSize*) was computed as the number of members sitting in the board of directors (Nguyen et al., 2016), and board gender diversity was measured as the share of women on the board relative to the total number of board members (*BGD1*). Additionally, in order to increase the heterogeneity in this variable, we follow Martín-Ugedo and Minguez-Vera (2014) and Abad, Lucas-Pérez, Minguez-Vera, and Yagüe (2017) and use two additional indexed measures of gender diversity that consider the proportion of the relative weights of both genders in the board. Hence, we define *BGD2* as $1 - \sum_{i=1}^n P_i^2$, where P_i corresponds to the proportion of directors in each $n = 2$ gender categories (male and female members). By construction, this indicator ranges between 0 when there is no gender diversity at all (e.g., there are only male members or female members in the board); and 0.5 when there is an equal proportion of male and female members on the board.⁹ The third indicator used to measure

gender diversity is $BGD3$ computed as $|\sum_{i=1}^n LnP_i^{P_i}|$. Similar to $BGD2$, this indicator takes values between 0, when there is no gender diversification, and 0.693, when there is an equal proportion of each gender category.¹⁰ Board independence ($BIndep$) was calculated as the proportion of independent members in the boardroom.

At the institutional level, two variables were employed. The first one is the Global Gender Gap Index (GGG), published annually by the World Economic Forum and defined as the indicator that ranks countries according to calculated gender gap between women and men in four key areas: health, education, economy, and politics in order to gauge the state of gender equality in a country. The highest possible score for this indicator is 1 when equality or better for women is observed, and 0 when the maximum disparity exists between genders. Our second measure at the institutional level is the Economic Freedom Index (EFI) of the Heritage Foundation. It corresponds to an indicator based upon twelve quantitative and qualitative factors, grouped into the following four broad categories of economic freedom: rule of law, government size, regulatory efficiency, and open markets. Each of these categories is graded on a scale of 0 to 100, and a country's overall index is derived by averaging the scores. The greater the value, the better the economic freedom and consequently its underlying categories.

3.3.3. Control variables

In order to reduce biases in the estimations as a consequence of sub-identification, a number of control variables were included in the models such as the firm size ($Size$), leverage (Lev), profitability (ROA), collateral capacity ($Tang$) and firm's default risk ($Risk$). $Size$ was computed as the natural logarithm of the firm's total assets (San Martín & Saona, 2017); Lev corresponded to the ratio of total short- and long-term interest-bearing debt over firm's total assets. ROA was computed as the net income over total assets; $Tang$, as the firm's net property, plant, and equipment over total assets (Saona & San Martín, 2018); and $Risk$ variable was measured based on the Altman (1968)'s Z-Score as $1.2 \times WKTA + 1.4 \times RE + 3.3 \times EBITTA + 0.6 \times MKTTL + 1.0 \times RTA$, where $WKTA$ is the working capital over total assets, RE is the retained earnings over total assets, $EBITTA$ is the annual earnings before interests and taxes over total assets, $MKTTL$ is defined as the firms' market capitalisation over total liabilities, and RTA is the total revenues over total assets. Finally, industry dummies as well as temporal and country dummy variables entered the specifications. Hence, the full regression model is:

$$\begin{aligned}
 FV_{itc} = & \beta_0 + \beta_1 BGD_{itc} + \beta_2 BSize_{itc} + \beta_3 BIndep_{itc} + \beta_4 OWN_{itc} + \beta_5 GGG_{itc} \\
 & + \beta_6 EFI_{itc} + \beta_7 Size_{itc} + \beta_8 Lev_{itc} + \beta_9 ROA_{itc} + \beta_{10} Tang_{itc} + \beta_{11} Risk_{itc} \\
 & + \beta_{12} IndustryDummy_{ict} + \beta_{13} TimeDummy_t + \beta_{14} CountryDummy_c + \mu_i + \sigma_t + \varepsilon_{it}
 \end{aligned}
 \tag{1}$$

Where FV represents the alternative measures of firm value as dependent variable; BGD , the gender diversity in the board of directors; OWN , the different measures used for ownership structure features; and μ , σ , and ε are the individual effect, temporal effect, and the stochastic error in the estimations, for the i firm, in the t period,

and c country. All the other variables are defined above. Finally, in order to test the hypotheses that suggest non-linear relationships with firm value, the quadratic form of the respective variables are entered in the estimations—in this case, $Conc1^2$ and $PCHSh^2$.

4. Interpretation of results

4.1. Univariate analysis

This section describes the general characteristics of the main variables used in this study. From Table 2 we can derive the following observations. First, the main values of all the alternative proxy measures of firm value exhibit how overpriced firm value is in both countries (e.g., see the mean values for the entire sample and by country for variables $FV1$, $FV2$, $FV3$, and $FV4$). Second, board gender diversity ($BGD1$) shows that there is a relatively low female presence on boards amounting to 7.4% of the total board members as compared to countries such as Denmark, Finland, France, or Norway which hold 9.8%, 19.2%, 11.2%, and 29.2% of women on boards, as stated by Kyaw, Olugbode, and Petracci (2015). In fact, the three variables used to measure board gender diversity describe that in all the cases men are in the majority. $BGD2$ and $BGD3$, which correspond to the Blau and Shannon Indexes, indicate that there is a no balanced gender diversity on boards. Third, the average board size ($BSize$) corresponds to 8.7 members with 22.0% of independent members ($BIndep$). Fourth, the top shareholder holds about 38.2% of the voting rights. In comparison to Anglo-Saxon economies, for instance, this percentage is only 3.1% in the case of the majority shareholders in New Zealand companies according to Gaur et al. (2015), or the distribution of the ownership rights among the five largest shareholders which is just 22.3% in US companies, as described by Richter and Weiss (2013). Fifth, the typical company analysed in this study finances its total assets with about 27.3% debt (Lev)—which is comparable with the average value reported by Saona, San Martín, and Jara (2018) for Chilean companies (23.6%) or by Azofra, Saona, and Vallelado (2007) for Spanish firms (30.0%). Moreover, the typical company in the sample has a 3.1% profitability ratio (ROA), and its fixed assets represent 37.9% of total assets ($Tang$).

We used the mean difference test to compare average values per variable for the two countries under analysis, as reported in the final column in Table 2. From this comparison, the following observations are identified. First, concerning the alternative measures of firm value, Spanish companies exhibit statistically higher valuation than Chilean companies, at least in $FV2$ and $FV3$ variables. Second, board features show that average Spanish companies have larger boards, with a greater proportion of independent directors and are more gender balanced. It is plausible that the contextual influence of the culture and legal structure reveals these differences in the board characteristics between Chile and Spain. Hence, it seems that Spanish boards of directors are more aligned with the general guidelines suggested by the codes of good governance than Chilean firms (García Martín & Herrero, 2018). Third, the results show that Spanish firms systematically have less concentrated ownership structures than Chilean companies. This preliminary finding is statistically significant under all different measures of ownership structure (see $Conc1$ and

Table 2. Descriptive statistics.

Variable	Obs.	Total Sample				Chile Mean	Spain Mean	Difference
		Mean	Std. Dev.	Min	Max			
FV1	1810	1.195	1.663	0.156	17.587	1.1872	1.2033	-0.0162
FV2	1810	1.431	1.209	0.257	9.336	1.3472	1.5252	-0.1780**
FV3	1770	2.269	3.072	0.016	19.439	1.8326	2.7756	-0.9430***
FV4	1810	-0.072	1.563	-2.314	14.104	-0.0927	-0.0489	-0.0438
BGD1	2028	0.074	0.103	0.000	0.600	0.0424	0.1126	-0.0702***
BGD2	2028	0.116	0.148	0.000	0.496	0.0655	0.1775	-0.1120***
BGD3	2028	0.188	0.228	0.000	0.689	0.1047	0.2871	-0.1824***
BSize	2008	8.777	3.183	4.000	24.000	7.2134	10.6222	-3.4087***
Blndep	2028	0.227	0.202	0.000	1.000	0.1173	0.3586	-0.2413***
Conc1	1904	0.382	0.259	0.000	0.999	0.4638	0.2803	0.1835***
Conc1 ²	1904	0.213	0.246	0.000	0.999	0.2798	0.1299	0.1499***
PCHSh	1771	0.592	0.292	0.000	1.000	0.7076	0.4391	0.2685***
PCHSh ²	1771	0.436	0.320	0.000	1.000	0.5719	0.2551	0.3167***
EFI	2028	73.721	4.979	63.600	79.000	78.1234	68.4286	9.6948***
GGG	1956	0.711	0.028	0.648	0.758	0.6896	0.7386	-0.0490***
Size	1963	20.052	2.230	12.870	25.589	19.4649	20.8071	-1.3422***
Lev	1947	0.273	0.184	0.000	0.976	0.2296	0.3285	-0.0988***
ROA	1962	0.031	0.094	-0.415	0.460	0.0395	0.0200	0.0195***
Tang	1962	0.379	0.250	0.000	1.000	0.4405	0.2995	0.1409***
Risk	1791	2.545	2.894	-1.268	21.227	2.7986	2.2614	0.5372***

Notes: The table shows the mean, the standard deviation and the minimum and maximum for the total sample variables; as well as the mean by country. Four metrics are used for firm value. FV1 defined as the market value of equity plus the book value of total debt over the book value of total assets, FV2 measured as adjusted measure of Tobin's Q, FV3 which is calculated as the market to book ratio, and FV4 is calculated as the sector-adjusted Tobin's Q ratio. Board gender diversity was measured as the share of women on the board relative to the total number of board members (BGD1); BGD2 and BGD3 also measure gender diversity according to the Blau and Shannon indexes. Board size (BSize) is the number of members sitting in the board of directors and board independence (Blndep) is the proportion of independent board members. Conc1 is proportion of outstanding shares in the portfolio of the majority shareholder and PCHSh is the closely held shares, corresponding to the proportion of shares in the portfolio of managers, directors, controlling shareholder, holding groups, and any stakeholder of reference that although does not have executive responsibilities, holds certain level of power in the most important corporate decisions. At institutional level, we use the Global Gender Gap Index (GGG) and the Economic Freedom Index (EFI). Firm size (Size), leverage (Lev), profitability (ROA), collateral capacity (Tang) and firm's default risk (Risk) are control variables.

PCHSh in Table 2). Literature has suggested that the legal protection encourages companies to have concentrated ownership structures to mitigate the potential risks of weak monitoring (Saona et al., 2018).

Regarding the two contextual variables used in this study, we observe that the average Economic Freedom Index (*EFI*) is around 73, knowing that this variable goes from 4.9 to 79 with higher values as economic freedom increases. Results in Table 2 highlight the fact that the Chilean economy has experienced a process of deregulation and economic openness at an international level, first under the administration of president Pinochet and then after the update and amendments of numerous laws that regulate capital markets and the market for traded goods in the subsequent administrations. In comparison to Spain (68.43), the economic freedom is greater in Chile (78.12). A quick look at the Chilean corporate sector reveals the high participation of both foreign firms and capital operating in the country (Saona & San Martín, 2018). The second country-level variable used in the empirical analysis is the Global Gender Gap (*GGG*), which exhibited average values 0.69 and 0.74 of Chile and Spain. This indicates that higher gender parity exists in Spain than in Chile. This indicator is also aligned with our previous description of the board gender diversity measures for both countries.

4.2. Multivariate analysis

As mentioned above, the generalised method of moment with the system estimator (GMM-SE) is used as econometric technique to test our research hypotheses. Tables 3 through 5 display the results of Equation (1). These tables include a set of several proxies of firm value.¹¹ Table 3 shows the results of the baseline model using temporal and country fixed effects. Time fixed-effect accounts for unobservable changes over time, and country fixed effects accounts for unobserved differences per country in the sample. The eight regressions are grouped based on the four alternative dependent variables.

In Table 3, we observe that there is a U-shaped effect of the ownership concentration (*Conc1*) on firm value, which is robust across the first four specifications. This is an unexpected result because our hypotheses suggested an inverse U-shaped relationship, in line with the monitoring and expropriation approach. This indicates that in early stages of concentration the effect is that it erodes the value of the company as a result of the wealth expropriation of minority shareholders by the controlling one. It seems to be that ownership concentration as a governance device is not efficient enough to maximise the value of all existing shareholders. Apparently, the market penalises low levels of concentration, and this eventually diminishes firm value. This result, however, may be consistent with, for example, the La Polar case in Chile, where the lack of a controlling shareholder allowed the accounting manipulation strategies carried out by the company's managers.

The regression outputs allow us to estimate the critical point at which firm value is minimised (given the U-shaped relationship between the ownership concentration and firm value). As observed in Table 3, the critical values averaged 44.2% of voting rights of the majority shareholder, meaning that at levels of concentration below this, firm value is reduced and at levels higher than that, firm value is increased as ownership gets more concentrated. When looking at the average ownership concentration per country (see Table 2), we observe that a typical Chilean firm is operating at a level of concentration that supports the alignment of interest hypothesis, whilst Spanish firms are operating with a concentration of ownership in hand of the majority shareholder at a level that destroys value.

Regarding the other governance variables, it is possible to verify that the board of directors is an efficient internal governance system. The size of the board, the proportion of independent directors, as well as the increased presence of female directors have a positive influence on the value of the company. This would indicate that for both countries, these corporate governance mechanisms are valuable, and the market rewards companies whose boards are larger, with a higher proportion of independent directors and more gender diversity. At the institutional level, our two variables (*GGG* and *EFI*) are positively related to firm value. This means that the institutional support in both countries gives guarantees that allow, on the one hand, greater legal protection to the investor and, on the other hand, to ensure a better functioning of the market that eventually triggers firm value.

The control variables exhibit a behaviour in accordance to previous researches. Size has a negative effect on firm value. Leverage, profitability, and risk positively affect the market valuation of the firm.

Table 3. Relationship between ownership and board composition and firm value.

VARIABLES	(1) FV1	(2) FV2	(3) FV3	(4) FV4	(5) FV1	(6) FV2	(7) FV3	(8) FV4
Conc1	-1.9257*** (-10.2267)	-1.3517*** (-8.5811)	-5.2096*** (-8.0600)	-2.3458*** (-9.1816)	0.5556*** (3.5722)	-0.6887*** (-4.8491)	-4.3129*** (-9.9529)	1.4378*** (7.0106)
Conc1 ²	2.0401*** (11.0152)	1.5915*** (9.6890)	6.0186*** (10.0615)	2.6736*** (9.4620)	-1.0312** (-6.8101)	0.2450* (1.7727)	2.8689** (7.0530)	-1.8264*** (-9.7366)
Critical Value	0.4719***	0.4247***	0.4328***	0.4387***	0.2694** (10.4981)	1.4055 (4.0362)	0.7517*** (9.9183)	0.3936*** (10.7385)
PCHSH					0.0535*** (14.1300)	0.0008 (0.2433)	0.0734*** (7.3292)	0.0912*** (22.8129)
PCHSH ²					0.0754 (1.4696)	0.3823*** (7.7366)	2.7793*** (16.6196)	-0.3524*** (-8.9902)
Critical Value					0.4401*** (10.4981)	0.4401*** (4.0362)	2.0233*** (9.9183)	1.9849*** (20.7385)
BSize	0.0807*** (14.1946)	0.0283*** (8.5633)	0.0474*** (3.9888)	0.0937*** (19.1642)	0.6777*** (10.4981)	0.8983*** (7.7366)	4.1885*** (18.7324)	-0.7884*** (-7.2847)
Blndep	1.0472*** (13.2788)	0.8489*** (11.5167)	3.7462*** (17.3787)	6.057*** (10.1859)	0.0138*** (8.8862)	0.0016 (1.1558)	-0.0015 (-0.2934)	0.0373*** (22.0347)
BGD1	0.2692** (2.0265)	-0.0793 (-0.8742)	-0.1468 (-0.5825)	0.6017*** (5.6176)	-0.1405*** (-18.0465)	0.0345*** (1.9411)**	-0.2245*** (-9.5212)	-0.2155*** (-29.9173)
GGG	0.7372*** (7.4075)	1.0125*** (12.9686)	4.7956*** (14.6939)	-1.0530*** (-9.6967)	2.5194*** (8.8862)	1.9411*** (16.0380)	5.6921*** (18.7324)	1.4205*** (20.7385)
EFI	0.0146*** (6.1031)	0.0038** (1.9856)	0.0102 (1.7835)	0.0305*** (15.1370)	0.0138*** (8.8862)	0.0016 (1.1558)	-0.0015 (-0.2934)	0.0373*** (22.0347)
Size	-0.1443*** (-11.5515)	-0.0590*** (-6.8094)	-0.2942*** (-10.2026)	-0.1607*** (-17.7348)	-0.1405*** (-18.0465)	0.0345*** (1.9411)**	-0.2245*** (-9.5212)	-0.2155*** (-29.9173)
Lev	2.2507*** (19.9411)	1.7319*** (18.3191)	6.4537*** (19.4432)	1.5556*** (12.4853)	2.5194*** (8.8862)	1.9411*** (16.0380)	5.6921*** (18.7324)	1.4205*** (20.7385)
ROA	2.7181*** (17.1606)	2.2148*** (15.3855)	7.7058*** (18.4206)	1.5444*** (10.6570)	2.2549*** (18.3166)	1.8562*** (21.3569)	6.9031*** (21.8130)	1.8231*** (17.1259)
Tang	-0.3207*** (-4.3663)	-0.1259** (-2.1069)	-0.6517*** (-3.8416)	-0.2634*** (-3.7814)	0.3780*** (8.6342)	0.2265*** (5.4197)	0.2421* (1.8032)	0.9745*** (20.7440)
Risk	0.4034*** (33.7296)	0.3075*** (33.9302)	0.5661*** (17.0790)	0.2063*** (15.3758)	0.4066*** (66.6331)	0.3244*** (50.5176)	0.6047*** (33.9406)	0.1726*** (22.0926)
DummyChile	0.2932*** (6.1517)	0.0525 (1.5303)	0.2000 (1.6263)	0.0732 (1.4665)	0.0949*** (2.9066)	-0.0321 (-1.0917)	0.3884*** (3.9652)	-0.2318*** (-5.1339)
Observations	1789	1789	1761	1789	1653	1653	1639	1653
Avg. Obs. per Group	7.099	7.099	6.988	7.099	6.802	6.802	6.745	6.802
AR(2)	-1.215	-0.955	-0.464	-1.064	-1.288	-1.040	-1.401	-0.878
p-value	0.224	0.0118	0.642	0.287	0.198	0.298	0.0709	0.380
Sargan	539.3	551	620.4	1003	436.1	545.3	839.3	697.4
F-test	1634	9060	1208	1075	4829	5439	1027	373.4

Notes: The table shows the regression estimates with the two-stage Generalised Method of Moments System Estimator (GMM-SE). The eight regressions are grouped based on the four alternative dependent variables. All the variables are described in Table 2. T-statistics in parentheses. ***, **, * imply significant at 1%, 5%, and 10%.

In Table 4 we also find partial evidence of an inverse U-shaped relationship between insiders' ownership (*PCHSh*) and firm value according to the fifth and eighth columns that include *FV1* and *FV4* as dependent variables. The average of these critical values is 33.2% and indicates that when insiders control less than that percentage, the value of the firm increases as a result of the convergence effect hypothesis. When insiders control more than 33.2% of the outstanding shares, it tends to destroy value for the company because of the expropriation effect hypothesis. Column number 6 in Table 3 reports a critical value which is out of range and consequently, its U-shaped form is trivially rejected. The only dissonant finding regarding *PCHSh* variable is observed in the seventh regression of Table 3, which contradicts our research hypothesis of an inverse U-shaped association between insiders' ownership and firm value.

Although concentrated ownership in some civil-law contexts, and particularly in Latin-American countries like Chile, has surged as a response to the lack of efficient governance, our findings seem to show that the market assigns a premium for high levels of ownership concentration and this increases the value of the company. From the market perspective, the results demonstrate that the vertical agency problem is relevant and penalises low levels of concentration and rewards the opposite. Consequently, we reject the hypothesis H1 that supported an inverse non-monotonic relationship between ownership concentration and firm value.

Regarding the directorship features, consistent with the monitoring role of the board, and in line with the third of the research hypotheses, our results exhibit a consistent, statistically significant and positive relationship between the board size (*BSize*) and firm valuation. This result could be interpreted as the larger the size of the board, the more superior the quality of the decisions, and the higher valuation (Farag & Mallin, 2019). The average of the coefficients of the specifications (1) through (8) (except 7) indicates an elasticity of 0.0667, which implies when board size increases by 10.0%, firm value increases 6.7%.

Considering the proportion of independent directors (*BIndep*) as a more effective way of monitoring, our findings reveal that a greater degree of independence of the boardroom implies greater efficiency in the supervisory role towards senior management, which translates into fewer conflicts of interest, and therefore generates an increase in the value of the company (Coles & Hesterly, 2000; Dalton & Dalton, 2005; Setia-Atmaja, 2009). Considering the independence of the board as a governance system, the results confirm the effectiveness of this mechanism. With it, our results are consistent and statistically significant with the fourth research hypothesis.

In six out of eight specifications, the results confirm the benefit of having a higher proportion of women (*BGD1*) on the company's board of directors. Women have unique characteristics regarding business ethics and risk aversion. Our findings are consistent with previous research that reveals that women have higher levels of motivation and achievement, moral values, social stereotypes, and the relation between task performance and self-confidence, which, at the end of the day, foster a positive and significant correlation with the value of the firm (Gul et al., 2009; Srinidhi et al., 2011).

Table 4. Relationship between ownership and board composition and firm value.

VARIABLES	FV1	FV4	
Conc1	-2.0462*** (-10.4614)	-2.4723*** (-9.4770)	-2.5084*** (-9.6091)
Conc1 ²	2.1465*** (11.0995)	2.8141*** (9.8214)	2.8866*** (10.1566)
Critical Value	0.4766***	0.4750***	0.4345***
PCHSh	0.4068** (2.4994)	0.2859* (1.7235)	1.3755*** (6.6318)
PCHSh ²	-0.9570*** (-5.9501)	-0.8935*** (-5.4202)	-1.8441*** (-9.1240)
Critical Value	0.2725***	0.1600***	0.3729***
BSize	0.0531*** (12.0451)	0.0539*** (12.1101)	0.0939*** (22.5361)
Bindep	0.0868*** (15.2760)	0.0906*** (16.6331)	0.0966*** (20.6664)
BGD2 (Blau)	1.1371*** (13.9918)	1.1579*** (13.6419)	0.6671*** (10.6272)
BGD3 (Shannon)	0.9276*** (9.4384)	0.9276*** (9.4384)	1.3866*** (23.4130)
GGG	0.7704*** (7.6843)	0.7392*** (11.1656)	0.1923*** (3.2620)
EFI	0.0172*** (7.1854)	0.0157*** (8.0737)	-0.9930*** (-9.2027)
Size	-0.1573*** (-12.5160)	-0.1459*** (-17.4311)	0.0328*** (14.7693)
Lev	2.2338*** (19.0021)	2.2207*** (18.6331)	-0.1734*** (-17.6737)
ROA	2.7342*** (16.3001)	2.7453*** (15.9813)	1.5511*** (12.6434)
Tang	-0.4067*** (-5.3043)	-0.4660*** (-5.9076)	1.4887*** (20.2878)
Risk	0.4140*** (31.9281)	0.4230*** (30.8280)	1.6882*** (11.4757)
DummyChile	0.3151*** (6.4026)	0.3171*** (6.3560)	-0.3879*** (-5.0045)
Observations	1789	1789	0.2221*** (16.6598)
Avg. Obs. per Group	7.099	7.099	0.1834*** (22.1023)
AR(2)	-1.203	-1.191	0.0727 (15.7805)
p-value	0.229	0.135	0.1751*** (-3.7263)
Sargan	540.1	448.3	1.5297*** (20.0278)
F-test	1570	2676	2.0286*** (16.5885)
			0.9794*** (18.8381)
			0.1868*** (22.1023)
			0.1751*** (-3.7263)
			1653
			6.802
			-1.068
			0.285
			976.1
			711.5
			122.2
			283.2

Notes: The table shows the regression estimates with the two-stage Generalised Method of Moments System Estimator (GMM-SE). The eight regressions are grouped based on two out of the four alternative dependent variables. All the variables are described in Table 2. T-statistics in parentheses. ***, **, * imply significant at 1%, 5%, and 10%.

Table 5. Relationship between ownership and board composition and firm value with interacted country dummy.

x	FV1			FV2			FV3			FV4		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)				
Concl	0.0233 (0.5487)		-0.0078 (-0.2033)		-2.6954*** (-21.6061)		0.4401*** (6.2956)					
Concl*Country												
PCHSh		-0.3395*** (-8.7304)		-0.2384*** (-4.1251)								
PCHSh*Country												
BSize	0.0390*** (9.6400)	0.0538*** (11.3115)	0.0110*** (5.2247)	0.0137*** (4.6550)	0.0381*** (5.0456)	0.1465*** (17.8652)	0.0561*** (13.6500)	0.0763*** (28.5800)				
BSize*Country												
BIndep	1.0165*** (19.8879)	1.1322*** (36.2099)	0.7168*** (24.4786)	0.7746*** (21.5793)	0.6648*** (4.6406)	1.251*** (7.4493)	1.2470*** (25.3449)	1.2955*** (19.4823)				
BIndep*Country												
BGD1		-1.2424*** (-6.5555)	-0.6354*** (-4.0749)	-0.8766*** (-5.1005)	0.7733*** (2.4402)	1.6709*** (3.9173)	-0.7646*** (-4.3344)	-0.7716*** (-3.9226)				
BGD1*Country												
GGG	0.2444* (1.7415)	0.7689*** (7.0368)	0.5820*** (6.2981)	1.0555*** (11.2682)	1.3016*** (4.3489)	2.1151*** (4.7788)	1.3364*** (-8.1750)	1.3364*** (-5.7234)				
EFI	0.0091*** (11.4967)	0.0013 (-11.6658)	0.0035** (-9.0831)	-0.0059*** (-3.4824)	-0.0230*** (-4.1434)	-0.0234*** (-4.0562)	0.0311*** (12.7708)	0.0313*** (17.8507)				
Size												
Lev	2.3638*** (33.4131)	2.7298*** (50.8772)	1.5733*** (45.5622)	2.0414*** (31.3597)	2.8241*** (14.7481)	5.6352*** (20.6950)	1.9514*** (23.6127)	1.9514*** (18.8321)				
ROA	0.7149*** (7.6068)	1.5208*** (20.5741)	0.8845*** (10.4859)	1.5320*** (12.1086)	1.6612*** (6.8356)	7.3056*** (17.9312)	1.1129*** (11.3832)	1.1129*** (16.1516)				
Tang	0.1310* (1.8660)	0.3692*** (7.1291)	-0.0336 (-0.6270)	0.3340*** (7.6985)	0.3938*** (2.5808)	0.6885*** (3.9086)	0.2137*** (3.2717)	0.2137*** (8.4060)				
Risk	0.5186*** (77.1613)	0.4900*** (52.4611)	0.3752*** (42.6738)	0.4066*** (64.6444)	0.7534*** (60.3021)	0.7048*** (30.5389)	0.3673*** (30.6530)	0.3673*** (35.1440)				
Observations	1789	1653	1789	1653	1761	1639	1789	1653				
Avg. Obs. per Group	7.099	6.802	7.099	6.802	6.988	6.745	7.099	6.802				
AR(2)	-1.071	-1.227	-0.897	-1.062	-0.604	-1.345	-0.952	-1.110				
p-value	0.156	0.167	0.370	0.142	0.0505	0.179	0.341	0.267				
Sargan	365.8	354.1	339.3	350.9	495.1	593.3	688.2	688.2				
F-test	10.978	196.705	117.339	80.013	2170	11,870	34,806	61,237				

Notes: The table shows the regression estimates with the two-stage Generalised Method of Moments System Estimator (GMM-SE). The eight regressions are grouped based on the four alternative dependent variables. All the variables are described in Table 2. T-statistics in parentheses. ***, **, * imply significant at 1%, 5%, and 10%.

At country-level variables, and apart from regressions (4) and (8), the results indicate that the better the position in terms of gender parity—measured through the Global Gender Gap, *GGG*—the higher will be the value of the company. And regarding the Economic Freedom Index (*EFI*), although with less statistical power than in the case of the *GGG*, we observe a positive correlation between economic freedom and firm value. These results corroborate the relevance of having a more developed market, which improves the economic freedom and gender equity.

Considering our control variables, the results are presented in line with the general intuition and with those obtained by previous works. The greater the size of the company (*Size*), the greater the level of tangible assets (*Tang*), and the greater the risk (*Risk*), the lower the value of the firm. On the contrary, higher levels of indebtedness (*Lev*) and profitability (*ROA*) lead to higher company value.

Finally, and related to the country dummy, the results are not conclusive. However, [Table 5](#) allows an analysis to be carried out that will make it possible to differentiate between the countries analysed.

[Table 4](#) reports as dependent variables the Tobin's Q (*FV1*) and the sector-adjusted Tobin's Q (*FV4*) because they were found the most significant variables and because they are the most popular measures of firm value.¹² This table includes the two alternative proxies for gender diversity (*BGD2* and *BGD3*) which refer to the previously mentioned gender diversity Blau Index and Shannon Index. In general, the results confirm the previous findings. Both, Blau and Shannon Indexes reveal that gender diversity is important for the market and that investors are willing to pay a premium for firms with gender-balanced boards.

Finally, [Table 5](#) exhibits the results of ownership concentration and board composition and their impact on firm value but considers differences between countries. These specifications include an interacted dummy variable that takes value 1 if the country is Chile and 0 for Spain.

When the measure of the voting rights of the majority shareholder is considered (*Conc1*), it is observed that it is statistically significant only in the specifications (5) and (7). But the results, differing from the previous findings, are not conclusive. In the case of insider ownership (*PCHSh*), the results evidence a negative and statistically significant effect on firm value in the case of Spanish companies as observed in specifications (2) and (4). For Chilean companies, however, the results (the sum of the coefficients of *PCHSh* and *PCHSh * Country*) indicate that the effect is positive,¹³ as observed in the specifications (2), (4), (6), and (8) in [Table 5](#).

[Table 3](#) exhibits a positive effect of the board size on firm value for the overall sample. Now, in [Table 5](#) the results show that this effect is connected mainly to the Spanish companies. The coefficient of board size (*BSize*) for the Chilean companies (the sum of the coefficients of *BSize* and *BSize * Country*) is inconclusive.

When board independence is considered, we observe that the effect is positive on the value of the Spanish firm. As mentioned above, the greater the proportion of independent directors, the greater the firm value. This result, interesting and worth considering, is consistent among all specifications and illustrates that independence of the members of the board is an effective mechanism of corporate governance in

Spain. However, for Chilean firms, the results are less favourable and consistent. In fact, in some regressions the impact of directorship independency is negative.

The case of board gender diversity appears to be less significant and weakly relevant in Spain. In fact, the coefficient of *BGD1* is not statistically significant in some specifications and is negative in some others. Nevertheless, the assessment of the effect of a gender-balanced board is more appealing in the case of Chilean companies, where the impact of a higher proportion of women on the board is systematically positive and significant. Differing from the Spanish context, in Chile, the laws and their enforcement as well as corporate governance recommendations are still in a premature stage of development and, consequently, any small advancement in this respect causes an exponential impact on firm value. In Spain, however, the market assumes women board members as more natural and consequently their presence in this governance structure does not cause a substantial impact on the firm value.

Incorporating a country dummy variable as an interacted variable has been utilised significantly in highlighting the differences in the application of governance practices between both countries. The whole sample is less efficient in capturing the contextual impacts on firm value. Both countries belong to different economic, legal, and cultural contexts, and the analysis through the interacted variables has shed some light on the asymmetrical impact of ownership and board structures on firm value.

5. Conclusions

The goal of this paper is to analyse the potential impact that ownership structure and board characteristics, as corporate governance mechanisms, have on corporate value in the context of Chile and Spain. Our main findings exhibit that firm-level corporate governance features directly impact firm value and are powerful instruments to improve firm performance.

Relative to previous literature, this paper uses a unique data set from Chile and Spain to provide new evidence concerning the drivers of firm value in the Ibero-American context. Our findings show that ownership structure, as a corporate governance feature, continues to be a key mechanism in influencing firm value.

Our findings confirm that shares in the hands of the major shareholder affect firm value in a non-linear way. Contrary to expectation, we do not find clear evidence of an inverse U-shaped effect of ownership concentration over firm value for the overall sample of firms. The tendency is a U-shaped impact, indicating that the market penalises companies with low controlling ownership. When controlling ownership exceeds a certain level, the market seems to reward it, in an (assumed) attempt to avoid the vertical-type agency problems which are prevalent in civil-law countries (e.g., La Polar scandal in Chile). We have found that Chile, in general, has increased its level of ownership concentration in response to weak governance; in Spain the distance to the critical value evidences a stage of loss in value creation. Consequently, policy makers and authorities in the Spanish scenario are recommended to focus on developing strategies to foster governance systems that prevent expropriation of minority shareholders' wealth. As emphasised by Rapp and Trinchera (2017), Spain presents one of the weakest country-level shareholder protections among European

economies. Hence, these findings allow us to recommend the promotion of control and regulation of self-dealing transactions by corporate insiders. Measures like this would help to protect small shareholders against self-interested, majority shareholders. Similarly, regulation in Spain can be extended towards mandatory rather than just recommended corporate actions to guard shareholder rights. For instance, the possibility to mail proxy votes can be legislated. Another example might be to grant rights regarding the minimum percentage of votes needed to call an extraordinary shareholder meeting as drivers of the minority shareholder protection.

When it comes to the shares in hands of the insiders, the situation changes slightly. Evidence shows that insider ownership impacts firm value in an inverse U-shaped way, giving support to the hypotheses of alignment and entrenchment effect. But the results show also differences between both countries: companies in Spain penalise firm value at an average level of insiders' ownership, whereas Chilean companies reward it.

The board of directors also presents differences between countries. Even though Chile is the country with less independent and female members in the boards, the results show that the impact of these features on firm value is greater there than in Spain. It seems to be that when laws and rules are properly enforced, it is less relevant to have more independent and gender-diverse boards. In Chile, a positive effect is observed on the value of companies when boards are larger, more independent, and gender balanced. It is also important to highlight that firm value in Spanish corporations is more positively affected by changes in independent directors than in Chile.

Regarding additional implications and policy recommendations, we state that it is necessary to consider the particularities of countries in the region when examining the corporate governance and its impact on financial decisions. The widespread intuition that a one-size-fits-all theoretical approach is inaccurate when studying companies of institutional contexts other than the Anglo-Saxon one. Additionally, our findings indicate that countries must work to improve their legal settings in order to better protect shareholders other than the controlling one, and especially minority shareholders. Even though Spanish boards of directors seem to be more aligned than Chilean boards with the guidelines of corporate governance codes, in terms of size, independence and gender diversity (García Martín & Herrero, 2018), there is still work to be done for both countries with regard to enhancing firm value and reducing managerial misbehaviour. More specifically, both countries should promote more female presence in boards of directors and in managerial positions. As we have shown in this study, women in corporate positions promote firm value. In this sense, Chile could become the pioneer country in Latin America to adopt regulation towards increasing the presence of female board members not only as a matter of improving corporate governance but also as a matter of justice and equality between men and women as internationally established (Abad et al., 2017). Similarly, Spain could follow European trends towards mandatory quota systems as recently proven efficient in reducing agency conflicts and asymmetries of information (Saona, Muro, San Martín, & Baier, 2019).

Finally, we must recognise the inherent limitations of our study. First, we only focused on some ownership structure features as determinants of firm value in both

countries. Nevertheless, there are so many other angles of the corporate ownership structure that might trigger changes in firm value. For instance, it has been widely discussed in the literature the effect of business group affiliation to shape the governance systems and leverage market power in civil-law economies. Our study, however, remains silent in this respect and leaves this characteristic of the ownership structure as a future research line. Second, and also regarding the ownership structure, our study provides limited conclusions concerning the nature of the controlling shareholder, as with state-owned firms, foreign firms, or institutional investors that might exhibit asymmetric interests regarding the way to maximise the value of the firm. This point is also very appealing and might provide useful insights in further research. Third, given that this study is only focused on two economies, its major conclusions might not be extrapolated to a broader context of civil-law countries. Hence, the incorporation of more countries to the firms' sample can provide much better and more precise findings and policy implications.

Concerning the methodology, it also has certain limitations in the measurement errors of proxies for the variables of interest. For instance, although we used four alternative measures of firm value as the dependent variable and the results exhibited a high degree of robustness, we still have minor concerns in the construction of this variable. For example, in order to calculate the metric for firm value we implicitly assumed that the inputs needed in its computation are homogeneous across the companies in the sample. However, such magnitudes might differ across companies and across countries as a consequence of unobservable features such as particularities in specific industries, internal company policies, or certain characteristics in the institutional systems of the countries that might not be necessarily recorded in our control variables. Further developments in the base line methodology might alleviate these limitations but are left to future research.

Notes

1. G20/OECD Principles of Corporate Governance. <http://www.oecd.org/daf/ca/principles-corporate-governance.htm>
2. The Commission for the Financial Market (ex-SVS) is the supervisory authority that keeps a strict register of all business groups in Chile.
3. Different from other empirical works such as García Martín and Herrero (2018), this paper analyses Chile and Spain over a longer time span (from 2007 to 2016).
4. <https://globaleledge.msu.edu/countries/chile/tradestats>
5. G20/OECD Principles of Corporate Governance. <https://www.oecd-ilibrary.org/docserver/9789264236882-en.pdf?expires=1526903754&id=id&accname=guest&checksum=31A837CF16FA51157AB4DDC9415F99BA>
6. A peculiar situation is observed in China in which listed companies account with a two-tier board comprised by a supervisory board and a board of directors (Farag & Mallin, 2019). In this case, the supervisory board is entitled to monitor and supervise the actions and decisions made by the board of directors and the company's CEO. This dual governance mechanism is intended to enhance corporate governance and both boards are required to report to shareholders on their actions.
7. UF is an inflation-linked unit of account that is used in Chile. The exchange rate between the UF and the Chilean peso is continually adjusted for inflation so that the value of the *Unidad de Fomento* remains almost constant on a daily basis during low

inflation. This unit of accounting is typically used in transactions that involve large amounts of money (e.g., the real-estate market).

8. From a theoretical point of view, Tobin's Q coefficient is the ratio defined as market value of the firm to replacement cost of assets (Chung & Pruitt, 1994). Although not reported, it was also used in the empirical analysis a variable for the Tobin's Q that employs a proxy for the replacement cost of assets based on Perfect and Wiles (1994). Though the results with this variable were qualitatively like those reported with *FV1*, *FV2*, *FV3*, and *FV4*, they were not reported given a lack of significance. As an informative fact, the correlation between the Tobin's Q variable that employs a proxy for the replacement cost of assets and *FV1*, *FV2*, *FV3*, and *FV4* was 0.93, 0.92, 0.74, and 0.85.
9. This indicator is also known in the literature as the Blau (1977) Index.
10. This indicator is also known in the literature as Shannon (1948) and assumes that $BGD3 = 0$ when $P_i = 0$. According to Abad et al. (2017), *GD3* is more sensitive to small changes in gender diversity than *BGD2* due to its logarithmic transformation.
11. Alternatively to the four measures based on the Tobin's Q of the dependent variable used in this study (*FV1*, *FV2*, *FV3*, and *FV4*), we followed Perfect and Wiles (1994) and used an estimation of the Tobin's Q which considers the replacement cost of total assets. Moreover, the capital expenditure over the one-period lagged net property, plant, and equipment was also used as a proxy for value creation. In addition to this, the ownership concentration was also measured as the proportion of the shares outstanding in the portfolios of the second, third, and the sum of the three largest shareholders. In all the cases, these variables reported comparable results to those exhibited in this study.
12. Nevertheless, the other firm value proxies were used in the estimations but not reported for space-saving reasons. In general, the results are qualitatively like those reported in Table 4 and are available upon request to the corresponding author.
13. For example, in regression (2) Table 5, the effect is 0.3460 ($= -0.3395 + 0.6855$) which confirms the positive effect of insider ownership over firm value, corroborating the previous evidence observed for Chilean companies.

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