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Founding-family-controlled firms, intergenerational succession, and firm value

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ABSTRACT

Using a unique, hand-collected data sample and panel-data econometric techniques, we analyse the impact of founding-family control and intergenerational succession on the value of Chilean listed companies. After controlling for firm- and ownership-specific characteristics, we find an inverse U-shaped relationship between a founding family's degree of ownership and firm value. Hence, family ownership at first increases firm value. However, when family ownership exceeds a threshold of about 38 percent of outstanding shares, the family takes advantage of its power in the firm and extracts wealth from minority shareholders. Further, if the founder of the company is the CEO or chairman of the board, firm value increases. However, family businesses with a subsequent-generation owner-manager destroy value.

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1. Introduction

Family firms are the most important and common type of company around the world (Burkart et al., 2003; Jong & Ho, 2019), a fact that has generated growing research interest in how their governance systems affect such things as firm value (Anderson & Reeb, 2003; Andres, 2008; Poutziouris et al., 2015; Villalonga & Amit, 2006), performance (Debicki et al., 2009; Mazzi, 2011; Miralles-Marcelo et al., 2014), investment and dividend decisions (Belenzon & Berkovitz, 2010; Block, 2012; Bozec & Di Vito, 2019; Fahlenbrach, 2009; King & Santor, 2008), financing strategies, or corporate diversification (Crocì et al., 2011; Gómez-Mejía et al., 2010; Miller et al., 2009; Muñoz-Bullón & Sánchez-Bueno, 2012).

The empirical evidence shows that the governance structures of family firms differ from those of nonfamily firms and that such disparities generate differences in performance (Bartholomeusz & Tanewski, 2006; Setia-Atmaja et al., 2009). However, the

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evidence is inconclusive about whether family firms exhibit higher returns and firm value than nonfamily firms (Miller et al., 2007). On the one hand, observed differences in returns and firm value might arise because family firms have heterogeneous goals, different corporate governance systems, and resources, which affects their strategy and behaviour (De Massis et al., 2019; Kotlar & Chrisman, 2019). On the other hand, most of the observed disparities arise because researchers use a nonstandard definition of *family firm* or *founding-family control* and do not consider the effect of intergenerational succession in control and management (González Ferrero et al., 2011). This problem calls into question the validity of the results. As suggested by Brun de Pontet et al. (2007), the operational definition of *family firm* used in empirical studies has been especially influential in the diversity of the findings when such a definition is only focused on ownership aspects.

As a theoretical matter, O'Boyle et al. (2012) integrate evolutionary psychology and agency theory to describe how conflicting predictions can be made regarding the relation between family involvement and firm performance. For instance, evolutionary psychology highlights multiple benefits of family ownership of businesses, such as ownership identity, strategic inheritance, and intergenerational transmission, which eventually increase overall firm value. However, Nicholson (2008) survey shows that evolutionary psychology also predicts a possible negative effect of family ownership on firm value as result of such factors as conservatism, free riding, complacency, and diversion of resources. Regarding agency theory, researchers typically emphasise that agency problems are negligible in family firms because the agent and principal are usually the same party, which supports firm value, *ceteris paribus* (Eisenhardt, 1989). Thus, some researchers believe that family ownership reduces the principal-agent problem and, consequently, family firms exhibit better financial performance (Anderson & Reeb, 2003; Isakov & Weisskopf, 2014; Poutziouris et al., 2015; San Martín-Reyna & Durán-Encalada, 2012; Villalonga & Amit, 2006). However, agency conflicts may still be prevalent in family businesses as a consequence of role duality and wealth expropriation, which decrease firm value (O'Boyle et al., 2012). Regarding institutional variables, San Martín-Reyna and Durán-Encalada (2012) argue that the findings in one economic context are not necessarily applicable to other contexts. Similarly, Villalonga and Amit (2006) suggest that family-owned firms perform better in regulated markets. Indeed, O'Boyle et al. (2012) meta-analysis of ninety-five samples finds that family involvement is not significantly related to firm performance. All this attests to the fact that the empirical literature is inconclusive regarding the relationship between family involvement and firm performance.

Concerning the ownership structure of companies, in emerging economies, such as in Latin America, because the law gives relatively weak protection to minority investors, agency problems are addressed by highly concentrated ownership structures. For this reason, the Chilean corporate sector is characterised by firms that have highly concentrated ownership structures (Céspedes et al., 2010; Jara et al., 2015; Saona & San Martín, 2016) and are controlled by family business groups (Saona et al., 2018).

Family ownership in the Chilean corporate sector could be mitigating the principal-agent problem; however, the expropriation risk caused by the high ownership concentration, combined with the weak legal protection of minority investors, allows

the families that control family firms to extract minority shareholders' wealth. This situation leads to a novel manifestation of the principal-agent problem in Chile, one not widely explored in the empirical literature.

Although the nonlinear relationship between family ownership and firm performance has been widely studied in various contexts, it has not been considered in the Chilean context. For instance, Miralles-Marcelo et al. (2014) and Bonilla et al. (2010) find that family firms perform better than nonfamily firms, but they exhibit a lack of consideration of institutional context or the possibility of a nonlinear relationship. Additionally, they do not take into consideration the role of the founder or members of the founding family in decision-making positions, nor do they consider the effect of generational succession within family firms. Empirical evidence shows that the relationship between family ownership and firm performance is moderated by the presence of family members in decision-making positions (Miralles-Marcelo et al., 2014; Villalonga & Amit, 2006) and by which generation controls or manages the company (González Ferrero et al., 2011).

Given this lack of depth of the studies in the Chilean arena, we aim to assess the impact of founding-family control and intergenerational succession on firm value. We thus intend to fill the gap in the empirical literature by expanding evidence on three major aspects of family-owned businesses: (a) the relationship between family ownership and firm value, (b) the relationship between firm value and the presence of the founding family in senior positions, and (c) the impact of intergenerational family succession on firm value. Additionally, information about firm value enables us to determine whether family involvement generates agency problems (Saito, 2008). We use different measures of firm value associated with Tobin's Q to test our hypotheses, which allows us to identify the impact of the founding family's presence in the ownership, management, or control on firm value.

Founding families exhibit several characteristics that differentiate them from other controlling parties. Burkart et al. (2003) indicate that founding families maintain control of firms to get nonfinancial benefits from control, to protect their reputation, and to extract wealth from other shareholders. Additionally, founding-family firms have highly concentrated ownership, which allows families to actively participate in management (specifically, top management) and control (board of directors) (Nguyen, 2011; Saito, 2008). Our research helps to assess the impact on market performance of the presence of founders or their descendants in positions of management or control. In line with Villalonga and Amit (2010), we postulate that founding-family firms whose senior positions (CEO and chairman of the board) are filled by their founders have different market value from those led by the founders' descendants.

Another contribution of this study is that, unlike previous studies of Chile, such as Silva and Majluf (2008), we consider not just families' ownership and involvement on the board of directors and in management, but also intergenerational succession and its impact on management and control. We construct the most important variables of the study using a pioneering, hand-collected data set. The data on the ownership structure of founding families were obtained from primary sources such as companies' charts (available at the Documentary Center of the Commission for the Financial Market¹), their bylaws, notes on their annual reports, and the minutes of

the general and extraordinary shareholders' meetings, among other sources, which allows us to contribute to the literature on the Chilean context.

We find that after controlling for firm-specific and ownership characteristics, founding-family-controlled firms have higher market value than other firms do, though the relationship is inverse U-shaped. Additionally, when the founder holds a senior position—CEO or chairman of the board of directors—this increases firm value. However, firm value falls when the firm is managed and controlled by a descendant of the founder.

Section 2 reviews the literature and considers various hypotheses. Section 3 presents our data, variables, and methodology. We discuss our results in section 4 and conclude in section 5.

2. Literature review and research hypotheses

2.1. Founding-family control and firm value

Agency-theory-based studies suggest that firm value increases when the residual claimants and the deciding agents are the same (Chrisman et al., 2004; Fama & Jensen, 1983; Jensen & Meckling, 1976). Corbetta and Salvato (2004) emphasise that when the objectives of a family business are exclusively financial, the family will be motivated by second-order needs and exogenous factors which generate the conditions for agency conflicts. However, when the corporate goals are not financial, the family will be motivated by higher-order needs and intrinsic factors, which bring the objectives of the principal and the agent into alignment.

This agency-theoretic approach is consistent with the theory of resources and capabilities, in that family businesses have intrinsic characteristics that allow them to develop a competitive advantage that enhances firm value (Penrose, 1959; Wernerfelt, 1984). Habbershon and Williams (1999) refer to the unique set of resources and capabilities that characterise family businesses as *familiness*. These resources are the result of the interaction between the family, the individuals that constitute it, and the company itself, and they can be a source of competitive advantage.

Despite all the studies that suggest a linear and positive relationship between family ownership and firm value, several studies support a nonlinear (inverse U-shaped) relation as a result of the conjunction of the alignment-of-interest and expropriation hypotheses (Anderson & Reeb, 2003; De Massis et al., 2013; Isakov & Weisskopf, 2014; Mazzola et al., 2013; Miller et al., 2007; Poutziouris et al., 2015). For a sample of companies on the S&P 500 index, Anderson and Reeb (2003) suggest that the family is a source of value when its ownership stake does not exceed approximately one-third of the outstanding shares and that beyond that critical point, firm value is destroyed. Similar results are found by Poutziouris et al. (2015) in a sample of companies listed on the London Stock Exchange. Moreover, Maury (2006), using a sample of Western European family firms, and Isakov and Weisskopf (2014), for Swiss companies, indicate that family ownership reduces the agency conflict between shareholders and managers because the families have incentives to exert control. However, they add that when families' ownership is excessively concentrated and when minority investors' rights are unprotected, families act opportunistically by engaging in inside

trading and using privileged information to extract wealth from non-family-member shareholders. It is widely documented that family shareholders in public firms extract private rents through special dividends, excessive compensation schemes, and related-party transactions (DeAngelo et al., 2000).

In emerging economies, several studies have identified the impact of family ownership on financial performance. For instance, San Martín-Reyna and Durán-Encalada (2012) study Mexico and find that family ownership reduces top management's discretion and increases firm performance. Similarly, Ciftci et al. (2019), Muttakin et al. (2015), and Chu (2011) find a positive relationship between family ownership and performance for a sample of firms from Turkey, Bangladesh, and Taiwan, respectively. Likewise, in a meta-analysis of emerging economies, Wang and Shailer (2017) find that family ownership is positively related to firm performance. And Poletti-Hughes and Williams (2019) find that family ownership decreases principal-agent problems for a sample of Mexican firms, which in turn increases firm value. However, the authors add that when family ownership reaches 40 to 50 percent, the effect becomes negative because of entrenchment effects.

Family ownership and its impact on returns have also been studied in Chile. Martínez et al. (2007) and Bonilla et al. (2010) find that capital markets make family firms accountable to the rest of the shareholders, implying that the benefits of family ownership are more significant than the costs. Similarly, Duran and Ortiz (2020) find that firms controlled by multiple unrelated families have higher returns than those owned by single families because the former have various nonfinancial objectives that encourage efficient oversight of the firm's management.

Multiple studies of specific industries have also been conducted. For instance, Pacheco (2019) finds that family power (family equity plus family presence on the board) improves accounting performance for a sample of Portuguese wine firms. Masset et al. (2019) investigate the hospitality industry in sixteen Western European countries and find that family food-and-beverage firms perform better than nonfamily food-and-beverage firms. Similarly, Rienda et al. (2020) and Cucculelli and Storai (2015) find that family ownership improves firm performance in Spanish hotel firms and Italian manufacturing firms, respectively. Erbetta et al. (2013) find that family ownership has a nonlinear—inverted U-shaped—relationship with operational efficiency. Similar results are found by Gallucci and D'Amato (2013) for a sample of Italian wine firms.

The Chilean corporate sector generally consists of business groups run by family-controlled companies (Farías, 2014; Saona et al., 2018). Therefore, convergence of interests is plausible in the Chilean corporate sector, but so are value-destroying activities when founding families' ownership exceeds the level needed to exercise efficient control. These arguments lead to our first hypothesis:

Hypothesis 1: Ownership in the hands of the founding family has a nonlinear—inverse U-shaped—relationship with firm value, *ceteris paribus*.

2.2. Founding-family management, intergenerational succession, and firm value

Regarding the participation of the founding family in companies' management, the evidence is inconclusive. On the one hand, some authors find a negative relationship

between family ownership and firm value as a consequence of nepotism (appointing family members to decision-making positions). On the other hand, some authors support the idea that family participation in management aligns the interest of managers and shareholders (Poutziouris et al., 2015). Andres (2008), Adams et al. (2009), Fahlenbrach (2009), and Villalonga and Amit (2006) find empirical evidence of a positive impact on firm value when the founder of the family business works as CEO as a result of alignment of interests between the principal and the agent. Using proxy data on all Fortune 500 firms, Villalonga and Amit (2006) find the same positive impact on firm value when the founder is board chairman and has hired a professional CEO. Similarly, in studying S&P 1500 firms, Baek and Kim (2015) indicate that when a family business is founded by more than one individual and one of them holds a senior position, their discretionary decision-making power is constrained by the cofounders, which increases firm value.

By using a representative sample of companies from the Portuguese and Spanish stock markets, Miralles-Marcelo et al. (2014), however, find that when a company is managed by the founder, it does not necessarily increase firm value. They argue that founders lack dynamism in managing companies. Moreover, though Andres (2008), Isakov and Weisskopf (2014), and Poutziouris et al. (2015) find that ownership by the founding family increases accounting performance, they fail to find a significant impact on value measures such as Tobin's Q. Kim and Kiyamaz (2021) indicate that the presence of the founder as CEO harms firm value because of the entrenchment effect. The authors observe the negative impact in various sectors, such as materials and consumer-goods industries.

As emphasised by Chua et al. (1999), families' vision and intention to promote intergenerational sustainability are among the most important characteristics distinguishing family from nonfamily firms. Intergenerational succession in senior management roles in a family firm is normal (Chua et al., 2003).² Sharma et al. (2001, p. 21) define succession as 'the actions and events that lead to the transition of leadership from one family member to another in family firms. The two family members may be part of the nuclear or extended family, and may or may not belong to the same generation'.

Mazzola et al. (2013) and Schulze et al. (2003) indicate that when a family has a high degree of ownership, firm performance suffers because of the appearance of nepotism, which may imply intergenerational succession of unqualified people in senior management roles. Schulze et al. (2001) discuss how favouritism towards heirs and siblings can lead to family perquisites such as favoured employment and promotions, which leads to resentment by nonfamily managers. This finding is also supported by Burkart et al. (2003), who argue that family management, especially management by founders' descendants, is associated with poor decision making. Further empirical research supports the intuition that firm value suffers when the position of CEO is held by a descendant of the founding family (Li & Srinivasan, 2011; Miralles-Marcelo et al., 2014; Villalonga & Amit, 2006). Poutziouris et al. (2015) emphasise that this could be because the subsequent generations lack commitment to the business, which fosters nepotism.

In the same vein, van Essen et al. (2015) indicate that when family businesses are managed by their founders, agency conflicts are limited. However, as control and

management are transferred to the following generations, the capacity to mitigate agency conflicts is diminished. As Block (2012) indicates, family members usually do not feel involved in the family business and lack knowledge of the company's operations; consequently they see the company only as a source of personal-income generation. Along the same lines, Bennedsen et al. (2007) and Cucculelli and Micucci (2008) indicate that the intergenerational transfer harms the performance of family businesses. Andres (2008) and Poutziouris et al. (2015) find that when a descendant of the founder is CEO or holds another senior position, the accounting record improves, which is why they perform better than the CEOs of nonfamily companies. However, the significance of this finding disappears when the performance is measured by Tobin's Q, indicating that the market sees the CEO's descendants in the same way as the CEOs of nonfamily companies.

Hence, consistent with the previous arguments on the effect of the family management and firm value, we suggest the following two hypotheses for the Chilean corporate sector:

Hypothesis 2: The presence of the founder in a senior position of a family firm improves the value of the company, *ceteris paribus*.

Hypothesis 3: The presence of a descendant of the founder in a senior position of a family firm diminishes the value of the company, *ceteris paribus*.

3. Methodology design

The goal of this study is to assess the impact of founding-family ownership, control, and intergenerational succession on firm value. The first part of the empirical analysis describes the sample and variables, and the second part is a multivariate analysis.

3.1. Source of information

To test our hypotheses, we analysed a sample of 160 nonfinancial Chilean companies listed on the Santiago Stock Exchange between 2005 and 2019, for a total of 1,901 company-year observations. Since we observed individual firms over a long period, we employed cross-sectional and time-series data and analysed it through panel-data techniques (Dang et al., 2015). We included a minimum of 4 continuous observations per company, as, according to Baltagi (2013), that is the *sine qua non* condition for running an efficient panel-data estimation; on average, there are 11.88 observations per company. Moreover, Arellano and Bond (1991) emphasise that all firms must be present in a sample for at least four consecutive periods for the panel-data analysis to be efficient and to conduct a second-order autocorrelation test. We used the generalised method of moments (GMM) system estimator, an estimator developed by Blundell and Bond (1998) that is an enhanced version of the estimator developed by Arellano and Bond (1991). As emphasised by Windmeijer (2005), GMM system-estimator models are designed to handle the potential problem of individual firms' unobservable heterogeneity, the endogeneity problem regarding the explanatory variables, and the econometric problems raised by the omission of relevant firm-specific characteristics.

We used Thomson Reuters's Refinitiv Eikon database for financial and accounting information. Given their regulated status and different financial reporting system, financial institutions were excluded from the sample. Information about the CEO, chairman of the board, and founder was obtained from various sources, such as the companies' bylaws, notes on their annual reports, minutes of the general and extraordinary shareholders' meetings, and the companies' websites. This is a unique, hand-collected data set that allows us to conduct a much deeper analysis of the Chilean corporate sector than the existing empirical literature does (compare, for example, Martínez et al. (2007) and Bonilla et al. (2010)).

The information needed to classify a firm as a founding-family-firm was hand collected from different sources. First, we used the articles of incorporation of the company, found at the Documentary Center of the Commission for the Financial Market in Chile to identify the founder(s) of each company. Afterwards, we carefully reviewed the company's annual reports to identify the controlling party, if any. We then manually matched the data to identify whether the founder continues to be the controlling party. For data on the founder's descendants and their role as CEO or chairman of the board, we searched the company's annual reports for the names of the founder's sons. When this information was not available in the annual reports, we obtained it from Chile's Civil Registration and Identification Service³. Additionally, and in order to make our study comparable with other empirical studies, we followed Saona et al. (2018) to identify whether a company belongs to a business group. We obtained that information from the Commission for the Financial Market, which tracks the composition of business groups and has been publishing such information since 2002 continuously. Finally, we obtained information on pension funds from Refinitiv Eikon and from annual reports of the pension fund managers' regulator (Superintendencia de Pensiones), which provides detailed information on pension fund managers' ownership of publicly listed companies.

The sample covers 78 percent of the market capitalisation of the Santiago Stock Exchange⁴ and a similar percentage of the number of listed companies.⁵ We consider the sample of family firms is representative of the Chilean corporate sector since it covers 28.75 percent of nonfinancial listed firms, as shown in Table 1. Table 1 also indicates that family businesses are present in almost all industrial sectors and are especially prevalent in the retail-trade and manufacturing sectors.

3.2. Model and definition of variables

Table 2 displays the definitions of the variables we used, which include alternative metrics of firm value, firm characteristics, and family-related variables.

The empirical literature typically uses Tobin's Q (*VALUE1* and *VALUE2*) as the measure of firm value to explain the impact of family ownership on firm value (Anderson & Reeb, 2003; Maury, 2006; Miller et al., 2007; Poutziouris et al., 2015; Villalonga & Amit, 2006). However, given that this metric's distribution is often asymmetrical, and in order to reduce the effect of outliers, we used the natural logarithm of Tobin's Q (*VALUE4* and *VALUE5*) to normalise the distribution (Gompers et al., 2010; Rapp & Trinchera, 2017). Additionally, as part of the robustness testing,

Table 1. Distribution of founding family and non-founding-family firms by industrial sector.

NAICS Sector	Non-Founding-Family Firms	Founding-Family Firms	Total
Accommodation and Food Services	2	1	3
	1.75	2.17	1.88
Administrative and Support and Waste Management and Remediation Services	1	0	1
	0.88	0.00	0.63
Agriculture, Forestry, Fishing, and Hunting	5	7	12
	4.39	15.22	7.50
Arts, Entertainment, and Recreation	11	1	12
	9.65	2.17	7.50
Construction	4	5	9
	3.51	10.87	5.63
Health Care and Social Assistance	2	0	2
	1.75	0.00	1.25
Information	5	0	5
	4.39	0.00	3.13
Manufacturing	42	14	56
	36.84	30.43	35.00
Mining, Quarrying, and Oil and Gas Extraction	2	2	4
	1.75	4.35	2.50
Other Services (except Public Administration)	1	0	1
	0.88	0.00	0.63
Professional, Scientific, and Technical Services	0	3	3
	0.00	6.52	1.88
Retail Trade	6	6	12
	5.26	13.04	7.50
Transportation and Warehousing	8	5	13
	7.02	10.87	8.13
Utilities	24	1	25
	21.05	2.17	15.63
Wholesale Trade	1	1	2
	0.88	2.17	1.25
Total	114	46	160
	100.00	100.00	100.00

This table shows the number of companies, broken down by industrial classification, and the division between founding-family and non-founding-family businesses. The first row shows frequencies, while the second row shows percentages.

Source: Authors' calculations.

we followed Gompers et al. (2010) and Jo and Harjoto (2012) in using the industry-adjusted Tobin's Q (*VALUE3*) to control for the differential effect across industrial sectors.

Two variables are typically used to identify family-controlled firms. Some authors use a dummy variable to distinguish between family and nonfamily businesses (Baek & Kim, 2015; Miller et al., 2007; Miralles-Marcelo et al., 2014; Poutziouris et al., 2015); others use the percentage of shares held by the founding family to measure its control (Anderson & Reeb, 2004; Andres, 2008; Chu, 2011; Miller et al., 2007; Villalonga & Amit, 2006). We follow Anderson and Reeb (2003), who define family firms by the presence of the founding family in the ownership structure or by ownership by any relatives of the founding family. This definition is consistent with Miralles-Marcelo et al. (2014), who take into consideration in their construct family control, such that a family firm is a firm owned and controlled by a family. Hence,

Table 2. Variables' definitions.

Variable	Description	Definition
VALUE1	Tobin's Q	(Market capitalisation + total debt) / book value of total assets
VALUE2	Tobin's Q	(Market capitalisation + total liabilities) / book value of total assets
VALUE3	Adjusted Tobin's Q	VALUE1 adjusted by the average of the industrial sector and year
VALUE4	Ln of VALUE1	Natural logarithm of VALUE1
VALUE5	Ln of VALUE2	Natural logarithm of VALUE2
FOUNDFAM	Founding family	Dummy variable that takes a value of 1 if the firm is controlled by a founding family and 0 otherwise
OWNFOUNDFAM	Family ownership	Ownership by the founding family
FOUND	CEO/chairman founder	Dummy variable that takes a value of 1 if the founder is the CEO or chairman of the board, and 0 otherwise
DESC	CEO/chairman family	Dummy variable that takes a value of 1 if a descendant of the founding family holds the position of CEO or chairman of the board, and 0 otherwise.
BUSGROUP	Business group	Dummy variable that takes a value of 1 if the firm belongs to a business group, and 0 otherwise
FAM	Family	Dummy variable that takes a value of 1 if the firm is controlled by one or more families and 0 otherwise
SIZE	Firm size	Natural-logarithmic transformation of firm's book value of total assets
LEV	Leverage	Total debt / book value of total assets
ROA	Profitability	Net income / book value of total assets
TANG	Assets' tangibility	Net property, plant, and equipment / book value of total assets
RISK	Altman's Z-score	$1.2 \frac{\text{Working capital}}{\text{Total assets}} + 1.4 \frac{\text{Retained earnings}}{\text{Total assets}} + 3.3 \frac{\text{EBITDA}}{\text{Total assets}} + 0.6 \frac{\text{Market capitalization}}{\text{Total liabilities}} + \frac{\text{Sales}}{\text{Total assets}}$
CAPEX	Capital expenditure	Capital expenditures / book value of total assets
OWN	Ownership concentration	Ownership by the majority shareholder
PFOWN	Pension funds' ownership	Ownership by pension funds
REP	Reputation	Natural-logarithmic transformation of years since company foundation
BGD	Board gender diversity	Blau index

Source: Authors' calculations.

the definition of founding-family-controlled firm (*FOUNDFAM*) used in this study includes all companies (a) that were founded by a family or an individual with majority control, (b) for which that family remained the major investor when the firm became public, and (c) for which the family was present on the board of directors, as CEO, or in another position that influences the CEO's decisions and the family's identity.⁶ Relative to the previous literature, this operational definition is superior since it includes considerations of ownership, control, and family presence after the company transitioned from private to publicly listed. We took this approach because in the case of Chilean companies, Silva and Majluf (2008) find that firm performance depends on family ownership concentration, family control, and the institutional context.

Contrary to the empirical studies that do not establish a minimum threshold for family ownership (Miralles-Marcelo et al., 2014), this study follows the approach of San Martín-Reyna and Durán-Encalada (2012), which recognises that cultural and legal contexts, which differ from country to country, bear on family business and, consequently, that a minimum threshold of family ownership is suitable for the Chilean corporate sector. *FOUNDFAM* is defined by a minimum threshold of family ownership, as in Andres (2008), Bjuggren and Palmberg (2010), Cai et al. (2012), De Massis et al. (2013), and García-Ramos and García-Olalla (2011). Specifically, the condition defining this variable's value is that the family holds at least 25 percent of the outstanding shares with voting rights and has at least one member in a senior management position or on the board of directors. According to Chile's Stock

Market Law, the controller of a firm is the shareholder that holds at least 25 percent of the shares with voting rights. It takes a value of 1 if the company meets this condition and 0 otherwise. Additionally, we used the percentage of shares owned by the founding family to study the relationship between family ownership and the value of the company (*OWNFOUNDFAM*).

Regarding the family variables used to investigate hypotheses 2 and 3, we considered whether the position of CEO or chairman of the board was held by the founder (*FOUND*) or a descendant of the founding family (*DESC*), which includes successors in the second, third, or fourth generation.

The control variables are firm size (*SIZE*), leverage (*LEV*), profitability (*ROA*), asset tangibility (*TANG*), firm risk (*RISK*), capital expenditure (*CAPEX*), ownership concentration (*OWN*), ownership by pension fund managers (*PFOWN*), the firm's reputation (*REP*), and a metric of the board of directors' efficiency in promoting value-enhancing activities corresponding to the board's gender diversity (*BGD*). These variables have been widely used in previous empirical studies (De Massis et al., 2013; Isakov & Weisskopf, 2014; Jara-Bertín & Sepúlveda, 2016; Lefort & Urzúa, 2008; Poutziouris et al., 2015; Saona & San Martín, 2018). *SIZE* represents the natural-logarithmic transformation of the company's total assets; *LEV* is total debt as a share of the book value of total assets; *ROA* is net income divided by total assets; *TANG* is the net value of property, plant, and equipment divided by the book value of total assets. We used the Altman (1968) Z-score to calculate the firm's default risk (*RISK*). This variable is calculated as $1.2WKTA + 1.4RE + 3.3EBITTA + 0.6MKTTL + RTA$, where *WKTA* is working capital divided by total assets, *RE* is retained earnings divided by total assets, *EBITTA* is annual earnings before interest and taxes divided by total assets, *MKTTL* is the firm's market capitalisation divided by total liabilities, and *RTA* is total revenues divided by total assets. *CAPEX* is computed as the annual variation in gross value of property, plant, and equipment divided by the end-year book value of total assets. *OWN* is defined as the ownership held by the majority shareholder. *PFOWN* is a proxy for ownership by private investors. *REP* is the natural-logarithmic transformation of years since the company was founded. Finally, the indexed measure of board gender diversification (*BGD*) was computed based on the Blau (1977) index as $1 - \sum_{i=1}^n P_i^2$, where P_i corresponds to the proportion of directors in each of two gender categories (male and female members). *BGD* ranges from 0, when there are only male members or only female members on the board, to 0.5, when there is an equal number of male and female members.

Equation (1) below is used to measure the impact of the founding family's control on firm value. To measure the nonlinear relationship, *OWNFOUNDFAM* enters the model in quadratic and linear forms. X_{it} is the vector of control variables (for example, firm size, leverage, profitability, asset tangibility, capital expenditure, risk, ownership-structure features, reputation, and board gender diversity) that we expect affect the proxies for firm value.

The regression estimates are also computed by separately including variables that designate whether the firm belongs to a business group (*BUSGROUP*) and whether the firm is a family firm (*FAM*).⁷ We do so to isolate the effect of these two variables

on firm value. In the case of Chilean companies, most firms that belong to business groups are family-owned businesses. Hence, adding these control variables allows us to get more precise estimates of firm value, which ameliorates the misspecification problem.

$$VALUE = \alpha + \beta_1 OWNFOUND FAM_{it} + \beta_2 X_{it} + \varepsilon_{it} \quad (1)$$

Hypotheses 2 and 3 were tested by applying equation (2) to determine whether management or supervision by the founder or by their successors impacts firm value. We used dummy variables for founder (*FOUND*) and descendant (*DESC*). These variables take the value of 1 when the CEO or chairman of the board is the founder or a descendant of the founding family, and 0 otherwise.

$$VALUE = \alpha + \beta_1 FOUND/DESC + \beta_2 X_{it} + \varepsilon_{it} \quad (2)$$

Equations (1) and (2) are analysed using a sample of companies with both cross-sectional (*i*) and time-series (*t*) information, which allows us to compound and unbalanced panel data. Given the nature of the data, we have to deal with two major econometric problems: unobservable heterogeneity and endogeneity (Arellano, 2002). Unobservable heterogeneity refers to specific characteristics of each firm that do not vary over time, such as the firm's managerial style, attitude towards risk, internal policies, and organisational design (Ali et al., 2018). Since these characteristics are unobservable, they become part of the random component of the estimates (ε_{it}). The endogeneity problem occurs when changes in firm value affect the right-hand-side variables and, consequently, causality is not unidirectional. This generates a simultaneity problem, which may bias the estimated coefficients.

To address these econometric problems, we estimate the regressions using the two-stage GMM system estimator (GMM-SE), which allows us to address at the same time the heterogeneity problem and the potential endogeneity issues by using as instruments lagged right-hand-side variables, as in Jara et al. (2019). Since the independent variables are endogenous and correlated with the residuals, the OLS estimation is both biased and inconsistent (Brown et al., 2011). The two-stage GMM-SE reduces the bias in the regressors and the inconsistency in the estimations, improving the asymptotic precision.⁸ As stated above, one important feature of the GMM method is that it limits the endogeneity of all firm-level variables by introducing lagged right-hand-side variables as instruments. Specifically, we used as instruments *SIZE*, *LEV*, *ROA*, *TANG*, *CAPEX*, *RISK*, and *OWN* lagged from $t - 1$ to $t - 3$, similarly to Jara et al. (2019).

The consistency of the estimates depends critically on the absence of second-order serial autocorrelation and on the validity of the instruments. We use the AR(2) statistic to measure second-order serial correlation and the Hansen (1982) test of overidentified restrictions to check whether the instruments are exogenously determined. Additionally, we used the Wald test of the joint significance of all independent variables and tested for multicollinearity problems through the variance inflation factor. We used the Lind and Mehlum (2010) test to check the nonmonotonic relationships suggested in our first hypothesis when ownership by the founding family is used.

This test looks for the presence of a U-shaped (or inverse U-shaped) relationship between the outcome variable and the explanatory variable, which in our case is *OWNFOUNDFAM*. This test takes by default the interval as defined by the data range of the explanatory variable. The major advantage of the Lind and Mehlum (2010) test is that it provides the necessary and sufficient conditions to test for a U-shaped (or inverse U-shaped) relationship in finite samples. We provide footnote 10 as an example of the computation of the extreme point that is provided by this test.

4. Results

4.1. Descriptive statistics

Table 1 shows that approximately 29 percent of the companies in the sample are founding-family-controlled firms. This statistic is well below the average reported by Martínez et al. (2007) and Bonilla et al. (2010) in the case of Chilean firms. The reason for the difference is that these studies identify as family businesses all companies controlled by a family, without taking into consideration whether it is the founding family. Indeed, the literature recognises that family involvement can be manifested in multiple ways and that the ambiguity in its definition makes it problematic to compare findings across studies (Chua et al., 1999; Sharma, 2004).

Table 3 exhibits a statistical summary of the variables used in the empirical analysis. And it reports the difference in means between founding-family-owned and other companies. Founding-family-controlled firms, as defined in this study, have lower average value than other firms. Moreover, founding-family businesses typically have more debt than other businesses, a finding supported by Croci et al. (2011) and King and Santor (2008). The former study argues that this is because in family businesses, agency conflicts arising from debt (principals versus bondholders) are less severe than agency conflicts arising from equity capital (principals versus minority shareholders). For the same reason, family businesses are averse to issuing equity capital because this would dilute the family's ownership stake and diminish its control. Additionally, founding-family businesses have lower levels of profitability (*ROA*), asset tangibility (*TANG*), and capital expenditure (*CAPEX*) than other businesses and higher default risk (*RISK*).⁹

The correlation matrix is presented in Table 4, which reports certain remarkable relationships. For example, the presence of the founding family as the company's controller is negatively and significantly related to firm value (see the five firm-value measures).

4.2. Multivariate analysis

The results in Tables 5 and 6 provide evidence of the influence of founding-family ownership on firm value. In all models, *OWNFOUNDFAM* exhibits a nonlinear, inverse U-shaped relationship with all five measures of firm value. Previous studies of different institutional contexts have found a monotonic relationship (see, for instance, Anderson and Reeb (2003), San Martín-Reyna and Durán-Encalada (2012), Klein et al. (2005), and Villalonga and Amit (2006)). This study, however, finds a nonlinear

Table 3. Descriptive statistics.

Variable	Mean	Std. Dev.	Min	Max	FOUNDFAM	No FOUNDFAM	Mean-Difference	Test
VALUE1	1.092	1.187	0.024	8.665	0.892	1.181	-0.289	***
VALUE2	1.353	1.196	0.175	9.003	1.153	1.442	-0.288	***
VALUE3	-0.020	0.960	-2.568	7.428	-0.095	0.014	-0.109	**
VALUE4	-0.185	0.709	-3.732	2.159	-0.286	-0.140	-0.147	***
VALUE5	0.133	0.512	-1.744	2.198	0.043	0.172	-0.129	***
FOUNDFAM	0.295	0.456	0.000	1.000	1.000	0.000	1.000	***
OWNFOUNDFAM	0.202	0.315	0.000	1.000	0.659	0.000	0.659	***
FOUND	0.106	0.308	0.000	1.000	0.346	0.000	0.346	***
DESC	0.146	0.353	0.000	1.000	0.477	0.000	0.477	***
BUSGROUP	0.650	0.477	0.000	1.000	0.535	0.700	-0.165	***
FAM	0.602	0.490	0.000	1.000	1.000	0.426	0.574	***
SIZE	12.915	1.999	5.871	17.966	13.007	12.874	0.133	
LEV	0.222	0.154	0.000	0.594	0.246	0.212	0.035	***
ROA	0.044	0.091	-0.331	0.502	0.034	0.049	-0.015	***
TANG	0.455	0.243	0.000	0.996	0.359	0.497	-0.138	***
RISK	3.376	4.918	-0.225	32.936	2.765	3.647	-0.882	***
CAPEX	0.052	0.046	0.000	0.256	0.045	0.054	-0.009	***
OWN	0.490	0.229	0.001	1.000	0.461	0.503	-0.042	***
PFOWN	0.037	0.061	0.000	0.250	0.031	0.040	-0.009	***
REP (years)	56.102	36.247	0.696	163.397	42.559	62.093	-19.534	***
BGD	0.063	0.121	0.000	0.490	0.084	0.053	0.031	***

This table presents the mean, standard deviation, and minimum and maximum for each of the variables. A test of differences in means for each of the variables is presented, distinguishing between the results for founding-family and non-founding-family firms. Five metrics are used for company value. *VALUE1* is defined as the equity-market value plus total debt over the total value of assets (Tobin's Q). *VALUE2* is defined as the equity-market value plus total liabilities over the total value of assets (Tobin's Q). *VALUE3* is calculated as an adjusted measure of Tobin's Q (adjusted by the average of the industrial sector and year). *VALUE4* is the natural logarithm of *VALUE1*. *VALUE5* is the natural logarithm of *VALUE2*. *FOUNDFAM* is a dummy variable that takes a value of 1 if the firm is controlled by a founding family and 0 otherwise. *OWNFOUNDFAM* indicates the ownership percentage of the founding family. *FOUND* is a dummy that takes a value of 1 if the founder serves as CEO or chairman of the board, and 0 otherwise. *DESC* is a dummy that takes a value of 1 if a descendant of the founder serves as CEO or chairman of the board. *BUSGROUP* is a dummy variable that takes a value of 1 if the firm belongs to a business group. *FAM* is a dummy variable that takes a value of 1 if the firm is controlled by one or more families and 0 otherwise. Control variables are also included, such as the size of the company (*SIZE*), indebtedness (*LEV*), profitability (*ROA*), tangibility (*TANG*), risk (*Z*), growth opportunities (*CAPEX*), ownership concentration (*OWN*), pension funds' ownership (*PFOWN*), reputation (*REP*), and board gender diversity (*BGD*). *** indicates statistical significance at 1%, ** at 5%, and * at 10%.

Source: Authors' calculations.

relation. Indeed, in [Tables 5 and 6](#), the coefficient of *OWNFOUNDFAM* indicates that ownership in the hands of the founding family increases firm value at first but decreases firm value once ownership reaches a certain threshold designated as extreme point *OWNFOUNDFAM* in the tables. This confirms hypothesis 1.

Regarding the extreme points, in the case of model 1 in [Table 5](#), firm value is maximised when *OWNFOUNDFAM* is 39.31 percent.¹⁰ The average value of *OWNFOUNDFAM* is 38.81 percent in [Table 5](#) and 38.30 percent in [Table 6](#), indicating that when the founding family owns more than this amount of the company's equity, expropriation problems arise that weigh down firm value. According to the Lind and Mehlum (2010) test, shown at the bottom of the tables, the nonlinear relationships are statistically significant.

The difference between [Tables 5 and 6](#) is the presence of two key dummies in the latter table. First, we controlled for a dummy variable that takes the value of 1 if the firm belongs to a business group (*BUSGROUP*) and 0 otherwise. Second, we controlled for a dummy indicating whether the firm is owned by a family (founding

Table 4. Correlation matrix.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1 VALUE1	1.000																				
2 VALUE2	0.992***	1.000																			
3 VALUE3	0.789***	0.785***	1.000																		
4 VALUE4	0.776***	0.741***	0.678***	1.000																	
5 VALUES	0.848***	0.865***	0.744***	0.880***	1.000																
6 FOUNDFAM	-0.112***	-0.111***	-0.0525*	-0.0955***	-0.116***	1.000															
7 OWNFOUNDAM	-0.116***	-0.114***	-0.0646**	-0.111**	-0.128***	0.964***	1.000														
8 FOUNDFAM	-0.045*	-0.0457*	-0.018	-0.0686**	-0.0751**	0.518***	0.492***	1.000													
9 DESC	-0.0703**	-0.0650**	-0.038	-0.028	-0.034	0.622***	0.608***	0.50505*	1.000												
10BUSGROUP	-0.0876***	-0.0876***	-0.021	-0.021	-0.028	-0.160***	-0.132***	-0.0581*	-0.149***	1.000											
11FAM	-0.193***	-0.198***	-0.0755***	-0.188***	-0.190***	0.541***	0.522***	0.280***	0.337***	0.000	1.000										
12SIZE	-0.250***	-0.233***	-0.0565*	-0.008	-0.009	0.031	0.038	-0.022	0.043	0.424***	0.0710**	1.000									
13LEV	-0.0756***	-0.0875***	0.031	0.139***	0.0565*	0.104***	0.0674***	-0.021	0.172***	0.010	0.006	0.376***	1.000								
14ROA	0.364***	0.358***	0.195***	0.341**	0.352*	-0.0737**	-0.0624**	-0.030	-0.0833**	0.116***	-0.104***	0.038	-0.206***	1.000							
15TANG	0.0836***	0.0693**	0.037	0.120***	0.0844***	-0.261***	-0.232***	-0.220**	-0.0696**	0.121**	-0.228***	-0.0703**	0.0487*	0.012	1.000						
16RISK	0.647***	0.618***	0.393**	0.447**	0.434	-0.0827**	-0.0648**	0.003	-0.108***	-0.0691**	-0.0898**	-0.354**	-0.381***	0.250***	0.011	1.000					
17CAPEX	0.0696**	0.0731**	0.0586*	0.172***	0.175***	-0.0891***	-0.0656**	-0.044	-0.003	0.032	-0.0523*	0.0496*	0.123***	0.0917**	0.229***	-0.0782***	1.000				
18OWN	-0.125***	-0.124***	-0.026	-0.0907***	-0.0943***	-0.0842***	-0.015	-0.019	-0.0931***	0.231***	0.0571*	0.139***	-0.140***	0.0590*	0.0727**	-0.0465*	-0.006	1.000			
19PFWN	-0.016	-0.022	0.018	0.123**	0.0884***	-0.0677**	-0.0966***	0.006	-0.0605*	0.240***	-0.038	0.446***	0.222***	0.011	0.015	-0.101***	0.102***	-0.0675**	1.000		
20REP	0.002	-0.001	0.044	0.035	0.033	-0.212***	-0.213***	-0.247***	-0.001	-0.031	0.163***	0.163***	0.027	-0.005	0.041	-0.0456*	-0.042	-0.0681**	0.147***	1.000	
21BGD	0.026	0.021	-0.022	0.010	-0.016	0.119**	0.127***	0.112**	0.112**	-0.0880***	-0.0457**	-0.033	0.039	-0.036	0.039	-0.034	-0.0594*	-0.0691**	0.025	-0.043	

This table presents the correlations between the variables previously defined. Five metrics are used for company value. VALUE1 is defined as the equity-market value plus total debt over the total value of assets (Tobin's Q). VALUE2 is defined as the equity-market value plus total liabilities over the total value of assets (Tobin's Q). VALUE3 is calculated as an adjusted measure of Tobin's Q (adjusted by the average of the industrial sector and year). VALUE4 is the natural logarithm of VALUE1. VALUE5 is the natural logarithm of VALUE2. FOUNDFAM is a dummy variable that takes a value of 1 if the firm is controlled by the founding family and 0 otherwise. OWNFOUNDAM indicates the ownership percentage of the founding family. FOUNDFAM is a dummy variable that takes a value of 1 if the founder serves as CEO or chairman of the board, and 0 otherwise. DESC is a dummy that takes a value of 1 if a descendant of the founder serves as CEO or chairman of the board. BUSGROUP is a dummy variable that takes a value of 1 if the firm belongs to a business group. FAM is a dummy variable that takes a value of 1 if the firm is controlled by one or more families and 0 otherwise. Control variables are also included, such as the size of the company (SIZE), indebtedness (LEV), profitability (ROA), tangibility (TANG), risk (Z), growth opportunities (CAPEX), ownership concentration (OWN), pension funds' ownership (PFWN), reputation (REP), and board gender diversity (BGD). *** indicates statistical significance at 1%, ** at 5%, and * at 10%, respectively.

Source: Authors' calculations.

Table 5. Family firm and performance.

VARIABLES	(1) VALUE1	(2) VALUE2	(3) VALUE3	(4) VALUE4	(5) VALUE5
OWNFOUNDAM	3.1938*** (9.8040)	4.0598*** (12.1751)	3.8738*** (15.6146)	2.1437*** (8.0599)	2.1440*** (8.2872)
OWNFOUNDAM2	-4.0622*** (-9.1659)	-5.2151*** (-11.8247)	-4.7318*** (-15.5724)	-2.9082*** (-9.2105)	-2.8164*** (-8.9067)
Extreme Point OWNFOUNDAM	0.3931***	0.3892**	0.4093***	0.3686***	0.3806***
OWN	-9.6788*** (-27.2556)	-9.8634*** (-25.6948)	-10.7438*** (-30.6358)	-4.8936*** (-18.1766)	-3.1143*** (-17.5479)
OWN2	8.0838*** (23.3639)	8.3598*** (23.6054)	9.2794*** (29.4836)	4.3389*** (18.3213)	2.7201*** (18.7975)
Extreme Point OWN BUSGROUP	0.5987***	0.5899***	0.5789***	0.5639***	0.5725***
BUSGROUP	-0.0088 (-0.2102)	-0.0639 (-1.3442)	0.0082 (0.2499)	-0.5064*** (-13.9064)	-0.3780*** (-12.3276)
SIZE	-0.1479*** (-14.4594)	-0.1276*** (-9.4734)	-0.1490*** (-13.7330)	-0.0290*** (-2.6382)	0.0005 (0.0609)
LEV	1.4450*** (33.8862)	1.0692*** (25.1519)	1.6310*** (35.8140)	1.6096*** (25.7294)	0.5360*** (24.5536)
ROA	1.0563*** (14.6226)	0.9537*** (16.2153)	0.7995*** (11.9842)	0.8984*** (14.7182)	0.5724*** (13.4174)
TANG	-0.8356*** (-10.3061)	-0.9844*** (-12.7451)	-0.9950*** (-16.9795)	-0.1108** (-2.4745)	-0.2082*** (-3.7146)
RISK	0.0767*** (41.8782)	0.0647*** (45.5646)	0.0577*** (36.2143)	0.0483*** (55.4783)	0.0212*** (29.1539)
CAPEX	2.1391*** (11.7712)	2.5541*** (14.3189)	2.0144*** (10.8483)	1.6420*** (11.5414)	1.3898*** (12.1300)
PFOWN	3.9230*** (12.2971)	3.9248*** (10.8467)	2.3977*** (8.3159)	3.2139*** (10.6741)	2.2987*** (9.8358)
REP	0.1416*** (5.7562)	0.1619*** (7.8152)	0.2058*** (8.6998)	-0.0434 (-1.3971)	0.0020 (0.1458)
BGD	-0.6700*** (-7.9235)	-0.8835*** (-11.0094)	-0.2719*** (-3.7447)	-0.7686*** (-12.6523)	-0.7339*** (-17.0644)
Intercept	4.4387*** (20.3196)	4.6898*** (19.9723)	3.5044*** (17.2981)	1.1607*** (6.9011)	0.9987*** (7.1811)
Observations	1,901	1,901	1,901	1,901	1,901
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
AR(2)	1.907	1.686	1.154	3.794	3.864
Hansen	130.3	136.3	131.3	147.2	142
F-test	9712***	16008***	5395***	1023***	579.4***
Lind-Mehlum OWNFOUNDAM	8.43	11.34	14.35	8.06	8.29
Lind-Mehlum OWN	17.43	18.56	25.89	16.08	17.08

The coefficients (*t*-statistics) arise from the regressions of panel data estimated by means of generalised method of moments. The variables used are previously defined. *** indicates statistical significance at 1%, ** at 5%, and * at 10%.

Source: Authors' calculations.

family or otherwise) (*FAM*). According to our results, a firm's affiliation with a business group reduces firm value, although this result could be considered inconclusive because the variable is significant only in two models. In a previous empirical study of Chilean firms, Fariás (2014) finds that business groups can improve or reduce the performance of their affiliated firms by modifying their characteristics, such as management concentration or degree of specialisation. Given the relevance of business groups in Chilean capital markets (Khanna & Palepu, 1999, 2000; Silva et al., 2006), they cannot be ignored when explaining firm value. As for family firms, the

Table 6. Family firm and performance.

VARIABLES	(1) VALUE1	(2) VALUE2	(3) VALUE3	(4) VALUE4	(5) VALUE5
OWNFOUNDAM	3.0005*** (10.1789)	3.6399*** (12.9672)	3.7463*** (11.8946)	2.5922*** (10.1646)	2.1471*** (11.2014)
OWNFOUNDAM2	-4.1344*** (-10.0214)	-4.7878*** (-13.4727)	-4.8273*** (-12.5800)	-3.2749*** (-10.8688)	-2.7660*** (-11.5337)
Extreme Point OWNFOUNDAM	0.3629***	0.3801***	0.3880***	0.3958***	0.3881***
OWN	-10.4566*** (-32.5006)	-10.4954*** (-27.1688)	-11.7183*** (-27.2589)	-5.0923*** (-17.9605)	-3.3954*** (-18.1405)
OWN2	8.9186*** (29.5450)	8.7815*** (23.5870)	10.1917*** (26.3847)	4.5691*** (18.4305)	2.9759*** (18.6704)
Extreme Point OWN FAM	0.5862*** 0.2206*** (3.2469)	0.5976*** 0.1353** (2.0368)	0.5749*** 0.2344*** (3.4941)	0.5572*** -0.0279 (-0.4184)	0.5705*** -0.0108 (-0.2169)
SIZE	-0.1576*** (-12.2965)	-0.1329*** (-11.3524)	-0.1451*** (-13.2789)	-0.0524*** (-6.3930)	-0.0131* (-1.7301)
LEV	1.4865*** (36.0909)	1.0932*** (33.3407)	1.6589*** (44.1198)	1.6680*** (29.0036)	0.5776*** (19.9073)
ROA	0.9517*** (11.6205)	0.9485*** (14.8305)	0.7698*** (11.9558)	0.8878*** (16.0785)	0.4516*** (12.7937)
TANG	-1.0156*** (-11.5406)	-1.0096*** (-11.0015)	-1.0372*** (-14.4040)	-0.1001** (-2.3519)	-0.2115*** (-4.1950)
RISK	0.0730*** (45.2939)	0.0626*** (33.3855)	0.0562*** (31.3617)	0.0475*** (49.2329)	0.0198*** (36.0522)
CAPEX	2.5328*** (11.6690)	2.5036*** (13.1375)	2.1232*** (12.1222)	2.0498*** (16.7230)	1.6352*** (17.3354)
PFWON	4.1727*** (13.0187)	3.7245*** (11.8016)	2.3879*** (7.5661)	2.6492*** (9.7070)	1.9392*** (9.0711)
REP	0.1160*** (3.7294)	0.1292*** (5.2503)	0.1485*** (6.1770)	-0.0468* (-1.7576)	0.0175 (1.4338)
BGD	-0.7156*** (-8.7574)	-0.7848*** (-9.2496)	-0.1014 (-1.3716)	-0.6107*** (-10.1797)	-0.5677*** (-12.5340)
Intercept	4.6907*** (23.1699)	4.8964*** (20.9143)	3.7630*** (16.2843)	1.0392*** (6.6426)	0.8640*** (6.1531)
Observations	1,901	1,901	1,901	1,901	1,901
Year FE	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES
AR(2)	2.016	1.720	1.244	3.705	3.959
Hansen	130	138.7	130.1	144.9	140.4
F-test	4289***	6341***	4351***	1984***	2276***
Lind-Mehlum OWNFOUNDAM	9.47	12.61	11.89	10.16	11.17
Lind-Mehlum OWN	23.10	17.85	23.55	17.25	15.60

The coefficients (*t*-statistics) arise from the regressions of panel data estimated by means of generalised method of moments from equation (1). The variables are previously defined. *** indicates statistical significance at 1%, ** at 5%, and * at 10%.

Source: Authors' calculations.

coefficient on *FAM* is positive (Bonilla et al., 2010; Martínez et al., 2007) in three of the five models, as shown in Table 6.

The control variables show the signs we expected based on the literature. Leverage (*LEV*), profitability (*ROA*), capital investment (*CAPEX*), ownership by pension fund managers (*PFWON*), and firm reputation (*REP*) have positive and statistically significant influence on the various measures of firm value. Long-term project financing is a common pattern in family businesses because of their long-term orientation (Crocì et al., 2011; Le Breton-Miller & Miller, 2018). In fact, according to Crocì et al. (2011),

family firms are more likely to issue debt than equity to avoid diluting or relinquishing control. Indeed, studying a sample of Australian companies, Setia-Atmaja et al. (2009) suggest that family-controlled firms use debt in mitigating the families' expropriation of minority shareholders' wealth. Additionally, we observe that the better the credit-rating score (*RISK*), the higher the probability a firm will issue equity, which implies a positive market perception of the firm. Our findings also reveal that a profitable company (*high ROA*) is more likely to trade at a premium compared with less profitable ones. Companies that make larger capital investments (given the existence of greater growth opportunities, and as measured by *CAPEX*) and companies with lower risk benefit the most in terms of market valuation. The estimated coefficients of *OWN* and *OWN*² (see Tables 5 and 6) are negative and positive, respectively, indicating that ownership by the controlling shareholder has a nonlinear (U-shaped) influence on firm value. This allows us to say that as ownership by the controlling shareholder decreases, the value of the company falls at first and then begins to increase. This finding is valid in the Chilean context, in which legal protection of minority investors is relatively weak and must be complemented by controlling shareholders. This result is comparable with the finding of Saona et al. (2020) concerning Latin American companies; namely, ownership concentration is not efficient enough of a governance mechanism to maximise the value for all shareholders. They argue that the market penalises companies with a subsequent loss of firm value when their ownership concentration is low. As predicted in the literature on Chilean capital markets, governance by pension fund investors (*PFOWN*) mitigates agency risk (Jara et al., 2019), which enhance firm value.

Table 7 shows the effect on firm value when the CEO or chairman of the board is the founder or their descendant. The first three models analyse the impact of the founder (*FOUND*) as CEO or chairman on firm value, while the last three models analyse the impact of descendants (*DESC*) on firm value. The three metrics of firm value used in this table increase when the founder holds the position of CEO or chairman of the board. This is evidence that agency conflicts are mitigated when the founder holds a senior position. This finding is consistent with the international empirical evidence (Adams et al., 2009; Anderson & Reeb, 2003; Andres, 2008; Fahlenbrach, 2009; Villalonga & Amit, 2006). According to He (2008) and Poutziouris et al. (2015), conflicts of interest may be mitigated by the founder's commitment and loyalty to the business. This is noteworthy because the presence of the founder in a managerial role benefits the company as reflected in its market value. The evidence shows that the presence of the founder makes the organisation more coherent, which mitigates agency problems and triggers value creation. These results confirm hypothesis 2. Regarding the rest of the control variables, the results are in line with those previously described.

The last three models of Table 7 test the impact of the presence of a descendant of the founder on the value of the firm (hypothesis 3). The dummy variable (*DESC*) indicates whether any descendant holds the position of CEO or chairman of the board. We observe that when a descendant does hold such a position, it has a significantly negative impact on firm value, as suggested by other authors (Li & Srinivasan, 2011; Miralles-Marcelo et al., 2014; Villalonga & Amit, 2006). These findings, together

Table 7. Impact of the founder's and descendant's presence on firm value.

VARIABLES	(1) VALUE1	(2) VALUE2	(3) VALUE3	(4) VALUE1	(5) VALUE2	(6) VALUE3
FOUND	0.6301*** -6.8786	0.6478*** -7.1689	0.5668*** -7.9749			
DESC				-0.1974*** (-2.7043)	-0.1665** (-2.2979)	-0.2802*** (-4.2810)
OWN	-10.0194*** (-27.9340)	-9.9147*** (-25.1989)	-10.4200*** (-27.8647)	-10.3059*** (-30.4757)	-10.1789*** (-25.3042)	-11.3106*** (-27.6259)
OWN2	8.4097*** -25.4877	8.1354*** -21.7686	8.7619*** -24.4238	8.5400*** -30.1887	8.3765*** -23.2475	9.6532*** -28.6137
Extreme Point OWN	0.5957***	0.6094***	0.5946***	0.6034***	0.6076***	0.5858***
FAM	0.0385 -0.6533	-0.0856 (-1.3827)	0.0773 -1.405	0.2039*** -3.451	0.1217* -1.9309	0.2084*** -3.0751
SIZE	-0.1616*** (-16.8080)	-0.1329*** (-12.4111)	-0.1260*** (-11.4319)	-0.1638*** (-17.6575)	-0.1449*** (-12.0509)	-0.1395*** (-13.6555)
LEV	1.7558*** -38.8121	1.3970*** -36.4139	1.8845*** -47.6744	1.6846*** -44.6943	1.3699*** -37.9109	1.8670*** -51.2997
ROA	1.1442*** -20.3315	1.1071*** -25.6114	0.8749*** -12.693	1.1925*** -17.7189	1.1427*** -19.1861	0.9801*** -14.821
TANG	-0.8659*** (-11.2292)	-0.9067*** (-13.3898)	-1.0599*** (-19.7626)	-0.8643*** (-11.9195)	-0.9255*** (-14.1432)	-1.0983*** (-15.1182)
RISK	0.0763*** -42.8483	0.0661*** -36.2557	0.0599*** -45.3567	0.0725*** -42.0162	0.0625*** -31.7234	0.0585*** -43.5266
CAPEX	2.0855*** -11.0324	2.1655*** -13.3716	1.8874*** -11.0789	1.9582*** -9.5493	2.3722*** -12.6886	2.0749*** -13.9181
PFOWN	2.9274*** -7.8079	2.1610*** -6.071	1.4084*** -4.5118	3.7018*** -9.9482	2.7716*** -7.4475	2.2890*** -7.1038
REP	0.2203*** -8.0315	0.2170*** -10.7972	0.2485*** -12.1771	0.1746*** -5.7218	0.2142*** -8.1686	0.2152*** -7.4597
BGD	-1.0984*** (-12.5243)	-1.2900*** (-20.0031)	-0.4846*** (-5.8495)	-1.0816*** (-14.6274)	-1.2542*** (-14.9530)	-0.4714*** (-7.4205)
Intercept	4.1238*** -21.6469	4.3652*** -20.8109	2.9646*** -16.4585	4.4633*** -19.6322	4.6460*** -20.4672	3.5246*** -13.8822
Observations	1901	1901	1901	1901	1901	1901
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
AR(2)	2.323	2.104	1.681	2.038	1.858	1.342
Hansen	133.5	136.4	130.5	131.4	132	141.2
F-test	7132***	30426***	2307***	14012***	31698***	9845***
Lind-Mehlum OWN	21.02	16.53	19.56	26.36	19.33	22.67

The coefficients (*t*-statistics) arise from the regressions of panel data estimated by means of generalised method of moments from equation (2). The variables are previously defined. *** indicates statistical significance at 1%, ** at 5%, and * at 10%.

Source: Authors' calculations.

with those reported in Tables 6 and 7, corroborate the idea that founders are a central element in family businesses. When a founder holds a decision-making position, firm value rises; when they are no longer in such a position, the market stops rewarding the company and instead applies a discount.

These results are related to agency theory, as they suggest that the founder's successors do not have the same business vision as the founder. As a result, they could transfer wealth from the company into their individual portfolios, or nepotism in management could ultimately reduce firm value.

Table 8 includes all variables related to founding-family firm to show in aggregate form all the individual variables' impacts on firm value. The results are consistent with those in previous tables: (a) founding-family ownership has an inverse U-shaped

Table 8. Combined impact of the founding-family variables on firm value.

VARIABLES	(1) VALUE1	(2) VALUE2	(3) VALUE3	(4) VALUE1	(5) VALUE2	(6) VALUE3
FOUND	0.6286*** (5.3658)	0.6815*** (7.7433)	0.4517*** (6.7439)			
DESC				-0.3294*** (-4.2884)	-0.3862*** (-4.6018)	-0.3666*** (-4.9381)
OWNFOUNDAM	2.0260*** (6.0572)	3.0986*** (9.0022)	3.1708*** (7.5741)	3.7786*** (10.3639)	4.4335*** (10.7046)	4.5873*** (12.5450)
OWNFOUNDAM2	-2.8153*** (-6.5041)	-4.2357*** (-9.4527)	-4.4570*** (-8.8569)	-4.5869*** (-10.7370)	-5.4597*** (-11.2273)	-5.5663*** (-13.2266)
Extreme Point OWNFOUNDAM	0.3598***	0.3658***	0.3557***	0.4119***	0.4060***	0.4121***
OWN	-10.3230*** (-27.4751)	-10.0529*** (-22.3067)	-11.4991*** (-24.6995)	-10.4274*** (-28.5416)	-10.4279*** (-25.8344)	-11.4351*** (-27.2678)
OWN2	8.7613*** (26.0537)	8.5406*** (20.2151)	9.9437*** (22.9229)	8.9325*** (24.7623)	8.8371*** (23.1680)	10.0363*** (25.5852)
Extreme Point OWN FAM	0.5891*** (1.5800)	0.5885*** (0.1127)	0.5782*** (1.7358)	0.5837*** (2.2629)	0.5900*** (1.0370)	0.5697*** (3.2733)
SIZE	-0.1467*** (-13.6524)	-0.1281*** (-10.0648)	-0.1308*** (-10.1019)	-0.1587*** (-13.1230)	-0.1308*** (-10.5077)	-0.1555*** (-17.5991)
LEV	1.6128*** (33.3225)	1.2806*** (30.0391)	1.7423*** (41.7811)	1.6335*** (38.3012)	1.2416*** (34.3956)	1.8315*** (40.4840)
ROA	1.0669*** (15.1805)	0.9676*** (16.5816)	0.7342*** (9.9180)	1.0955*** (14.8478)	0.9912*** (16.6485)	0.6946*** (10.2038)
TANG	-0.8627*** (-9.8755)	-1.0672*** (-12.7465)	-1.0703*** (-16.3757)	-0.9294*** (-10.2561)	-0.9963*** (-10.7330)	-0.9972*** (-17.4626)
RISK	0.0749*** (33.6286)	0.0636*** (30.1270)	0.0544*** (28.6089)	0.0726*** (35.2146)	0.0632*** (34.4770)	0.0550*** (30.8467)
CAPEX	2.0968*** (10.3080)	2.5189*** (12.8958)	1.9338*** (14.3798)	2.4743*** (11.6414)	2.6492*** (12.6341)	2.0403*** (14.4129)
PFOWN	3.1640*** (6.8444)	2.8085*** (6.9108)	1.8037*** (5.3627)	3.6883*** (9.6019)	3.6481*** (10.4826)	2.1678*** (6.3359)
REP	0.1724*** (6.9853)	0.2132*** (11.1803)	0.1871*** (7.0214)	0.1906*** (6.6021)	0.1985*** (8.6806)	0.1741*** (6.9567)
BGD	-0.8725*** (-7.5541)	-1.1589*** (-13.2849)	-0.3755*** (-5.4856)	-0.8893*** (-9.6959)	-0.9580*** (-10.4320)	-0.2675*** (-4.7532)
Intercept	4.2639*** (17.5637)	4.3677*** (18.3664)	3.6222*** (13.2549)	4.2536*** (20.0636)	4.4848*** (18.6595)	3.5460*** (16.8417)
Observations	1,901	1,901	1,901	1,901	1,901	1,901
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
AR(2)	2.328	2.236	1.597	2.304	2.072	1.577
Hansen	133.5	133.1	128.6	129.8	137.7	123.6
F-test	6173***	29130***	3600***	8188***	8310***	1579***
Lind-Mehlum OWNFOUNDAM	6.06	9.00	7.57	10.36	10.70	12.55
Lind-Mehlum OWN	20.76	16.07	19.36	19.30	17.54	21.71

The coefficients (*t*-statistics) arise from the regressions of panel data estimated by means of generalised method of moments from equation (2). The variables are previously defined. *** indicates statistical significance at 1%, ** at 5%, and * at 10%.

Source: Authors' calculations.

relation with firm value; (b) the presence of the founder in a decision-making position has a positive and statistically significant impact on firm value; (c) the presence of the founder's descendant as the CEO or chairman of the board reduces the value of the firm, which suggests that the market penalises the departure of the founder.¹¹

5. Conclusions

In this study, we analysed the impact of founding-family control and intergenerational succession on the firm value of nonfinancial Chilean listed companies. This study delved into the definition of a family business and focused on founding-family control. The concentration of ownership of Chilean firms and the dominant power exercised by Chilean family firms through pyramidal structures motivated us to study how family ownership diminishes or exacerbates different agency problems. Thus, our work expands the literature on family businesses in Latin America. We reject other papers' finding of a linear relationship between founding-family ownership and firm value (Bonilla et al., 2010; Martínez et al., 2007; San Martín-Reyna & Durán-Encalada, 2012) in favour of a quadratic relationship.

The results show that the relationship between founding-family ownership and firm value is not linear but has an inverse U shape. The positive impact of founding-family ownership on firm value becomes negative after a certain point. This means that beyond that point, founding-family ownership gives the family the power and incentives to increase personal profits at the expense of the company or the rest of the shareholders. In emerging economies, when controlling families' ownership stakes are concentrated, they use their participation in the management and control of the company to increase their own utility.

We also respond to the call of Jara et al. (2021) and Torres et al. (2017) by investigating intergenerational succession's impact on firm value. We found that when the CEO or chairman of the board is the founder, firm value increases. This is because in founding-family-owned firms, the founder is aware that they will hold the position for a prolonged period and has the reputation and wealth of the family in their hands. Consequently, they work efficiently, which boosts firm value. In other words, the market captures this information and awards a premium to the firm's market value. This is consistent with González et al. (2012) finding, regarding a sample of Colombian companies, that the founder, when acting as CEO, improves performance. We thus corroborate the idea that the founder is a key factor in determining the market perception of a company.

Our work has significant implications for regulators and managers of family firms. It is essential to consider that family ownership is not a control mechanism in all contexts. Our evidence suggests that high ownership concentration destroys firm value. Therefore, regulators must anticipate opportunistic behaviour by large controllers and must apply corporate-governance mechanisms. Although Chile has made significant progress in corporate-governance matters (for example, enacting Law No. 19,705, Law No. 20,382, Rule No. 341, and Rule No. 385), its legal system still only weakly protects minority shareholders. Thus, current measures, such as the requirement to have at least one independent director in a large listed company or the requirement to make a public offering of shares when the controller reaches two-thirds of the voting shares, seem insufficient to limit the power (and change the incentives) of large shareholders to extract wealth from the rest of the shareholders and minority claimants.

Our research also contributes to the work of financial managers. As mentioned above, the power that comes with a high degree of family ownership and the pursuit

of financial and personal benefits diminishes a company's market valuation. Therefore, the desire to pass on the family's source of income to the next generations is jeopardised. Additionally, the results provide an incentive to design more value-focused strategies of intergenerational succession. Specifically, we suggest that professional managers who are external to the family but have the necessary tools and capabilities to lead the company should prevail over family members who see the company as only a wealth generator.

Our results are equally applicable to other emerging economies with similar characteristics. For example, family firms are the most common type of company also in Latin American countries (Poletti-Hughes & Williams, 2019). Additionally, most countries in Latin America exhibit high ownership concentration and weak investor protection (Chong & Lopez-De-Silanes, 2007). The nonlinear relationship of family involvement and various financial aspects has already been tested for in emerging economies—for example, Poletti-Hughes and Williams (2019) for Mexico, Duran and Ortiz (2020) for Chile, and Hegde et al. (2020) for India.

The major limitations of this research are related to the inadequacy of information on, for example, specific attributes of intergenerational succession and its implications for the value of Chilean firms, such as education level of the descendant, whether they are a blood relative or an in-law, and the descendant's gender, age, and transactions with related parties. These aspects have not been explored yet for Chilean companies, which consequently presents a future research opportunity. Another unexplored field concerns family relations within and between companies and how family ties extend to the board of directors or management. Our analysis assumes families are not engaging in empire building and that the families controlling different companies are not related. The assumption of independent founding families may not apply to Chile given the existence of family business groups and given their networking (Saona et al., 2018). Hence, further analysis might shed light on the power that families may have when their networks extend beyond immediate family members.

Notes

1. The Commission for the Financial Market is the main financial-market regulator in Chile (www.cmfchile.cl).
2. Daspit et al. (2016) supply a comprehensive and insightful literature review on management succession in family firms as supported by social-exchange theory. The authors primarily deal with intrafamily succession from parents to offspring, but they also deal with management succession involving other stakeholders in family firms.
3. This is a government agency that records information regarding vital matters such as births, deaths, marriages, identity, and nationality.
4. According to the Santiago Stock Exchange's 2019 annual report, the market capitalisation in 2019 was US\$205.798 million. Our sample amounted to a market capitalisation of US\$160.480 million in that fiscal year.
5. According to the Santiago Stock Exchange's 2019 annual report, there were 203 listed companies on the main exchange of Chile that year. Our sample includes 160 publicly listed companies.
6. Four steps were taken to identify the controllers of founding-family firms. The first step was to request the articles of incorporation of listed firms from the Documentary Center

of the Commission for Financial Market. In doing so, we were able to determine the name(s) of the founder(s). The second step was to draw up the family tree of the family. For this, we used information from the company's website and annual report and from the Civil Registration and Identification Service (a Chilean public entity that provides information on civil status, births, marriages, and deaths, among other things). The third step was to review the annual reports to identify the controlling shareholder. Finally, the fourth step was to establish whether the controlling shareholder (step 3) was the founder (step 1) or a member of the founding family (step 2). This methodology is comparable with that in previous literature focused on economies with high ownership concentration (Briano-Turrent et al., 2020; Caprio et al., 2011; García-Ramos & García-Olalla, 2011; Jong & Ho, 2019; Poletti-Hughes & Williams, 2019; Samara & Berbegal-Mirabent, 2018).

7. The family-firm variable identifies companies controlled by a family, regardless of whether it is the founding family.
8. Given that the original Arellano and Bond (1991) estimation system can perform poorly if the ratio of the variance of the panel-level effect to the variance of the idiosyncratic error is too large (López-Iturriaga & Santana-Martín, 2015), Arellano and Bover (1990) and Blundell and Bond (1998) developed the two-stage GMM-SE, which improves on the original Arellano and Bond (1991) technique by expanding the instrument lists to include instruments in levels and instruments in differences.
9. By construction, increases as default risk decreases and vice versa.
10. The extreme point of 39.31 percent of *OWNFOUNDFAM* is computed when the regression in model 1, table 5 is optimised by computing the first derivative of *VALUE1* with respect to *OWNFOUNDFAM*. Hence, model 1 would be expressed as $VALUE1 = 4.4387 + 3.1938 \times OWNFOUNDFAM - 4.0622 \times OWNFOUNDFAM^2 + \text{other variables}$. And once it is derived with respect to *OWNFOUNDFAM* and equalised to 0 to optimize *VALUE1*, it takes the form $\partial VALUE1 / \partial OWNFOUNDFAM = 3.1938 - (2)4.0622 \times OWNFOUNDFAM = 0$. Finally, solving for, *OWNFOUNDFAM*, we obtained the extreme point at which *VALUE1* is maximised: 39.31 percent.
11. We used fixed effects (FE) and feasible generalised least squared (F-GLS) models as alternative econometric approaches for robustness checks. The FE model allowed us to deal with the time-invariant heterogeneity of firms in the sample, and the F-GLS model addressed minor heteroskedasticity problems in the FE outputs. Overall, the results were qualitatively comparable with those reported using the GMM-SE method.

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No potential conflict of interest was reported by the authors.

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