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Inheritance tax, shareholder protection, and the market value of family firms: A cross-country analysis

Marcelo Ortiz[1] | **Michael Carney**[2] | **Patricio Duran**[3] | **Matias Braun**[4] | **Julio Riutort**[5]

[1]Department of Economics and Business, Universitat Pompeu Fabra and Barcelona GSE, Barcelona, Spain

[2]John Molson School of Business, Concordia University, Montréal, Québec, Canada

[3]Boeing Institute of International Business, Chaifetz School of Business, Saint Louis University, St. Louis, Missouri

[4]ESE Business School, Universidad de Los Andes, Santiago, Chile

[5]Universidad Adolfo Ibáñez, Santiago, Chile

Correspondence
Patricio Duran, Boeing Institute of International Business, Chaifetz School of Business, Saint Louis University, 3674 Lindell Blvd., St. Louis, MO 63108.
Email: patricio.duran@slu.edu

Abstract

Research Summary: We examine the relationship among inheritance taxes, shareholder protection, and the family firms' market value. Drawing on the family firm, corporate governance, and institutional complementarities literature, we argue that inheritance taxes act as external corporate governance mechanisms for decoupling business families' socioemotional goals. However, this depends upon minority investor protections. In strong protection countries, the incentives for family self-governance created by high inheritance taxes are offset by the loss of business family autonomy inherent in strong shareholder protection. Using a sample of 284 firms across 31 countries, we provide support for these arguments. Results suggest that inheritance and shareholder protection laws are substitutive external corporate governance mechanisms to align business family and nonfamily shareholders' interests.

Managerial Summary: We investigate how inheritance taxes and shareholder protection laws interact to generate several outcomes that can benefit or harm family firms' market value. We argue that high rates of

inheritance taxes in a country push business families to focus more on firm value maximization and less on pursuing family-centric goals, thus increasing firm value. However, we further argue that the positive role of inheritance taxes on family firms' market value weakens when the country also exhibits strong shareholder protection laws. Therefore, inheritance and shareholder protection laws substitute for one another when they intersect in business families. We find evidence consistent with these ideas when examining a sample of publicly traded firms across 31 countries. Our results corroborate that policymakers' concerns regarding the protection of minority shareholders must not consider only investor protection laws, but also how investor protection interact with other institutions such as inheritance law.

KEYWORDS

corporate governance, family firms, firm market value, inheritance tax, institutions, shareholder protection

1 | INTRODUCTION

Does family control enhance or inhibit firm market value? Two contradictory views prevail in the literature. According to the agency and stewardship theories, we could expect a positive association between family control and firm market value due to the family firms' lower principal-agent costs relative to nonfamily firms, as well as business families' reputational concerns and long-term commitment to the firm (Villalonga & Amit, 2006; Zellweger, Nason, Nordqvist, & Brush, 2013). However, both agency and socioemotional wealth theories suggest a negative effect of family control on firm market value because of potential principal–principal conflicts between family owners and minority shareholders and the family owners' orientation to achieve family-centric or socioemotional goals (e.g., Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Morck & Yeung, 2003).

To reconcile these views, scholars have employed an institutional-based view of family firms. This literature suggests that macrolevel institutional factors, such as regulations, moderate the focal relationship (Berrone et al., 2020; Dow & McGuire, 2016; Duran, van Essen, Heugens, Kostova, & Peng, 2019). Although such institutional approach has contributed to reconciling ambiguous findings, however, this literature has ignored the crucial role of the "business family" behind the family firm and the specific institutions that directly relates to family-centric goals, such as the dynastic intentions of family owners (Nason, Mazzelli, & Carney, 2019). This is important since business family goals are a distinguishing feature of family firms and between family and nonfamily firms (Gersick, Davis, Hampton, & Lansberg, 1997). Understanding the performance consequences of institutions that affect

business family goals may provide a more coherent theoretical framework for the phenomenon. We address this gap by combining two institutions that affect families' decisions to hold or liquidate their ownership stakes, namely shareholder protection and inheritance tax laws. There is abundant literature on the role of shareholder protection on firm value (Franks, Mayer, Volpin, & Wagner, 2012). However, studies of inheritance taxes and their association with family firm valuations are sparse (but see Ellul, Pagano, & Panunzi, 2010; Tsoutsoura, 2015). This is surprising since inheritance taxes directly affect business families by depleting family owners' wealth to meet tax obligations and threatening their socioemotional wealth preservation goals.

We theorize and provide evidence that inheritance taxes and shareholder protection interact to generate several outcomes that can be either beneficial or detrimental to family firms' market value. Because family members hold altruistic, dynastic ambitions toward younger generations (Schulze, Lubatkin, & Dino, 2003) and family firms are known for their long-term orientation (Gentry, Dibrell, & Kim, 2016), they are likely to plan for the eventuality of these family events. These plans can be expected to influence a range of governance and strategic decisions (Zellweger, Richards, Sieger, & Patel, 2016) with significant consequences for the expected value of family firms in the eyes of external investors. In contrast with research that suggests inheritance taxes harm firm value by reducing the incentive to invest (Ellul et al., 2010; Tsoutsoura, 2015), we reason that inheritance taxes provide incentives to family leaders to pursue profitability as a self-protection mechanism to ensure funding to cover both future financial obligations and achieve long-term dynastic intentions. Consequently, inheritance taxes may reduce the family incentives to pursue family-centric objectives that might harm firm value in the short run. Thus, inheritance tax laws act as an important enabler of market value in family firms and constitute a relevant component of the set of external corporate governance mechanisms that help align the interests of the business family with those of nonfamily shareholders. However, we reason that the positive interaction of inheritance taxes with the family firm–firm value relationship will depend upon the rules protecting minority investors. In regimes with strong shareholder protection, the goals of different investors will align, and thus inheritance taxes will become redundant concerning increasing the firm's value. We test our ideas using a sample of 284 firms across 31 countries.

We offer two related contributions. First, we contribute to the institutional-based view of the firm (Cuervo-Cazurra, Mudambi, & Pedersen, 2019; Duran et al., 2019; Martin, 2014; Peng, Sun, Pinkham, & Chen, 2009) by disentangling institutions based on different strands of institutional theory concerning institutions that operate in different spheres of economic and social phenomena (Aguilera & Grøgaard, 2019). Inheritance tax regimes operate in the sphere of the family (Carney, Gedajlovic, & Strike, 2014), whereas shareholder protection rules operate in the sphere of the firm and are shaped by different legal traditions and institutional logics (Greenwood, Díaz, Li, & Lorente, 2010). In particular, we study institutional complementarities (Abdi & Aulakh, 2012; Luiz, Stringfellow, & Jefthas, 2017; Zhou & Guillén, 2019) and we theorize that inheritance tax and shareholder protection institutional mechanisms may substitute for one another when they intersect in organizational settings such as business families.

Second, we contribute to the family business literature by bringing business families to the forefront of the analysis. In particular, we address the heterogeneity of business families situated in differing institutional settings (Chua, Chrisman, Steier, & Rau, 2012). We provide theoretical insight into the complex trade-offs for business families where inheritance tax and shareholder wealth protection affect family firms' ability to realize their economic and socioemotional goals. We consider how jurisdiction-specific interactions are likely to affect family firms' abilities to achieve both objectives. We extend understandings of the association among

inheritance tax, capital market institutions, and family ownership. While much is known about the direct impact of capital market institutions, we know less about how inheritance plays into firm and national level consequences of the two together despite vibrant debate among policymakers about the socioeconomic impact of inheritance taxes (Beckert, 2004). Our findings shed light on how contemporary theories of business family behavior such as socioemotional wealth (Gómez-Mejía et al., 2007), agency (Morck & Yeung, 2003), and stewardship (Miller & le Breton-Miller, 2005) perspectives might provide a better account of their goals and strategic choices in particular jurisdictions. The theoretical significance of the latter suggests that the power and relevance of different family firm theories are likely to be context-dependent since the realization of a family's financial and socioemotional utilities will differ across national jurisdictions.

2 | THEORY AND HYPOTHESES

2.1 | Family firms and market value

Two contradictory perspectives of family control and firm market value are prominent in the literature. One view drawn from the agency and stewardship theories suggests that family involvement acts as an effective internal governance mechanism that has beneficial effects on the firm's market value (Villalonga & Amit, 2006). First, family owners' presence in governance mitigates principal-agent problems since families have greater incentives to monitor the behavior of managers (Demsetz & Lehn, 1985) and minimize the free-rider problem associated with ownership (Anderson & Reeb, 2003). Second, family owners have a long-term commitment to the firm's success with the bureau of safeguarding the firm survival for future generations (Wilson, Wright, & Scholes, 2013). Family concern for future generations will manifest in a longer-term investment horizon and patient capital that encourages explorative behavior and innovative strategies (Sirmon & Hitt, 2003). Third, family owners' will be concerned with protecting their reputation, which fosters a stewardship perspective and may be manifested in the avoidance of minority shareholder expropriation (Zellweger et al., 2013).

The second, polar, view drawn from the agency and socioemotional wealth theories sees family involvement as a drag on firm market value. First, family owners are said to pursue their socioemotional wealth objectives, such as the ability to exercise family influence and the perpetuation of the family dynasty (Gómez-Mejía et al., 2007). To achieve socioemotional goals, family owners make strategic decisions that perpetuate the firm's family control with a variety of negative consequences (Schulze, Lubatkin, Dino, & Buchholtz, 2001). The pursuit of socioemotional objectives exacerbates principal–principal conflicts since family members may pursue their private benefits at the expense of the firm and minority shareholders (Luo & Chung, 2013). They may also make suboptimal investment decisions in the eyes of nonfamily shareholders (Fama & Jensen, 1985), or operate inefficiently by favoring family members with little managerial talent (Caselli & Gennaioli, 2013).

However, the mixed evidence (O'Boyle, Pollack, & Rutherford, 2012) found in the research suggests the effect of family control on firms' market value represents a substantially more complex phenomenon than previously understood (Duran & Ortiz, 2020). Recently, scholars have adopted an institutional perspective to explain the observed variability in the market value of family firms across jurisdictions (e.g., Berrone et al., 2020; Dow & McGuire, 2016; Duran et al., 2019). Here country-level institutional approaches have helped understand the crucial

role of the context behind the family control-firm performance relationship. For example, Dow and McGuire (2016) show that both legal context (e.g., the rule of law, investor protection) and national culture (e.g., uncertainty avoidance) can act as external governance mechanisms that help mitigate the misalignment between family and nonfamily shareholders. These authors suggest that stringent regulations safeguard against family opportunism and the investment strategy of family firms becomes more closely aligned with investors in high uncertainty avoidance countries, thus reducing principal–principal conflicts. We propose to extend this line of reasoning to the role of inheritance tax laws on the family firm–market value relationship and examine its substitute relationship with investor protection institutions. To do so, we draw from the agency, socioemotional wealth, and stewardship theories along with the institutional view of the firm.

2.2 | Inheritance taxes

Inheritance taxes represent financial obligations that are part of the legal regime governing the transfer of assets to family heirs following the passing of a business family leader. These taxes can be substantial; following the death in 2019 of Cho Yang, chairman of the Korean Chaebol Hanjin Group, the family heirs were liable for $175 million (Korean Herald, 2019), shrinking the bereaved family's ownership stake in the group. Inheritance taxes include: (a) individual taxation of beneficiaries and (b) estate tax (i.e., tax on the transfer of the estate of a deceased person). Inheritance tax rates vary considerably across countries. The research reported in this article shows that inheritance tax rates could reach as high as 40% in the United States and are absent in countries such as Australia, Hungary, Mexico, and so forth.

The potential social and economic costs and benefits of inheritance tax in societies is a subject of heated debate (Beckert, 2004). High inheritance tax supporters argue that inheritance taxes are appropriate instruments to redistribute wealth and increase social equality (Piketty, 2014). In turn, opponents believe that inheritance taxes deplete sources of capital available for investment, reduce incentives to save, and promote excessive end of life consumption (Cagetti & Nardi, 2009), thereby reducing the incentive to accumulate property. Bertrand and Schoar (2006, p. 80) argue that "rigid inheritance rules may be constraining to family businesses," for example, aggressive inheritance taxes that reduce family wealth may generate intensive conflicts that spill over into business decision-making. Moreover, some research finds that inheritance taxes reduce families' incentives to reinvest in the firm (Ellul et al., 2010; Tsoutsoura, 2015).

High inheritance tax rates create direct and indirect costs in family successors that might put socioemotional objectives, such as keeping family control of the business and dynastic succession, at-risk (Burkart, Panunzi, & Shleifer, 2003). High inheritance tax rates may force family heirs to reallocate their capital, sell or even close their businesses and/or create obstacles to the intrafamily succession intentions (Brunetti, 2006; Grossmann & Strulik, 2010), which may be negatively associated with family firms' market value. Nevertheless, we reason that in some circumstances, high inheritance taxes may enhance incentives to maximize family firm value.

2.3 | Inheritance tax laws and the market value of family firms

Retaining family control of the business is a fundamental socioemotional goal of family owners (Berrone, Cruz, & Gómez-Mejía, 2012). Family members can achieve this goal by owning most

of the firm's shares and occupying senior governance and managerial roles. The presence of family members in senior roles enables family influence over the firm's strategic decisions (Gómez-Mejía, Makri, & Larraza-Kintana, 2010). It is often said that family owners will prefer conservative strategies that avoid entrepreneurial endeavors that pose a risk to their wealth (Arregle, Duran, Hitt, & van Essen, 2017; Duran, Kammerlander, van Essen, & Zellweger, 2016). Whereas conservative risk preference may be rational for the family, who concentrate their wealth in the firm (Anderson, Mansi, & Reeb, 2003), diversified minority nonfamily shareholders may differ in their risk preferences.

More often, nonfamily shareholders perceive socioemotional goals as a source of nepotism, family conflict, incompetency, and significant opportunism risk that might harm the family firm's efficiency and competitive advantage (Carney, 2005). We argue that in contexts typified by high inheritance taxes, family members' awareness about future tax obligations makes the family less prone to pursue socioemotional goals and more willing to emphasize financial wealth. Therefore, inheritance tax laws act as a relevant legal institution and external corporate governance mechanism that creates incentives for minority shareholders to invest in family firms.

It is commonly argued that many families concentrate a significant part of their wealth in the family firm (Anderson et al., 2003). For this reason, family owners may face liquidity constraints when confronted with high tax obligations caused by the future death of the business family leader (Astrachan & Tutterow, 1996).[1] To meet their inheritance tax obligations, family owners collect more cash flow from firms' revenues (e.g., cash dividends) to low the risk of future financial distress. Gómez-Mejía et al. (2010) argue that in family firms that face hazards that threaten survivability, family owners are more willing to accept greater risk to preserve their socioemotional wealth utilities. We argue that, in this scenario, minority shareholders react positively since family members will tend to favor strategic decisions that are better aligned with the interests and expectations of nonfamily shareholders and thus mitigate principal–principal conflicts. In other words, nonfamily investors will expect higher operating efficiency, more investment in new products and promotion, and higher risk-taking behavior (Miller, le Breton-Miller, & Lester, 2013).

In sum, inheritance tax laws are institutions that create incentives for outsiders to invest in family firms since they act as an important institutional roadblock to family-centric objectives. In this sense, inheritance taxes act as external corporate governance mechanisms for decoupling socioemotional goals of family control over the firm, thus reducing principal–principal conflicts between family and nonfamily shareholders and enabling minority shareholders to increase control of the family firm. Thus, we hypothesize that:

Hypothesis (H1) *Inheritance tax laws moderates the family firm–firm market value relationship. The higher the rates of inheritance tax, the higher the market valuation of family firms relative to nonfamily firms.*

2.4 | Shareholder protection laws and the market value of family firms

Shareholder protection laws are designed to protect shareholders against directors' misuse of corporate assets for personal gain (Djankov, la Porta, Lopez-de-Silanes, & Shleifer, 2008). These regulations help to "limit expropriation of minority shareholder wealth by promoting wider

shareholder involvement and input in corporate governance" (Dow & McGuire, 2016, p. 587). Countries adopt shareholder protection laws under the belief that minority investors can allocate resources efficiently (Guillén & Capron, 2016). There is a large body of evidence finding a positive relationship between minority shareholder protection and firms' value (see, e.g., Doidge, Karolyi, & Stulz, 2004; Klapper & Love, 2004; la Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2002). In the particular case of family ownership, there is evidence that family control is positively associated with firm value in contexts with high shareholder protection (Maury, 2006). In these countries, family owners are discouraged from pursuing socioemotional goals that reduce firm market value. Moreover, family owners act as monitors of the firm's managers, thereby minimizing principal-agent costs (Jensen & Meckling, 1976). Therefore, well-regulated capital markets limit family owners' autonomy in decision-making and allow minority shareholders to monitor the family for potential principal–principal problems (Young, Peng, Ahlstrom, Bruton, & Jiang, 2008), limiting both the consumption of private benefits and the extraction of minority shareholder wealth (Anderson & Reeb, 2003).

2.5 | The substitutive relationship between inheritance tax and shareholder protection laws on family firms' market value

The corporate governance literature suggests that governance mechanisms may act as substitutes, that is, they replace each other (Misangyi & Acharya, 2014). In this sense, notwithstanding the value of inheritance tax laws and shareholder protection outlined above, excessive regulations against family ownership may produce counterproductive effects on the firms' expected outcomes (Stevens, Kidwell, & Sprague, 2015). We follow this reasoning by suggesting that while both high inheritance taxes and shareholder protection have, in and of themselves, several beneficial economic consequences, the combination of the two may be redundant. In other words, inheritance taxes and shareholder protection laws can substitute each other to align goals between majority and minority shareholders.

We develop our arguments concerning the 2 × 2 matrix in Figure 1. Our hypothesis pertains to cell two of Figure 1, namely the combination of high inheritance tax and strong minority protection. However, we consider potential outcomes in the other cells to underscore the logic of our Hypothesis (H2).

First, we consider the case of low inheritance tax and weak shareholder protection (Cell 3 of Figure 1). Because inheritance tax is not an important contingency, it will not factor into families' governance or estate planning considerations. Thus, family owners are better placed to pursue dynastic intentions by passing control over the firm to the next generation (Gómez-Mejía et al., 2007). In parallel, with weak shareholder protection laws, family owners enjoy much more autonomy in decision-making (Djankov et al., 2008). Therefore, minority shareholders may be exposed to inherent principal–principal conflicts, and the market value of firms will be subject to a discount as minority investors' factor in the risk of expropriation (Claessens, Djankov, & Lang, 2000). In contrast, in a scenario with low or no inheritance tax and strong protection for shareholder value (Cell 1 of Figure 1), the opposite is the case. Strong protection for minority investors fuels capital market development and an active market for corporate control (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). In these settings, the value of the firm is more likely to be fully priced.

We consider business family owners incentives concerning maximizing firm value in a family business under conditions of high inheritance tax obligations (Cells 2 and 4 of

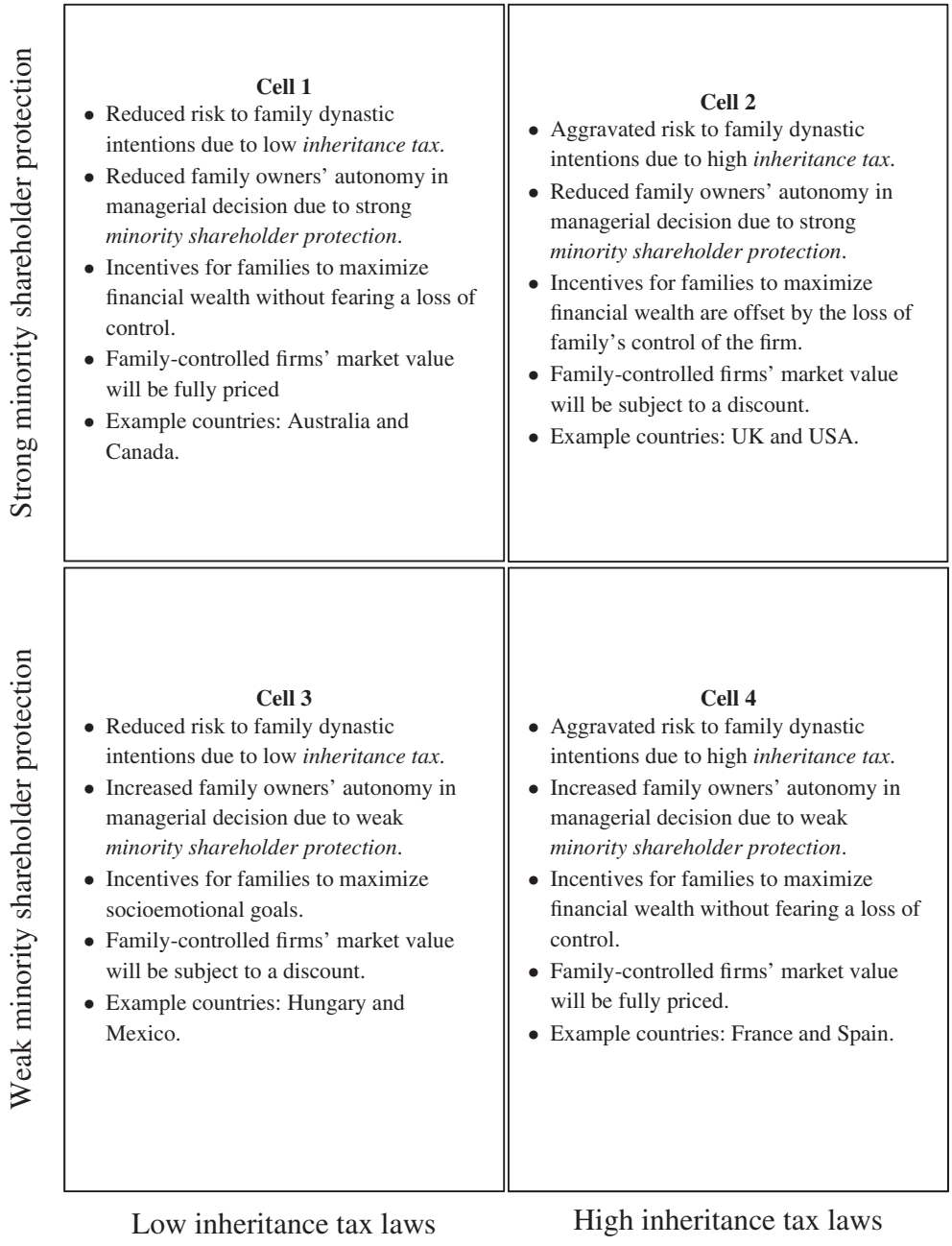

FIGURE 1 Theoretical arguments regarding the effects of inheritance taxes and shareholder protection laws on family firms' market value

Figure 1). First, we consider a context with high inheritance tax and weak shareholder protection (Cell 4 of Figure 1). Weak shareholder protection limits the family's ability to realize high market valuations. It also raises the relative value of nonpecuniary benefits of control, so socioemotional goals can be expected to persist. However, as suggested in Hypothesis (H1), high inheritance taxes provide incentives for families to maximize financial wealth

at the expense of socioemotional wealth, which positively associates with the firm market value.

Now consider a scenario with strong shareholder protection and high inheritance tax (Cell 2 of Figure 1). As aforementioned, strong shareholder protection reduces the family owners' autonomy in managerial decisions. In parallel, high inheritance taxes may jeopardize family control and put the family dynasty at risk. An institutional configuration characterized by strong shareholder protection and high inheritance poses a severe threat to the family's socioemotional goals, thus disintegrating family self-governance incentives. Therefore, family owners might use the limited but available legal space for using firm resources for their benefit (Zellweger & Kammerlander, 2015). One example of this is the use of fiduciary-based trusts commonly available in countries with strong formal protection for minority investors. Trusteeship separates financial control and beneficiaries' equity, so family owners can make appropriate succession plans that legally apportion claims to various interested parties and enables families to offset the effect of inheritance taxes (Carney & Nason, 2018; Harrington, 2012, 2016; Harrington & Strike, 2018).

In short, shareholder protection and inheritance laws as external corporate governance mechanisms to align the interests between majority and minority shareholders become redundant when they operate together in a jurisdiction. Essentially, the incentives of family self-governance created by high inheritance taxes are offset by the loss of family owners' autonomy impulsed by stronger protection for minority shareholders, which together may result in more significant principal–principal conflicts. Consequently, we hypothesize that:

Hypothesis (H2) *The positive moderating role of inheritance tax laws on the family firm–firm market value relationship weakens as the level of protection for minority shareholders increases.*

3 | RESEARCH METHOD

3.1 | Data collection

We obtained estate and inheritance tax data from two sources: (a) the EY's "Worldwide Estate and Inheritance Tax" reports and (b) the Deloitte's "Deloitte International Tax Source" guide. By combining these reports, we built a dataset on inheritance tax rates applicable in 2014 for 51 countries. For each country, we ranked publicly traded firms by market capitalization in their main local stock market index (see Table A1). Then, we selected the five largest and five smallest firms from each country's index to construct our sample. We followed this approach for three reasons. First, this technique mitigates the risk of classifying family-controlled firms and nonfamily-controlled firms incorrectly. There are limited archival data sources that would allow us to obtain the universe of family-controlled firms across the countries included in our sample. For example, to deal with this issue, scholars have employed meta-analytical techniques to build a multicountry dataset of family firms (e.g., Arregle et al., 2017; Berrone et al., 2020; Duran et al., 2016, 2019; O'Boyle et al., 2012). Second, by including the five largest and five smallest publicly-traded firms by market capitalization for each stock market included in our sample, we aim to capture heterogeneity in the factors that explain the firm market value in addition to firm size. Third, we excluded regulated companies (i.e., financial and utilities firms) since regulations impacting these industries might affect the firms' financial policies and

market value (Anderson & Reeb, 2003). In four countries, we found less than 10 unregulated firms in their local stock market index. For example, the Merval Index in Argentina consists of 15 firms, but nine out of these 15 firms are regulated, which impede us from including 10 unregulated firms. Similar restrictions occurred in stock markets such as Colcap Index in Colombia, Budapest Stock Index in Hungary, and Bet Index in Romania. Therefore, our sampling procedure allows us to keep a relatively balanced sample distribution across the countries without biasing the sample to countries with more listed firms. This is important since investor protection and listing decision are positively related (La Porta et al., 1998).

To identify family firms, we collected the individual board members' names for each firm from Bloomberg as of the year 2014. Each list of board members' names was analyzed in a process described below to infer a controlling family on the board. We obtained both financial and accounting data for the remaining companies from Worldscope. After removing firms with either insufficient financial data or where the information concerning board members impeded us from identifying the firm's ultimate owner, we are left with a cross-sectional sample of 284 firms from 31 countries.[2] All financial-based variables, including the dependent and control variables, were calculated using a 10-year average (2005–2014) and winsorized at the top and bottom 1% to mitigate outliers effects. By using the 10-year average, we can evaluate the persistent effect of our focal variables on firm value. This is relevant due to our arguments that inheritance tax has a constant effect on family owners' self-governance. Additionally, this setting reduces the risk that specific economic shocks affect our results.

3.2 | Variables and measures

3.2.1 | Dependent variable

For our measure of firm market value, we use the *price-to-book ratio* (P/B) estimated as the natural log of the ratio between market capitalization and the book value of common equity (Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana, 2010). P/B is an appropriate measure to capture how minority shareholders assess the firm value.

3.2.2 | Independent variable

The independent variable is *family firm*. We operationalize this variable using a dichotomous variable with a value of one if a firm is classified as a family firm and zero otherwise. A firm is classified as a family firm when (a) at least two directors share the same surname as of 2014, and (b) these directors represent at least 20% of the board (Gómez-Mejía, Nuñez-Nickel, & Gutierrez, 2001). We followed this approach for two reasons. First, it is more effective for a multicountry sample since threshold levels to determine controllership are context-dependent (Duran & Ortiz, 2020). Second, in less developed economies, the precise identification of the ultimate controller is highly challenging, given the prevalence of ownership pyramid structures (Masulis, Pham, & Zein, 2011) and data limitations (Bertrand, Johnson, Samphantharak, & Schoar, 2008). Finally, if the firm's board members and the CEO share more than one last name, we followed a conservative approach by only considering the last name with a higher number of repetitions.

3.2.3 | Country-level moderators: Inheritance tax and protection for minority shareholders

Our moderator variable *inheritance tax* is the maximum tax rate that heirs pay to inherit a firm (Tsoutsoura, 2015), independently of whether it is via inheritance law or indirectly via a capital gain tax. We select the maximum tax rate because our sample consists of large public firms in each country. Since the board's control reflects a significant share of equity, the family is most likely to be found in the top bracket of the tax scheme. When information about heirs' exemption was not explicit, we searched for this information on either the respective Tax Authority website or globalpropertyguide.com. Our proxy for the protection of minority shareholders is the *anti-self-dealing index* (Djankov et al., 2008). This index measures the legal protection of minority shareholders against expropriation by corporate insiders and has been commonly used to assess the level of shareholder-rights protection across countries (Franks et al., 2012; Lins, Volpin, & Wagner, 2013). Table 1 shows the *inheritance tax* and *anti-self-dealing index* for all the countries included in our sample.

3.2.4 | Control variables

We included several control variables that are likely to influence the market value of firms: *investment* (the ratio of capital expenditures [CAPEX] over the beginning of the year net property, plant, and equipment), *leverage* (the ratio of the firm's total debt to total debt plus market capitalization), *firm size* (natural log of total assets), *sales growth* (the annual growth rate of sales), *incorporation age* (the natural log of the number of years since firm's incorporation), and *foundational age* (the natural log of the number of years since firm's foundation).[3] Due to the cross-country nature of our study, we also control for five pro-market and formal institutional variables: *domestic credit to GDP* (the ratio of the domestic credit to the private sector to GDP), *stock market turnover* (the ratio of the value of domestic shared traded divided by their market capitalization), *market capitalization to GDP* (the ratio of the share price times the number of shares outstanding for listed domestic companies to GDP), *stock market return* (the annual change of the S&P Global Equity Index for the respective country), and *governance quality* (a composite measure of three components of governance quality from World Governance Indicators—government effectiveness, regulatory quality, and the rule of law). Table 2 provides the description and sources of data for all the main variables included in our study.

3.3 | Method

Country-level variables might be correlated, which can reduce the significance of individual OLS coefficients if several of these variables are included in a regression due to multicollinearity problems. However, omitting a relevant but correlated variable would bias the OLS coefficients of the included variables. In our theoretical model, both the inheritance tax and investor protection are important determinants of a firm's market value; therefore, omitting either one of them has the potential to bias the estimated coefficient of the remaining one included in the empirical model. For this reason, we decide to include both variables in our empirical specification at the cost of potentially finding statistically nonsignificant results.

TABLE 1 Inheritance tax and minority shareholder protection by country[a]

	(1)	(2)	(3)
Country	Inheritance tax	Max. inheritance tax (%)	Anti-self-dealing index
Argentina	Yes	4	0.34
Australia	No	0	0.76
Austria	No	0	0.21
Belgium	Yes	30	0.54
Brazil	Yes	4	0.27
Bulgaria	Yes	0	0.65
Canada	No	0	0.64
Chile	Yes	25	0.63
Colombia	Indirect	0	0.57
Denmark	Yes	15	0.46
Finland	Yes	20	0.46
France	Yes	45	0.38
Germany	Yes	0	0.28
Greece	Yes	10	0.22
Hungary	Yes	0	0.18
Ireland	Indirect	33	0.79
Italy	Yes	4	0.42
Lithuania	Yes	0	0.36
Mexico	No	0	0.17
Netherlands	Yes	20	0.20
New Zealand	No	0	0.95
Norway	No	0	0.42
Peru	No	0	0.45
Portugal	No	0	0.44
Romania	No	0	0.44
South Africa	Indirect	20	0.81
Spain	Yes	34	0.37
Sweden	No	0	0.33
Switzerland	Yes	0	0.27
UK	Yes	40	0.95
USA	Yes	40	0.65
Mean		11	0.47
SD		15	0.22

[a]Column (1) indicates whether the country has inheritance tax ("yes"), or if bequest is indirectly levied by other tax ("indirect"), or if the country has no inheritance tax ("no"); Column (2) shows the maximum tax rate that heirs pay to inherit a firm. Columns (1) and (2) were obtained from "Worldwide Estate and inheritance Tax E&Y 2014," "Deloitte International Tax Source" website, the respective Tax Authority Website, and Globalpropertyguide.com. Column (3) reports the Djankov et al.'s (2008) index of legal protection for minority shareholders against expropriation by the controller.

TABLE 2 Definition of variables

Variable	Measure	Source
Price-to-book ratio (P/B)	The natural log of the ratio between market capitalization and the book value of common equity.	Worldscope
Family firm	Dichotomous variable with a value of 1 if the ratio between the number of firm's directors with the same surname in the board and the total number of directors as in 2015 is equal or greater than 20%, and 0 otherwise.	Bloomberg
Inheritance tax	The maximum tax rate that sons pay to inherit a firm, independently of whether it is via inheritance law or indirectly via a capital gain tax.	E&Y, Deloitte, Globalpropertyguide.com and the respective tax authority website
Anti-self-dealing index	A measure of the legal protection of minority shareholders against expropriation by corporate insiders.	Djankov et al. (2008)
Investment	The ratio of capital expenditures (CAPEX) over the beginning of the year's net property, plant, and equipment.	Worldscope
Leverage	The ratio of the firm's total debt to total debt plus market capitalization.	Worldscope
Firm size	The natural log of total assets.	Worldscope
Sales growth	The annual growth rate of sales.	Worldscope
Incorporation age	The natural log of the number of years since the firm's incorporation.	Bloomberg
Foundational age	The natural log of the number of years since the firm's foundation.	Worldscope
Domestic credit to GDP	The ratio of the domestic credit to private sector to GDP.	World Bank
Stock market turnover	The ratio of the value of domestic shared traded divided by their market capitalization.	World Bank
Market capitalization to GDP	The ratio of the share price times the number of shares outstanding for listed domestic companies to GDP.	World Bank
Stock market return	The annual change of the S&P Global Equity Index for the respective country.	World Bank
Governance quality	A composite measure of three components of governance quality, namely government effectiveness, regulatory quality, and the rule of law.	World Governance Indicators

One reason for our cross-sectional approach is data availability. A possibly preferred empirical approach is a panel setting. However, this would be useful to the extent that there is enough within-country variation in inheritance laws and sufficient firm-level data. Unfortunately, this

is not the case in the countries for which we can obtain enough firm-level data. This limits our ability to flexibly control for institutional variables to the use of the country fixed effect, and in the process, losing identification of the level effect of country institutions. So, while the cross-sectional approach cannot identify the direction of the causality, it helps us to get an insight into the theorized associations.

Our baseline model is:

$$\begin{aligned}\ln\left(P/B_{i,j,k}\right) &= \alpha + \beta_1 Family\,firm_{i,j,k} + \beta_2 Inheritance\,tax_k \\ &+ \beta_3 Anti-self-dealing\,index_{k+}\ Family\,firm_{i,j,k} \times (\beta_{H1} Inheritance\,tax_k \\ &+ \beta_4 Anti-self-dealing\,index_k) + \beta_5 Inheritance\,tax_k \times Anti-self-dealing_k \\ &+ Family\,firm_{i,j,k} \times (\beta_{H2} Inheritance\,tax_k \times Anti-self-dealing_k]) + Z_{i,j,k}\,\delta + \eta_j + \varepsilon_{i,j,k} \qquad (1)\end{aligned}$$

where $Z_{i,j,k}$ is a vector of firm- and country-level control variables. η_j is a set of 11 dummy variables based on the Global Industry Classification Standard sector codes that control for potential industry-level effects. In additional specifications, we include a full set of country-level fixed effects and exclude the direct and interactive effect of the country-level variables. Due to the potential for correlated errors within countries, we correct for clustering at the country-level in all model specifications.

Hypothesis (H1) posits that inheritance tax law positively moderates the family firm–firm market value relationship. A positive estimate of β_{H1} would be consistent with this hypothesis. Hypothesis (H2) posits that the moderating role of inheritance tax is weaker in countries with higher minority shareholder protection levels. Consequently, a negative estimate of β_{H2} would support Hypothesis (H2).

4 | RESULTS

Table 3 presents descriptive statistics and Pearson's correlation coefficients among the variables. We tested potential collinearity among the variables by estimating variance inflation factors (VIF). The average VIF is 1.66 (with a maximum of 3.01), ruling out multicollinearity (Kutner, Neter, Nachtsheim, & Li, 2005). Additionally, we checked that our results met only one of the three Kalnins's (2018) criteria for assessing potential concerns about Type 1 error due to multicollinearity. Therefore, multicollinearity is not a significant concern in our models.

Table 4 reports the results of regression analyses. In Models 1 and 2, we include the interaction between *family firm* and *inheritance tax* and the interaction between *family firm* and *anti-self-dealing index*, respectively. The analyses show statistically insignificant coefficients. These results highlight the importance of studying the relationship between inheritance taxes and investor protection jointly, as proposed in Equation (1).

In Model 3 of Table 4, we test our base model (Equation 1) by estimating the interaction between *family firm* and *inheritance tax* (see Hypothesis (H1)) and the three-way interaction between *family firm*, *inheritance tax*, and *anti-self-dealing index* (see Hypothesis (H2)). The results show a positive and significant coefficient on the interaction between *family firm* and *inheritance tax* ($\beta_{\mathrm{H1}} = 4.30$; p-value <.01), consistent with Hypothesis (H1). Moreover, we find a negative and significant coefficient on the interaction between *family firm*, *inheritance tax* and *anti-self-dealing index* ($\beta_{\mathrm{H2}} = -8.67$; p-value <.01), thus supporting Hypothesis (H2).

TABLE 3 Statistics and correlation matrix

Variables	Mean	*SD*	1	2	3	4	5	6	7
1. Price-to-book ratio	0.69	0.80	1.00						
2. Family firm	0.15	0.36	−0.15*	1.00					
3. Inheritance tax	0.12	0.15	0.22***	−0.03	1.00				
4. Anti-self-dealing index	0.47	0.21	0.09	−0.14*	0.30***	1.00			
5. Investment	0.33	0.65	0.01	−0.09	0.03	0.01	1.00		
6. Leverage	0.28	0.20	−0.53***	0.13*	−0.07	−0.14*	−0.11†	1.00	
7. Firm size	14.95	2.41	0.14*	−0.14*	0.26***	−0.05	−0.25***	0.02	1.00
8. Sales growth	0.18	0.54	0.02	0.03	−0.06	0.10†	0.37***	−0.11†	−0.24***
9. Incorporation age	2.57	1.53	0.07	−0.15*	0.15*	0.13*	−0.00	−0.15*	0.14*
10. Foundational age	0.91	1.61	−0.04	0.13*	−0.16**	0.04	0.02	−0.06	−0.24***
11. Domestic credit to GDP	1.14	0.53	0.33***	−0.16**	0.46***	0.31***	0.03	−0.04	0.21***
12. Stock market turnover	0.82	0.55	0.33***	−0.16**	0.42***	0.00	0.05	−0.05	0.43***
13. Market capitalization to GDP	0.72	0.47	0.24***	−0.10†	0.29***	0.32***	0.09	−0.24***	0.25***
14. Stock market return	9.22	6.40	−0.17**	0.02	−0.25***	−0.09	−0.02	−0.04	0.06
15. Governance quality	3.41	2.19	0.25***	−0.22***	0.26***	0.18**	0.05	−0.06	0.14*

Variables	8	9	10	11	12	13	14
9. Incorporation age	−0.03	1.00					
10. Foundational age	0.09	−0.06	1.00				
11. Domestic credit to GDP	−0.04	0.17**	−0.20***	1.00			
12. Stock market turnover	−0.09	0.11†	−0.20***	0.59***	1.00		
13. Market capitalization to GDP	0.07	0.31***	−0.11†	0.45***	0.30***	1.00	
14. Stock market return	0.02	0.14*	−0.00	−0.41***	−0.30***	0.09	1.00
15. Governance quality	−0.07	0.41***	−0.12*	0.67***	0.52***	0.31***	−0.29***

Note: Here, $N = 284$ firms. For variable definitions, see Table 2. †$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.

TABLE 4 Dependent variable natural log of price-to-book ratio (P/B)

Variables	Model 1 (OLS/DV = P/B)	Model 2 (OLS/DV = P/B)	Model 3 (OLS/DV = P/B)	Model 4 (first-stage Heckman/DV = family firm)	Model 5 (second-stage Heckman/ DV = P/B)
Family firm	−0.11 (0.19)	−0.27 (0.17)	−0.59** (0.17)		−0.12 (0.32)
Inheritance tax	−0.05 (0.24)		−0.65 (0.54)	1.97* (0.83)	−0.88 (0.54)
Anti-self-dealing index		−0.25 (0.19)	−0.41† (0.23)	−1.91*** (0.56)	−0.30 (0.20)
Family firm × inheritance tax (H1)	0.35 (0.76)		4.30** (1.21)		3.83** (1.16)
Family firm × anti-self-dealing index		0.46 (0.37)	1.19† (0.61)		1.39* (0.61)
Inheritance tax × anti-self-dealing index			1.29 (0.96)		1.40 (0.96)
Family firm × inheritance tax × anti-self-dealing index (H2)			−8.67** (2.97)		−7.74** (2.68)
Investment	−0.10 (0.10)	−0.11 (0.11)	−0.11 (0.11)		−0.12 (0.10)
Leverage	−2.04*** (0.27)	−2.05*** (0.27)	−2.07*** (0.26)		−2.06*** (0.24)
Firm size	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)		0.03 (0.02)
Sales growth	0.03 (0.10)	0.03 (0.10)	0.04 (0.10)		0.03 (0.09)
Incorporation age	−0.04 (0.03)	−0.04 (0.03)	−0.04 (0.04)	−0.04 (0.11)	−0.04 (0.03)
Foundational age	−0.22* (0.11)	−0.22* (0.11)	−0.23* (0.11)	0.36** (0.11)	−0.27** (0.10)
Domestic credit to GDP	0.29** (0.14)	0.32** (0.15)	0.31** (0.15)	0.15 (0.45)	0.31** (0.14)
Stock market turnover	0.23*** (0.08)	0.22** (0.08)	0.20** (0.09)	−0.38 (0.37)	0.23*** (0.08)
Market capitalization to GDP	−0.05 (0.07)	−0.03 (0.07)	−0.02 (0.07)	0.20 (0.28)	−0.04 (0.08)
Stock market return	−0.00 (0.01)	−0.01 (0.01)	−0.00 (0.01)	−0.01 (0.02)	−0.00 (0.01)
Governance quality	−0.01 (0.03)	−0.01 (0.03)	−0.00 (0.03)	−0.13 (0.11)	0.00 (0.03)
Sales risk				−7.94*** (2.51)	
Constant	1.53*** (0.53)	1.66*** (0.55)	1.80*** (0.54)		1.71*** (0.53)
Observations	284	284	284	284	284
R^2	.46	.46	.47		
Lambda					−0.31 (0.18)
Industry dummy	YES	YES	YES	YES	YES

Note: Robust *SE*s (clustered at the country-level) in parentheses. For variable definitions, see Table 2.

†$p < .10$.

*$p < .05$.

**$p < .01$.

***$p < .001$.

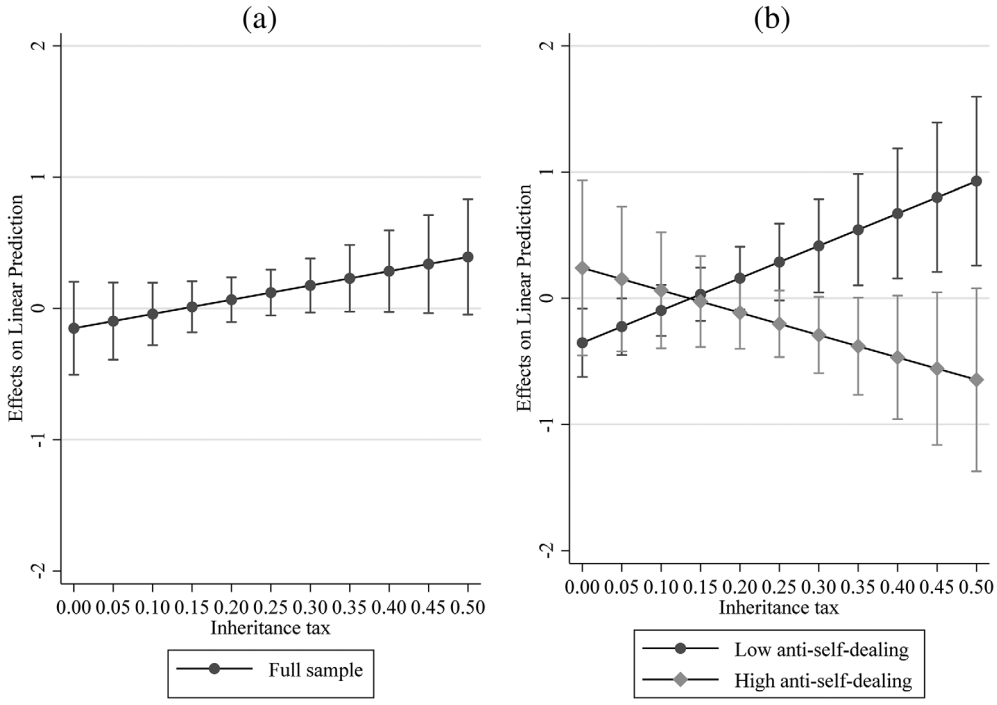

FIGURE 2 Average marginal effects of *family firm* with 95% CIs

Overall, our results show that higher tax rates positively moderate the relationship between family firm and market value. Also, we find support for a substitutive relationship between inheritance taxes and shareholder protection laws on the focal relationship. More specifically, the stronger the protection of minority shareholders in a country, the weaker the positive moderating role of inheritance laws on the family firm–firm market value relationship.

The economic significance of the relationship between inheritance taxes and family firm valuation is substantial. We can compute the marginal effects by setting all independent variables at their sample means and varying taxations rates for different investor protection levels (Kingsley, Noordewier, & Vanden Bergh, 2017). The estimates from Model 3, Table 4, show that concerning the average country, a one standard deviation increase in the inheritance tax rate induces a three-percentage point higher P/B ratio for family firms, relative to nonfamily firms. Furthermore, in countries with levels of shareholder protection one standard deviation above (below) the mean, one standard deviation in the inheritance tax rate induces a 31 (25) percentage points higher (lower) P/B ratio for family firms, compared to nonfamily firms.

Figure 2 plots the average marginal effect of the family firm using the estimates of Model 3. Figure 2a (left side) shows a positive slope, suggesting that the marginal effect of family firm on market value is higher at higher inheritance tax rates as predicted in our Hypothesis (H1). Figure 2b (right side) shows that the increasing marginal effect of family firm on market value is much steeper in low anti-self-dealing countries. However, it becomes negative-slopped in high anti-self-dealing countries, as suggested in our Hypothesis (H2).

4.1 | Endogeneity

We analyzed whether the previous results are affected by endogeneity (Villalonga & Amit, 2006). Following Miller et al. (2013), we used a Heckman two-step procedure to correct for self-selection of family firms. The first step consists of a Probit model of the probability that a firm is classified as a family firm. The second step is a linear regression of the firm's P/B ratio, including our control variables. Heckman's model requires finding an instrument that will predict the first step probability that a firm is a family firm, but that will not affect the dependent variable in the second step. We use *sales risk* (the standard deviation of the average annual growth rate of sales of the industry) as the appropriate instrument. Higher levels of a firm's *sales risk* may cause a reduction in the prevalence of concentrated family control (Dhillon & Rossetto, 2015). At the same time, *sales risk* does not affect the firm market value, which depends on the firm's systemic risk rather than industry sales volatility (Villalonga & Amit, 2006). The results reported in Models 4 and 5 of Table 4 support both hypotheses ($\beta_{H1} = 3.83$ and $\beta_{H2} = -7.74$, with p-value <.001 and p-value <.01, respectively) and reduce the concerns for an endogeneity bias affecting the estimates (Dow & McGuire, 2016).

4.2 | Robustness checks

We performed several robustness tests of the results reported in Table 4. First, in Models 1–5 of Table 5, we explored country-level conditions that might affect family firms' market value differently (Duran et al., 2019). More specifically, we included in our baseline model the interactions between family firm and five pro-market and formal institutional variables, including *domestic credit to GDP* (Model 1), *stock market turnover* (Model 2), *market capitalization to GDP* (Model 3), *stock market return* (Model 4), and *governance quality* (Model 5). Overall, the results suggest that the explanatory power of both inheritance taxes and shareholder protection on family firms' relative market value seems robust even when other institutions are present.

Second, in Model 6 of Table 5, we account for omitted variable bias by adding country-fixed effects. We find similar results to those presented in the main full model (see Model 3 of Table 4).

Third, we tested our hypotheses using alternative measures of *family firm*. In Model 7 of Table 5, we use the variable *family firm and family CEO* (equal to 1 if the *family firm* and the CEO have the same surname of the controlling family, and 0 otherwise) as a more stringent measure of family firms. By so doing, we find similar results to those obtained in Model 3 of Table 4. Additionally, in Model 8 of Table 5, we use *family board percentage* (the ratio between the number of firm's directors with the same surname on the board and the total number of directors) as a continuous measure of family control intensity. Results are consistent with those presented in Model 3 of Table 4. Finally, in Model 9 of Table 5, we estimate our baseline model redefining the *family firm* dummy by requiring that the number of directors with the same surname is equal to or greater than 25% (our baseline specification requires at least 20% of the board). This helps us to reduce the likelihood of mistakenly classifying a firm as a family firm because of nonfamily coincidences in surnames. Moreover, the family influence on the firm should be positively related to its relative representation on the board. Using a 25% threshold reduces the fraction of firms classified as family firms to 10.5%. We find similar results to those presented in Model 3 of Table 4. In unreported results, we also obtain similar results for a 30% minimum threshold.

TABLE 5 Robustness checks

Variables	Model 1 (Family firm × domestic credit to GDP)	Model 2 (Family firm × stock market turnover)	Model 3 (Family firm × market capitalization to GDP)	Model 4 (Family firm × stock market return)
Family firm	−0.69** (0.21)	−0.60** (0.20)	−0.36† (0.19)	−0.38 (0.26)
Inheritance tax	−0.61 (0.55)	−0.65 (0.54)	−0.65 (0.54)	−0.56 (0.52)
Anti-self-dealing index	−0.41† (0.23)	−0.42† (0.23)	−0.42† (0.23)	−0.39 (0.23)
Family firm × inheritance tax (H1)	3.71* (1.72)	4.28** (1.36)	3.68** (1.29)	2.99† (1.48)
Family firm × anti-self-dealing index	1.11† (0.61)	1.19† (0.63)	1.18* (0.57)	1.35* (0.58)
Inheritance tax × anti-self-dealing index	1.27 (0.99)	1.29 (0.97)	1.27 (0.96)	1.20 (0.94)
Family firm × inheritance tax × anti-self-dealing index (H2)	−8.15* (3.22)	−8.68** (2.96)	−6.17† (3.10)	−6.79* (2.85)
Investment	−0.11 (0.11)	−0.11 (0.11)	−0.11 (0.11)	−0.11 (0.11)
Leverage	−2.08*** (0.26)	−2.07*** (0.26)	−2.06*** (0.26)	−2.04*** (0.27)
Firm size	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)
Sales growth	0.04 (0.10)	0.04 (0.10)	0.02 (0.11)	0.02 (0.11)
Incorporation age	−0.05 (0.04)	−0.04 (0.04)	−0.04 (0.04)	−0.05 (0.04)
Foundational age	−0.23* (0.11)	−0.23* (0.11)	−0.23* (0.11)	−0.23* (0.11)
Domestic credit to GDP	0.28* (0.13)	0.30* (0.14)	0.31† (0.15)	0.30* (0.14)
Stock market turnover	0.20* (0.09)	0.20† (0.10)	0.19* (0.09)	0.20* (0.08)
Market capitalization to GDP	−0.02 (0.07)	−0.02 (0.07)	0.00 (0.08)	−0.02 (0.07)
Stock market return	−0.00 (0.01)	−0.00 (0.01)	−0.00 (0.01)	0.00 (0.01)
Governance quality	−0.00 (0.03)	−0.00 (0.03)	−0.00 (0.03)	−0.00 (0.03)
Family firm × domestic credit to GDP	0.17 (0.30)			
Family firm × stock market turnover		0.01 (0.21)		
Family firm × market capitalization to GDP			−0.46* (0.21)	
Family firm × stock market return				−0.02 (0.02)
Constant	1.81** (0.54)	1.80** (0.54)	1.78** (0.55)	1.71** (0.55)
Observations	284	284	284	284

(Continues)

TABLE 5 (Continued)

Variables	Model 1 (Family firm × domestic credit to GDP)	Model 2 (Family firm × stock market turnover)	Model 3 (Family firm × market capitalization to GDP)	Model 4 (Family firm × stock market return)
R^2	.47	.47	.47	.48
Industry dummy	YES	YES	YES	YES

Variables	Model 5 (Family firm × governance quality)	Model 6 (Country-fixed effect)	Model 7 (Family firm = family firm and family CEO)	Model 8 (Family firm = family board percentage)
Family firm	−0.56** (0.15)	−1.04*** (0.28)	−1.06** (0.38)	−2.02** (0.63)
Inheritance tax	−0.67 (0.54)		−0.53 (0.56)	−0.67 (0.54)
Anti-self-dealing index	−0.42† (0.22)		−0.37 (0.23)	−0.43† (0.23)
Family firm × inheritance tax (H1)	4.39** (1.36)	4.75** (1.61)	6.91* (2.82)	15.20*** (3.97)
Family firm × anti-self-dealing index	1.19† (0.61)	2.11** (0.77)	2.72* (1.30)	3.22 (2.52)
Inheritance tax × anti-self-dealing index	1.31 (0.96)		1.07 (0.96)	1.31 (0.95)
Family firm × inheritance tax × anti-self-dealing index (H2)	−8.46** (2.86)	−10.26* (3.77)	−14.77* (5.38)	−28.40* (11.43)
Investment	−0.12 (0.11)	−0.16 (0.11)	−0.11 (0.11)	−0.12 (0.11)
Leverage	−2.08*** (0.26)	−2.21*** (0.31)	−2.10*** (0.27)	−2.07*** (0.26)
Firm size	0.02 (0.02)	0.00 (0.02)	0.02 (0.02)	0.02 (0.02)
Sales growth	0.04 (0.10)	0.04 (0.09)	0.03 (0.11)	0.04 (0.10)
Incorporation age	−0.04 (0.04)	−0.05 (0.04)	−0.04 (0.03)	−0.04 (0.04)
Foundational age	−0.23* (0.11)	−0.22* (0.09)	−0.24* (0.11)	−0.23* (0.11)
Domestic credit to GDP	0.31* (0.15)		0.30* (0.14)	0.30* (0.15)
Stock market turnover	0.20* (0.09)		0.20* (0.09)	0.20* (0.09)
Market capitalization to GDP	−0.02 (0.08)		−0.02 (0.07)	−0.02 (0.07)
Stock market return	−0.00 (0.01)		−0.01 (0.01)	−0.00 (0.01)

TABLE 5 (Continued)

Variables	Model 5 (Family firm × governance quality)	Model 6 (Country-fixed effect)	Model 7 (Family firm = family firm and family CEO)	Model 8 (Family firm = family board percentage)
Governance quality	−0.00 (0.03)		−0.00 (0.03)	−0.01 (0.03)
Family firm × governance quality	−0.02 (0.08)			
Constant	1.81** (0.54)	1.99*** (0.44)	1.80** (0.54)	1.85** (0.54)
Observations	284	284	284	284
R^2	.47	.54	.47	.48
Industry dummy	YES	YES	YES	YES

Variables	Model 9 (Family firm = dummy for family board percentage 25%)	Model 10 (DV = Tobin's Q)	Model 11 (Minority shareholder protection = Guillén and Capron's (2016) index)	Model 12 (Inheritance tax = KPMG's effective tax rate)	Model 13 (Multilevel analysis; observations nested at the country level)
Family firm	−0.81** (0.27)	−0.48* (0.21)	−2.93* (1.27)	−0.84* (0.36)	−0.59*** (0.16)
Inheritance tax	−0.68 (0.53)	−1.49† (0.79)	0.46 (1.76)	−0.01 (0.02)	−0.65 (0.52)
Anti-self-dealing index	−0.43† (0.21)	−0.18 (0.24)		−0.04 (0.26)	−0.41† (0.21)
Minority shareholder protection			−0.02 (0.08)		
Family firm × inheritance tax (H1)	7.34** (2.33)	4.51* (1.69)	11.29* (4.92)	0.09† (0.05)	4.30*** (1.15)
Family firm × anti-self-dealing index	1.11 (1.14)	0.32 (0.64)		2.61* (1.18)	1.19* (0.58)
Family firm × minority shareholder protection			0.51* (0.23)		
Inheritance tax × anti-self-dealing index	1.32 (0.93)	1.71 (1.55)		−0.01 (0.02)	1.29 (0.91)

(Continues)

TABLE 5 (Continued)

Variables	Model 9 (Family firm = dummy for family board percentage 25%)	Model 10 (DV = Tobin's Q)	Model 11 (Minority shareholder protection = Guillén and Capron's (2016) index)	Model 12 (Inheritance tax = KPMG's effective tax rate)	Model 13 (Multilevel analysis; observations nested at the country level)
Inheritance tax × minority shareholder protection			−0.11 (0.27)		
Family firm × inheritance tax × anti-self-dealing index (H2)	−12.93* (6.22)	−5.74 (3.74)		−0.32* (0.13)	−8.67** (2.83)
Family firm × inheritance tax × minority shareholder protection (H2)			−1.87* (0.83)		
Investment	−0.12 (0.11)	−0.16 (0.15)	−0.11 (0.10)	−0.12 (0.10)	−0.11 (0.10)
Leverage	−2.10*** (0.27)	−2.42*** (0.29)	−2.15*** (0.31)	−2.01*** (0.35)	−2.07*** (0.25)
Firm size	0.02 (0.02)	−0.03 (0.03)	0.02 (0.02)	−0.02 (0.02)	0.02 (0.02)
Sales growth	0.05 (0.10)	0.36 (0.31)	−0.02 (0.10)	−0.06 (0.09)	0.04 (0.10)
Incorporation age	−0.04 (0.03)	−0.04 (0.05)	−0.02 (0.04)	−0.04 (0.04)	−0.04 (0.03)
Foundational age	−0.23* (0.11)	−0.08 (0.12)	−0.25* (0.11)	−0.33* (0.15)	−0.23* (0.10)
Domestic credit to GDP	0.29† (0.14)	0.42** (0.15)	0.19 (0.14)	0.47** (0.13)	0.31* (0.14)
Stock market turnover	0.19* (0.09)	0.32* (0.13)	0.32* (0.12)	0.19† (0.11)	0.20* (0.08)
Market capitalization to GDP	−0.02 (0.07)	−0.10 (0.13)	−0.02 (0.07)	−0.04 (0.08)	−0.02 (0.07)
Stock market return	−0.01 (0.01)	0.02* (0.01)	−0.01 (0.01)	0.00 (0.01)	−0.00 (0.01)
Governance quality	−0.00 (0.03)	−0.03 (0.05)	−0.02 (0.03)	−0.08** (0.02)	−0.00 (0.03)
Constant	1.87** (0.53)	2.80*** (0.55)	1.92* (0.89)	2.88*** (0.46)	1.80*** (0.51)
Observations	284	284	270	203	284

TABLE 5 (Continued)

Variables	Model 9 (Family firm = dummy for family board percentage 25%)	Model 10 (DV = Tobin's Q)	Model 11 (Minority shareholder protection = Guillén and Capron's (2016) index)	Model 12 (Inheritance tax = KPMG's effective tax rate)	Model 13 (Multilevel analysis; observations nested at the country level)
R^2	.48	.48	.48	.47	
Wald chi-squared					1845.05***
Industry dummy	YES	YES	YES	YES	YES

Note: With the exception of Model 13, all models are OLS regressions. Robust *SE*s (clustered at the country-level) in parentheses. For variable definitions, see Table 2 and Section 4.2. $^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Fourth, we use Tobin's Q (the logarithm of the ratio of market capitalization plus debt to total assets) as the dependent variable. The results reported in Model 10 of Table 5 support Hypothesis (H1) but reject Hypothesis (H2). A potential explanation is that, by construction, Tobin's Q depends on the firm's debt level, and thus, it includes the fraction of the firm value in the hands of debt holders. Arguably, creditor rights in place (rather than shareholder protection laws) affect the debt-holders' risk exposure to family expropriation (Shao, Kwok, & Guedhami, 2013).

Fifth, we test the robustness of our findings by including Guillén and Capron's (2016) minority shareholder rights as an alternative measure for investor protections. This measure is available for 28 out of the 31 countries in our sample. In Model 11 of Table 5, we find supporting evidence for both hypotheses.

Sixth, we collected inheritance taxes from the KPMG's Global Family Business Tax Monitor to test the robustness of our results. The KPMG's publication calculates the effective inheritance tax due for a hypothetical firm valued in EUR 10 million. Inheritance taxes are only available for 21 out of the 31 countries included in our sample, limiting our cross-country analysis. The results of Model 12 of Table 5 support both Hypothesis (H1) (p-value <.10) and Hypothesis (H2).

Finally, in Model 13 of Table 5, we estimate the base model using multilevel analysis. Level 1 model corresponds to each firm's value as a function of a country mean and random error. The Level 2 model corresponds to the variability among countries with the country mean, varying randomly around a grand mean. Importantly, the multilevel analysis assumes no correlation among all the random terms (e.g., the slope of the Level 2 model) and the error terms of the Level 1 model. This is a strong assumption about the unobserved factor determining the firms' value (Peterson, Arregle, & Martin, 2012). We keep the same control variables as in our main analysis in the Level 1 model for comparability. We find similar results to the OLS models reported in Model 3 of Table 4.

4.3 | Post hoc analyses

We conducted post hoc analyses to test potential meaningful relationships that were not formally hypothesized but may increase our understanding of the role of inheritance tax on the

family firms' market value. First, we asked whether financial liberalization would weaken the positive relation between inheritance tax laws and family firms' market value. It is reasonable to argue that financial liberalization (Chinn & Ito, 2006) provides family owners the opportunity to diversify their wealth portfolio internationally and thus escape from high inheritance tax regimes. Consequently, inheritance tax laws would need to be equipped with a financial institutional infrastructure that restricts cross-border financial transactions to act as effective external corporate governance. To test this idea, we examine the interaction effects of *inheritance tax* with *financial openness* on the family firm–market value relationship. *Financial openness* captures the degree of capital account openness in a country (Chinn & Ito, 2006). The unreported results indicate a negative but insignificant coefficient for the aforementioned interaction effect ($\beta = -.73$, *ns*). Therefore, we do not find evidence that inheritance tax laws must be complemented with a closed capital market to effectively act as an external corporate governance mechanism that restricts family firms' socioemotional concerns.

Second, since corporate taxes may discourage family firms from investing in profitable projects (Mukherjee, Singh, & Žaldokas, 2017), we asked whether corporate taxes would weaken the positive relation between inheritance tax laws and the family firms' market value. To test it, we interact *inheritance tax* with *corporate tax* on the family firms and market value relationship. We use the corporate income tax rates dataset from the Tax Foundation. The unreported results indicate a positive but insignificant coefficient for this interaction effect ($\beta = .27$, *ns*). Therefore, we do not find evidence that corporate taxes diminish the role of inheritance tax laws as an external corporate governance mechanism. The results are available from the authors upon request.

5 | DISCUSSION AND CONCLUSIONS

5.1 | Theoretical contributions and policy-making implications

We theorize that other things being equal, inheritance tax obligations act as an effective external corporate governance mechanism to align family owners and minority shareholders' interests. More specifically, we suggest that inheritance taxes threaten family members' socioemotional wealth, incentivizing business families to focus on financial value maximization and reduced attention to family-centric goals that conflict with the firm's profit maximization. In other words, inheritance tax laws act as formal laws and regulations that protect minority shareholders (Guillén & Capron, 2016), thus constituting a relevant component of the country's corporate governance system. Additionally, we hypothesize and find support that the interaction of high levels of both inheritance tax and shareholder protection substitutes for one another.

The implication is that overall high inheritance tax jurisdictions are beneficial to minority investors, but less so, ironically, in the subgroup of countries with strong minority shareholder protection rules (Cell 2 of Figure 1). The corporate governance implications of the finding suggest that high inheritance taxes and strict shareholder protection laws can be "too much of a good thing" (Bruno & Claessens, 2010) for business families. This is because the interaction of inheritance taxes and shareholder protection laws may encourage families to prioritize socioemotional goals in response to conflicting institutional imperatives. The theoretical implications of these findings suggest that the balance between financial and socioemotional goals in family firms is very much context-dependent, suggesting that the explanatory power of different

theories of the family firm may be greater in some context than others. Therefore, we contribute to recent efforts to improve understanding of how contextual factors affect the relationship between family control and performance (Berrone et al., 2020; Duran et al., 2019; Miller et al., 2013). In doing so, we respond to the call for research on institutional diversity by disentangling institutions operating in different spheres of social and economic life and (Aguilera & Grøgaard, 2019). We also contribute to the family business literature by answering calls to bring business families to the forefront of analysis since the conflict over financial and family-centric goals reside in the business family (Nason et al., 2019). Additionally, our results inform that the relative value of the family is multilevel and needs the inclusion of country-level contingencies that directly impact family ownership like inheritance regulations. Family firm scholars should be aware of these contingencies and adopt a more appropriate theoretical framework to predict family motivations and organizational outcomes.

We begin our discussion of the theoretical implications for existing family firm theories with reference to Figure 1. We consider how the business family is likely to respond to the constraints and opportunities in archetypal jurisdictions in each of the four cells. To facilitate understanding, we refer to archetypal countries occupying each cell. In the upper right-hand cell (Cell 2), Figure 1, we find jurisdictions with strong minority shareholder protection and high inheritance taxes. Based on the data in our sample, the archetypal countries are the UK and the USA. In the upper left-hand cell (Cell 1), Figure 1, are countries with relatively strong minority shareholder protection and low inheritance taxes; the archetypal countries in our sample are Australia and Canada. In the lower right-hand cell (Cell 4), Figure 1, with high inheritance taxes and relatively weak minority shareholder protection, the archetypal countries in our sample are France and Spain. Finally, in the lower left-hand cell (Cell 3), Figure 1, with low inheritance tax and weak minority shareholder protection, the archetypal countries in our sample Hungary and Mexico. We first examine Cell 2 and consider how both minority investors and family owners will react to the beneficial effects of strong shareholder protection on the ever-looming threat posed by high inheritance taxes. These two institutions provide contradictory incentives. Shareholder protection offers a family a choice between dynastic strategies, that is, retaining significant ownership and transmitting control to the succeeding generation, or selling the firm at high market values and transmitting financial wealth to heirs. However, substantial inheritance tax obligations will compromise the latter. Thus, family owners' socioemotional wealth interests could prevail.

An important implication for policymakers from Cell 2 countries is how business families may respond to these circumstances by engaging in wealth maximizing economic decisions combined with defensive wealth preservation strategies. The efficiency of this response is typically accentuated in countries with common law legal origins (La Porta et al., 1998), which enables inheritance tax on wealth to be deferred for over a century, and in some cases in perpetuity, through the availability of trust instruments and the intervention of wealth management professionals (Marcus & Hall, 1992). A primary effect of the intervention of such intermediaries is to diversify wealth from an ancestral firm into a diversified portfolio of financial assets that can be managed for capital gains, wealth preservation, and tax minimization (Harrington, 2016). In this scenario, we see the "financialization" of family wealth, as heirs become passive arms-length owner-investors in the founding firm and the diversified wealth portfolio (Harrington, 2016). This financial relationship to family assets is likely to diminish the social and emotional affiliations with a founding firm, reducing the explanatory power of the socioemotional wealth perspective for their expected strategic orientation. If this is the case, the agency theory of principal and agent incentives would appear to offer a more compelling

account. Indeed, the introduction of professional third-party intermediaries into the management of family wealth is likely to engender double agency problems (Carney et al., 2014)

Cell 1, Figure 1, represents a most benign combination of low inheritance tax and strong shareholder protection. Well-regulated and liquid capital markets permit families to generate high market valuations for their shares, and the market for corporate control leads them to manage their businesses relatively efficiently. Theoretically, the relatively lax inheritance environment suggests business families may adopt a stewardship perspective on the management of their businesses. This view emphasizes the pro-social actions of business families engaging in philanthropy and providing more secure employment opportunities for employees (Miller, le Breton-Miller, & Scholnick, 2008). However, an important policy implication is that the absence of inheritance tax obligations reduces the urgency to create trusts and complex family wealth preservation schemes and create the opportunity to establish a class of "superwealthy" business families (Gilding, 1999). The absence of this pressure can create complacency and produce what Morck, Strangeland, and Yeung (2000) describe as "The Canadian disease," suggesting that as the superwealthy heirs to large founder family fortunes begin to create governance structures, such as pyramids, that entrench their control. Indeed, these families may diminish the ability of new, innovative firms to enter the economy, thus slowing down the forces of creative destruction. When such late-generation business families become too prevalent, it may reduce national innovation and economic growth levels. If one subscribes to Morck et al. (2000) entrenchment perspective, then a principal–principal agency theory (Young et al., 2008) may be a more appropriate analytical frame since this perspective suggests powerful business families seek to entrench their positions in the economy at the expense of other interests (Duran & Ortiz, 2020).

Cell 4, Figure 1, combines low shareholder protection and high inheritance taxes. The two archetypal countries in the cell are France and Spain. In a low shareholder protection scenario, families will "hold on" to their ownership stakes when they cannot realize full value in capital markets (Franks et al., 2012). Moreover, low market values increase the relative value of the private benefits of control. Consequently, we should expect business families to attach relatively greater value to their socioemotional wealth endowments. However, high inheritance taxes aggravate the risk of families to transfer the business to the next generations, which provide incentives to increase firm market value, as suggested in Hypothesis (H1). Interestingly, as an archetypal jurisdiction belonging to this cell, many recent research papers applying the socioemotional wealth concept use Spanish firms (e.g., Gómez-Mejía et al., 2007).

The related policy implication in Cell 4 is that in markets with low capital market development and high inheritance tax laws, the strategic behavior of family-controlled firms is to develop complex business group or holding company structures that anonymize ownership and reduces exposure to inheritance wealth transfer taxes (Banerjee, Leleux, & Vermaelen, 1997; Belenzon, Berkovitz, & Rios, 2013). If this is the case, business families will have few incentives to maximize the economic value of the firm.

Finally, Cell 3, Figure 1, combines both low inheritance taxes with low protection for minority investors. The archetypal firms in our sample are Hungary and Mexico, two countries with divergent recent histories. The former is a transitional economy shifting from centralized state planning toward a market-oriented economy. In other East European transitional economies, we have witnessed the emergence of concentrated ownership by oligarchic families who typically seek to entrench control over their groups with high-level government contacts (Fogel, 2006). Many analysts consider Mexico to be an emerging market. However, some scholars view the Mexican prevailing concentrated ownership structures and private sector dominated by family-controlled business groups possessing similar institutional conditions

found in transitional economies (e.g., Schneider, 2013). If, as Fogel (2006) suggests, elite oligarchs capture or significantly influence government in these jurisdictions, the prospects for institutional development of capital markets with favorable minority investor protection rules appear slim in these circumstances. The appropriate analytical frame for analyzing business families' governance and strategy in this context is one of the political economy (Schneider, 2013) that considers oligarchic families' power dynamics and interactions with state and political actors (Duran, Kostova, & van Essen, 2017). Such power dynamics constrain policymakers and reform-oriented politicians' capacity to establish inheritance taxes that favor wealth redistribution and economic equality.

In sum, our findings show that the relative market value of family firms tends to be context-dependent, and theories explaining the performance consequences of family control, namely agency, socioemotional wealth, and stewardship theories, are contingent on several boundary conditions. Theoretical discourse about family business sometimes reflects a monochrome "bright side-dark side" dichotomy. With black and white theories, family firms are expected to outperform because they monitor effectively; alternatively, family firms underperform because they expropriate minority shareholders or privilege socioemotional wealth goals. Such coarse distinctions obscure the underlying heterogeneity of family firms around the world. Our institutional complementarity perspective contributes to a richer understanding of business families' institutional responses. In this perspective, business families, pursuing both financial and non-financial goals, can be depicted as an adaptive organization form that coevolves with shifting patterns of national institutions. We suggest that it is business families' adaptive capacities that may explain the oft-repeated refrain that family firms are the most prevalent form of business organization in the world. Accordingly, the relative market value of family firms reflects multi-level institutional rules and business family adaptation and demands the inclusion of country-level contingencies that particularly impact family ownership like inheritance tax regulations. Family firm scholars should be mindful of these contingencies and adopt a suitably adjusted theoretical framework to predict family motivations and organizational outcomes.

Additionally, our study offers important implications for policymakers. Given the increasing importance of family firms for countries' economies, policymakers should be aware of how different institutional configurations of shareholder protection and inheritance laws affect the interests of family owners and nonfamily investors. Our study also informs policymakers of the potential costs and risks that those configurations could create for a country's economy and society, as discussed above. Equally, our study holds implications for business family practitioners. Business advisors and consultants, such as trust and estate planners and family offices, should be alert to the impact of diverging institutional arrangements operating in different economic and social life spheres. For example, business family practitioners have often located countries with common law traditions, such as the United States, United Kingdom, or Singapore, and their advice may reflect the underlying assumptions of these traditions (Wessel, Decker, Lange, & Hack, 2014).

5.2 | Limitations and future research

The findings and limitations of this study suggest several directions for future research. First, Hypothesis (H1) suggests that inheritance laws create incentives for minority shareholders to invest in family firms since they mitigate socioemotional objectives. However, we can also argue that inheritance tax law may incentivize business families to accelerate their exit from the

business by extracting wealth prior to the inheritance shock. In this hypothetical scenario, the concern of current family members about family reputation stops being relevant since family owners would not be interested in dynastic succession (Tsoutsoura, 2015). Thus, we would observe a negative moderation of inheritance tax on the family firms' market value. It is the task of future research to verify this alternative mechanism.

Second, our analysis is cross sectional. Therefore, our conclusions depend on ceteris-paribus assumptions in all other relevant institutional dimensions not included in the analysis. The cross-sectional design in our study does not imply causality, and it is reasonable to argue that omitted variables could drive our results. Future work should examine the effect of changes in inheritance laws under different investor protection contexts. This panel setting would allow for a more in-depth study of how changes in both investor protection and inheritance laws generate different outcomes in family firms. Researchers will need to overcome a few data availability obstacles to accomplish this concerning to the limited number of countries with changes in inheritance laws and insufficient information on firms' ownership around this event.

Third, our research design cannot observe changes in firm behavior over time. For example, it is conceivable that business families' strategies toward maximizing firm value may follow a life cycle (Franks et al., 2012), in which concerns about the imposition of inheritance taxes become more prominent with the aging of the business family leader. Also, it is an open question about the impact of high inheritance taxes on family firms' ownership structure over time. Future research could examine the effect of inheritance laws on different stages of family business leaders' lives and look further into the governance effects of the death of the family leader in high inheritance tax countries by adopting a longitudinal design.

Fourth, to address our research question, we theorize and provide empirical evidence for country-level contingencies that affect the family control-firm value relationship. However, family characteristics, such as whether the founder is alive, time to succession, descendants' structure, and involvement in the firm (Villalonga & Amit, 2006), can complement our research. We encourage future research to explore the role of these family contingencies further when assessing the effect of inheritance law on family firm outcomes.

Finally, future research could extend our work by exploring how differences in inheritance tax laws across countries can account for family businesses' distinct strategic and governance behavior (Berrone et al., 2020). With this purpose, scholars could explore business decisions such as corporate diversification, international diversification, acquisition, innovation, and board structure, among others.

6 | CONCLUSIONS

The relationship between family control and firm value is a complex and nuanced one. Prior studies suggest that while family control is, on average, associated with lower firm market values (Gómez-Mejía et al., 2007; Villalonga & Amit, 2006), this relationship is highly dependent on country-level contingencies. In particular, investor protection has been found to mitigate family control's negative role in firm value (Dow & McGuire, 2016). We add to this literature by focusing on the role that inheritance taxes also play on family firms' expected market value. By combining agency, socioemotional wealth, stewardship, and institutional theories, we build and offer robust support to our arguments regarding the positive moderator role of

inheritance taxes on the family firm-and firm' market value relationship, and how such benefits of high inheritance tax rates are reduced when a higher level of protection of minority shareholder are also in-place in a country.

Our results offer both theoretical and practical implications. First, we find evidence consistent with the idea that inheritance taxes reduce agency costs between the controlling family and minority shareholders, an aspect of agency theory that has not been fully explored in the corporate governance literature. Second, we show that the inheritance obligation can act as an external corporate governance mechanism that threatens family members' socioemotional wealth, therefore pushing families to focus more on value maximization and less on pursuing family-centric goals that conflict with the firm's profit maximization. Third, from a practical point of view, our results corroborate that policymakers' concerns regarding the protection of minority shareholders must not consider only investor protection laws, but also how investor protection interact with other institutions such as inheritance law.

ORCID

Marcelo Ortiz https://orcid.org/0000-0001-5211-1157
Patricio Duran https://orcid.org/0000-0002-7570-6695

ENDNOTES

[1] Astrachan and Tutterow (1996) surveyed 1,003 family firms to examine the effect of estate taxes on family business behavior. They found that the majority of family owners believe estate taxes will threaten their business's survival. Thirty-three percent believe that paying estate taxes will require selling all or part of the business. We follow the argumentation of Grossmann and Strulik (2010) claiming that although family owners may anticipate liquidity constrains when confronted with inheritance tax obligations, the arguments that inheritance taxes lead to significant financial drawbacks for family owners (Sund, Melin, & Haag, 2015) remain the dominant view in the literature.

[2] We excluded the following countries from the final sample due to lack of anti-self-dealing data: China, Cyprus, Czech Republic, Indonesia, Liechtenstein, Malta, Malaysia, Poland, Russia, Singapore, Turkey, and Ukraine. The following countries were excluded from the final sample since names structures used in the country impede the proper identification of the parents' surnames: Hong Kong, India, Israel, Japan, Latvia, Luxembourg, Philippines, and South Korea.

[3] Both foundational and incorporation age variables have many missing values: 213 for *foundational longevity* and 56 for *incorporation longevity*. To make use of all observations, we add an extra dummy variable for each longevity variable. This dummy variable is equal to one where there is a missing value in the respective longevity variable. Then, we replace with zero all missing values in the longevity variables. This permits the use of all observations and control for missing values.

REFERENCES

Abdi, M., & Aulakh, P. S. (2012). Do country-level institutional frameworks and interfirm governance arrangements substitute or complement in international business relationships? *Journal of International Business Studies*, *43*(5), 477–497.

Aguilera, R. V., & Grøgaard, B. (2019). The dubious role of institutions in international business: A road forward. *Journal of International Business Studies*, *50*(1), 20–35.

Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2003). Founding family ownership and the agency cost of debt. *Journal of Financial Economics*, *68*(2), 263–285.

Anderson, R. C., & Reeb, D. M. (2003). Founding family ownership and firm performance: Evidence from the S&P 500. *Journal of Finance*, *58*(3), 1301–1328.

Arregle, J., Duran, P., Hitt, M., & van Essen, M. (2017). Why is family firms' internationalization unique? A meta-analysis. *Entrepreneurship: Theory and Practice*, *41*(5), 801–831.

Astrachan, J. H., & Tutterow, R. (1996). The effect of estate taxes on family business: Survey results. *Family Business Review*, *9*(3), 303–314.

Banerjee, S., Leleux, B., & Vermaelen, T. (1997). Large shareholdings and corporate control: An analysis of stake purchases by French holding companies. *European Financial Management*, *3*(1), 23–43.

Beckert, J. (2004). *Inherited wealth*. Princeton, NJ: Princeton University Press.

Belenzon, S., Berkovitz, T., & Rios, L. A. (2013). Capital markets and firm organization: How financial development shapes European corporate groups. *Management Science*, *59*(6), 1326–1343.

Berrone, P., Cruz, C., Gómez-Mejía, L., & Larraza-Kintana, M. (2010). Socioemotional wealth and corporate responses to institutional pressures: Do family-controlled firms pollute less? *Administrative Science Quarterly*, *55*(1), 82–113.

Berrone, P., Cruz, C., & Gómez-Mejía, L. R. (2012). Socioemotional wealth in family firms: Theoretical dimensions, assessment approaches, and agenda for future research. *Family Business Review*, *25*(3), 258–279.

Berrone, P., Duran, P., Gómez-Mejía, L. R., Heugens, P., Kostova, T., & van Essen, M. (2020). Impact of informal institutions on the prevalence, strategy, and performance of family firms: A meta-analysis. *Journal of International Business Studies*. https://doi.org/10.1057/s41267-020-00362-6

Bertrand, M., Johnson, S., Samphantharak, K., & Schoar, A. (2008). Mixing family with business: A study of Thai business groups and the families behind them. *Journal of Financial Economics*, *88*(3), 466–498.

Bertrand, M., & Schoar, A. (2006). The role of family in family firms. *Journal of Economic Perspectives*, *20*(2), 73–96.

Brunetti, M. J. (2006). The estate tax and the demise of the family business. *Journal of Public Economics*, *90* (10–11), 1975–1993.

Bruno, V., & Claessens, S. (2010). Corporate governance and regulation: Can there be too much of a good thing? *Journal of Financial Intermediation*, *19*(4), 461–482.

Burkart, M., Panunzi, F., & Shleifer, A. (2003). Family firms. *Journal of Finance*, *58*(5), 2167–2201.

Cagetti, B. M., & Nardi, M. (2009). Estate taxation, entrepreneurship, and wealth. *American Economic Review*, *99* (1), 85–111.

Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice*, *29*(3), 249–265.

Carney, M., Gedajlovic, E., & Strike, V. M. (2014). Dead money: Inheritance law and the longevity of family firms. *Entrepreneurship Theory and Practice*, *38*(6), 1261–1283.

Carney, M., & Nason, R. S. (2018). Family business and the 1%. *Business & Society*, *57*(6), 1191–1215.

Caselli, F., & Gennaioli, N. (2013). Dynastic management. *Economic Inquiry*, *51*(1), 971–996.

Chinn, M. D., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions. *Journal of Development Economics*, *81*(1), 163–192.

Chua, J. H., Chrisman, J. J., Steier, L. P., & Rau, S. B. (2012). Sources of heterogeneity in family firms: An introduction. *Entrepreneurship Theory and Practice*, *36*(6), 1103–1113.

Claessens, S., Djankov, S., & Lang, L. H. P. (2000). The separation of ownership and control in East Asian Corporations. *Journal of Financial Economics*, *58*(1–2), 81–112.

Cuervo-Cazurra, A., Mudambi, R., & Pedersen, T. (2019). Clarifying the relationships between institutions and global strategy. *Global Strategy Journal*, *9*(2), 151–175.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*(6), 1155–1177.

Dhillon, A., & Rossetto, S. (2015). Ownership structure, voting, and risk. *Review of Financial Studies*, *28*(2), 521–560.

Djankov, S., la Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2008). The law and economics of self-dealing. *Journal of Financial Economics*, *88*(3), 430–465.

Doidge, C., Karolyi, G. A., & Stulz, R. M. (2004). Why are foreign firms listed in the U.S. worth more? *Journal of Financial Economics*, *71*(2), 205–238.

Dow, S., & McGuire, J. (2016). Family matters? A cross-national analysis of the performance implications of family ownership. *Corporate Governance: An International Review*, *24*(6), 584–598.

Duran, P., Kammerlander, N., van Essen, M., & Zellweger, T. (2016). Doing more with less: Innovation input and output in family firms. *Academy of Management Journal*, *59*(4), 1224–1264.

Duran, P., Kostova, T., & van Essen, M. (2017). Political ideologies and the internationalization of family-controlled firms. *Journal of World Business*, *52*(4), 474–488.

Duran, P., & Ortiz, M. (2020). When more is better: Multifamily firms and firm performance. *Entrepreneurship Theory and Practice*, *44*(4), 761–783.

Duran, P., van Essen, M., Heugens, P. P. M. A. R., Kostova, T., & Peng, M. W. (2019). The impact of institutions on the competitive advantage of publicly-listed family firms in emerging markets. *Global Strategy Journal*, *9*(2), 243–274.

Ellul, A., Pagano, M., & Panunzi, F. (2010). Inheritance law and investment in family firms. *American Economic Review*, *100*(5), 2414–2450.

Fama, E. F., & Jensen, M. C. (1985). Organizational forms and investment decisions. *Journal of Financial Economics*, *14*(1), 101–119.

Fogel, K. (2006). Oligarchic family control, social economic outcomes, and the quality of government. *Journal of International Business Studies*, *37*(5), 603–622.

Franks, J., Mayer, C., Volpin, P., & Wagner, H. F. (2012). The life cycle of family ownership: International evidence. *Review of Financial Studies*, *25*(6), 1675–1712.

Gentry, R., Dibrell, C., & Kim, J. (2016). Long-term orientation in publicly traded family businesses: Evidence of a dominant logic. *Entrepreneurship Theory and Practice*, *40*(4), 733–757.

Gersick, K. E., Davis, J. A., Hampton, M. M., & Lansberg, I. (1997). *Generation to generation: Life cycles of the family business*. Boston, MA: Harvard Business School Press.

Gilding, M. (1999). Superwealth in Australia: Entrepreneurs, accumulation and the capitalist class. *Journal of Sociology*, *35*(2), 169–182.

Gómez-Mejía, L. R., Haynes, K., Núñez-Nickel, M., Jacobson, K., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly*, *52*(1), 106–137.

Gómez-Mejía, L. R., Makri, M., & Larraza-Kintana, M. (2010). Diversification decisions in family-controlled firms. *Journal of Management Studies*, *47*(2), 223–252.

Gómez-Mejía, L. R., Nuñez-Nickel, M., & Gutierrez, I. (2001). The role of family ties in agency contracts. *Academy of Management Journal*, *44*(1), 81–95.

Greenwood, R., Díaz, A. M., Li, S. X., & Lorente, J. C. (2010). The multiplicity of institutional logics and the heterogeneity of organizational responses. *Organization Science*, *21*(2), 521–539.

Grossmann, V., & Strulik, H. (2010). Should continue family firms face lower taxes than other estates? *Journal of Public Economics*, *94*(1–2), 87–101.

Guillén, M. F., & Capron, L. (2016). State capacity, minority shareholder protections, and stock market development. *Administrative Science Quarterly*, *61*(1), 125–160.

Harrington, B. (2012). Trust and estate planning: The emergence of a profession and its contribution to socioeconomic inequality 1. In *Sociological forum* (Vol. 27, pp. 825–846). Oxford, England: Blackwell Publishing.

Harrington, B. (2016). *Capital without borders*. Boston, MA: Harvard University Press.

Harrington, B., & Strike, V. M. (2018). Between kinship and commerce: Fiduciaries and the institutional logics of family firms. *Family Business Review*, *31*(4), 417–440.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360.

Kalnins, A. (2018). Multicollinearity: How common factors cause type 1 errors in multivariate regression. *Strategic Management Journal*, *39*(8), 2362–2385.

Kingsley, A. F., Noordewier, T. G., & Vanden Bergh, R. G. (2017). Overstating and understating interaction results in international business research. *Journal of World Business*, *52*(2), 286–295.

Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, *10*(5), 703–728.

Korean Herald. (2019). High inheritance tax fuels chaebol monopoly. Retrieved from http://www.koreaherald.com/view.php?ud=20190418000688

Kutner, M. H., Neter, J., Nachtsheim, C. J., & Li, W. (2005). *Applied linear statistical models*. New York, NY: McGraw Hill.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, *106*(6), 1113–1155.

la Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2002). Investor protection and corporate valuation. *Journal of Finance*, *57*(3), 1147–1170.

Lins, K. V., Volpin, P., & Wagner, H. F. (2013). Does family control matter? International evidence from the 2008–2009 financial crisis. *Review of Financial Studies*, *26*(10), 2583–2619.

Luiz, J., Stringfellow, D., & Jefthas, A. (2017). Institutional complementarity and substitution as an internationalization strategy: The emergence of an African multinational giant. *Global Strategy Journal*, *7*(1), 83–103.

Luo, X. R., & Chung, C. N. (2013). Filling or abusing the institutional void? Ownership and management control of public family businesses in an emerging market. *Organization Science*, *24*(2), 591–613.

Marcus, G. E., & Hall, P. D. (1992). *Lives in trust: The fortunes of dynastic families in late twentieth-century America*. Boulder, CO: Westview Press.

Martin, X. (2014). Institutional advantage. *Global Strategy Journal*, *4*(1), 55–69.

Masulis, R. W., Pham, P. K., & Zein, J. (2011). Family business groups around the world: Financing advantages, control motivations, and organizational choices. *Review of Financial Studies*, *24*(11), 3556–3600.

Maury, B. (2006). Family ownership and firm performance: Empirical evidence from Western European corporations. *Journal of Corporate Finance*, *12*(2), 321–341.

Miller, D., & le Breton-Miller, I. (2005). *Managing for the long run: Lessons in competitive advantage from great family businesses*. Boston, MA: Harvard Business School Press.

Miller, D., le Breton-Miller, I., & Lester, R. H. (2013). Family firm governance, strategic conformity, and performance: Institutional vs. strategic perspectives. *Organization Science*, *24*(1), 189–209.

Miller, D., le Breton-Miller, I., & Scholnick, B. (2008). Stewardship vs. stagnation: An empirical comparison of small family and non-family businesses. *Journal of Management Studies*, *45*(1), 51–78.

Misangyi, V. F., & Acharya, A. G. (2014). Substitutes or complements? A configurational examination of corporate governance mechanisms. *Academy of Management Journal*, *57*(6), 1681–1705.

Morck, R., Strangeland, D. A., & Yeung, B. (2000). Inherited wealth, corporate control, and economic growth: The Canadian disease? In R. Morck (Ed.), *Concentrated corporate ownership* (pp. 319–369). Chicago, IL: University of Chicago Press.

Morck, R. K., & Yeung, B. (2003). Agency problems in large family business groups. *Entrepreneurship Theory and Practice*, *27*(4), 367–382.

Mukherjee, A., Singh, M., & Žaldokas, A. (2017). Do corporate taxes hinder innovation? *Journal of Financial Economics*, *124*(1), 195–221.

Nason, R., Mazzelli, A., & Carney, M. (2019). The ties that unbind: Socialization and business-owning family reference point shift. *Academy of Management Review*, *44*(4), 846–870.

O'Boyle, E., Pollack, J. M., & Rutherford, M. W. (2012). Exploring the relation between family involvement and firms' financial performance: A meta-analysis of main and moderator effects. *Journal of Business Venturing*, *27*(1), 1–18.

Peng, M. W., Sun, S. L., Pinkham, B., & Chen, H. (2009). The institution-based view as a third leg for a strategy tripod. *Academy of Management Perspectives*, *23*(3), 63–81.

Peterson, M. F., Arregle, J. L., & Martin, X. (2012). Multilevel models in international business research. *Journal of International Business Studies*, *43*(5), 451–457.

Piketty, T. (2014). *Capital in the 21st century*. Boston, MA: Harvard University Press.

Schneider, B. (2013). *Hierarchical capitalism in Latin America: Business, labor, and the challenges of equitable development*. Cambridge: Cambridge University Press.

Schulze, W. G., Lubatkin, M. H., & Dino, R. N. (2003). Toward a theory of agency and altruism in family firms. *Journal of Business Venturing*, *18*(4), 473–490.

Schulze, W. G., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency relationships in family firms: Theory and evidence. *Organization Science*, *12*(2), 99–116.

Shao, L., Kwok, C. C., & Guedhami, O. (2013). Dividend policy: Balancing shareholders' and creditors' interests. *Journal of Financial Research*, *36*(1), 43–66.

Sirmon, D. G., & Hitt, M. A. (2003). Managing resources: Linking unique resources, management, and wealth creation in family firms. *Entrepreneurship Theory and Practice*, *27*(4), 339–358.

Stevens, C. E., Kidwell, R. E., & Sprague, R. (2015). Bound by laws, or by values? A multi-level and cross-national approach to understanding the protection of minority owners in family firms. *Corporate Governance: An International Review*, *23*(3), 203–215.

Sund, L.-G., Melin, L., & Haag, K. (2015). Intergenerational ownership succession. *Journal of Family Business Strategy*, *6*(3), 166–177.

Tsoutsoura, M. (2015). The effect of succession taxes on family firm investment: Evidence from a natural experiment. *Journal of Finance*, *70*(2), 649–688.

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics*, *80*(2), 385–417.

Wessel, S., Decker, C., Lange, K. S., & Hack, A. (2014). One size does not fit all: Entrepreneurial families' reliance on family offices. *European Management Journal*, *32*(1), 37–45.

Wilson, N., Wright, M., & Scholes, L. (2013). Family business survival and the role of boards. *Entrepreneurship Theory and Practice*, *37*(6), 1369–1389.

Young, M. N., Peng, M. W., Ahlstrom, D., Bruton, G. D., & Jiang, Y. (2008). Corporate governance in emerging economies: A review of the principal–principal perspective. *Journal of Management Studies*, *45*(1), 196–220.

Zellweger, T., & Kammerlander, N. (2015). Family, wealth, and governance: An agency account. *Entrepreneurship Theory and Practice*, *39*(6), 1281–1303.

Zellweger, T., Nason, R. S., Nordqvist, M., & Brush, C. G. (2013). Why do family firms strive for nonfinancial goals? An organizational identity perspective. *Entrepreneurship Theory and Practice*, *37*(2), 229–248.

Zellweger, T., Richards, M., Sieger, P., & Patel, P. C. (2016). How much am I expected to pay for my parents' firm? An institutional logics perspective on family discounts. *Entrepreneurship Theory and Practice*, *40*, 1041–1069.

Zhou, N., & Guillén, M. F. (2019). Institutional complementarities and corporate governance: The case of hostile takeover attempts. *Corporate Governance: An International Review*, *27*(2), 82–97.

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APPENDIX

TABLE A1 Stock market indexes

Country	Stock index name
Argentina	MERVAL
Australia	S&P/ASX200
Austria	VIENA STOCK EX
Belgium	BEL20
Brazil	IBOVESPA
Bulgaria	SOFIX
Canada	S&P/TSX equity index
Chile	IPSA
Colombia	COLCAP
Denmark	KAX
Finland	OMX Helsinki
France	CAC 40
Germany	DAX
Greece	ASE
Hungary	BUDAPEST STOCK INDEX
Ireland	ISEQ
Italy	FTSE MIB
Lithuania	VILSE
Mexico	IPC
Netherland	AEX
New Zealand	S&P/NZX 50
Norway	OBX
Peru	S&P/BVL LIMA 25
Portugal	PSI 20
Romania	BET
South Africa	FTSE/JSE AFRICA ALL SHARE
Spain	IBEX
Sweden	OMX Stockholm 30
Switzerland	SMI
United Kingdom	FTSE 100
United States	S&P 500