Does corporate diversification create value in emerging markets? New evidence from Chile

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Abstract

Using a sample of 85 Chilean firms listed in the Santiago Stock Exchange from 2005 to 2013, we analyze the impact of corporate diversification on firm value. We consider voting rights of the main shareholder and institutional investors' influence on firm value. We report firm-value destruction for diversified firms. Regarding ownership concentration, we report a negative relation between the largest shareholder ownership and firm value. Separation between voting rights and cash flows rights of this shareholder is negatively related to firm value. While Pension Fund Administrators (AFP) mitigate firm value destruction in diversified firms, other institutional investors do not play an active role in controlling value destruction. Finally, if the largest owner is a family, we report firm-value creation in diversified firms. Copyright © 2016 ASAC. Published by John Wiley & Sons, Ltd.

Keywords: diversification, ownership concentration, firm value, institutional investors

Résumé

À l'aide d'un échantillon de 85 entreprises chiliennes inscrites à la Bourse de Santiago de 2005 à 2013, nous analysons l'impact de la diversification des entreprises sur la valeur des entreprises. Nous examinons aussi les droits de vote de l'actionnaire principal et l'influence que les investisseurs institutionnels ont sur la valeur des entreprises. Nous rendons également compte de la destruction de la valeur dans les entreprises diversifiées. En ce qui concerne la concentration de la propriété, l'étude montre qu'il y a une relation négative entre la part des capitaux détenue par l'actionnaire principal et la valeur de l'entreprise. Par ailleurs, la séparation entre les droits de vote et les droits des flux de trésorerie de l'actionnaire principal est liée négativement à la valeur de l'entreprise. Même si les administrateurs des fonds de pension (AFP) atténuent la destruction de la valeur de l'entreprise dans les entreprises diversifiées, les autres investisseurs institutionnels ne jouent pas un rôle actif dans le contrôle de la destruction de valeur. Enfin, l'étude révèle que si le plus grand propriétaire est une famille, il y a création de la valeur dans les entreprises diversifiées. Copyright © 2016 ASAC. Published by John Wiley & Sons, Ltd.

Mots-clés : diversification, concentration de la propriété, valeur de l'entreprise, investisseurs institutionnels

The existence of corporate diversification premium/discount has been widely documented in existing literature. On the one hand, some arguments suggest certain advantages related to tax benefits (Berger & Ofek, 1995; Majd & Myers, 1987), such as improvements to internal capital markets (Campa & Kedia, 2002; Kuppuswamy & Villalonga, 2010; Servaes, 1996) and reduction in cash flow volatility (Becerra,

2009; Berger & Ofek, 1995; Kuppuswamy & Villalonga, 2010). Tax benefits also serve as an efficient vehicle for investments (Fluck & Lynch, 1999) due to synergies and economies of scope (Becerra, 2009; Gomes & Livdan, 2004; Lang & Stulz, 1994). On the other hand, in environments with excessive control rights, corporate diversification strategies may provide a greater degree of discretion to controlling shareholders, and firms could present a discount derived from inefficient financial policies (Becerra, 2009; Berger & Ofek, 1995; Lang & Stulz, 1994). This discount may be explained by the allocation of inefficient resources

from more productive segments to poorer ones (Berger & Ofek, 1995; Servaes, 1996), overinvestment in business segments that have lower investment opportunities (Campa & Kedia, 2002), and organizational complexity causing operational inefficiencies (Klein & Lein, 2009; Klein & Saidenberg, 2010).

There has been limited research in emerging markets on how shareholder ownership concentration, family shareholding, and institutional investor contestability influence the relation between corporate diversification and firm value. The financial literature has focused mainly on Asian and European countries rather than South American countries.

The major difference in South American countries may be characterized by the weaker legal protection to bondholders and minority shareholders. This situation leads to, among other aspects, a high ownership concentration (Espinosa, 2009; Leal & Carvalhal-da-Silva, 2005; Lefort & Walker, 2000), mainly dominated by individual shareholders or highly diversified consortia (Lefort & González, 2008; Lefort & Walker, 2000).

Accordingly, we analyze the incidence of ownership structure on Chilean firms. Ownership structure is critically important in the Chilean corporate governance process due to the existence of higher levels of ownership concentration that provide relative higher voting rights for firms; it is also a good proxy for power distribution within a firm. Furthermore, Chile presents one of the most developed stock markets in Latin America.

In addition, family shareholders mainly dominate the Chilean corporate environment. Despite the ownership concentration, Chilean families generally become controlling shareholders through pyramidal structures that afford excess voting rights (Buchuk, Larrain, Muñoz, & Urzúa, 2014; Larrain & Urzúa, 2013), which provide incentives to expropriate resources from minority shareholders (Faccio & Lang, 2002), and even allows for more risky diversification strategies (Mara, Maria-Teresa, & Roberto, 2011). Under these conditions, the existence of contestability of institutional investors is crucial. In fact, Ferreira and Matos (2008) found that the orientation of the institutional investors is relevant to ensure value creation. Jara-Bertin, López-Iturriaga, and López-de-Foronda (2012) reported that the effect of institutional investor is differentiated and depends on the institutional framework. As such, we focus on the two most important institutional investors in the Chilean context: investment advisors and pension funds administrators.[1] Specifically, we hypothesize on the one hand, that the level of shareholder ownership concentration and family shareholding ownership play an important role in terms of the relationship between corporate diversification and firm value. We also consider the role played by institutional investors (blockholders) as effective monitors of the main shareholder.

This article contributes to the financial literature in three different avenues. First, it improves our understanding of

agency problems that exist in companies and countries where there is a high ownership concentration and low legal protection. This is in line with the results reported by Lefort and Urzúa (2008), Majluf, Silva, and Paredes (2006), and Silva and Majluf (2008). Second, we show how the incentive of the main owner changes if this person belongs to a family group. Third, we provide information on two types of institutional investors and their role in mitigating agency problems between the major and minor shareholders.

Using a sample of 85 nonfinancial companies listed in the Santiago Stock Market from 2005 to 2013, our main results suggest the existence of a negative relation between firm value and corporate diversification. Second, Pension Fund Administrators help to mitigate firm value destruction in diversified firms. Third, other institutional investors (investment advisors) do not play a significant role in controlling value destruction in diversified firms. Fourth, the separation between voting rights and cash flow rights is negatively related to firm value, as expected, and fifth, when the largest owner is a family, there is a positive relation between diversification and firm value.

We next summarize the relevant literature and explore the research questions. Following that, we present the sample and methodology. We then describe the results and conclude with a discussion of contributions, implications, and directions for future research.

Analytical Framework

Literature Overview

The diversification discount might be explained by either agency problems or corporate governance structure of the firm. This is still under debate (Hoechle, Schmid, Walter, & Yermack, 2012; Jiraporn, Sang-Kim, & Davidson, 2008).

Some literature provides evidence supporting a positive relation between diversification and firm value. Using US data from 1950 to 1970, Teece (1980) found that firms tend to diversify due to scale and scope economies. Chandler (1977) stated that firms with multisegments are more efficient and profitable. Generally, other arguments suggest that diversified companies benefit from a better resource allocation (Matsusaka, 2001; Stein, 1997), better access to external markets and higher resource distribution efficiency (Shleifer & Vishny, 1992), and that tax advantages associated with corporate diversification can improve firm value (Berger & Ofek, 1995), which is an argument that persists. Diversification also allows redistributing funds among various sectors, creating internal capital markets, improving the efficiency of a company (Servaes, 1996), and also helping to reduce the volatility of cash flows (Santalo & Becerra, 2008).

However, a body of literature suggests that corporate diversification destroys firm value. For instance, according to Lang and Stulz (1994) and Berger and Ofek (1995),

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diversified firms trade at a discount when compared to a port-folio of comparable single-segment firms. Diversification strategies may lead to excess discretion when transferring resources from more productive to less productive segments (Servaes, 1996), and an overinvestment in business segments with lower investment opportunities (Becerra, 2009; Campa & Kedia, 2002). Another limitation of corporate diversification is the fact that the increase in the organizational complexity may lead to operational inefficiencies (Klein & Saidenberg, 2010) and lead the firm to lose value.

The evidence in emerging markets is relatively scarce. There are, however, some arguments that support a negative relationship between diversification and firm value (Chen & Ho, 2000; Lins & Servaes, 2002). This diversification discount becomes a premium when firms belong to business groups. For instance, Khanna and Palepu (2000) reported that diversification and the affiliation of business groups improved firm value for a sample of Indian firms, thus group affiliation serves as a way of overcoming institutional and market imperfections. These results support the idea of the "bright side" of internal capital markets (Khanna & Tice, 2001). However, Lensink and van-der- Molen (2010) stated that this beneficial effect of diversification is robust only in firms that are financially constrained.

South American Context: The Chilean Case

La Porta, Lopez de Silanes, Shleifer, and Vishny (1997) reported that South American countries (Argentina, Brazil, Chile, Colombia, Ecuador, Peru, Uruguay, and Venezuela) have a French civil-law-based system that in turn entails less protection for debtholders and minority shareholders. This has led to, among other aspects, a high ownership concentration (Espinosa, 2009; Lefort & Walker, 2000; Leal & Carvalhal-Da-Silva, 2005). Most of the firms' property belong to individual shareholders or highly diversified consortia (Lefort & González, 2008; Lefort & Walker, 2000), with family shareholding being a prevailing element of corporate governance in these companies.

This distinction in legal systems is significant since the evidence of a discount for diversification in emerging countries has focused on Asia where the legal systems are diverse and are largely different from those in South America. Lins and Servaes (2002) explained that diversified firms from Hong Kong, Malaysia, Singapore, Thailand, South Korea, and Indonesia have discounts in terms of value. The first four regions have a common-law system, South Korea has a German civil-law system, and only Indonesia has a French civil-law system, which is in contrast to the South American countries. This suggests that the findings of the aforementioned authors could be influenced by the degree of share-holder protection and may therefore be different for South America. The same may be inferred for Chen and Ho (2000) in the case of Singapore, where La Porta et al. (1997) reported a common-law system. This distinction

deserves attention in the literature given that the agency problems in South America focus on the mismatch of interests between major and minority shareholders rather than between owners and management, as is the case in most common-law and developed countries.

In addition to the differences in legal systems, South America also differs from other emerging markets in social, economic, and political features as well as in terms of labour markets and capital market development, to name two. There are constrained banking markets with low access levels; underdeveloped public capital markets; financial systems centred on commercial banking (which implies a focus on short-term rather than long-term financing); and private financing options that involve high financial costs and segmented markets (Núñez, Oneto, & Mendes de Paula, 2009). This entails the use of different business strategies in those regions that are as different as the business strategies between firms in emerging countries and in developed countries (Khana et al., 2005). The relationship between corporate diversification and firm value could therefore also differ.

The Chilean context is interesting in that it presents highly developed capital markets,[2] a higher number of firms, low corruption levels, a good judicial system, and open and regulated financial markets (the Securities Market Law, the Public Offerings Law, and Corporate Governance Law, among others). Nevertheless, the penalties applied by regulators and the judicial system to main shareholders for misconduct continue to be well below the norm when compared to developed countries; the wealth redistribution hypothesis may therefore be present in some company decisions such as diversification. Moreover, with the onset of "popular capitalism"[3] in the 1980s, Chile has shown a high level of shareholder ownership concentration in the last 20 years (Espinosa, 2009; Lefort & Walker, 2000), mainly in the hands of individual shareholders or highly diversified consortia (Lefort & González, 2008; Lefort & Walker, 2000).

In terms of minority-shareholders, Chile was the first country in the region to establish a private pension fund system. The law allows the AFP[4] (Pension Fund Administrators) to have at least one director on the board to represent all administrators who hold shares from a company.[5] This director is independent and highly valued by the Chilean stock market (Lefort & Walker, 2000). The AFP cannot invest in companies where the main shareholder retains more than 65% of the shares (direct plus indirect participation). It is reasonable to expect this type of shareholder, acting as a blockholder, to mitigate the agency problems between the main shareholder and the minorities. We also detected the presence of other institutional investors such as investment advisors (mainly investment banks and insurance companies). To our knowledge, aside from Hartzell, Sun, and Titman (2014), who examined a very specific sector (REITs) in the United States, this is the first article to analyze the role played by this type of shareholder in either

corporate value creation or destruction in the context of corporate diversification.

Hypothesis Development

Although Chile has made some progress in terms of stock market development and transparency in the last few years, there are still important differences when compared to developed countries, and the legal protection of minority shareholders is not as extensive. Based on this information, in general, we expected a diversification discount in Chile.

> *H1: Corporate diversification is negatively related to firm value.*

The main focus of this study is to explore how the ownership concentration and the participation of AFP and other institutional investors are related to firm value in the context of corporate diversification. We referred to a high ownership concentration and the structure of this concentration, especially as associated to family groups. More precisely, we analyzed the impact of voting rights of the ultimate shareholder on firm value. We also examined the convergence region[6] of this shareholder, which is important given that we observe two regions for our sample. When there is participation below 51.1% of the shares in the hands of the ultimate shareholder, there is a negative relation between ownership and firm value; above this minimum, the relation turns out to be positive. We identified two possible situations: first, a high level of ownership concentration will bring together the interests of major and minority shareholders, thereby reducing the agency problems and raising firm value through corporate diversification; second, the main shareholder may transfer wealth from the minority shareholders using firm diversification and thus reducing the firm value. It is not enough to include the convergency region as there may be a separation between cash flow rights and voting rights. To be in the convergency region does not assure that the main shareholder will act in favour of minority shareholders given that their decisions may not have a relevant economic impact in their cash flows due to the separation. We cannot ex ante know the relation between the ownership concentration of the largest shareholder of the firm and the value of the company. Therefore, we have two hypotheses:

> *H2a: Voting rights of the largest shareholder are positively related to firm value.*

> *H2b: Voting rights of the largest shareholder are negatively related to firm value.*

Theoretical work suggests that institutional investors, such as large shareholders, can discipline corporate managers through active monitoring and intervention (Ferreira & Matos, 2008; Maug, 1998; Shleifer & Vishny, 1986) as well as through the threat of exit (Admati & Pfleiderer, 2009). Empirical research, however, suggests that there is little evidence of improvement in the long-term firm value from institutional monitoring. One major limitation of institutional monitoring could be the free-rider problem, on the basis that institutional equity ownership might be widely dispersed. The diffused institutional ownership structure suggests that, in the absence of coordination, the classical free-rider problem could prevail (Grossman & Hart, 1980). Institutions can play a more effective corporate governance role through coordinated activities. Evidence from a recent survey by McCahery, Sautner, and Starks (2015) indicates that in the US, 59% of institutional investment managers consider coordinating their actions in disciplining corporate management. Of great importance, and so far largely unexplored, is the cost of coordinating a group of institutional investors, which includes information production costs (e.g., to identify trustworthy and cooperative peers), communication and other costs incurred to reach an agreement, and costs associated with monitoring and enforcement of the agreement. On the other hand, the long-term relationship of the institutional investors with the firm will have an impact on the monitoring role that they play (Chen, Harford, & Kai, 2007).

In the case of Chile, institutional investors hold a higher percentage of the stocks compared to the US, which increases the incentive to monitor the firms. Nevertheless, the coordination cost is important to take into account. In this sense, the AFP in Chile has the possibility to act jointly as an organized group (i.e., an association), which is not the case for institutional investors elsewhere that do not have access to the AFP.

> *H3: AFP ownership in diversified firms positively impacts firm value.*

> *H4: Other institutional-investor ownership in diversified firms has no impact on firm value.*

In examining the incentive of the main shareholder when they are in the convergence interval, we hypothesize:

> *H5: There is a positive relation between firm value and convergence regardless of diversification.*

Due to the fact that in South America the usual corporate structure is through family ownership (family firm), we are particularly interested in analyzing the role of family firms in the relationship between corporate diversification and firm value. Several articles, based on other countries, have studied the relationship between ownership structure, corporate diversification, and firm value. Denis, Denis, and Sarin (1997) found that a higher managerial and blockholder

ownership is associated with reduced levels of diversification, but not with more valuable diversification, while Servaes (1996) reported that insider ownership is negatively related to diversification. Chen and Ho (2000) also stated that managerial ownership has no impact on the value of diversification.

Few studies have analyzed the impact of family ownership in terms of corporate diversification and firm value. According to Gomez-Mejia, Makri, and Kintana (2010), family firms diversify less than nonfamily firms in a sample of 360 US firms. Anderson and Reeb (2003) previously reported a similar result. Burkart, Panuzi, and Shleifer (2003) claimed that this situation would be more pronounced in countries with legal systems that offer less protection for shareholders, which is consistent with the view that family firms prefer to keep an important stake of the ownership with less protection for investors. A high shareholder ownership concentration may indicate that the family has less diversified investments. As such, maximizing the family's wealth would increase firm value and the investor's reputation. In the Chilean context, it is quite common that prestigious families have large shareholdings and a tight control over their firms (Lefort & González, 2008). Therefore, it is likely that families with large shareholdings operate to benefit the interests of the company.

A main concern in literature is the lack of a more precise definition for family shareholder (Burkart et al., 2003). Based on previous studies carried out on Chilean family firms (Bertrand, Mehta, & Mullainathan, 2002; Bonilla, Sepulveda, & Carvajal, 2010; Martínez, Stöhr, & Quiroga, 2007; Pindado & Requejo, 2015; Sacristán-Navarro, Gómez-Ansón, & Cabeza-García, 2011), we have employed several criteria to classify family shareholders. First, a large shareholder who is an individual investor or a family group is considered a family firm, even when the firms belong to a business group definition listed by Chilean Market Regulator SVS (Superintendencia de Valores y Seguros de Chile). Note that the concept of a family group is related to all family members who hold a percentage of ownership, indirectly or directly. Second, when a company does not belong to a business group, it was categorized as a family firm if one or more members of the family control the firm at the senior management level. Third, a company was classified as a family-controlled firm if one or more members of the family on the SVS list control its board of directors. Nonfamily firms were defined as those that did not fit into the above three criteria.

Table 1
Definition of Variables

Abbreviation	Variable	Definition
Investment variable		
$ExvalAssets_{i,t}$	Excess value (assets multiples)	Logarithm of the market capitalization over the sum of segment imputed values using assets multiples.
$ExvalSales_{i,t}$	Excess value (sales multiples)	Logarithm of the market capitalization over the sum of segment imputed values using sales multiples.
$Qtob_{i,t}$	Tobin's Q	(Market Capitalization + Total debt)/Total Asset's replacement value.
Hypothesis explanatory variables		
$Div_{i,t}$	Unrelated diversification	1 if the base firm is diversified, and zero otherwise.
$VRCR_{i,t}$	Excess of voting rights	Voting rights minus cash flow rights of the ultimate owner of the firm
Fam	Family nature	1 if ultimate shareholders is a family or an individual investor, and zero otherwise.
VR	Voting rights	Voting rights of the ultimate shareholder.
CR	Cash flow rights	Cash flow rights of the ultimate shareholder.
Invad	Investment advisor ownership participation	% of ownership participation in hands of other institutional investors.
Pafp	AFP's ownership participation	% of ownership participation in hands of pension's funds.
Conv sq	Convergence interval	Convergence interval estimated from a regression between voting rights and Tobins'q (1 if VR is greater or equal to one and 0 otherwise).
Firm-level control variables		
CAPEXSAL	Investment ratio	Capital expenditures over sales.
LNTAB	Size of the company	Natural logarithm of total assets.
DTTA	Debt	Total debt to total assets.
crisis	Financial crisis periods	1 for 2007, 2008 and 2009, and zero otherwise.

If the largest shareholder is a family, there are arguments for both firm value creation and destruction, which is an empirical question leading us to hypothesize:

> *H6a: If the family firm is diversified we will observe company value creation.*

> *H6b: If the family firm is diversified we will observe company value destruction.*

Sample and Method

Sample

We considered a sample of 85 nonfinancial companies listed in the Santiago Stock Market from 2005 to 2013, totalling 662 firm year-observations. The information was obtained from Bloomberg, Economatica, Reuters, and annual reports. We started with a sample of 222 firms and excluded firms that had no financial statements available, firms from the financial sector, investment companies, real-estate companies, and firms under liquidation (owing to account classification problems meaning their financial statements are not comparable). Firms with low liquidity were also excluded as much of their stock prices are outdated and do not adequately reflect the economic value of the equity. The final sample was composed of 85 firms.

The variables are defined in Table 1, and Table 2 lists the main descriptive statistics of our sample. In terms of diversification, 54.2% of the firms are diversified, which is clearly a higher proportion than those reported by Lins and Servaes (2002) for developed countries: United States

(26%), Germany (37%), Japan (41%), and the UK (38%). Table 3 shows that the multisegment group has a Tobin's Q proxy (market value of assets over book value of assets) lower (mean is 1.39) than Tobin's Q for single-segment firms (mean is 1.89). This is also true for Excess Value Assets and Excess Value Sales.[7] VR (voting rights of the ultimate shareholder) and CR (cash flow rights of the ultimate shareholder) are also lower for the diversified group of firms. Finally, the ownership of AFP (Pafp) and other institutional investors (Invad) are lower for the undiversified sample of firms.

Method

In order to determine if corporate diversification does or does not create value in Chile, we employed the excess value measure developed by Berger and Ofek (1995). It compares the total value of the firm relative to the sum of the imputed values of each production segment as if each were an individual firm of a single segment. The excess value for a firm is determined with the following equation:

$$\text{Excess Value}_{i,t} = \left(\frac{\text{MV}_{i,t}}{\text{Imputed Value}_{i,t}} \right) \tag{1}$$

$$\text{Imputed Value}_{i,t} = \sum \left(\text{Vsegment}_{i,t} * \text{Multiplier} \right) \tag{2}$$

Where, Excess Value$_{i,t}$ is the excess value for firm i in year t; MV$_{i,t}$ is the firm's market capitalization (market value of common equity plus book value of debt) for firm i in year t; Imputed Value$_{i,t}$ is the sum of the product of segment asset, sales, and EBITDA (Vsegment) for firm i in year t and the asset and sales Multiplier. The Multiplier is measured as the median total market capitalization to assets (sales and EBITDA) for single-segment firms in the same industry in the same year. A positive excess value indicates

Table 2
Descriptive Statistics

Variables	Mean	Stand. dev.	Minimum	Maximum
ExvalSales	−0.020	0.121	−0.435	0.306
ExvalAssets	0.059	0.139	−0.489	0.800
Qtob	1.624	1.599	0.2	8.5
Div	0.542	0.499	-	-
VRCR	0.082	0.148	0	0.779
CR	0.399	0.249	0.005	0.998
VR	0.481	0.248	0.005	0.998
Fam	0.643	0.478	-	-
Invad	0.072	0.073	0	0.394
Pafp	0.052	0.068	0	0.259
CAPEXSAL	0.118	0.128	0	1.427
LNTA	19.628	1.722	14.786	23.980
DTTA	0.237	0.132	0	0.627
CRISIS	0.260	0.439	0	1

Table 3
Descriptive Statistics According to Diversified vs. Undiversified Criteria

Variables	Diversified		Nondiversified	
	Mean	*S.D.*	*Mean*	*S.D.*
ExvalAssets	−0.040	0.124	0.003	0.111
ExvalSales	0.053	0.128	0.653	0.149
Qtob	1.394	0.830	1.897	1.154
VRCR	0.071	0.126	0.093	0.169
VR	0.457	0.242	0.509	0.251
CR	0.386	0.232	0.415	0.255
Invad	0.081	0.072	0.062	0.740
Pafp	0.065	0.071	0.036	0.060
Total obs.	337		285	

that the firm is worth more than the sum of its segments, whereas a negative excess value implies that the firm as a whole is worth less than the sum of its segments. Thus, a positive excess value implies a diversification premium while a negative excess value indicates a diversification discount.

In order to verify the robustness of our results regarding corporate diversification, our models incorporated Tobin's Q as a dependent variable to measure the firm's value. This measure has been widely used in financial literature as a proxy of firm value (Adam & Goyal, 2008; Ferreira & Matos, 2008; Ruiz-Mallorquí & Santana-Martín, 2011).

The following three models were determined to test the first four hypotheses:

$$Val_{i,t} = \beta_1 * Div_{i,t} + \beta_2 * Div_{i,t} * Invad_{i,t} + \beta_3 * Invad_{i,t} \quad (3)$$
$$+ \beta_4 * Pafp_{i,t} + \beta_5 * CR_{i,t} + \beta_6 * VRCR_{i,t}$$
$$+ \beta_7 * LNTA_{i,t} + \beta_8 * DTTA_{i,t}$$
$$+ \beta_9 * CAPEXSAL_{i,t} + \beta_{10} * CRISIS_{i,t}$$
$$+ i_k + y_t + u_{i,t}$$

$$Val_{i,t} = \beta_1 * Div_{i,t} + \beta_2 * Div_{i,t} * Pafp_{i,t} + \beta_3 * Invad_{i,t} \quad (4)$$
$$+ \beta_4 * Pafp_{i,t} + \beta_5 * CR_{i,t} + \beta_6 * VRCR_{i,t}$$
$$+ \beta_7 * LNTA_{i,t} + \beta_8 * DTTA_{i,t} + \beta_9 * CAPEXSAL_{i,t}$$
$$+ \beta_{10} * CRISIS_{i,t} + i_k + y_t + u_{i,t}$$

$$Val_{i,t} = \beta_1 * Div_{i,t} + \beta_2 * Div_{i,t} * Invad_{i,t} \quad (5)$$
$$+ \beta_3 * Div_{i,t} * Pafp_{i,t} + \beta_4 * Invad_{i,t} + \beta_5 * Pafp_{i,t}$$
$$+ \beta_6 * CR_{i,t} + \beta_7 * VRCR_{i,t} + \beta_8 * LNTA_{i,t}$$
$$+ \beta_9 * DTTA_{i,t} + \beta_{10} * CAPEXSAL_{i,t}$$
$$+ \beta_{11} * CRISIS_{i,t} + i_k + y_t + u_{i,t}$$

where, $Val_{i,t}$ is the proxy of excess value of the firm ($ExvalAssets_{i,t}$ and $ExvalSales_{i,t}$) and the firm value proxy ($Qtob_{i,t}$).

In accordance with the literature, we introduced a series of control variables in our models that potentially affect the generation of firm value (Berger & Ofek, 1995; Campa & Kedia, 2002): these are the cases of Log (Assets) and (CAPEX/Sales). A natural log of total assets was also used as a measure of firm size in order to eliminate scale effects (Baker, Greenwood, & Wurgler, 2003). Following Morck, Shleifer, and Vishny (1988), we controlled for Debt Ratio (DTTA) as well.

In addition, if analyzing what other factors could influence firm value, we must consider certain characteristics of the Chilean corporate system. As previously stated, Chile is an emerging economy with a French civil-law-type system (Demirgüç-Kunt & Maksimovic, 2002; La Porta, Lopez-de-Silanes, & Shleifer, 1999; Lefort & González, 2008; Lefort & Walker, 2000), which entails a lower level of external investor protection compared to countries such as the United States. It has a clear shareholder ownership

concentration, where the firm's decisions depend mainly on a shareholder or controlling shareholder, which may have a direct effect on value-maximizing decisions. As such and contrary to the model proposed by Berger and Ofek (1995), Excess of voting rights (VRCR) and Cash Flow Rights (CR) were introduced as control variables. The sum of β_5 and β_6 denotes the effect of cash flow rights of the ultimate shareholder and β_6 will control for the voting rights of the ultimate shareholder (for the first two equations). The CRISES variable was also included to take the subprime financial crisis into account. Finally, every equation was controlled for fixed industry effect ($i_{k,t}$) and time effect (y_i), and ε_{it} represents the stochastic error. The industry effect refers to a set of specific characteristics for each industry that are constant over time. The time effect includes the macroeconomic factors that impact all the firms simultaneously. The stochastic error term combines both the measurement errors of any independent variable and the omission of explanatory variables. Meanwhile, to contrast the possibility of multicollinearity problems, the Variance Inflator Factor (VIF) test was applied to each regression equation where, in accordance with the literature, the values of the VIF factor was less than 2, confirming that collinearity was not a problem, therefore undermining our results (Belsley, Kuh, & Roy, 2004; Kutner, Neter, Nachtsheim, & Li, 2005). In addition, the t test of linear restrictions was applied to measure the joint significance of the sum of the coefficients for the interactive variables in the equations.

To test the last two hypotheses (H5 and H6) that are related to convergence of interest of the main shareholder and the role of the family ownership, we considered two models:

$$Val_{i,t} = \beta_1 * Div_{i,t} + \beta_2 * Div_{i,t} * Convsq_{i,t} \quad (6)$$
$$+ \beta_2 * Convsq_{i,t} + \beta_5 * Invad_{i,t} + \beta_5 * Pafp_{i,t}$$
$$+ \beta_5 * CR_{i,t} + \beta_6 * VRCR_{i,t} + \beta_7 * LNTA_{i,t}$$
$$+ \beta_8 * DTTA_{i,t} + \beta_9 * CAPEXSAL_{i,t}$$
$$+ \beta_{10} * CRISIS_{i,t} + i_k + y_t + u_{i,t}$$

$$Val_{i,t} = \beta_1 * Div_{i,t} + \beta_2 * Div_{i,t} * Convsq_{i,t} \quad (7)$$
$$+ \beta_3 * Div_{i,t} * Fam_{i,t} * Convsq_{i,t} + \beta_4 * Div_{i,t} * Fam_{i,t}$$
$$+ \beta_2 * Convsq_{i,t} + \beta_2 * Fam_{i,t} + \beta_5 * Invad_{i,t}$$
$$+ \beta_5 * Pafp_{i,t} + \beta_5 * CR_{i,t} + \beta_6 * VRCR_{i,t}$$
$$+ \beta_7 * LNTA_{i,t} + \beta_8 * DTTA_{i,t} + \beta_9 * CAPEXSAL_{i,t}$$
$$+ \beta_{10} * CRISIS_{i,t} + i_k + y_t + u_{i,t}$$

The convergence interval starts at 51.1% of shares in the hands of the main shareholder.[8] We also analyzed the type of main shareholder to verify if they belonged to a family group. To do so, a *Fam* was created, which is a dummy variable (1 if the ultimate shareholder is a family or an individual investor and 0 otherwise).

If considering that the key assumption for all models is that the diversification decision is associated with the relative value of the firm, we can expect the diversification to be correlated to the error term of equations. As such, the estimated β_x coefficients may display some bias arising from the existence of selection problems endogenous to the model. In this sense, an extensive body of literature has highlighted the existence of selection problems endogenous to the diversification and performance models (Campa & Kedia, 2002; Miller, 2006; Villalonga, 2004). To tackle these problems, we estimated the equations through a data panel methodology. This methodology controls for the unobservable heterogeneity and endogeneity problems, providing estimators with efficiency above the other estimate methods (Alonso-Borrego & Arellano, 1999; Arellano, 2003; Baltagi, 1995).

To overcome the problems of endogeneity, we used all the independent variables with lags of two and three years, given that we also employed the GMM estimator system developed by Blundell and Bond (1998). With this method, the consistency of the estimators critically depends on the absence of serial second-order auto-correlation of the residuals and on the validity of the instruments (Arellano & Bond, 1991). Consequently, in our estimates we calculated a statistical test of absence of serial second-order auto-correlation, which we call Auto 2. To test the validity of the instruments, we used the Hansen test of over-identification restrictions, under the null hypothesis of absence of correlationship between the instruments and the error term. For each estimate, we have presented the Wald z1 and z2 statistics to measure the joint significance of the estimated coefficients and the annual and sectorial dummy variables, respectively.

Results

Table 4 reports the results of the first three models that test the first four hypotheses. It is very clear from observing models (3), (6), and (9) that diversification is negatively related to excess value of the firm and firm value. All the coefficients are negative (-2.084, -0.963 and -0.514 respectively) and statistically significant. Thus, our first hypothesis is corroborated: diversification destroys firm value.

As far as the voting rights of the ultimate shareholder, results suggest a negative and statistically significant relation between VRCR and excess value and firm value for all models, except when the dependent variable is ExvalSales. The higher the percentage of shares in the hands of the ultimate shareholder, the lower the firm-excess value and the firm value. Therefore, *H2b* is corroborated against *H2a*.

Since the ultimate shareholder is destroying firm value, the question arising is whether or not institutional investors are able to be contestable to the largest shareholder. We were interested to know what would happen with diversified firms, since diversification destroys firm value. The coefficients of Pafp and Pafp*Div were added in Table 4 to indicate the relation between the ownership participation of AFP in diversified firms and their value. In all of the estimated models with the exception of (8), a positive and statistically significant relation between percentage of shares in the hands of the AFP (diversified firms) and firm value[9] was reported. Therefore, AFP helps to monitor the largest shareholder and mitigate firm value destruction in diversified firms. Since AFP cannot invest in firms where the major shareholder holds more than 65% of the voting rights, we reran the equation (5) and considered only a subsample including firms where the voting rights of the main shareholder are below 65%. Note that in doing so, the estimated results hold. Therefore, *H3* is supported. For the other institutional investors (Invad) we followed the same procedure in terms of adding the coefficients of Invad and Invad*Div. As one may observe in Table 4, in certain cases the sum is positive and statistically significant (regressions 3 and 9) and in others it is negative (regressions 1, 4, and 6). We were unable to establish the role played by other institutional investors and therefore cannot reject *H4*.

Table 5 displays the results for two models testing *H5* and *H6*. When the ultimate shareholder is in the convergence interval in diversified firms, we observed value creation. This is the result of adding the Convsq and Convsq*Div coefficients. The results are positive and statistically significant, with regression 4 as the exception where both coefficients are not statistically significant. In general, *H5* is confirmed.

Continuing with our analysis, as indicated earlier, South American countries have particular characteristics and we have focused on two: high shareholder ownership concentration and family ownership. These characteristics may have an impact on the relationship between excess value and diversification. Regarding the first, according to Lins and Servaes (2002), major shareholders in Germany and Japan are corporate blockholders holding 40% and 20% of shares, respectively. In the UK, the major shareholders are other institutions (17%). In the case of emerging markets in Asia, Lins and Servaes (2002) found that the major shareholder on average owns 28% of shares. In the Chilean case, Espinosa (2009) reported that 48.8% of shares are in the hands of the largest shareholder. The high shareholder ownership concentration in South American countries can have significant consequences on the relationship between corporate diversification and firm value. Family ownership in diversified firms and the relation with firm value was analyzed. The sum of coefficients (Fam + Div*Fam) is positive, and the test of linear restrictions is significant, which indicates that when the ultimate shareholder is a family there is value creation in diversified firms. Therefore, the presence of either family owners or individual shareholders controlling the firm help to create value when the firm is diversified. This result confirms *H6a* but not *H6b*.

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Table 4
Diversification and Firm's Value

$$Val_{i,t} = \beta_1\,Div_{i,t} + \beta_2\,Div_{i,t}*Invad_{i,t} + \beta_3\,Div_{i,t}*Pafp_{i,t} + CV_{i,t} + i_k + y_t + u_{i,t}$$

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Total sample			VR < 65%		Total sample		VR < 65%		Total sample		VR < 65%
$Div_{i,t}$	-0.913***	-2.389***	-2.084***	-1.269***	-0.396	-1.354***	-0.963*	-0.333	-0.212	-0.299	-0.514**	-0.180
	(-3.016)	(-6.424)	(-4.989)	(-3.155)	(-1.203)	(-4.178)	(-1.956)	(-0.791)	(-1.397)	(-1.302)	(-2.158)	(-0.895)
$Div_{i,t}$ x $Invad_{i,t}$	-7.145**		-6.663*	-8.271**	-8.028**		-9.373***	-11.753***	-0.776		-0.856	-2.682**
	(-2.304)		(-1.936)	(-2.138)	(-2.599)		(-2.662)	(-3.850)	(-0.684)		(-0.714)	(-2.059)
$Div_{i,t}$ x $Pafp_{i,t}$		15.139***	17.197***	17.636***		8.641**	11.311***	9.715**		1.531	3.810**	1.248
		(-3.726)	(-3.989)	(4.110)		(-2.398)	(-2.657)	(2.476)		(-0.774)	(-2.106)	(0.770)
$Invad_{i,t}$	6.645**	7.280***	10.760***	11.042***	4.177*	1.983	6.709***	9.597***	1.084	1.238	2.307**	2.366*
	(-2.437)	(-3.868)	(-3.096)	(3.481)	(-1.978)	(-1.425)	(-3.054)	(4.116)	(-1.28)	(-1.278)	(-2.304)	(1.881)
$Pafp_{i,t}$	1.643	-7.226**	-8.617***	-13.042***	3.354*	-2.001	-3.94	-6.029*	-0.647	-0.923	-2.651**	-3.380**
	(-0.818)	(-2.416)	(-2.644)	(-3.593)	(-1.786)	(-0.708)	(-1.163)	(-1.903)	(-0.796)	(-0.676)	(-2.126)	(-2.335)
$CR_{i,t}$	-0.068	0.889	0.724	0.649	0.745*	1.195***	0.980**	1.565***	-0.608**	-0.536**	-0.409	-0.400
	(-0.138)	(-1.597)	(-1.404)	(1.399)	(-1.974)	(-3.032)	(-2.41)	(2.903)	(-2.484)	(-2.233)	(-1.578)	(-1.393)
$VRCR_{i,t}$	-3.654***	-3.071**	-2.607**	-2.544**	-2.216	-1.855	-1.811	0.118	-1.199**	-0.805*	-0.963**	-1.135*
	(-2.891)	(-2.498)	(-2.010)	(-2.546)	(-1.629)	(-1.450)	(-1.287)	(0.069)	(-2.560)	(-1.772)	(-1.990)	(-1.745)
$LNTA_{i,t}$	0.079	0.092	0.118	0.298***	0.141*	0.155**	0.188**	0.329***	0.203***	0.149***	0.206***	0.264***
	(-1.043)	(-1.043)	(-1.468)	(3.273)	(-1.986)	(-2.093)	(-2.353)	(3.262)	(-4.266)	(-3.06)	(-4.268)	(5.430)
$DTTA_{i,t}$	-0.593	-0.785	-0.579	-2.047**	-3.708***	-3.788***	-3.788***	-5.633***	-0.335	-0.382	-0.268	-1.167**
	(-0.937)	(-0.984)	(-0.733)	(-2.625)	(-3.699)	(-3.487)	(-3.326)	(-7.496)	(-0.790)	(-0.799)	(-0.631)	(-2.406)
$CAPEXSAL_{i,t}$	-0.519	0.202	0.018	-0.476	1.690***	1.815***	1.845***	2.098***	0.082	0.136	0.178	0.231*
	(-1.440)	(-0.471)	(-0.045)	(-1.294)	(-8.012)	(-8.873)	(-7.907)	(10.513)	(-0.419)	(-0.772)	(-0.861)	(1.897)
$CRISIS_{i,t}$	0.171***	0.139	0.085	0.311***	-0.196**	-0.247***	-0.328***	-0.200**	0.011	-0.125*	-0.059	0.115***
	(-3.192)	(-1.357)	(-0.782)	(3.468)	(-2.557)	(-3.370)	(-3.389)	(-2.096)	(-0.252)	(-1.828)	(-0.995)	(-2.088)
Obs.	535	535	535	461	535	535	535	461	535	535	535	461
No. Firms	85	85	85	72	85	85	85	72	85	85	85	72
F-Test	51.55	61.13	47.8	138.2	50.54	53.54	39.64	48.13	23.18	20.95	27.73	41.78
Hansen p-value	0.121	0.105	0.126	0.346	0.432	0.491	0.475	0.477	0.811	0.888	0.859	0.955
Auto(2) p-value	0.101	0.16	0.195	0.251	0.404	0.862	0.343	0.784	0.183	0.103	0.161	0.198

Estimated coefficients (t-statistic) from the GMM system estimator regressions. $Val_{i,t}$ where 1 takes value 1 when the dependent variable is Excess Value estimated by using assets multiples; 2 when the dependent variable is Excess Value estimated by using sales multiples; and 3 when the dependent variable is the Tobin's Q. $Div_{i,t}$ is a dummy variable that takes value 1 when the firm belongs to the multi segment group, and zero otherwise. $Invad_{i,t}$ represent the ownership participation of institutional investors (different to pension funds). $Pafp_{i,t}$ represent the ownership participation of pension funds institutions. $CV_{i,t}$ represents a set of control variables and the orthogonality conditions of interacted variables defined in Table 1. i_k is the industry effect, y_t denotes the yearly dummies, and $u_{i,t}$ represents the individual error term. ***, **, and *indicates a significance level $< 1\%$, $< 5\%$, and $< 10\%$, respectively.

Table 5
Diversification, Firm's Value, and Family Control

$$Val_{i,t} = \beta_1 Div_{i,t} + \beta_2 Div_{i,t}*Convsq_{i,t} + \beta_3 Div_{i,t}*Fam_{i,t}*Convsq_{i,j,t} + \beta_4 Div_{i,t}*Fam_{i,j,t} + CV_{i,t} + i_k + y_t + u_{i,t}$$

VARIABLES	$ExvalAssets_{i,t}$		$ExvalSales_{i,t}$		$Qtob_{i,t}$	
	(1)	(2)	(3)	(4)	(5)	(6)
$Div_{i,t}$	-0.865***	-1.785***	-0.403***	-1.818***	-0.562***	-1.043***
	(-3.154)	(-2.817)	(-2.751)	(-2.908)	(-3.263)	(-3.477)
$Div_{i,t} \times Convsq_{i,t}$	0.736**	1.818**	0.762***	-0.484	0.730***	1.771***
	(2.322)	(2.190)	(3.703)	(-0.488)	(4.335)	(3.907)
$Div_{i,t} \times Fam_{i,t} \times Convsq_{i,t}$		-1.736*		-0.539		-1.722***
		(-1.734)		(-0.585)		(-3.582)
$Div_{i,t} \times Fam_{i,t}$		1.656**		2.396***		0.860*
		(2.270)		(2.756)		(1.827)
$Convsq_{i,t}$	-0.478	0.098	-0.778***	0.740	-0.593**	-0.229
	(-1.394)	(0.247)	(-3.641)	(1.331)	(-2.126)	(-0.753)
$Fam_{i,t}$		-0.774*		-1.005*		-0.481
		(-1.805)		(-1.890)		(-1.213)
$Invad_{i,t}$	2.121	0.052	0.350	-1.023	1.215	-1.029
	(1.461)	(0.033)	(0.441)	(-0.573)	(1.502)	(-1.108)
$Pafp_{i,t}$	0.338	2.049	-1.101	5.294*	-0.087	0.091
	(0.212)	(0.860)	(-1.204)	(1.683)	(-0.095)	(0.066)
$CR_{i,t}$	-0.279	-1.084	0.930***	-0.199	-0.522	-0.836
	(-0.423)	(-1.586)	(4.058)	(-0.200)	(-0.912)	(-1.208)
$VRCR_{i,t}$	-0.990	-1.661	-0.779	-2.041	-0.194	-0.525
	(-0.867)	(-1.366)	(-1.134)	(-1.370)	(-0.310)	(-0.618)
$LNTA_{i,t}$	0.238***	0.154	0.218***	0.047	0.163***	0.200***
	(2.976)	(1.653)	(5.697)	(0.463)	(3.537)	(3.582)
$DTTA_{i,t}$	-1.712**	-2.418***	-4.920***	-3.202**	-1.246***	-0.371
	(-2.117)	(-2.884)	(-7.132)	(-2.550)	(-2.889)	(-0.622)
$CAPEXSAL_{i,t}$	-0.224	-0.312	1.759***	1.560***	0.215	0.407**
	(-0.643)	(-0.908)	(11.875)	(5.914)	(1.154)	(2.283)
$CRISIS_{i,t}$	-0.075	-0.115	-0.090*	-0.023	-0.103	-0.141*
	(-0.879)	(-1.182)	(-1.747)	(-0.250)	(-1.513)	(-1.908)
Obs.	535	535	535	535	535	535
No. Firms	85	85	85	85	85	85
F-Test	52.58	42.58	112.2	53.13	10.97	30.68
Hansen p-value	0.509	0.640	0.266	0.308	0.840	0.585
Auto(2) p-value	0.187	0.103	0.874	0.763	0.129	0.127

Estimated coefficients (t-statistic) from the GMM system estimator regressions. $Val_{i,l,t}$ where l takes value 1 when the dependent variable is Excess Value estimated by using assets multiples; 2 when the dependent variable is Excess Value estimated by using sales multiples; and 3 when the dependent variable is the Tobin's Q. $Div_{i,t}$ is a dummy variable that takes value 1 when the firm belongs to the multi segment group, and zero otherwise. *Convsq* represents a dummy variable that takes 1 when voting rights are in the convergence interval. $Fam_{i,t}$ represent a dummy variable that takes value 1 when the ultimate shareholder is family, and zero otherwise. $CV_{i,t}$ represents a set of control variables and the orthogonality conditions of interacted variables defined in Table 1. i_k is the industry effect, y_t denotes the yearly dummies, and $u_{i,t}$ represents the individual error term.

***, **, and * indicates a significance level $< 1\%$, $< 5\%$, and $< 10\%$, respectively.

Discussion

Summary

We analyzed whether corporate diversification is related to firm-value creation or destruction. A sample of 85 nonfinancial companies listed in the Santiago Stock Market from 2005 to 2013 was considered. We focused on how ownership structure is related to firm value in the context of corporate diversification. First, we found a negative relation between firm value and corporate diversification. Second, Pension Fund Administrators (AFP) help to

mitigate firm value destruction in diversified firms. Third, other institutional investors did not play a significant role in controlling value destruction in diversified firms. Fourth, the separation between voting rights and cash flows rights is negatively related to firm value, as expected. Fifth, when the main shareholder is in the convergence interval, value creation is detected in diversified firms and sixth, if the largest owner is a family, a firm-value creation was found in diversified firms.

Contributions to Scholarship

Our research contributes to the financial literature in three ways. First, our findings can improve our understanding of agency problems that exist in companies in countries with high ownership concentration and low legal protection, which is in line with the results reported by Lefort and Urzúa (2008), Silva, Majluf, and Paredes (2006), and Silva and Majluf (2008). Second, we analyzed how the incentive of the main owner changed when belonging to a family group. Third, we provided information on two types of institutional investors and their role in mitigating agency problems between the major and minority shareholders.

Applied Implications

The results presented in this paper indicate the importance of certain institutional investors on the corporate governance process in Chilean diversified firms. More specifically, local regulators have much to do in order to incorporate reforms to enhance the active role that AFP plays on the Chilean capital markets. On the other hand, the SVS should study and set up mechanisms for insurance companies and investment banks to play an active role in monitoring the decision of firms, reducing coordination costs. This is mainly due to the fact that our results show a passive behaviour for this type of outside blockholders.

Limitations and Future Research Directions

This research has at least three limitations. First, the limited hand-collected data on diversification and pyramidal ownership structure as our sample only represents approximately 60% of nonfinancial quoted firms. Second, this paper only considers a dummy variable as a diversification proxy.

As our paper relies on the contestability notion of institutional investors as a supervising mechanism to control shareholder discretionary decisions and behaviour, any future research should also analyze the potential effect of other large shareholders, especially if one considers that the empirical evidence has highlighted the importance of having multiple shareholders to mitigate agency problems in concentrated ownership structures (Jara-Bertin, López-Iturriaga, & López-de-Foronda, 2008; Maury & Pajuste, 2005).

Finally, the exact channels by which this diversification destroys value remains open as an area for future research.

Notes

1 Corporate governance literature also focuses on Commercial Banks as blockholders. These have not been included in this study as Chilean law forbids them to hold shares from public firms. This emerged from the Chilean banking crisis in the 1980s.

2 According to information from the SVS (Superintendencia de Valores y Seguros or Superintendency of Insurance and Securities), the stock market capitalization increased 309% between 2002 and 2011, while trade volume increased 1025%.

3 This period was characterized by the privatization of major public companies and a limited development of the financial system.

4 AFP stands for Administradoras de Fondo de Pensiones.

5 Law 3,500 does not constrain the AFP to make an agreement on electing one person to represent them on the board of directors. This is done throughout the Association of AFP.

6 This corresponds to the region where the relationship between either firm value or excess firm value is positively related to the voting rights of the ultimate shareholder.

7 Excess value is the ratio between the market value of the firm and the imputed value based on a multiple (Assets and Sales).

8 This was obtained from running a regression between $Qtob$ and VR, assuming a quadratic relation between the variables. The minimum of the function is reached when VR is equal to 51.1%. Therefore $Convsq$ is a dummy variable (1 if VR is greater or equal to 51.1% and 0 otherwise).

9 The sum of the coefficients for models; (2), (3), (6), (7), and (10) are 7.913 (15.139 - 7.226), 8.58, 6.64, 7.371, and 1.159 respectively.

JEL Classifications: C30, C33, G15, G32

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