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Essays on Family Firm Decision-Making, Performance, and Valuation

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**Essays on Family Firm Decision-Making,
Performance, and Valuation**

To my parents

for everything

ABSTRACT

In my doctoral dissertation, I conduct research on family firm decision-making, performance, and valuation. In particular, I explore (i) the role stocks—in contrast to flow-based theories used by extant research (i.e., prospect theory and its derivatives)—in share repurchasing decisions of family firms by drawing on motivation-opportunity-ability theory of behavior and the developed stock-based view on family firm decision-making, (ii) the moderating effect of national culture (i.e., the degree of masculinity) on the effects of board diversity on family firm performance by drawing on upper echelons theory, and (iii) the effects of non-family-managed family firms on firm valuation in the acquisition context by drawing on signaling theory.

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LIST OF ABBREVIATIONS

BvD	Bureau van Dijk
CEO	Chief executive officer
CDAX	Composite DAX
Coef.	Coefficient
Conf. Int.	Confidence interval
Dr.	Doctor
DV	Dependent variable
E.g.,	Example given
Et al.	Et alia
EBITDA	Earnings before interest, taxes, depreciation, and amortization
EV	Enterprise value
Excl.	Excluding
FF	Family firm
FW	Financial wealth
Ln	Natural logarithm
M&A	Mergers and acquisitions
I.e.	Id est
IPO	Initial public offering
ISIN	International Securities Identification Number
IT	Information technology
IV	Independent variable
OLS	Ordinary least squares
Prof.	Professor
R&D	Research and development

ROA	Return on assets
SDC	Securities Data Company
SEW	Socioemotional wealth
SIC code	Standard industrial classification code
Std. Err.	Standard error
TMT	Top management team
US	United states
VIF	Variance inflation factor
Wins.	Winsorized

INTRODUCTION OF DISSERTATION

MOTIVATION AND BACKGROUND

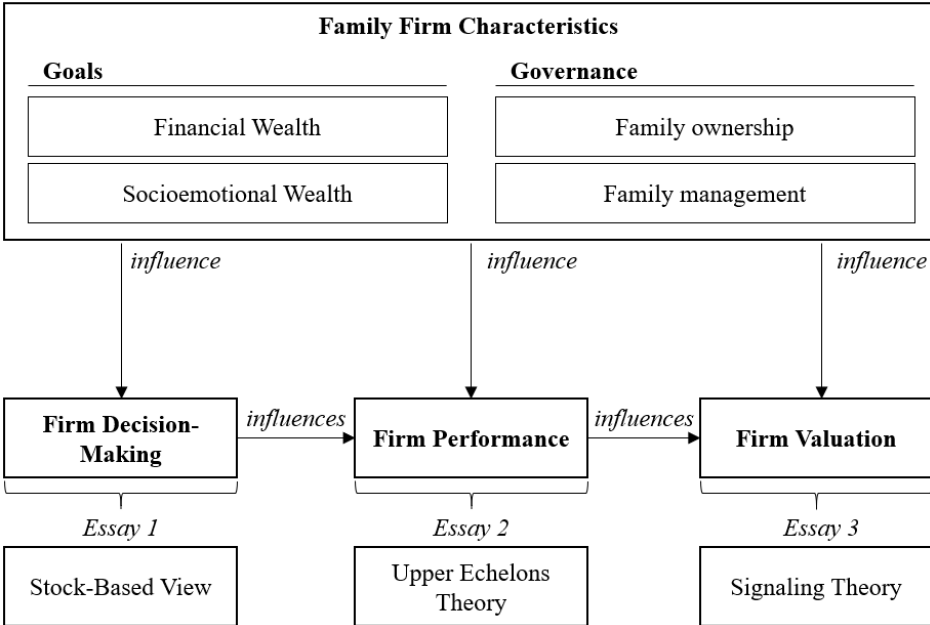
Family firms¹ are the backbone of our economy and account for approximately 70 percent of global gross domestic product (De Massis, Frattini, Majocchi, & Piscitello, 2018). As one of the most common organizational forms (e.g., Claessens, Djankov, & Lang, 2000; Faccio & Lang, 2002), they are important as employers, innovators, and providers of goods and services (Bertrand & Schoar, 2006; Duran, Kammerlander, van Essen, & Zellweger, 2016; Neckebrouck, Schulze, & Zellweger, 2018). But how did family firms become this dominant and important in our economy? As the competition for profits is omnipresent in our free market economy, I argue that parts of the success of family firms can be attributed to family firm decision-making, performance, and valuation. In other words, if the decision-making, performance, and valuation of family firms would have been different, they might have not been as prevalent in our economy. For instance, if family firms had made inferior decisions compared to non-family firms, they would have eventually financially underperformed. If family firms had financially underperformed, they would have a declining share of global output and in the most extreme case would have gone bankrupt. Similarly, if family firms had been consistently undervalued, non-family firms would have acquired them as ‘bargains’, leading also to an overall decline of the proportion of family firms. Hence, I will focus in my doctoral dissertation on exploring and expanding the knowledge on the differences between family and non-family firms in decision-making, performance, and valuation differences and their respective implications.

Family firm decision-making, performance, and valuation are three interconnected research areas as illustrated in Figure 1. It is already well established that family firms possess idiosyncratic characteristics (Gedajlovic, Carney, Chrisman, & Kellermanns, 2012). These

¹ This dissertation follows (if not defined differently in the essays) a broad family firm definition in which family firms are defined as firms in which family owners exercise substantial influence over their firms’ decision-making (e.g., Carney (2005)).

characteristics lead to a different family firm decision-making and, hence, also different performance and valuation outcomes for family firms than for non-family firms. The most well-established family firm characteristics are that (i) owning families exercise significant control over family firms due to their ownership stake and the frequent unification of ownership and control in the hands of families (Carney, 2005; Villalonga & Amit, 2006) and that (ii) family firms do not only pursue financial wealth as suggest by the Friedman doctrine (Friedman, 1970) but also socioemotional wealth (SEW: Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007)². As a result of the control of owning families and their goal to preserve and expand their SEW through their family firms, family firms differ in terms of the decision-making compared to non-family firms (e.g., Berrone, Cruz, Gómez-Mejía, & Larrazza-Kintana, 2010; Gómez-Mejía et al., 2007; Gómez-Mejía, Makri, & Kintana, 2010).

FIGURE 1: Overview and Interdependencies of Topics



These differences in decision-making in turn influence firm performance and firm valuation outcomes. For instance, family firm decision-making can *directly* influence family firm valuations when family firms engage in higher IPO underpricing (e.g., Kotlar, Signori, De

² The theoretical background in Essay 1 provides more information on the construct of SEW.

Massis, & Vismara, 2018). Additionally, family firm decision-making can also *indirectly* influence family firm valuations when the differences in decision-making lead to other firm performance outcomes, for instance, when family firms focus on preserving their reputation even at the expense of the profitability of their firms (Berrone et al., 2010), have a stronger long-term orientation than non-family firms to invest in profitable projects that would not be implemented in publicly listed firms (e.g., Gedajlovic et al., 2012; James, 1999), or are more decisive to increase R&D investments improve firm performance from below aspiration levels (Chrisman & Patel, 2012). These differences in firm performance outcomes in turn are likely to be reflected in the valuations of family firms given that the basis of firm valuation in the long-run are the generated cashflows in perpetuity (Graham, 1949).

Additionally, family firm characteristics can also directly influence firm performance and valuation outcomes. For instance, high ownership levels and the use of control enhancing mechanisms can be associated with high levels of managerial entrenchment and intentions of private wealth extraction (Cronqvist & Nilsson, 2003; Eugster & Isakov, 2019a; King & Santor, 2008; Villalonga & Amit, 2006). As a consequence, non-family investors and shareholders may fear to be expropriated by the controlling families when these pursue non-financial goals, resulting in lower valuations (e.g., Eugster & Isakov, 2019a; Isakov & Weisskopf, 2014). Similarly can the family firm status help to attract resources such as talent (e.g., Botero, 2014; Kahlert, Botero, & Prügler, 2017) and social capital (e.g., Arregle, Hitt, Sirmon, & Very, 2007; Habbershon, Williams, & MacMillan, 2003) that both may lead to different firm performance outcomes than for non-family firms.

In sum, family firms are critical parts of our economy, and they differ from non-family firms in terms of decision-making, performance, and valuation. In the overall dissertation, I will focus on exploring the differences between family and non-family firms in these three research areas.

OVERVIEW OF ESSAYS AND RESEARCH OBJECTIVES

My overall research objective in this doctoral dissertation is to create and extend theories on family firm decision-making, performance, and valuation. While in all three areas, researchers have already conducted extensive research, I (together with my supervisor Prof. Dr. Nadine Kammerlander) identified three unique foci to add to the existing scholarly discussions. Table 1 provides an overview of the three research projects.

Family Firm Decision-Making

Family firm decision-making differs from non-family firm decision-making given the goal of controlling families to preserve and expand not only their financial wealth (FW) but also their socioemotional wealth (SEW) (Berrone, Cruz, & Gómez-Mejía, 2012; Gómez-Mejía et al., 2007; Souder, Zaheer, Sapienza, & Ranucci, 2017). To preserve and grow their SEW, family firms, for instance, engage in higher IPO underpricing than non-family firms (Kotlar et al., 2018), remain independent and in control instead of joining a cooperative or diversify their business (Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010), and implement higher environmental standards even if they are not necessary and even unprofitable in order to protect their reputation (Berrone et al., 2010). Extant research explains these strategic decisions of family firms based on flow-based theories such as prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gómez-Mejía, 1998). Given the assumption of reference point dependence in these theories, the size of the stocks of wealth should not influence the value owning families derive from prospects. In other words, the value function of owning families is based on changes relative to a reference point and not based on the current endowment or expected future endowment given the isolation assumption of prospect theory (Bromiley, 2010). However, the size of possessed stocks is a well-known factor affecting the utility of any additional unit in economics (Gossen, 1854; Menger, 1871).

Thus, the first essay focuses on the research question: *does the size of stocks influence family firm decision-making?* By exploring the effect of control rights on share repurchase

behavior, the essay shows that (i) family management strengthens the positive effect of undervaluation on the amount of shares repurchased and (ii) that minority control weakens the positive effect of family management and undervaluation. This suggests that family managers generally have a higher motivation and ability to repurchase shares when the stocks of their firms are undervalued and that the size of control stocks (i.e., minority versus majority family control) alters the motivation of family managers in repurchasing decisions. Thus, the essay contributes to family firm decision-making research (e.g., Berrone et al., 2010; Gómez-Mejía et al., 2007; Gómez-Mejía, Patel, & Zellweger, 2018; Kotlar et al., 2018) by providing evidence that the size of stocks matter and by introducing theory that explains how the size of stocks affects family firm decision-making.

Family Firm Performance

Scholars have already extensively researched the effect on the financial performance of family firms (e.g., Miller, Le Breton-Miller, Lester, & Cannella, 2007; O'Boyle, Pollack, & Rutherford, 2012). They identified among other factors family generation, family management involvement, and control enhancing mechanisms as drivers of family firm performance (e.g., Anderson & Reeb, 2003; King & Santor, 2008; Villalonga & Amit, 2006). However, the effects of diversity on firm performance in family firm research are scarce and in some regards contradicting (e.g., Binacci, Peruffo, Oriani, & Minichilli, 2016; Chadwick & Dawson, 2018; Magnanelli, Nasta, & Raoli, 2020)³ despite an established research tradition within diversity research that focused on the effects of top management team composition on firm performance (e.g., Hambrick, 2007; Hambrick & Mason, 1984). The existing studies, however, have in

³ Only few studies explored the effects of tenure and nationality diversity on family firm performance (Binacci, Peruffo, Oriani, & Minichilli, 2016). In contrast, multiple studies explored the effects of gender diversity but these studies yielded contradictory results: for instance, some studies based on agency theory suggest a positive effect of gender diversity on family firm performance (e.g., Magnanelli et al., 2020; Vieira, 2018) while other studies based on upper echelons theory and the double standards hypothesis suggest a negative one (e.g., Chadwick & Dawson, 2018; González et al., 2020).

common that they mostly relied on single-country designs and, hence, neglected national culture as a contingency factor that may reconcile contradictory findings of extant research.

Thus, the second essay explores the research question: *how does board diversity affect financial performance in family firms compared to non-family firms and what are important contingencies?* In particular, this essay explores the effects of tenure and nationality diversity on family firm performance and national culture as contingency. The results show negative effects of tenure and nationality diversity on firm performance in family firms and, hence, support the argument that the positive effects of diversity may be negated by a high degree of power disparity in family firms among family and non-family managers. Additionally, the contingency analyses using the degree of masculinity in national culture shows that the effect of board diversity in family firms is moderated by national culture. Overall, this study contributes to diversity research in family firms (e.g., Abdullah, 2014; Binacci et al., 2016; Chadwick & Dawson, 2018; Ling & Kellermanns, 2010) by introducing national culture as an important contingency altering the relationship of diversity on family firm performance using upper echelons theory. Hence, the findings may help to reconcile contradictory results in extant research (e.g., Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; Magnanelli et al., 2020; Vieira, 2018).

TABLE 1: Overview of Research Projects

	Essay 1 on family firm decision-making	Essay 2 on family firm performance	Essay 3 on family firm valuation
Title	When are Families satisfied with their Level of Control? A Stock-Based View on Family Firm Decision-Making in the Context of Share Repurchases	Board Diversity in Family Firms across Cultures: A Contingency Analyses on the Effects of Gender, Tenure, and Nationality Diversity on Firm Performance	Firm Value Implications of Non-Family-Managed Family Firms: A Signaling Perspective in the Acquisition Context
RQ	Does the size of stocks influence family firm decision-making?	How does board diversity affect financial performance in family firms compared to non-family firms and what are important contingencies?	How does the absence of family managers in family firms affect the valuation of family firms as targets in acquisitions and what are important contingencies?
Theoretical foundation	Stock-based view and motivation-opportunity-ability theory of behavior	Upper echelons theory	Signaling theory
Unit of analyses	Firms	Firms	Firms
Method	Quantitative	Quantitative	Quantitative
Sample	3,194 firm-year observations of publicly listed firms in Germany between 2006 and 2016	5,817 firm-year observations of publicly listed European firms between 2011 and 2018	189 acquisitions of German and Italian firms between 2009 and 2019
Data collection	Hoppenstedt Aktienführer, BoardEx, and Thomson Reuters Datastream	BoardEx, BvD's Amadeus database, and Hofstede Insights	Thomson's SDC Platinum database and BvD's Amadeus database,
DV	Share repurchase ratio	ROA based on EBITDA	EV/EBITDA multiple
IV(s)	Book to market ratio	Tenure diversity, gender diversity, and nationality diversity	Non-family-managed family firm
Moderator(s)	Family management and family minority control	Family firm and degree of masculinity in national culture	Financial acquirer, not-industry-related acquirer
Estimation method	Tobit regressions with robust standard errors clustered at the firm level	OLS regressions with robust standard errors clustered at firm level	OLS regressions

Main findings	<p>(i) Managers do on average not take advantage of undervaluation opportunities</p> <p>(ii) Family managers strengthen the positive effect of undervaluation on share repurchases, indicating a higher ability and motivation to take advantage of undervaluation opportunities for family managers</p> <p>(iii) Minority control weakens the positive effect of family management and undervaluation, supporting the idea that the level of stocks influence motivation and, hence, behavior</p>	<p>(i) Negative effects of tenure and nationality diversity on firm performance in family firms</p> <p>(ii) The effect of board diversity in family firms is moderated by national culture (i.e., degree of masculinity): in particular (a) larger differences in gender roles in cultures that enhance the benefit of cognitive variety from gender diversity in family firms and (b) a stronger preference for achievement that strengthens negative separation effects of tenure diversity and negative power disparity effects in family firms</p>	<p>(i) The absence of family managers in family firms alone is not a statistically significant signal for potential acquirers to pay higher firm valuation</p> <p>(ii) The signal is interpreted more positively by financial institutions and investment firms</p> <p>(iii) The signal is further strengthened by a higher degree of information asymmetry (i.e., non-industry relatedness between acquirers and family firm targets)</p>
Main contributions	<p>(i) Setting forth theory by introducing and developing a stock-based view on family firm decision-making</p> <p>(ii) Introduction of goals, level of need fulfilment, and availability of favorable exchange opportunities of families as factors affecting the value of stocks</p> <p>(iii) Identification of family managers as insiders with market timing ability and shift to explore share repurchases through a shareholder value lens</p>	<p>(i) Shift of the focus from the effect of diversity in family firms on firm performance to important contingencies, in particular, national culture</p> <p>(ii) Novel empirical evidence through a multi-country study and by including tenure and nationality diversity</p> <p>(iii) Development of a more nuanced theory on how various diversity dimensions conceptualized by Harrison and Klein (2007) play out in the family firm context</p>	<p>(i) Extension of family firm valuation research by arguing providing evidence that differences in family firm valuations are not only caused by family firm heterogeneity but also by heterogeneity in investor preferences</p> <p>(ii) Emphasizing the importance of non-family-managed family firms</p> <p>(iii) Advancement of the use of signaling theory in family firms by introducing the absence of family managers in family firms as a family firm-idiosyncratic signal</p>
Co-Author Publication status	<p>Prof. Dr. Nadine Kammerlander Unpublished working paper</p>	<p>Prof. Dr. Nadine Kammerlander Unpublished working paper</p>	<p>Prof. Dr. Nadine Kammerlander Unpublished working paper</p>

Family Firm Valuation

Family firm valuations differ as a consequence of differences in the financial performance and perceptions of family firms compared to non-family firms (Anderson & Reeb, 2003; Eugster & Isakov, 2019a; Graham, 1949; Villalonga & Amit, 2006). While extensive research was conducted on the drivers of firm valuation of publicly listed firms (e.g., Anderson & Reeb, 2003; Villalonga & Amit, 2006), the acquisition context has been largely neglected (Granata & Chirico, 2010). This context is interesting because (i) it allows the inclusion of privately listed firms that may lead to different results given the context sensitivity of family firm valuations (e.g., Miller et al., 2007) and (ii) initial results in the acquisition context are ambiguous whether family firms are purchased at a discount or at a premium (e.g., Gonenc, Hermes, & van Sinderen, 2013; Granata & Chirico, 2010). The few studies focusing on the acquisition context already identified that different constellations of family and non-family acquirers and targets affect firm valuations (e.g., Feldman, Amit, & Villalonga, 2019; Gonenc et al., 2013; Haider, Li, Wang, & Wu, 2020). However, family owned but not family-managed family firms are yet to be explored and are theoretically interesting to explore given the unique combination of the presence of ownership incentives and the absence of managerial involvement of the controlling families.

Thus, the third essay explores the research question: *how does the absence of family managers affects the valuation of family firms as targets in acquisitions and what are important contingencies of this relationship?* The results show that financial institutions and investment firms and non-industry-related acquirers pay a higher valuation multiple for non-family-managed family firms while other acquirers pay a lower one, supporting the idea that the absence of family managers in family firms serves as a signal for acquirers to distinguish between family firms with and without desired qualities and that investor heterogeneity (and not only family firm heterogeneity) is a driver for family firm valuations.

EMPIRICAL DATA ANALYZED IN THE ESSAYS

For the empirical analysis of Essay 1, I analyzed 3,194 firm-year observations of listed family firms and non-family firms in Germany between 2006 and 2016. I collected the data using the following procedure: First, I obtained a list of all components of the CDAX as of January 2006 from Thomson Reuters' Datastream and excluded firms that are restricted to repurchase shares due to regulatory reasons (i.e., SIC codes starting with 49 and 6). Second, I identified founding family controlled firms by (i) identifying firms controlled by individuals and families based on shareholder information from Hoppenstedt Aktienführer, (ii) compiling the last names of the founders of firms controlled by individuals and families using the corporate homepages of the firms, newspaper articles, and other sources, and (iii) comparing the last names of step (i) and step (ii) to distinguish between family firms controlled by founding families and other family firms. Third, I collected management data from BoardEx to identify founding family managers. Fourth, I extracted accounting and market data from Thomson Reuters Datastream. Last, I combined all data sources and dropped observations with incomplete data..

For the Essay 2, I analyzed 18,564 firm-year observations of 3,367 publicly listed European family and non-family firms between 2011 and 2018. I collected the data in three steps: First, I obtained family ownership, financials, and other firm specific data from Bureau van Dijk's Amadeus database. Second, I gathered national culture data from Hofstede Insights website for each country. Third, I combined both data sources and dropped observations with incomplete data.

For the Essay 3, I analyzed 189 acquisitions of private and publicly listed family and non-family firm targets in Germany and Italy. I collected the data using the following procedure: First, I retrieved acquisitions (excl. debt restructurings, share buybacks, and acquired stakes of less than 50 percent) with German and Italian targets between 2009 and 2019 from the SDC Platinum database. Second, I gathered ownership, management, financials, and other firm

specific data from Bureau van Dijk's Amadeus database. Third, I combined the data from step 1 and 2 by matching full firm names including legal entity types with at least one location identifier (such as city, zip code, and/or street name and number) and dropped observations with incomplete data or negative earnings before interest, taxes, depreciation, and amortization (EBITDA) as negative enterprise value/EBITDA-multiples are not comparable with positive ones.

Among the three essays, there is some data overlap given the inclusion of publicly listed German firms in all three samples and publicly listed Italian firms in two samples. This overlap is necessary as all three papers focus on family firms and similar sources were used in the identification of family ownership and family managers as well as other firm-specific data. However, the resulting three datasets are distinct as all essays (i) included different dependent variables and, hence, required the collection of other analyses-critical data from new sources and some essays (ii) used different sources and (iii) included additional countries in the sample.

STRUCTURE OF DISSERTATION

The remainder of the dissertation is structured four chapters. The first three chapters contain my three independent research projects on family firm decision-making, performance, and valuation. All three projects were co-authored by my doctoral dissertation supervisor Prof. Dr. Nadine Kammerlander and are, hence, written in first-person plural. In the final chapter of the dissertation, I provide a short summary of our findings and draw an overarching conclusion.

ESSAY 1: WHEN ARE FAMILIES SATISFIED WITH THEIR LEVEL OF CONTROL? A STOCK-BASED VIEW ON FAMILY FIRM DECISION-MAKING IN THE CONTEXT OF SHARE REPURCHASES⁴

ABSTRACT

Prior research mostly used prospect theory and its derivatives to explain how and why family firms decide when facing face trade-offs between financial wealth and socioemotional wealth in their strategic decisions. As a consequence of this theoretical foundation, extant research has neglected the possibility that the *size* of wealth stocks instead of changes of stocks (i.e., flows) relative to a reference point influences family firm decision-making (and in particular their value functions). Hence, we develop a *stock-based view* on family firm decision-making as an alternative theoretical basis and test how the level of control rights (i.e., stocks) affects share repurchasing decisions of family firms. Our results based on the repurchasing behavior of German publicly listed firms confirm (i) that family management strengthens the positive effect of undervaluation on the amount of shares repurchased and (ii) that minority control weakens the positive effect of family management and undervaluation. Thus, our study provides support that also the level of stocks—and not only flows—matter in family firm decision-making when family firms face potential losses and gains in multiple wealth dimensions.

INTRODUCTION

Instead of only maximizing financial wealth (FW) (Friedman, 1970), family firms and their controlling family members also pursue non-financial goals (e.g., Gómez-Mejía, Cruz, Berrone, & Castro, 2011; Kets de Vries, 1993; Tagiuri & Davis, 1996). Early family firm

⁴ This essay is an unpublished working paper based on Tao-Schuchardt and Kammerlander (2021c) with the title „When are families satisfied with their level of control?: A stock-based view on family firm decision-making in the context of share repurchases“. A version of this manuscript was submitted to the *Academy of Management Journal* in May 2021, went under review, and was rejected in July 2021. Another version of this manuscript was submitted to the *Journal of Management* in September 2021, went under review, and was rejected November 2021. After revising the manuscript, it was submitted under a new title, “A stock-based view on family firm decision-making: Family firm tradeoffs among financial wealth, control, and reputation in share repurchasing decisions“ to *Journal of Management Studies* in January 2022 and is currently under review.

research suggested that the preservation of the families' affective endowment, labeled as socioemotional wealth (SEW; Gómez-Mejía et al., 2007), always takes priority over FW (Berrone et al., 2012): e.g., when facing potential losses in control, relationships, and reputation (Berrone et al., 2010; Gómez-Mejía et al., 2011; Gómez-Mejía, Nunez-Nickel, & Gutierrez, 2001; Leitterstorf & Rau, 2014). In contrast, more recent research suggests that there is no unconditional preference (Kotlar et al., 2018) and FW can be prioritized when family firms are highly vulnerable (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2018). All explanations, however, have in common that the mechanisms are theoretically grounded in prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gómez-Mejía, 1998) and, hence, focus on changes in stocks to a reference point (i.e., flows) to assess the value of prospects.

As a consequence of this theoretical foundation, the size of the stocks of wealth has so far been mostly neglected as a factor influencing the decision-making (i.e., the value function) of family firms. This is the case as prospect theory assumes isolation—i.e., that prospects are evaluated irrespective of the current endowment (i.e., the size of stocks owned) and that similarities in prospects are cancelled out (Bromiley, 2010; Kahneman & Tversky, 1979). Hence, extant research based on prospect theory and its derivatives only considers the size of stocks to derive the changes in stocks of prospects as *input for* the value functions but not in the assessment of the corresponding value of prospects *in* the value function. Studying the question how the size of stocks influences the decision-making of family firms when family firms face trade-offs between FW and SEW is, however, important because (i) the size of possessed stocks is a well-known factor affecting the utility of any additional unit in economics (Gossen, 1854; Menger, 1871) but has been neglected due to the reference point dependence of prospect theory and (ii) several authors, such as Chua, Chrisman, and De

Massis (2015) called for a clearer distinction between the role of stocks and flows of SEW in family firm decision-making.

So, does the size of stocks influence family firm decision-making? To answer this research question, we develop a stock-based view that aims to explain how and why the size of FW and SEW stocks may influence family decision-making and test how the stock of control rights affects the share repurchasing decisions of family firms. Drawing on motivation-opportunity-ability theory of behavior (Blumberg & Pringle, 1982) and our developed stock-based view on family firm decision-making, our basic argument is that family managers are motivated to repurchase shares even when their stocks are not undervalued despite their higher ability to identify and take advantage of undervaluation opportunities. In particular, we argue that family managers may expect that the derived utility from the purchase of additional control rights compensates the utility losses associated with a certain FW loss and a potential reputation loss. Our results based on 3,194 firm-year observations of publicly listed firms in Germany between 2006 and 2016 support (i) that family management strengthens the positive effect of undervaluation on the amount of shares repurchased and (ii) that minority control weakens the positive effect of family management and undervaluation.

Our study makes several contributions to research: First, we introduce a stock-based view on family firm decision-making. While extant research based on flow-based theories neglects the relevance of the endowed stocks in the possession of families (e.g., Berrone et al., 2010; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2018; Kotlar et al., 2018), we theorize and show that the size of stocks matters in the determination of the value of options in strategic family firm decisions such as share repurchases. Second, we introduce goals, level of need fulfilment, and availability of favorable exchange opportunities of families as factors affecting the value of stocks. While in flow-based theories the distance to a reference point is

a main factor affecting the value of changes in stocks, we theorize and provide evidence that family firms with different levels of transgenerational control intentions (i.e., goals) and control stakes (i.e., fulfilment of the need of transgenerational control) value stocks of FW and SEW differently. Third, we contribute to the share repurchasing research by exploring share repurchases with a shareholder value lens. In particular, we add to the so far mostly explorative research on which types of firms create more shareholder value through repurchases (van Dalsem, 2019) and the established research on market timing ability of managers (e.g., Ikenberry, Lakonishok, & Vermaelen, 1995; Seyhun, 1990) by providing a robust theoretical basis and identifying family managers as corporate insiders that are uniquely equipped to take advantage of undervaluation opportunities.

THEORETICAL BACKGROUND

Family firms, defined as firms in which family owners exercise substantial influence over their firms' decision-making (e.g., Carney, 2005), are distinctive from non-family firms. While shareholder value is the commonly pursued maxim in widely held firms (Friedman, 1970), family owners also pursue non-financial goals through their family firms (e.g., Gómez-Mejía et al., 2011; Kets de Vries, 1993; Tagiuri & Davis, 1996). These non-financial goals include among others using the family firms to derive a sense of identity (Kepner, 1983), project a positive family image (Westhead, Cowling, & Howorth, 2001), satisfy the needs of affect and intimacy (Kepner, 1983), and preserve the family dynasty (Casson, 1999). Overall, these non-financial goals give rise to a bundle of non-financial utilities associated with family firms and family firm control (Arregle et al., 2007; Kepner, 1983; Kets de Vries, 1993; Tagiuri & Davis, 1996; Zellweger, Kellermanns, Chrisman, & Chua, 2012). Gómez-Mejía et al. (2007) labeled the collective set of these non-financial utilities as *socioemotional wealth* (SEW) or *affective endowments*. Thus, research commonly acknowledges that the decision-making of family firms is not only influenced by financial wealth (FW) but also by SEW (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Kotlar et al., 2018).

As most strategic decisions entail a trade-off characterized by potential gains and losses (Bromiley, 2010), research explored under which circumstances which wealth dimension is more important in the decision-making of family firms (Gómez-Mejía et al., 2018; Gómez-Mejía, Campbell, Martin, Hoskisson, Makri, & Sirmon, 2014; Kotlar et al., 2018). Drawing from behavioral agency model (Wiseman & Gómez-Mejía, 1998), early research suggested that SEW is the primary reference point for family firms (Gómez-Mejía et al., 2011) and that the desire to preserve SEW can explain family firm behavior (Berrone et al., 2012). In particular, studies confirmed the predictions of the behavioral agency model that family firms are willing to forgo opportunities to increase their financial wealth and even sacrifice financial wealth to preserve their SEW by showing that family firms, for instance, prefer (i) to retain family managers despite firm underperformance and a probable loss of further FW (Gómez-Mejía et al., 2001), (ii) to remain independent despite financial benefits and reduced business risk in case of joining a cooperative (Gómez-Mejía et al., 2007), (iii) to implement higher environmental standards even if they are not necessary and unprofitable to protect their reputation (Berrone et al., 2010), and (iv) to preserve control instead of diversifying the business to reduce business risk (Gómez-Mejía et al., 2010).

Later research relaxed some initial assumptions of the behavioral agency model and incorporated ideas of prospect theory, temporal dimensions, interdependences of FW and SEW, and heterogeneity in family firm preferences (Chrisman & Patel, 2012; Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2018; Kotlar et al., 2018; Martin & Gomez-Mejia, 2016). First, the research indicates the presence of a hierarchy of SEW dimensions with control as a necessary condition to fulfill transgenerational control intention and to derive the non-financial utilities associated with them (Berrone et al., 2012; Cruz, Larraza-Kintana, Garcés-Galdeano, & Berrone, 2014; Zellweger et al., 2012). As a consequence, families demand a financial compensation when they give up control and, hence, the non-financial utilities

associated with the control (Zellweger et al., 2012). Second, this research shows that SEW and FW goals converge when family firms evaluate decisions in a loss-frame that was conceptualized as below-aspiration performance, high vulnerability, and low levels of slack (Gómez-Mejía et al., 2018). Third, Chrisman and Patel (2012) argue based on myopic loss aversion in their study on research and development (R&D) investments that the degree of risk-aversion decreases with lengthened evaluation periods of decisions. Fourth, Kotlar et al. (2018) theorize that gains and losses of prior decisions can influence later decision-making by proposing a two-stage mixed gamble model for IPO underpricing based on prior research on aversion to realize losses. Thus, current research suggests that there is no clear preference of family firms to always prioritize FW or SEW goals (Kotlar et al., 2018) but that their decision-making depends mostly on the framing and the choice of reference point.

As most extant research has drawn on prospect theory (Kahneman & Tversky, 1979) and its derivatives (Benartzi & Thaler, 1995; Wiseman & Gómez-Mejía, 1998), they assume that decisions are made in isolation—relative to a reference point (Bromiley, 2010). This implies that decisions-making is solely influenced by the isolated gains and losses of a single decision and not by previous decisions or the current stocks of wealth. Notable exceptions have already challenged the concept of isolation in family firm decision-making with the two-stage mixed gamble (Kotlar et al., 2018) and the broad-framing of multiple risky decisions (Fang, Memili, Chrisman, & Tang, 2021). However, little research has investigated yet whether the *size* of financial and non-financial stocks influences family firm decision-making—in particular, whether and how size of the SEW stock changes preferences among FW and the SEW dimensions. In the following, we explain how financial and non-financial stocks of wealth can influence decision-making (compared to the flow-based decision-making based on prospect theory and its derivatives).

THEORY AND HYPOTHESES DEVELOPMENT

A Stock-Based View on Family Firm Decision-Making with Multiple Wealth Dimensions

When taking strategic decisions in their family firms, controlling families face gains and losses in various wealth dimensions in most strategic decisions (Bromiley, 2010; Gómez-Mejía et al., 2014). As these wealth dimensions are not fungible, i.e., not equivalent and not indistinguishable (e.g., Gómez-Mejía et al., 2018), controlling families cannot easily evaluate the net outcome on their utilities and, hence, face a dilemma which wealth dimensions to prioritize in their decisions (e.g., Gómez-Mejía et al., 2014; Gómez-Mejía et al., 2018). Main wealth stocks frequently highlighted in family firm decision-making are among others the stocks of financial wealth, control, reputation, and benevolent ties (e.g., Berrone et al., 2010; Cruz, Gómez-Mejía, & Becerra, 2010; Gómez-Mejía et al., 2007; Kotlar et al., 2018; Zellweger et al., 2012).

We propose that controlling families reconcile these decisions by considering the marginal utility to be derived based on the level of their endowment of stocks. Building on the strong influence controlling families exert over their family firms (e.g., Carney, 2005; Chrisman, Chua, Pearson, & Barnett, 2012), we argue that controlling families and, hence, also their firms prioritize the wealth dimension that enables controlling families to derive the highest utility by easing the fulfilment of their needs. Utility is a function of the probabilities of outcomes to occur—i.e. the change of the stock in the wealth dimensions affected in the outcomes measured in standard units—and the marginal utility derived for the respective standard units of the respective wealth dimensions. The marginal utility expected to be derived from the change in stocks, however, depends on the *size* of stocks (instead of the size of flows in prospect theory and its derivatives). Drawing from the law of diminishing marginal utility (Gossen, 1854; Menger, 1871), the marginal utility is lower the higher the accumulated stock in a specific wealth dimension is. For instance, 10,000 dollars increase the well-being of a worker who works from paycheck to paycheck more than the well-being of a

family firm owner of a large firm (e.g., Jebb, Tay, Diener, & Oishi, 2018; Kahneman & Deaton, 2010; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006; Killingsworth, 2021). Similarly, we expect diminishing marginal utilities for non-financial stocks: e.g., a 10 percent larger control stake is more important to a controlling family with only 45 percent control than to a controlling family with a comfortable majority control of 80 percent, and the first 100 five star reviews are more important for a new seller on an online marketplace than for an established seller with thousands of five star reviews.¹

Several preferences can be inferred based on such a stock-based view on family firm decision-making and established controlling family characteristics. First, in line with flow-based explanations, controlling families are expected to generally prefer SEW over FW because they are expected to only derive low marginal utility from changes in their FW compared to significant marginal utility from changes in SEW. The reason is that they generally possess large FW stocks as owners of their firms. Thus, changes in their wealth have a negligible effect on the emotional well-being (Kahneman & Deaton, 2010) and, hence, on the overall utility.

Second, within the stocks of SEW, control stocks are generally expected to be prioritized over other SEW stocks when firm control is not reasonably ensured. As firm control is a necessary condition to pursue family goals through family firms (Berrone et al., 2012; Zellweger et al., 2012), the utilities that are expected to be derived from all control-dependent SEW stocks are in danger to be lost, e.g., during hostile takeovers (Campbell & Jerzemowska, 2017). Thus, ensuring firm control prevents high losses in SEW stocks associated with firm control and, hence, high losses in expected utilities. However, we argue when firm control is sufficiently ensured, e.g., through majority ownership, any additional unit of additional control brings lower levels of utility, resulting in controlling families focus on other SEW dimensions (such as reputation or benevolent ties) with higher marginal utilities.

Third, both FW and SEW goals converge when firm survival is threatened. Both SEW stocks that are inextricably tied to family firms (Casson, 1999; Gómez-Mejía et al., 2007) and FW stocks concentrated in family firms (Anderson, Mansi, & Reeb, 2003) are expected to be lost when family firms declare bankruptcy and cease to exist. Thus, controlling families and their family firms will have a strong preference to ensure firm survival before considering other gains and losses in their wealth.

Fourth, we propose that controlling families and, hence, their family firms are expected to only prioritize gains in FW at the expense of SEW (i) when their families have a low FW stock, resulting in higher marginal utilities from additional units of FW than from lost units of SEW, or (ii) when families have other means available to satisfy the needs addressed by the lost SEW and, hence, offset their expected utility loss associated with their reduced SEW stock. While not in the scope of our empirical study, the latter can occur, for instance, when controlling families have opportunities to build SEW in another firm or organization outside of their initial family firm and these opportunities are at least as attractive as the status quo in terms of satisfying the needs of families.

In sum, with our stock-based view on family firm decision-making, we offer an alternative explanation for the results of prior studies (e.g., Berrone et al., 2010; Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2018; Leitterstorf & Rau, 2014) that explained their results based on flow-based theories, in particular prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gómez-Mejía, 1998). Additionally, this stock-based view can help explain differences in behavior among family firms with varying levels of FW and SEW stocks while flow-based theories generally predict no differences in behavior based on the size of stocks endowed. For instance, recent research empirically showed that minority controlled family firms have a lower propensity to adapt new technologies compared to majority controlled family firms (Souder et al., 2017). This

observed behavior is in line with the explanation of the stock-based view that minority controlled family firms face a higher risk to lose their managerial control and, hence, SEW, when the adoption of new technologies leads to suboptimal financial outcomes compared to majority controlled ones. In the following, we develop hypotheses on share repurchases to test the prediction of the stock-based view that control stocks are prioritized over other SEW stocks such as reputation when control rights are perceived as scarce (i.e., the fulfilment of the goal of transgenerational control is low due to a low stock of control rights compared to a high stock of control rights).

Development of Hypotheses on Family Manager Repurchase Behavior

We chose to investigate the relationship of the control stock on share repurchases because (i) most combinations of potential gains and losses in FW and SEW are possible as a result of share repurchases, (ii) the substitution of FW and the control stock of SEW can be observed similarly as in IPO underpricing (e.g., Kotlar et al., 2018; Leitterstorf & Rau, 2014) and business sale decisions (e.g., Zellweger et al., 2012), and (iii) share repurchases are yet to be investigated to better understand the trade-off of FW and SEW in family firm decision-making despite being long established in finance literature (Dann, 1981; Dittmar, 2000; Elton & Gruber, 1968; Vermaelen, 1981).

Share repurchasing decisions entail uncertain gains and losses in FW and SEW. On the one hand, controlling families can gain FW when shares are repurchased below their intrinsic value and when other investment opportunities yield a lower return than share repurchases. But families can also lose financial wealth when the intrinsic value turns out to be lower than expected or other investment opportunities yield higher returns than expected. On the other hand, controlling families can increase in their control rights through share repurchases but also face potential gains and losses in their reputation² and from forgone alternative investment projects, resulting also in an uncertain SEW outcome.

In the following, we investigate firms that are characterized by varying levels of undervaluation to separate positive and negative financial wealth effects expected from share repurchases. Based on the level of undervaluation, the probable outcome can be a certain increase in control rights and a probable increase in FW and reputation (a ‘win-win-win’ situation) when shares are repurchased at a high level of undervaluation or be a certain increase in control rights at the expense of a probable loss in FW and reputation (a ‘win-lose-lose’ situation).

Undervaluation as a Driver of Share Repurchases. Motivation–opportunity–ability theory of behavior (Blumberg & Pringle, 1982) suggests that people do not only require the motivation and ability to perform tasks well and consistently but also favorable environmental factors (i.e., opportunities). In other words, a behavior is most consistently in situations when the motivation, opportunity, and ability to perform the behavior are high. In the share repurchasing context, we, hence, propose that firms spend more capital on share repurchases (i) the better the ability of managers to identify and take advantage of undervaluation opportunities than other market participants, (ii) the more motivated they are to do so, and (iii) the higher the undervaluation opportunity is. By arguing in the following that the financial motivation to repurchase shares increases with the level of undervaluation and that managers generally superior ability as corporate insiders, the amount of funds used to repurchase shares is expected to be positively associated with the level of undervaluation.

As firms generally aim to maximize profits for their shareholders (Friedman, 1970), they are financially motivated to repurchase shares if the expected returns of the repurchases are higher than the opportunity cost of the capital needed to repurchase the shares (Buffett, 1985, 1986). The expected financial returns from share repurchases become larger the lower firms trade below their intrinsic value—i.e., the more their stocks are undervalued. The more undervalued firms become, the more do the financial benefits derived from share repurchases

increase relative to other opportunities to deploy capital, such as reinvesting in existing operations, developing new businesses, acquiring other businesses, paying back debt, and paying dividends to shareholders. Thus, managers of more undervalued firms will have stronger financial incentives to repurchase shares and will deploy more capital to do so when their interests are aligned with the interests of their firms.

To successfully take advantage of undervaluation opportunities, firm managers must also have the ability to assess their firm's intrinsic value better than the market because market participants would otherwise not give them the opportunity to repurchase shares below intrinsic value. We argue that some firms have this superior ability through their managers given the information advantage of managers as corporate insiders and based on evidence on the market timing ability of managers (Ikenberry et al., 1995; Loughran, Ritter, & Rydqvist, 1994; Seyhun, 1990).³ We thus propose that managers, in general, are able to identify undervaluation, willing to act in the financial interest of their firms, and, as a consequence, use more capital to repurchase shares the more the stocks of their firms are undervalued.

Hypothesis 1. Undervaluation of firms is positively associated with the amount of shares repurchased.

Interaction between Undervaluation and Family Management. Research has demonstrated that family managers differ from non-family managers (Carney, 2005; Gedajlovic et al., 2012). Using motivation-opportunity-ability theory of behavior (Blumberg & Pringle, 1982), we argue that, given the same undervaluation opportunities, family managers (i.e., managers related by blood to the controlling families) repurchase higher amounts of shares than other managers because of both a higher motivation and higher ability to take advantage of undervaluation opportunities. In particular, we argue that family managers have a higher level of knowledge accumulated to identify undervaluation opportunities, possess stronger financial and non-financial incentives to act upon their knowledge, and are endowed with a higher discretion to do so. Thus, family management may

explain why some firms repurchase higher amounts of shares than other firms when their stocks are undervalued.

First, family managers can draw on accumulated knowledge and experience to take advantage of undervaluation opportunities. Due to longer family CEO tenures (Gómez-Mejía et al., 2001), passed on knowledge over generations (Zellweger, 2007), and tacit knowledge learned through interactions with other family decision makers from an early age (Cabrera-Suárez, Saá-Pérez, & García-Almeida, 2001), family managers are expected to have accumulated more knowledge on their firm, competitors, industry, and trends than non-family managers (Duran et al., 2016). This knowledge combined with a stronger long-term orientation of family managers (James, 1999) allows family managers to more accurately assess the ability of their firm to generate cashflows in the future and, hence, the intrinsic value of their firms. Thus, family managers are expected to have a higher ability to identify undervaluation opportunities.

Second, family managers have strong *incentives* to repurchase shares when their firm's stock is undervalued. Family managers have most of their wealth concentrated in the family firm and see their firm as a store of family wealth to pass on to the next generation (Anderson et al., 2003; Chandler, 1977). With the goal to protect and grow their family wealth, family managers are more financially incentivized than non-family managers to repurchase shares when their firm's stock is undervalued and to pursue other investment opportunities when their firm's stock is not undervalued. In contrast, non-family managers may lack sufficient financial incentives due to a lower wealth concentration and lower stake in the family firm. In particular, non-family managers may pursue their own financial interest (Jensen, 1986) to accumulate stock options at a low valuation and, thus, not initiate share repurchasing programs at the firm level when the stocks of their firms are undervalued.

Moreover, we argue that family managers generally derive more utility from non-financial benefits than non-family managers when they repurchase shares. Family firms are distinct from non-family firms through the intention of their controlling families to pursue family goals through their continued control over their family firm (Gómez-Mejía et al., 2007; Zellweger et al., 2012). As a loss of control would prevent the families to pursue their family goals and would result in losing the socioemotional wealth attached to their control (Zellweger et al., 2012), family managers are incentivized to increase the level of control that the family can exert over their firms across generations. These incentives are expected to be particular strong for firms with family management because managerial involvement further expands the influence of families to directly impact the decision-making in their firms and intensifies the link of the families' identity with the firms' identity (Chrisman et al., 2012; Zellweger, Nason, Nordqvist, & Brush, 2013). When family managers act upon these incentives, they are expected to be generally sensitive of the level of undervaluation in their share repurchase decisions because family managers derive also non-financial utility by preserving a good reputation (Berrone et al., 2010). As a consequence of their consciousness for their reputation, family managers are expected to repurchase shares when their stocks are undervalued and the share repurchases also benefit other shareholders financially. In contrast, non-family managers may derive utility from having more resources at their disposal than to increase their voting rights by repurchasing shares in order to further secure and increase their managerial power through expansions, diversifications, and acquisitions (Jensen, 1986; Williamson, 1963). As a consequence of this desire for 'empire building,' non-family managers may prefer to retain capital and not to return capital to shareholders through repurchases even when their stock is undervalued. Hence, family managers have both stronger financial and non-financial incentives to repurchase shares when their stock is undervalued due to the prospects of increasing both their financial and socioemotional wealth.

Third, family managers enjoy high levels of discretion due to the unification of ownership and management in the hands of the family (Gedajlovic et al., 2012). Owner-managers derive legitimacy as the rightful owners of their firm while non-family managers hold “fiduciary powers ‘in trust’” (Gedajlovic, Lubatkin, & Schulze, 2004: 901). For instance, owner-managers often have the discretion to make handshake deals and quick strategic decisions based on entrepreneurial heuristics while non-family managers may avoid bold decisions that are controversial among employees and their shareholders (Gedajlovic et al., 2004; Steier, 2001)—including debates about whether their firms are indeed undervalued. Similarly, family managers can repurchase large amount of shares by using their discretion to make quick and bold capital allocation decisions.

In sum, family managers are uniquely incentivized and equipped to identify and take advantage of undervaluation opportunities compared to non-family managers. Thus, we expect family managers to generally strengthen the positive relationship between undervaluation and the amount of shares repurchased.

Hypothesis 2. The positive association of undervaluation on the amount of shares repurchased is strengthened when family members are active in management.

Interaction between Undervaluation, Family Management, and Family Control. We continue to argue that, to better understand the predictors of the amount of shares repurchased, it is important to investigate the stock of family control as contingency factor. Drawing on our developed stock-based view, we argue that the motivation to repurchase shares differs between family managers with high and low stocks of family control. In particular, we argue that family managers with minority control generally—and independently of undervaluation—derive more non-financial benefits from share purchases than family managers with majority control, resulting in a weakening of the positive effect of family management and undervaluation on the amount of shares repurchased when owning families only possess a minority control stake.

We propose that family managers with minority control are motivated to increase their control stake even at the expense of a loss in FW and a risk of damaging their reputation. Using the ideas developed in the stock-based view above, we argue that these family managers expect to derive a higher utility from control rights than from financial wealth. Given the evidence of diminishing marginal happiness per unit of financial wealth (e.g., Jebb et al., 2018; Kahneman et al., 2006), family managers as business owners often already have reached a financial wealth stock at which an increase or a reduction in their financial wealth only weakly impacts their overall utility. In contrast, they are expected to derive a meaningful amount of non-financial utility from additional control rights when they only possess minority control due to a lower fulfilment of their goal to ensure transgenerational control. As family managers with only a minority stake can lose their control, their ability to pursue their family's goals through their family firms can be impaired, resulting in a loss of their SEW attached to their control (Zellweger et al., 2012). By increasing their control stake, family managers with minority control can decrease the risk of losing control and their stock of SEW under the possibility that other shareholders unite against them (Bethel, Liebeskind, & Opler, 1998) and, hence, are expected to derive high utility from additional control rights.⁴

Conversely, we propose that family managers with majority control derive only low utility from increasing their control stake and are motivated by other non-financial benefits in their repurchasing decisions. With majority control, family managers neither have to fear to lose managerial control nor overall control over their family firm and, hence, only derive negligible utility from additional control rights due to their high stock of already accumulated control rights (Gossen, 1854; Menger, 1871). Given that they derive low marginal utility from FW, other SEW stocks that can fulfill higher-order needs gain importance as the main motivation in share repurchase decisions. In particular, family managers can strengthen their reputation by taking advantage of undervaluation opportunities. As high levels of family

control are often associated with managerial entrenchment and private wealth extraction at the expense of minority shareholders (Eugster & Isakov, 2019b; Lins, Volpin, & Wagner, 2013), family managers can use undervaluation opportunities to explicitly signal their shareholders that they are a good partner and allocate capital in the best interest of all shareholders. As a consequence, family managers with majority control are expected to only repurchase when the undervaluation opportunities are clear and large in size as they would risk their reputation otherwise.

In sum, family managers with minority control may not use their stronger ability to identify and take advantage of undervaluation opportunities and instead also repurchase shares when the stocks of their firms are not undervalued due to a strong motivation of their families to ensure transgenerational control. As transgenerational control is the foundation of SEW of families (Zellweger et al., 2012), family managers derive high levels of utility by repurchasing shares to reduce the risk to lose their SEW attached to their control even though they may need to sacrifice financial wealth from which they, however, only derive low levels of utility. As a consequence of diminishing marginal utility of additional control at higher control levels, the motivation of family managers shifts from preserving and expanding their control rights to pursuing other family goals and to repurchasing shares only when the stocks of their firms are highly undervalued, signaling to allocate capital in the best interest of their shareholders to enhance their reputation. Based on the arguments, we hypothesize that on average, family managers sacrifice financial benefits to increase control in share repurchasing decisions when the families only have minority control but not when the families have majority control.

Hypothesis 3. The two-way interaction effect of undervaluation and family management on the amount of shares repurchased is weakened when founding families have minority control.

METHOD

Sample and Sample Collection

Our sample is based on the firms listed in the Germany stock market index (CDAX) between 2006 and 2016. First, we consider all 675 firms that are components of the CDAX as of January 2006.⁵ Next, we exclude utilities (SIC codes starting with 49) and financial firms (SIC codes starting with 6) due to stricter regulations that may restrict these firms in their ability to repurchase shares. Moreover, we drop observations with missing data regarding the variables used in this study, resulting in a final sample of 399 firms and 3,194 firm-year observations.

We consider firms as family firms if founders or family members of the founders are the largest blockholder with at least 5 percent of the outstanding voting rights as we assume that these founding families can exercise sufficient control to influence the repurchasing behavior of their firms. To identify family firms, we started with shareholder data from Hoppenstedt Aktienführer and identified firms controlled by individuals and families. In a second step, we identified founders' last names of the firms controlled by individuals and families through web research using corporate homepages, newspaper articles, and other sources. After matching founders' last names with the controlling shareholders' last names, we obtained management data from BoardEx to differentiate between family firms with and without family involvement in management by matching the last names of the founding family and the active managers. Finally, all data related to family control and management are complemented with accounting and market data from Thomson Reuters Datastream.

Model Variables

Dependent variable. *Share repurchase ratio* was measured as the value of net repurchases divided by the prior year end market capitalization (Cesari, 2012; Dittmar, 2000). The value of net repurchases was measured as the difference between cash used for share repurchases and cash received from share issuances, when the difference is positive, and zero

otherwise (Fama & French, 2001; Skinner, 2008). The relevant data was obtained from Thomson Reuters Datastream.

Independent variable. Following finance research (Ikenberry et al., 1995; Zhang, 2005), our indicator for undervaluation was *book to market ratio*. A high book to market ratio reflects a low price paid relative to the equity value of the firm and is an indication of undervaluation (Ikenberry et al., 1995). Book to market ratio was calculated as total shareholders' equity divided by the market capitalization.

Moderators. *Family management* was constructed as a dummy variable that takes the value 1 when family members belonging to the controlling founding family were active as managers in a given year and 0 otherwise. *Family minority control* was constructed as a dummy variable that takes the value 1 when founding family members are the largest blockholder and possess 50 percent or less of the outstanding shares and 0 otherwise.

Control variables. We attempted to control for alternative explanations for share repurchases by including several control variables. First, we controlled for the known effects of company lifecycle on share repurchases (e.g., Skinner, 2008). In particular, less mature firms are more likely to be smaller, less profitable, and to retain more capital to invest in future growth while more mature firms are more likely to be larger, more profitable, and to return capital through dividends and share repurchases due to lack of good investment opportunities (DeAngelo, DeAngelo, & Stulz, 2006). Thus, we control for *firm size* calculated as the natural logarithm of annual sales, *retained earnings to total equity* measured as retained earnings divided by total shareholders' equity times 100, and *3-year sales growth* calculated as the compounded annual sales growth rate of the previous three years times 100. Second, we controlled for the ability to generate earnings consistently. A higher ability to generate earnings allows firms to return more capital through share repurchases (Baker, Chang, Dutta, & Saadi, 2013; DeAngelo, DeAngelo, & Skinner, 2009; Fama & French, 2001). Thus, we

control for *earnings before interest, taxes, depreciation, and amortization (EBITDA) over total assets* and *3-year standard deviation of EBITDA over total assets*. Third, we control for *cash holdings* measured as cash and cash equivalents divided by total assets times 100. Cash availability is positively associated with excess cash that may be distributed through share repurchases (Barth & Kasznik, 1999; Dittmar, 2000; Lee & Suh, 2011). Fourth, we control for *financial leverage* measured as total debt divided by total assets times 100 because higher debt levels reduce the free cash flow available and, thus, the cash available to repurchase shares (Dittmar, 2000). Next, we control for *free float* as share repurchases may be limited by the free float available if larger strategic blockholders do not trim or sell their positions. Last, we used *year* and *2-digit primary SIC Code* industry dummies to control for time and industry effects (Brav, Graham, Harvey, & Michaely, 2005).

Estimation Method

As a result of censoring the values of the net repurchase ratio at zero when firms used less cash to repurchase shares than they received by issuing shares (Fama & French, 2001; Skinner, 2008), many of the net share repurchase ratio observations were censored at the limiting value of zero. We employed models using Tobit regression because they are well suited for distributions with values censored at minimum values (Johnston & Dinardo, 1997; McDonald & Moffitt, 1980) and they are recognized as appropriate for research studies with share repurchases ratios as dependent variable (Fenn & Liang, 2001; Massa, Rehman, & Vermaelen, 2007; Stephens & Weisbach, 1998). Additionally, robust standard errors were clustered at firm level due to the panel structure of the data and correlations across observations (Petersen, 2009).

RESULTS

Descriptive Statistics

Table 2 provides descriptive statistics and correlations for the studied variables. Firms used more cash to repurchase shares than they received by issuing shares in 362 firm-year

observations out of the 3,194 firm-year observations, resulting in an average net repurchase ratio of 0.26 percent. Family firms accounting for 20.9 percent of the firms in the sample period 2006 to 2016 had an average net repurchase ratio of 0.33 percent while non-family firms had one of 0.25 percent.

Test of Hypotheses

Table 3 reports the results of the Tobit models. Model 1 includes all control variables. As expected, more mature firms (i.e., firms with more sales and a high percentage of retained earnings to total equity), firms with stronger earnings generation (i.e., EBITDA to total assets), and firms with higher free float are positively associated with net repurchase ratio while firms with high debt commitments (i.e., high debt to asset ratio) are negatively associated with net repurchase ratio.

Hypothesis 1 predicts that undervaluation (operationalized as book to market ratio) is positively associated with the amount of shares repurchased (operationalized as net repurchase to market capitalization ratio). The coefficient of the book to market ratio is, consistent with our hypothesis, positive but not statistically significant in Model 2 ($\beta = 0.003$, $p = .507$), leading us to reject Hypothesis 1.

Hypothesis 2 predicts that the positive association of undervaluation on the amount of shares repurchased is strengthened when family members are active in management. While the direct effect of family management is positive but not significant in Model 3 ($\beta = 0.005$, $p = .917$), the two-way interaction between book to market ratio and family management is positive and significant ($\beta = 0.02$, $p = .038$). In other words, firms with family management have a 4.1 percent point higher net repurchase rate than firms without family management when their stock has a high book to market ratio (operationalized as mean plus one standard deviation), i.e. is undervalued. Conversely, firms with family management have a 0.7 percent point lower net repurchase rate than firms without family management when their stock has a

low book to market ratio (operationalized as mean minus one standard deviation). Figure 2 illustrates this relationship. Considering an average net repurchase rate of 0.3 percent across the whole sample, the effect of family managers is substantial. Thus, Hypothesis 2 is supported.

Hypothesis 3 predicts that the two-way interaction effect of undervaluation and family management on the amount of shares repurchased is weakened when the family possesses minority (as opposed to not-minority) control. In Model 4, the three-way interaction between book to market ratio, family management, and family minority control has a negative and significant coefficient ($\beta = -0.052$, $p = .042$). As illustrated in Figure 3, family-managed firms with only minority family control have a 3.3 percent point lower net repurchase rate than family-managed firms without minority family control when their stock has a high book to market ratio and conversely, a 1.1 percent point higher net repurchase rate when their stock has a low book to market ratio. Thus, we find support for Hypotheses 3.

TABLE 2: Correlations and Descriptive Statistics

Variables	Mean	s.d.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Net repurchase ratio	0.00	0.02	1										
(2) Book to market ratio	0.62	1.20	.01	1									
(3) Family minority control	0.14	0.35	.00	-.01	1								
(4) Family management	0.14	0.35	.04	-.02	.61	1							
(5) Firm size (ln)	12.42	2.38	.03	.04	-.13	-.02	1						
(6) Retained earnings to total equity	-129.65	5,963.34	.01	.01	.01	.01	.02	1					
(7) 3-year sales growth	6.24	28.19	.00	-.01	.02	.01	.06	.01	1				
(8) EBITDA to Assets	5.48	197.76	.01	.09	.01	.02	.09	.00	.06	1			
(9) 3-year standard deviation of EBITDA to Assets	9.34	103.80	-.01	-.03	.00	-.01	-.04	.00	.52	.00	1		
(10) Cash and cash equivalents to total assets	17.64	17.08	.02	-.05	.06	.05	-.37	.01	.03	-.02	.02	1	
(11) Debt to Assets	22.45	99.87	-.01	-.16	-.02	-.01	-.06	.00	-.06	-.96	.01	-.05	1
(12) Free float	55.32	29.34	.04	.03	.01	-.03	.14	.02	.03	-.04	.01	.07	.03

Note: All values greater than 0.03 are significant at 5% level; n = 3,194.

TABLE 3: Tobit Model with Net Repurchase Ratio as Dependent Variable

Variables	Model 1	Model 2	Model 3	Model 4
Book to market ratio		0.0032 (0.0048)	-0.0005 (0.0043)	-0.0013 (0.0034)
Family management			0.0046 (0.0089)	0.0082 (0.0177)
Family minority control				-0.0270 (0.0177)
Book to market ratio × Family management			0.0200* (0.0097)	0.0246* (0.0121)
Book to market ratio × Family minority control				0.0337* (0.0167)
Family management × Family minority control				0.0272 (0.0263)
Book to market ratio × Family management × Family minority control				-0.0520* (0.0235)
Firm size (ln)	0.0040† (0.0022)	0.0041† (0.0022)	0.0038† (0.0022)	0.0037† (0.0022)
Retained earnings to total equity	0.0000* (0.000)	0.0000* (0.000)	0.0000* (0.000)	0.0000* (0.000)
3-year sales growth	-0.0002 (0.0002)	-0.0002 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)
EBITDA to Assets	0.0007** (0.0002)	0.0007** (0.0002)	0.0007** (0.0002)	0.0007** (0.0002)
3-year standard deviation of EBITDA to Assets	-0.0005 (0.0003)	-0.0005 (0.0003)	-0.0005 (0.0003)	-0.0005 (0.0003)
Cash and cash equivalents to total assets	0.0002 (0.0002)	0.0003 (0.0002)	0.0003 (0.0002)	0.0003 (0.0002)
Debt to Assets	-0.0005* (0.0002)	-0.0005* (0.0002)	-0.0005* (0.0002)	-0.0005* (0.0002)
Free float	0.0004*** (0.0001)	0.0004** (0.0001)	0.0004*** (0.0001)	0.0004*** (0.0001)
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Log pseudolikelihood	-98	-98	-91	-89
Pseudo R ²	55%	55%	58%	59%
Number of firm-year observations	3,194	3,194	3,194	3,194

Notes: Robust standard errors clustered at firm level (Petersen, 2009).

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

FIGURE 2: Two-Way Interaction with Net Repurchase Ratio as Dependent Variable

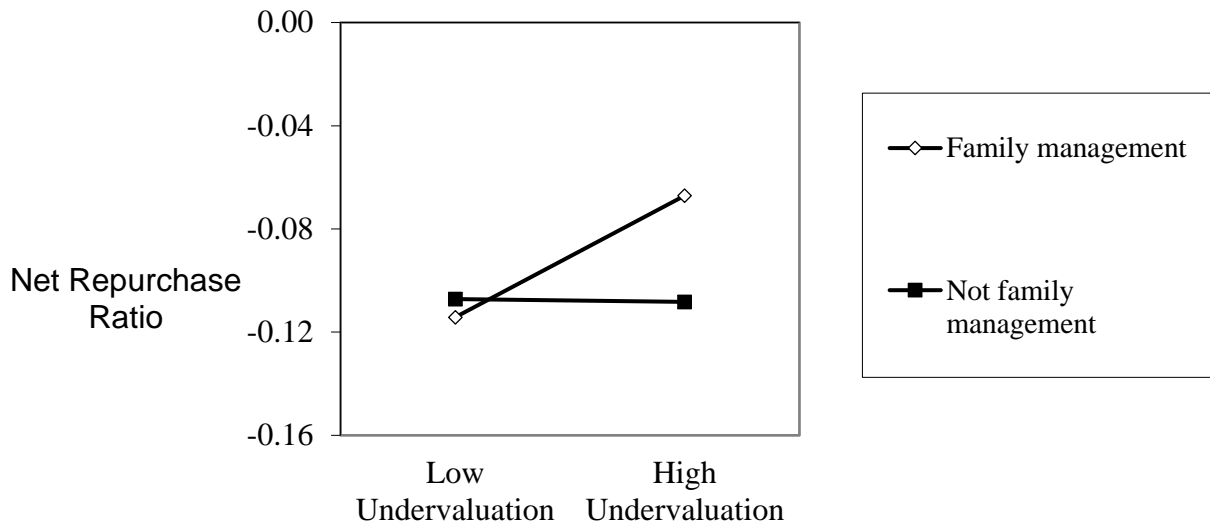
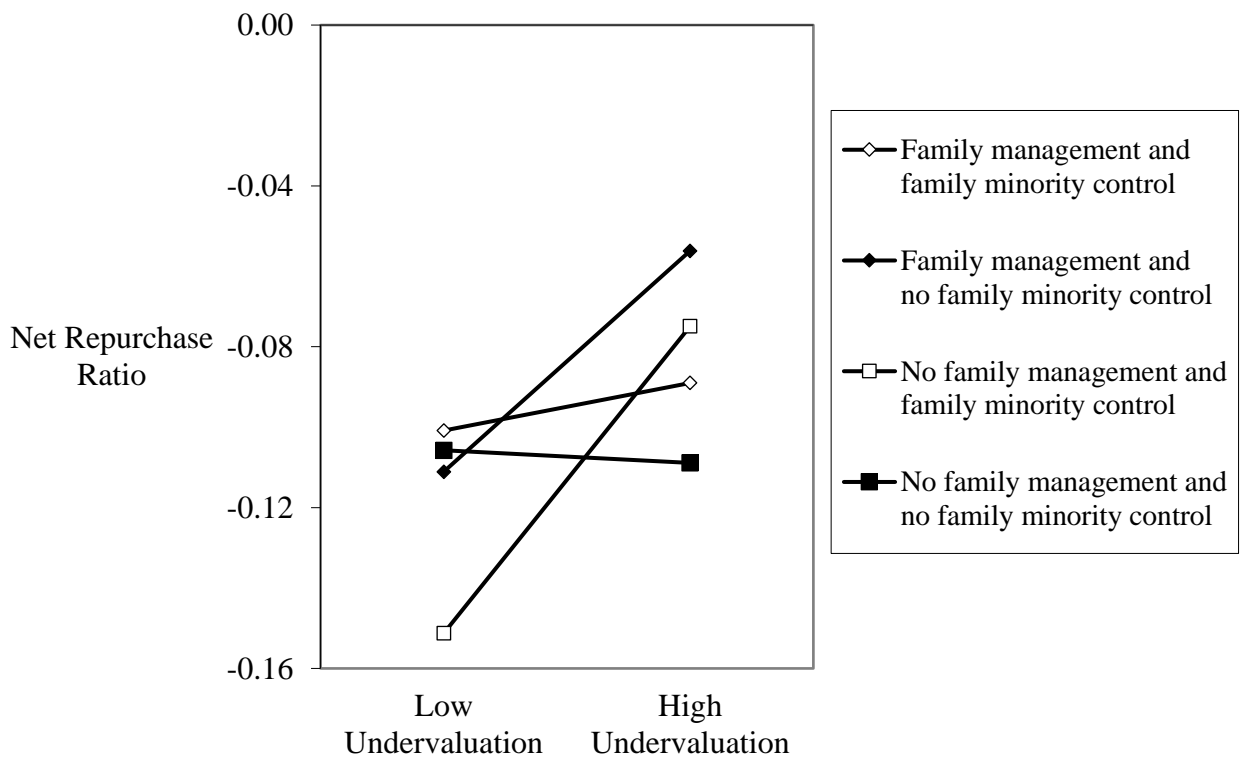


FIGURE 3: Three-Way Interaction with Net Repurchase Ratio as Dependent Variable



Supplemental Analyses

Robustness of theoretical assumption. As noted above, our main argument that family managers with only minority control are willing to ‘trade’ FW and risk their reputation to increase their control stake is based on their intentions of transgenerational control. Since

we—similar to prior studies (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2018; Kotlar et al., 2018)—could not directly measure transgenerational control intentions, we test the robustness of this theoretical assumption by differentiating between family firms with different degrees of family involvement in management (similarly as Chrisman & Patel, 2012). In our main analyses, we already found support that minority-controlled family firms with family managers and, hence, with presumably stronger transgenerational control intentions than minority-controlled family firms without family managers (De Massis, Chua, & Chrisman, 2008; Zellweger et al., 2013), are less valuation sensitive in their repurchasing behavior (i.e., willing to sacrifice FW to gain SEW). In our robustness test, we further differentiate between minority controlled family firms with only a single family manager and multiple family managers. These results suggest, as theorized, that the three-way interaction among undervaluation, family management, and family minority control is significant for family firms with multiple family managers and, hence, higher transgenerational control intentions ($\beta = -0.259, p = .012$) but not for family firms with only a single family manager ($\beta = -0.039, p = .104$). Overall, these results support our theoretical argument that heterogeneity in family firm goals (i.e., transgenerational control intentions) may explain family firm behavior.

Robustness of empirical findings. To ensure robustness of our empirical findings, we conducted additional analyses. In particular, we used 10, 15, and 20 percent cutoffs for our family firm variables to ensure that owning families had sufficient control to influence the decision-making of their family firms (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2018). The results are robust and provide further support for the positive two-way interaction of undervaluation and family managers on the amount of shares repurchased (H2) and a shift in motivation (i.e., weakening of the two-way interaction) for family managed but minority-

controlled family firms (H3). Detailed results from these robustness tests are available from first author.

DISCUSSION

Extant research used prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gómez-Mejía, 1998) to explain family firm decision-making and in particular the value families attach to their options when facing gains and losses in FW and SEW (e.g., Berrone et al., 2010; Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010; Gómez-Mejía et al., 2018; Kotlar et al., 2018; Zellweger et al., 2012). Recognizing that the size of stocks instead may also influence preferences of family firms, we develop and test a stock-based view on family firm decision-making based on idiosyncratic family firm characteristics and the law of diminishing marginal utility (Gossen, 1854; Menger, 1871). Drawing on the motivation-opportunity-ability theory of behavior (Blumberg & Pringle, 1982), our study on share repurchases supports that the size of control stocks influences family firm repurchasing behavior.

In particular, we find that family management strengthens the positive effect of undervaluation on the amount of shares repurchased.⁶ We attribute this moderation effect to the unique abilities (e.g., knowledge accumulated over generations and high managerial discretion) and generally stronger financial and non-financial incentives of family managers than non-family managers to repurchase when their stocks are undervalued and to refrain from repurchasing when they stocks are not undervalued. Additionally, we find evidence that family minority control weakens the two-way interaction effect of undervaluation and family management on the amount of shares repurchased. Using our developed stock-based view, we attribute this effect to a difference in motivation of family managers with minority control compared to family managers with majority control. The results suggest that family managers with minority control derive significant utilities from increasing their control stake—even to the extent that they are willing to sacrifice FW and to risk their reputation by repurchasing

shares when their stocks are not undervalued. In contrast, family managers with majority stake do only derive low utilities from increasing their control stake and, hence, are motivated to use their better ability to identify and take advantage of undervaluation opportunities and repurchase when their stocks are undervalued.

Contributions to Theory

Our paper makes several contributions to theory. Our main contribution is the development of a stock-based view on family firm decision-making through which our study refines the understanding of family firm decision-making in several ways. First, we introduce a stock-based view on family firm decision-making as an alternative explanation for family firm decision-making to flow-based theories used in extant research (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010; Leitterstorf & Rau, 2014) and provide evidence in support of the relevance of stocks. Flow-based theories used in extant research on family firm decision-making—i.e., prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gomez-Mejia, 1998)—assume that the current endowment of stocks does not influence the value of outcomes and, hence, decision-making. Thus, they would have predicted in our study that family managers with minority and majority control generally have the same share repurchasing behavior. The results, however, indicate a difference in repurchasing behavior contingent on the endowment of control rights of the owning families. Hence, they suggest that the developed stock-based view is useful in explaining family firm decision-making when family firms face potential gains and losses in multiple wealth dimensions.

While the stock-based view can explain the behavior of family firms observed in prior studies (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2010; Leitterstorf & Rau, 2014)⁷, it also suggest that controlling families expect to derive higher utilities associated with their SEW stocks as a consequence of strategic decisions instead of

lower ones as argued based on flow-based theories in extant research. In particular, extant research suggests that controlling families lose utilities associated with their SEW stocks when their family firms choose to go public, diversify, or invest into R&D (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2010; Gómez-Mejía et al., 2018; Kotlar et al., 2018; Leitterstorf & Rau, 2014). In contrast, we argue using a stock-based view that controlling families may overall have gained more utilities associated to their SEW stocks despite a loss in some SEW stocks in these decision-making problems. For instance, while family firms give up parts of their control during their initial public offering and, hence, reduce their stock of control, most family firms still retain a majority stake (e.g., 71 percent ownership was on average retained in Kotlar et al. (2018)'s study). Hence, family firms may have sacrificed 'unnecessary' control rights associated with only low marginal utilities to increase other SEW stocks (e.g., their stock of reputation) with higher associated marginal utilities, resulting in an overall increase of expected utilities associated with SEW stocks.⁸ Similarly, controlling families may have overall gained utilities associated with their SEW stocks (e.g., through their stocks of reputation) when their firms diversified their business or invested more in R&D. Thus, we provide a theoretical basis for alternative arguments that shift the focus on trade-offs between FW and SEW to trade-offs among SEW dimensions based on marginal utilities of the respective wealth dimensions.

Second, we introduce goals, level of need fulfilment, and availability of favorable exchange opportunities of families as factors affecting the value of stocks. By proposing a clearer differentiation between the role of stocks and flows in family firm decision-making, we answer the call of Chua et al. (2015) to clearly differentiate the role of stocks and flows given that the SEW definition includes both stock and flow components (e.g., Berrone et al., 2012; Gómez-Mejía et al., 2007). In particular, we explicitly take the position that SEW is the collective *stock* of affective endowments that consists of multiple SEW stocks such as the

stock of reputation, the stock of social relationships, and the stock of control. Furthermore, we argue that owning families derive utility from the SEW stocks (similarly to stocks of FW) when these stocks enable them to satisfy their needs such as needs for belonging, identity, autonomy, and intimacy (Kepner, 1983). Thus, the accumulation of SEW (*flows*) and the possession of SEW stocks per se are expected to not have an intrinsic value for owners of these flows and stocks without needs. Thus, we theorize and provide first evidence that the value of financial and non-financial stocks and, hence, family firm decision-making depends on the goals, need fulfilment, and exchange opportunities of stocks.

We argue that family *goals* affect the value of stocks as a means to fulfill needs. Similarly as in family firm performance research (Miller et al., 2007; Villalonga & Amit, 2006), extant research on family firm decision-making recognized heterogeneity in family firm behavior and differentiated among others between lone founders and true family firms but almost always required some level of management involvement in their family firm definitions (e.g., Chrisman & Patel, 2012; Gómez-Mejía et al., 2010; Gómez-Mejía et al., 2018; Kotlar et al., 2018). We propose that the presence and absence of family management changes family goals—i.e., the strength of transgenerational control intentions that are likely to be tamed for firms failing in their family management succession (De Massis et al., 2008; Zellweger et al., 2013)—and, hence, family firm decision-making. In the context of share repurchases, our results support this view and provide evidence that minority-controlled true family firms (i.e., with multiple family managers) are rather insensitive to the level of undervaluation in their share repurchases (i.e., higher willingness to sacrifice FW) compared to family firms with only one family manager or without any family managers. Thus, we emphasize the importance of also considering different goals of owning families, especially weaker transgenerational control goals for family firms with non-family managers, in family firm decision-making research.

Additionally, we propose that the level of *need fulfilment* matters in the prioritization of stocks in family firm decision-making to reconcile contradictions in theoretical SEW assumptions and empirical findings. Although prior studies argued that control is a necessary condition for SEW (e.g., Berrone et al., 2012; Gómez-Mejía et al., 2007), and that the effects of SEW should be strengthened with the level of control (Zellweger et al., 2012), Zellweger et al. (2012) could not empirically detect such relationship. Using our developed stock-based view, we explain this non-finding with the high levels of family ownership (i.e., families had on average 87 percent ownership in sample of Zellweger et al. (2012) and, hence, limited variance in need fulfilment due to low marginal utilities of additional control rights. In contrast, the average control stake of family firms in our sample is 38 percent, resulting in differences in need fulfilment of transgenerational control across family firms with low (i.e., minority) and high (i.e., majority) levels of control. As a consequence, our findings indicate that control is a requirement to pursue family goals through family firms and, hence, to derive utilities from large parts (if not all) SEW stocks, resulting in family managers to be willing to sacrifice FW and put their reputation at risk in order to increase control when their families only have a minority stake.

Additionally, we suggest that the value of stocks also depends on the availability of *exchange opportunities*. While stocks in different wealth dimensions are considered to be non-fungible (e.g., Gómez-Mejía et al., 2018), i.e., not equivalent and not indistinguishable, family firms can exchange or ‘trade’ stocks of FW and SEW through strategic decisions and, hence, satisfy the same needs with different stocks of financial and non-financial wealth. For instance, family firms may ‘trade’ FW and SEW by implementing higher environmental standards even when it is not economical to convert FW into reputation stocks (Berrone et al., 2010) or to repurchase shares even when firms are not undervalued to convert FW into control stocks. As a consequence of recognizing the role of exchange opportunities,

controlling families may even sell their firms and, hence, give up their stocks of SEW (e.g., Zellweger et al., 2012) when they have a rich opportunity set to still fulfill their needs despite the anticipated utility loss associated with the reduced stock of SEW. Hence, we offer an explanation why family firms may sacrifice SEW to gain FW even though SEW preservation is considered as the top priority of family firms (e.g., Berrone et al., 2010; Berrone et al., 2012; Gómez-Mejía et al., 2007)

Outside of family firm decision-making research, we contribute to the share repurchasing research by exploring share repurchases with a shareholder value lens. Share repurchase literature is already a mature research stream in explaining the reasons why shares are repurchased (e.g., Dittmar, 2000). However, research almost exclusively focused on predicting the propensity of firms to repurchase and the amount firms repurchase (e.g., Deslandes, Fortin, & Landry, 2016; Hu, Wang, & Zhang, 2007; Lau & Block, 2014), while neglecting which types of firms are more likely to repurchase to the financial benefit of their shareholders—i.e., by taking advantage of undervaluation opportunities and pursuing other ways to deploy capital when stocks are not undervalued. We add to the research on market timing ability of managers (e.g., Ikenberry et al., 1995; Loughran et al., 1994; Seyhun, 1990) by identifying family managers as unique corporate insiders that are uniquely equipped with knowledge to identify undervaluation opportunities, (generally) strong financial and non-financial incentives to take advantage of undervaluation, and the discretion to boldly take advantage of undervaluation opportunities. Additionally, we add to the existing mostly explorative research on shareholder value adding family firm repurchases (van Dalsem, 2019) by providing a robust theoretical basis for why family managers may or may not repurchase in the best interest of other shareholders.

Limitations and Future Research

The contributions of this study should be considered in the light of its limitations. First, our study has several limitations due to the choice of measurements: (i) our study assumes transgenerational control intentions in family firms with family managers but did not measure it directly as it is common in this stream of research (Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2018; Kotlar et al., 2018). While our supplemental analyses indicate that the effect is stronger in types of family firms with stronger transgenerational control intentions (i.e., family firms with multiple family members involved in management), future research may also directly measure transgenerational control intentions. (ii) Similarly, we did not measure the size of the wealth stocks directly besides the level of control approximated by the voting right stake. For instance, depleted stock levels of other SEW dimensions could have challenged the predicted priority of family firms with minority control and family managers to increase their control stake and, hence, the results may underreport the magnitude of the effect. (iii) Also with extant research (Ikenberry et al., 1995; Zhang, 2005), we used book to market ratio as an approximation of undervaluation instead of estimating the undervaluation level by discounting expected future cashflows. Future research may measure abnormal returns after repurchases of family managers with majority control to further strengthen the evidence for a market timing ability.

Second, our study has several limitations due to the choice of sample: (i) The institutional and cultural context of Germany may not be applicable in other countries. For instance, the moderation effect of minority control for share repurchases may be less pronounced in cultures in which the common interest is considered as more important (e.g., Japan (Drucker, 1981)). (ii) Our sample comprised only large publicly listed firms to allow the inference that the controlling families are likely to be wealthy enough to derive only low marginal utility from FW. To test the importance of FW in respect to the other SEW

dimensions, it may be interesting to test boundary conditions with smaller family firms in industries with poor unit economics or to otherwise identify controlling families with low FW or even high level of debts.

Furthermore, future research may investigate the decision-making of family firms in other contexts than share repurchases using a stock-based view on family firm decision-making to better understand when the predictions are aligned with and when they differ from flow-based decision-making theories. Particularly interesting are the boundary cases such as (i) situations with very large or very low potential gains and losses due to the diminishing sensitivity assumption of prospect theory and (ii) situations at which desires and needs are already or not at all satisfied as boundary cases of the stock-based view. Additionally, future research may explore the heterogeneity of desires in family firms, how the heterogeneity of desires influences the marginal utilities derived from the different SEW stocks, and whether utility can be derived from some types of affective endowments irrespective of firm control. For latter, it may be interesting how non-financial stocks of non-family managers (e.g., managerial power (Jensen, 1986) and reputation (Healy & Wahlen, 1999)) influence their decision-making and what non-financial stocks are exclusively for founding family members with and without control.

CONCLUSIONS

So far prospect theory and its derivatives were mostly used as the theoretical basis to explain how and why family firms differ in their decision-making from non-family firms. As a consequence of prospect theory as theoretical basis, existing research has neglected the possibility that the size of the stocks of wealth (instead of changes in stocks to a reference point) may explain the decision-making and the value function of family firms. As an alternative theoretical basis, we developed a *stock-based view on family firm decision-making* based on the marginal utilities of the wealth stocks as the main decision-criteria. In the absence of prior work with comparisons in family firm decision-making across stock levels,

we tested how the stock of control rights affects the share repurchasing decisions of family firms. Our results provide some indication that the level of control rights moderates the hypothesized, by family managers strengthened, positive association of undervaluation on the amount of share repurchased. Thus, our study provides some indication that the level of stocks and not only flows matter in family firm decision-making involving potential losses and gains in multiple wealth dimensions.

ESSAY 2: BOARD DIVERSITY IN FAMILY FIRMS ACROSS CULTURES: A CONTINGENCY ANALYSES ON THE EFFECTS OF GENDER, TENURE, AND NATIONALITY DIVERSITY ON FIRM PERFORMANCE⁵

ABSTRACT

Diversity research in family firms has yielded conflicting empirical evidence for the relationship of gender diversity on firm performance and has largely ignored other diversity types such as tenure and nationality diversity. Following the upper echelons tradition, we investigate the relationship of demographic board characteristics (i.e., gender, tenure, and nationality diversity) on firm performance. Specifically, we use a contingency approach, proposing that family firm status and national culture (i.e., the degree of masculinity in the country of the firms) moderate the relationship of diversity on firm performance. Our analyses of 5,817 firm-year observations of publicly listed European firms supports most of our hypotheses. Our results support our argument that power disparity in family firms may negate the positive effects of cognitive variety of tenure and nationality diversity. Furthermore, our results support that the degree of masculinity is an important factor moderating the relationship of diversity in family firms on firm performance for gender and tenure diversity. We thereby advance diversity research in family firms to explain *when* (i.e., under what conditions) positive diversity and negative diversity effects prevail by introducing national culture as a novel contingency factor that may help to reconcile prior conflicting findings.

INTRODUCTION

Given the quantity of conflicting empirical evidence on the effect of diversity on team and firm performance (e.g., Bell, Villado, Lukasik, Belau, & Briggs, 2011; Horwitz & Horwitz, 2007; Post & Byron, 2015; Webber & Donahue, 2001), scholars focused on

⁵ This essay is an unpublished working paper based on Tao-Schuchardt and Kammerlander (2021a) with the title „Board diversity in family firms across cultures: A contingency analyses on the effects of gender, tenure, and nationality diversity on firm performance“. A version of this manuscript was submitted to the Journal of Family Business Strategy in May 2021, went under review, received a ‚revise and resubmit‘ in September 2021. A revised version (titled “Board Diversity in Family Firms across Cultures: A Contingency Analyses on the Effects of Gender and Tenure Diversity on Firm Performance“) was resubmitted in December 2021, and is currently under review.

sharpening the conceptualization of diversity (e.g., Harrison & Klein, 2007), exploring mediators (e.g., Miller & Del Carmen Triana, 2009), and introducing contingency factors (e.g., Post & Byron, 2015). Due to the predominance of family firms (e.g., Claessens et al., 2000; Faccio & Lang, 2002; La Porta, Lopez-De-Silanes, & Shleifer, 1999), recent research also explored family firm status as a moderator altering the relationship between board diversity and firm performance (e.g., Chadwick & Dawson, 2018; Félix & David, 2019; McGuinness, 2018). The initial results are quite contradictory, however. They suggest, for instance, that family firms may positively and negatively moderate the relationship of gender diversity on firm performance (e.g., González, Guzmán, Pablo, & Trujillo, 2020; Magnanelli et al., 2020; Sarkar & Selarka, 2021).

In this study, we point to national culture as a largely ignored but important factor to explain the diversity-firm performance relationship. National culture is important as the configurations of formal and informal institutions of countries shape how people perceive, think, and react to the world around them (e.g., Hambrick & Mason, 1984). Consequently, the predominant configuration in countries may be an important factor moderating the effect between the diversity introduced into boards and may help to reconcile contradictory empirical findings of prior research. Thus, we explore the research question *how does board diversity affect financial performance in family firms compared to non-family firms and what are important contingencies?* Specifically, we study three important diversity aspects: gender, tenure, and nationality. While gender diversity has been in the focus of much prior family firm work (e.g., Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; Magnanelli et al., 2020; Vieira, 2018), tenure and nationality diversity are largely ignored board diversity characteristics in family firm research despite being recognized as diversity factors in wider diversity research (e.g., Boeker, 1997; Hambrick, Davison, Snell, & Snow, 1998; Kearney & Gebert, 2009; Nielsen & Nielsen, 2013; Pelled, 1996; Pelled, Eisenhardt, & Xin, 1999).

Following the tradition of the upper echelons theory (Hambrick & Mason, 1984) and drawing on diversity research (Harrison & Klein, 2007), we propose that tenure, gender, and nationality diversity increase cognitive diversity in terms of variety of experiences, perceptions, and reactions to strategic issues in boards, resulting in higher firm performance. Moreover, we hypothesize that power disparity among family and non-family managers tends to foster conformity and suppression of ideas, weakening the positive effect of tenure, gender, and nationality diversity on firm performance. We further propose that these two-way interactions are moderated by the degree of masculinity in the countries of the firms. In particular, we hypothesize that the negative effect of tenure diversity in family firms is strengthened while the negative effects of gender and nationality diversity in family firms are weakened in cultures characterized by high degree of masculinity. Our results based on 1,405 publicly listed European firms with 5,817 firm-year observations between 2011 and 2018 support most hypotheses.

Our study makes several contributions. First, we advance the diversity research in family firms (e.g., Abdullah, 2014; Binacci et al., 2016; Chadwick & Dawson, 2018; Ling & Kellermanns, 2010) by shifting the focus from the effect of diversity in family firms on firm performance to important contingencies moderating this relationship, in particular, national culture. Second, we provide novel empirical evidence how various types of diversity contribute to firm performance by conducting a multi-country study and by including tenure and nationality diversity. While prior diversity research studies on family firms focused on single countries (e.g., Chadwick & Dawson, 2018; Félix & David, 2019; McGuinness, 2018), our study may increase the confidence in the generalizability of the findings across a variety of institutional environments and cultures. Third, we build on recent literature that aims to integrate diversity theory and family firm research (Kammerlander, Patzelt, Behrens, & Röhm, 2020) to build a more nuanced theory on how various diversity dimensions

conceptualized by Harrison and Klein (2007) play out in the family firm context. Fourth, we contribute to the research on the role of socio-cultural contexts in upper echelons theory (e.g., Hambrick, 2007; Post & Byron, 2015). Despite calls to explore macro-contexts more (e.g., Hambrick, 2007; Nielsen & Nielsen, 2013), only few very recent exceptions explored national culture as contingency factor (Boone, Lokshin, Guenter, & Belderbos, 2019; Kalasin, 2021). Hence, we contribute by providing further support for the importance of cultural context in upper echelons theory and by introducing the moderating role of degree of masculinity in the national cultures.

THEORETICAL BACKGROUND

Upper Echelons Theory

The upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984) suggests that strategic choices and firm performance are partially predicted by characteristics of top management teams (TMTs). The central idea is (1) that managers make strategic choices based on their personalized interpretations of strategic situations and (2) that the different experiences, values, and personalities affect what and how managers see, perceive, and interpret strategic situations (Hambrick, 2007; Hambrick & Mason, 1984). The theory, thus, assumes bounded rationality (Cyert & March, 1963; March & Simon, 1958)—in other words, that complex and uncertain situations can only be interpreted and not objectively known (Mischel, 1977).

The research stream based on upper echelons theory also builds on the idea that demographic characteristics of managers can approximate the cognitive frames of managers (Hambrick, 2007). This idea was further substantiated by arguments and evidence for the effect of demographics on strategic choices and firm performance (e.g., Boeker, 1997; D'Aveni, 1990; Eisenhardt & Schoonhoven, 1990) and by researchers identifying mediators of the underlying psychological processes (e.g., Simons, Pelled, & Smith, 1999; Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994).

Scholars have identified various moderators for the relationship of demographic characteristics of managers on strategic choices and performance outcomes (Hambrick, 2007). For instance, the larger the managerial discretion (e.g., Crossland & Hambrick, 2007; Finkelstein & Hambrick, 1990), the larger the executive job demands (e.g., Hambrick, Finkelstein, & Mooney, 2005), and the stronger the behavioral TMT integration (e.g., Li & Hambrick, 2005; Lubatkin, Simsek, Ling, & Veiga, 2006), the more do TMT characteristics influence organizational outcomes. Additionally, intra-TMT power distributions play a role in moderating the effect of TMT characteristics on strategic choices and performance (Hambrick, 2007).

The context in terms of national systems also matters for the relationship between TMT characteristics and organizational outcomes. If a culture has a single education and career track for becoming a TMT member, the variance in frames will be limited. For instance, in France, CEOs often come from the same schools and went similar paths (Kadushin, 1995). Additionally, some cultures may limit managerial discretion through formal and informal institutions such as higher worker involvement in governance and uncertainty avoidance, resulting in weaker effects of TMT characteristics on firm outcomes (e.g., Crossland & Hambrick, 2007). In regard to national systems, Hambrick (2007) specifically called for more research that explores the understanding of “how upper echelons theory might take on very different complexions, depending on the macrosocial context” (p. 339).

Types and Effects of Diversity

Harrison and Klein (2007) proposed to differentiate among three diversity facets with different mechanisms and predicted outcomes as a response to contradictory results on the relationship between diversity and performance (e.g., Horwitz & Horwitz, 2007; Webber & Donahue, 2001): separation, variety, and disparity.

Separation. The separation aspect of diversity focuses on differences in position among unit members, e.g., in opinions, beliefs, values, attitudes, or goals (Harrison & Klein, 2007). Maximum diversity in terms of separation is characterized by half the members of a unit at both ends of a continuum. High diversity in terms of separation tends to lead to a limited team integration, reduced team cohesion, and higher conflict (e.g., Byerne, 1971; Tajfel, 1981; Turner, 1985). In contrast, low diversity in terms of separation is characterized by all team members around a similar point on a continuum and tends to increase team understanding, pleasure to work together, trust, integration, and collaboration (e.g., Harrison, Price, Gavin, & Florey, 2002; Locke & Horowitz, 1990). As a result, team performance may suffer in teams characterized by high separation due to higher risks of conflict but may also suffer in teams characterized by low separation due to groupthink.

Variety. The variety aspect of diversity focuses on differences in kind, e.g., in skills, knowledge, or experience (Harrison & Klein, 2007). Maximum diversity in terms of variety is when each member of a unit is in one unique category, e.g., skills, knowledge, or experiences are perfectly heterogeneous. Through variety, teams tend to have a larger pool of resources (i.e., information and different ways to sense, evaluate, and respond to their environment), resulting in a higher level of team creativity and decision quality (e.g., Campbell, 1960; Williams & O'Reilly, 1998). However, teams with high variety may lack a common understanding and require more time to come to a decision, making variety more desirable for tasks that are complex or require creativity and less so for routine tasks in stable environments (e.g., Filley, House, & Kerr, 1976; Janis, 1972).

Disparity. The disparity aspect of diversity focuses on differences in concentration, e.g., in wealth, power, or status (Harrison & Klein, 2007). High diversity in terms of disparity is characterized by one member at the higher end of a continuum and all other members of a unit at the lower end of a continuum. High disparity can both foster competition (Bloom, 1999;

Pfeffer & Langton, 1993) but also conformity (e.g., Hollander, 1958). While members of a unit with low concentration may be highly motivated to increase their position, members with high concentration may use tactics to sustain their position, resulting in polarization and less collaboration (e.g., Eisenhardt & Bourgeois, 1988). Team performance effects, thus, are unclear and depend on tasks and the balance between increased competition but higher level of conformity and suppression of ideas induced by disparity.

Effects of Board Diversity in Family Firms on Firm Performance

In family firm research, mostly family firm specific sources of diversity (e.g., differences in family involvement and generation) and gender diversity has been explored in association with firm performance (e.g., Chadwick & Dawson, 2018; Ling & Kellermanns, 2010; Nordqvist, Sharma, & Chirico, 2014; Vieira, 2018). In the following, we focus on gender, nationality, and tenure diversity. We chose gender diversity because current research yielded contradictory evidence on the relationship of gender diversity in family firms despite heightened research interest (Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; D'Amato, 2017; González et al., 2020; Magnanelli et al., 2020; McGuinness, 2018; Sarkar & Selarka, 2021; Vieira, 2018). Furthermore, we chose tenure and nationality diversity because they are, in contrast to numerous studies on gender diversity, sparsely covered in family firm research despite a large body of research outside of family firm research (e.g., Boeker, 1997; Hambrick et al., 1998; Kearney & Gebert, 2009; Nielsen & Nielsen, 2013; Pelled, 1996; Pelled et al., 1999).

Gender diversity. Several theoretical arguments have been explored to make predictions on the effect of gender diversity in family firms on firm performance. Drawing on agency theory, some scholars proposed that female directors are more effective board members especially in family firms that may suffer from higher agency costs (Magnanelli et al., 2020; Vieira, 2018). Also arguing for a positive effect, D'Amato (2017) proposed that women can

more effectively develop their capabilities in family firms due to a more inclusive environment and less obstacles in family firms to effectively use their skills. Conversely, scholars proposed that family firms negatively moderate the positive relationship between gender diversity and firm performance due to the absence of higher standards required to rise to board positions (e.g., Chadwick & Dawson, 2018; González et al., 2020). Furthermore, Chadwick and Dawson (2018) proposed, drawing from upper echelons theory, that the positive gender diversity effects are reduced in family firms due to lower managerial discretion of senior executives.

Empirical evidence consistently found that family firms tend to have a higher proportion of female board members than non-family firms (Abdullah, 2014; Martin-Ugedo & Mínguez-Vera, 2014; Mínguez-Vera & Martin, 2011; Vieira, 2018), in of family firms reducing the glass ceiling effect (Songini & Gnan, 2009). However, empirical evidence does not agree on the firm performance effects of female directors and gender diversity in family firms: Studies from Hong Kong, the United States, Colombia, and India found a negative relationship between female board membership and firm performance (Chadwick & Dawson, 2018; González et al., 2020; McGuinness, 2018; Sarkar & Selarka, 2021). In contrast, a positive effect of female board members was found for Portuguese family firms, Italian family firms that fulfill the mandatory 33 percent female gender quota, and Indian family firms with CEO duality (Magnanelli et al., 2020; Sarkar & Selarka, 2021; Vieira, 2018). Then again, other studies found an insignificant effect for female board members in family firms (Ararat & Yurtoglu, 2020; D'Amato, 2017). Given these contradictory results, it is currently unclear which theoretical basis gives the best predictions on the effects of gender diversity in family firms on firm performance. Thus, contingency theories may be needed based on institutional environment, national culture, pursued strategies, or other factors to reconcile these contradictory results.

Nationality and tenure diversity. Research on nationality and tenure diversity in family firms is very scarce to date despite a large body of research outside of family firm research (e.g., Boeker, 1997; Hambrick et al., 1998; Kearney & Gebert, 2009; Nielsen & Nielsen, 2013; Pelled, 1996; Pelled et al., 1999). To the best of our knowledge, the only study exploring the relationship of tenure diversity in family firms on firm performance was conducted by Binacci et al. (2016). They argued that the higher family involvement in family firms increases competition and intensifies the negative effects of reduced social integration, information exchange, and higher turnover rates. Based on a small sample of Italian family-controlled furniture firms, they found a u-shaped relationship between tenure diversity of non-family managers and firm performance that was strengthened by the proportion of family managers in the top management team.

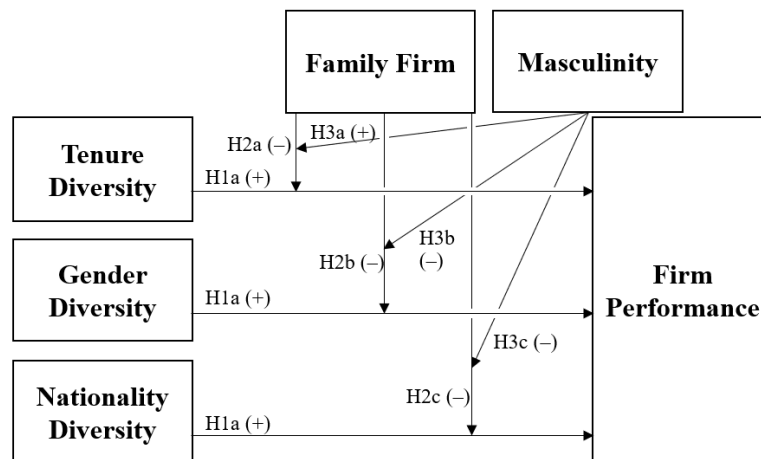
In sum, research on the effects of gender diversity on firm performance in family firms have become popular in recent years but has yielded contradictory results based on single-country studies. The research on nationality and tenure diversity in family firms, in contrast, is very nascent with only limited findings so far.

HYPOTHESES DEVELOPMENT

Influence of Diversity on Firm Performance

Drawing on upper echelons theory (Hambrick & Mason, 1984) and diversity research (Harrison & Klein, 2007), we propose that board characteristics, in particular, tenure, gender, and nationality diversity, are positively associated with firm performance due to a higher cognitive variety available for decision-making, higher task-orientation, and, hence, higher decision-making quality (see Figure 4 for an overview of hypotheses).

FIGURE 4: Overview of hypotheses



Tenure, defined as the length of time that a board member has been employed in an organization, is indicative for the frame of reference that is adopted through the socialization in organizations, shared experiences, and internal network (e.g., Wagner, Pfeffer, & O'Reilly, 1984; Wiersema & Bantel, 1992). Extended tenures allow board members to accumulate knowledge on how to effectively and efficiently perform their roles in their organizations. However, with the accumulated knowledge and practiced routines in their behavior and decision-making, they also may become more reliant on their own values and beliefs, rigid in their thinking, resistant to change, and less likely to incorporate new ideas (e.g., Musteen, Barker, & Baeten, 2006). Thus, homogenous boards with long tenure may fall into groupthink and perpetuate the status quo (Bantel & Jackson, 1989), resulting in lower firm performance.

In contrast, boards with heterogenous tenures benefit from the variety of frames and experiences. As a result, boards with high tenure diversity are expected to have more perspectives and discuss strategic issues and options more than boards with homogenous tenures (e.g., Tuggle, Schnatterly, & Johnson, 2010). Thus, tenure diversity in boards does not only help to mitigate negative effects of groupthink and the perpetuation of the status quo but also to make better decisions that leverage their cognitive diversity and information richness. For instance, boards with high tenure diversity improve the discussion of entrepreneurial

issues (Tuggle et al., 2010) in order to identify new growth opportunities to survive in the long-run. Hence, we propose that firms with high board tenure diversity are expected to have a better firm performance than firms with low tenure diversity.

Hypothesis 1a. Tenure diversity in boards is positively associated with firm performance.

Similarly, we propose that gender diversity in boards also improves decision-making and, hence, firm performance. Gender influences the way how children are raised and what society expects of them (e.g., Bem, 1983; Eagly & Johnson, 1990). Given these differences, female and male board members are likely to have accumulated different experiences that may result in differences in perception, cognitive styles, and reactions to strategic issues (Gustafsson, 1998; Hurst, Rush, & White, 1989; Levi, Li, & Zhang, 2014). Gender diversity on boards compared to homogenous boards with only male or female board members enhances strategic thinking and problem solving of boards given the consideration of more alternatives (Campbell & Mínguez-Vera, 2008). As a result, gender diversity can, for instance, improve the monitoring ability of boards (Adams & Ferreira, 2009), create favorable reputation amongst stakeholders (Miller & Del Carmen Triana, 2009; Williams, 2003), increase innovation performance (Miller & Del Carmen Triana, 2009), and improve the decision-quality on other strategic issues (e.g., Levi et al., 2014). These differences may, overall, lead to a higher improved firm performance as a result of higher gender diversity in boards.

Hypothesis 1b. Gender diversity in boards is positively associated with firm performance.

Furthermore, we propose that nationality diversity in boards also improves decision-making and, hence, firm performance. The national origin of board members imprints cultural patterns of thinking, feeling, and acting from the institutional environment of the country in which they grew up during their formative years (Hambrick et al., 1998). The once established patterns during childhood tend to remain even with the introduction of subsequent

experiences (Hofstede, Hofstede, & Minkov, 2010). Several studies highlight the durability of the effects of national culture on the perception, interpretation, and reaction to strategic issues (Geletkanycz, 1997; Schneider & Meyer, 1991). Given this strong frame the national origin creates in people, national diversity in boards is expected to have similar positive effects as tenure diversity as it broadens the perspectives and ideas to be considered in the boards. Hence, boards with higher national diversity are expected to have higher cognitive diversity that they can leverage given that they consider various alternatives and engage in discussions to find the best course of action, resulting in higher firm performance.

Hypothesis 1c. Nationality diversity in boards is positively associated with firm performance.

Family Firm as Moderating Factor

However, the quality of decisions is not only a function of the cognitive variety that increases information richness and productive conflict but also of the interaction processes that facilitate the use and integration of available cognitive resources (e.g., Amason, 1996; Schweiger, Sandberg, & Rechner, 1989). As a consequence, the degree of information exchanged (both in terms of quantity and quality), collaborative behavior, and joint decision-making are expected to moderate the effect of diversity (in terms of variety) on firm performance (Hambrick, 1994; Patel & Cooper, 2014). Given idiosyncratic family firm characteristics such as a high discretion for family managers, socioemotional wealth goals, a preference for sons, and a high degree of local embeddedness (e.g., Ahrens, Landmann, & Woywode, 2015; Baù, Chirico, Pittino, Backman, & Klaesson, 2018; Carney, 2005; Gómez-Mejía et al., 2007), we propose that family firm status moderates the relationship between diversity in and firm performance. In particular, we propose that family firm characteristics may impair the effectiveness of the interaction process required to translate cognitive variety stemming from tenure, gender, and nationality diversity into a firm performance advantage.

Family firms are characterized by a high level of disparity in power as family members have disproportionately high levels in ownership, legitimacy, status, and decision-making power among board members (e.g., Carney, 2005). While disparity as such can be an incentive to intensify differentiation and competition (e.g., Bloom, 1999; Pfeffer & Langton, 1993), disparity can also lead to conformity (e.g., Hollander, 1958). As this disparity in family firms is not a temporary one that one can overcome by hard work and clever differentiation but rather a permanent one, we argue that the negative effects of disparity are expected to outweigh the positive ones.

From a family managers perspective, we argue that family managers may use their disproportionate endowment in status and decision-making power to rely more on their own experiences and opinions than other high endowed executives in non-family firms. High status individuals tend to be less willing to accept input from others (Tost, Gino, & Larrick, 2012) and, as a consequence, “talk more, interrupt more, are more likely to speak out of turn, and are more directive” (Keltner, Gruenfeld, & Anderson, 2003: 277). This effect on the family manager side may be further accentuated as family CEOs are more likely than non-family CEOs to have “strong-willed personalities” (Kelleci, Lambrechts, Voordeckers, & Huybrechts, 2019: 31). Thus, family managers are more likely to use their disproportionate legitimacy and decision-making power at their own discretion to make quick decisions based on their own experiences and heuristics (e.g., Gedajlovic et al., 2004; Gedajlovic et al., 2012). In contrast, they are less likely than non-family managers to leverage the diverse knowledge and capabilities of other board members (Zona, 2016). Conversely, less endowed non-family managers are more likely to not speak up and conform to the ideas and opinions of high-powered family managers. This mechanism may even become stronger over time as family managers often become a single decision-maker (Feltham, Feltham, & Barnett, 2005), resulting in frustration, conformity, and suppression of diverse ideas and opinions by non-

family managers. Thus, the extent of information exchange, collaboration, and joint decision-making may be too low to turn cognitive variety into higher firm performance (e.g., Hambrick, 1994; Hambrick, 2007; Ling & Kellermanns, 2010; Minichilli, Corbetta, & MacMillan, 2010). As a consequence, we expect that the positive effects of cognitive variety from diversity are mitigated by the family manager focused interaction process in family firms, resulting in a weakening of the positive relationship between diversity and firm performance.

For tenure diversity specifically, we additionally propose that specific types of tenure diversity that are more frequently present in family firms than in non-family firms may be associated with lower firm performance. Controlling families are not only driven by the maximization of financial wealth but also by the protection and expansion of their socioemotional wealth (e.g., Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2011). As a consequence of these different priorities, family members or individuals with close ties to family members may be retained or appointed in board positions due to relationship rather than merit. For instance, young family members may be appointed into the board or as successor to ensure transgenerational control even though non-family managers may be more qualified (e.g., Pérez-González, 2006). Alternatively, when no family successor can be found, old patriarchs or matriarchs may retain control to preserve their SEW even though their decision-making routines already became rigid and inappropriate for the business environment. In either case, firm performance is expected to suffer from the increased tenure diversity. Thus, we hypothesize the following:

Hypothesis 2a. The positive effect of tenure diversity in boards on firm performance is weakened in family firms compared to non-family firms.

Similarly, we argue that the negative effects of power disparity in family firms (as outlined above) can also be applied to gender diversity. Given the large power disparity in family firms in boards, non-family female board members may not be able to leverage their

diverse experiences, frames, and reactions to strategic issues to the extent they could on a more level power playing field in non-family firms.

Female board members may additionally face bias when they want to assert authority and bring in their values, beliefs, and frames into the decision-making process in an male-dominated environment characterized by high status and power disparity and often long traditions of patriarchs leading the family business. Women may need to be assertive in order to influence decisions in boards of family firms that are characterized by high power disparity and a tendency for family managers to act as sole decision-maker. However, they may be perceived as less competent and less status worthy than men (e.g., Heilman, 2001; Heilman, Block, & Martell, 1995; Ridgeway, 2001), especially due to the traditions of family firms that often (still) prefer first born sons as successors (e.g., Ahrens et al., 2015). Thus, their ability to bring their views across may be further impaired even though their points would positively contribute to the cognitive diversity of the board. This is in line with findings that indicate that women are perceived as untrustworthy and less influential compared to men when women present in an assertive style (e.g., Carli, 1990). This effect is stronger in male-dominated contexts—as the majority of the board rooms still are (e.g., Boldry, Wood, & Kashy, 2001). Given this bias, gender diversity (i.e., in most cases female participation in male dominated board rooms) may have less positive effects stemming from the utilization of the cognitive variety in family firms due to a lower extent of information exchanged. Thus, we hypothesize the following:

Hypothesis 2b. The positive effect of gender diversity in boards on firm performance is weakened in family firms compared to non-family firms.

Similarly as for tenure and gender diversity, the negative effects of power disparity in family firms (as outlined above) can also be applied to national diversity. As a result of the negative effects of disparity (e.g., silence and conformity), the cognitive diversity stemming

from the variety of national backgrounds and, hence, frames may not be utilized in family firms.

Additionally, national diversity can also lead to misunderstandings in family firms particularly, resulting not only in the negation of positive diversity effects but also conflict and underperformance of highly diverse boards in terms of nationality in family firms. While separation and cultural misunderstandings can occur in any organization characterized by a high national diversity, family firms may be particularly susceptible. Given their strong local embeddedness and the competitive advantages of family firms in local markets due to the local embeddedness (e.g., Baù et al., 2018; Bird & Wennberg, 2014), board members in family firms are likely to have accumulated resources and capabilities that help them better understand local peculiarities and identify opportunities. During this process, non-international board members in family members are likely to have formed strong frames of the local culture, resulting in larger differences to frames established in other national contexts. These differences may turn into misunderstanding and conflict as taken for granted values, frames, and ways to act may be challenged, resulting in a stronger negative effect due to cultural separation in family firms than in non-family firms. Thus, we hypothesize the following:

Hypothesis 2c. The positive effect of nationality diversity in boards on firm performance is weakened in family firms compared to non-family firms.

Culture as Moderating Factor

The national culture does, however, not only shape the frames of international board members but also the frames of the usually overproportionately represented non-international board members. Thus, we propose that the relationship of diversity on firm performance is not only contingent on family firm status but also the culture in which the firms operate in. In particular, we argue that a culture characterized by a high level of masculinity, i.e., a culture with a preference for “achievement, heroism, assertiveness, and material rewards for success”

(Hofstede, 1984: 84) instead of a preference for “cooperation, modesty, caring for the weak and quality of life” (Hofstede, 1984: 84), moderates the previously developed two-way interaction effects.

In the case of tenure diversity, we propose that the family firm characteristics that weaken the positive effect of cognitive variety are stronger in culture characterized by a high degree of masculinity. In other words, the negative effects of power disparity on the extent of information exchange, collaboration, and joint decision-making and the negative effects of SEW goals on firm performance are expected to be stronger in cultures characterized by high levels of masculinity compared to cultures characterized by low levels of masculinity.

First, we propose that the degree of masculinity in the national culture of firms moderates status-oriented behavior. Due to a preference for competition and achievement in high masculinity cultures (Hofstede, 1984), family managers with disproportionate endowment in status and decision-making power may more likely to behave according to their power to derive a sense of satisfaction from their achieved status. As a consequence, they may be less likely to accept input from others and base their decisions more likely on their own experiences and heuristics. This in turn is expected to be even more frustrating for board members with low endowment in status and power, ultimately resulting in conformity and suppression of the variety ideas and opinions of diversity non-family managers.

In contrast, these negative disparity effects are expected to be weaker in cultures characterized by low masculinity due to the consensus-oriented nature. In other words, given the focus on collaboration instead of competition and achievement, board members are expected to openly exchange information, collaborate more, and take a joint decision-making approach. All three factors together allow the cognitive variety from tenure diversity to increase the quality of decisions through a higher completeness of information, creativity, and task-orientation (e.g., Amason, 1996; Hambrick, 1994; Schweiger et al., 1989). As a

consequence, the negative effects of status and power disparity are expected to be weakened, allowing the positive benefits of cognitive variety from tenure diversity take effect through a more collaborative and joint decision-making process.

Second, we argue that the preference of controlling families to be actively involved in decision-making is stronger in high masculinity cultures compared to low masculinity cultures. As achievement is perceived as important in high masculinity cultures (Hofstede, 1984), controlling families may perceive the resigning of power as a failure. As a consequence, lesser qualified family members are more likely chosen as successors or old patriarchs or matriarchs are more likely to retain power even though a change in leadership would be best. In contrast, these negative effects driven by a focus on preserving SEW are less likely in low masculinity cultures. The preference for cooperation and modesty would make giving up power easier and more desirable than continuing family management despite of better alternatives. Thus, we hypothesize the following:

Hypothesis 3a. The two-way interaction effect of tenure diversity and family firm on firm performance is strengthened in cultures characterized by high masculinity.

While the positive effects of gender diversity may be negated in family firms compared to non-family firms due to a high level of disparity of power, we propose that the degree of masculinity in the culture in which firms predominantly operate moderates the relationship among gender diversity, family firm status, and firm performance. In particular, we argue that the benefits of variety of frames induced by gender diversity (i.e., women in the case of male dominated board rooms) are accentuated when the added frames are more complementary to the frames of other board members (i.e., in cultures characterized by a high degree of masculinity).

The configuration of formal and informal institutions in countries shape how people perceive and react to the world around them (Hambrick & Mason, 1984). In cultures characterized by a high degree of masculinity, both men and women are more likely to have a

stronger preference for competition and achievement instead of cooperation and modesty. For family firms, in particular, cultures of higher masculinity, and, hence, a stronger preference for competition, may shift family goals more towards financial wealth rather than socioemotional wealth given the higher preference for material goods as a reward for success and sign of status in cultures characterized by a high masculinity. As a consequence, we argue that family firms may be more inclined to reduce their use of their discretion and leverage the benefits of cognitive diversity to improve firm performance when these diverse values, beliefs, and frames are enhancing their decisions meaningfully.

While one might also expect that more pronounced gender roles in high masculinity cultures *increase* the negative effects of gender bias and stereotypes in patriarchic led family firms, we propose that the enhanced positive (rather than negative) diversity effects in family firms are stronger. In particular, we propose that the benefits of gender diversity are higher and, hence, more useful to be considered in family firms in cultures characterized by high masculinity compared to cultures characterized by low masculinity. In societies characterized by high masculinity, gender roles are even more salient than in societies characterized by low masculinity (Hofstede, 2011). These more pronounced gender roles in high masculinity cultures influence how children are raised and what society expects of boys, girls, men, and women (e.g., Bem, 1983; Eagly & Johnson, 1990). Thus, women develop different frames than men through the accumulated interactions and generally tend to focus more on relationship enhancement instead of ego enhancement men (Hofstede, 2011). Given male dominated board rooms (e.g., Adams & Ferreira, 2009; Campbell & Mínguez-Vera, 2008; Hillman, Shropshire, & Cannella, 2007), these differences in experiences, frames, and reactions to the world developed by women compared to men can enhance the cognitive diversity in teams, especially when the overall population scores higher in terms of masculinity. In other words, the frames introduced by gender diversity (i.e., female board

members in male dominated board rooms) are less overlapping and more complementary in cultures characterized by high masculinity, increasing the possibility for family managers to leverage the cognitive variety stemming from gender diversity to make better decisions instead of using their discretion and relying on their own experiences and heuristics.

In contrast, when more feminine values are present in the population and the difference between men and women is smaller in cultures characterized by low levels of masculinity, the addition of gender diversity is expected to be less effective to improve cognitive diversity and, hence, decision quality. As a consequence, the possibility for family managers is also reduced to leverage the cognitive variety benefits of gender diversity by employing a more participative decision-making process instead of relying on their own experiences and discretion. Thus, we expect in an overall weakening of the negative two-way interaction of gender diversity and family firms status in cultures characterized by high degree in masculinity.

Hypothesis 3b. The negative two-way interaction effect of gender diversity and family firm on firm performance is weakened in cultures characterized by high masculinity.

Furthermore, we propose that the degree of masculinity in the culture in which firms predominantly operate moderates the relationship among nationality diversity, family firm status, and firm performance. In particular, we argue, similarly as for gender diversity, that family firms are more likely to focus more on financial wealth in cultures characterized by high masculinity. As a consequence, family managers with high power endowment are more likely to reduce their use of their discretion and to leverage the benefits of cognitive diversity. This mechanism is further strengthened as the benefits from the variety of frames induced by nationality diversity may become more valuable in cultures characterized by a high degree in masculinity than on cultures characterized by a low degree in masculinity. For instance, board members from countries characterized by low levels of masculinity may have complementary

frames to non-international board members from countries characterized by high levels of masculinity. Thus, we hypothesize the following:

Hypothesis 3c. The negative two-way interaction effect of nationality diversity and family firm on firm performance is weakened in cultures characterized by high masculinity.

METHODOLOGY

Sample and Sample Collection

Our sample is based on publicly listed firms in Europe between 2011 and 2018. We started with 3,367 firms (18,564 firm-year observations) with available ISINs in the BoardEx Europe database. We gathered family ownership, financial, and other firm-specific data from Bureau van Dijk's Amadeus database. The data of these databases were matched based on ISIN-year combinations. We further complemented this data by cultural dimension data from the Hofstede Insights website for each country. After dropping observations with missing data, we have a final sample of 1,405 publicly listed European firms and 5,817 firm-year observations.

Model Variables

Dependent variable. In line with prior firm performance research (e.g., Anderson & Reeb, 2003), we measured financial performance as *earnings before interest, taxes, depreciation, and amortization (EBITDA) over total assets*—also known as return on assets (ROA) based on EBITDA.

Independent variables. We used three types of diversity in this study. (1) *Tenure diversity* was measured as the standard deviation of time in company of board members (e.g., Hambrick, Cho, & Chen, 1996). (2) *Gender diversity* was constructed as a dummy variable that takes the value 1 when a firm's board has both male and female board members and 0 otherwise. Given that our sample included no board that consisted only of female board members, this variable represents female board representation that takes the value 1 when a firm's board included at least one woman and 0 otherwise (Hillman et al., 2007). (3) *Nationality diversity* was constructed as a dummy variable that takes the value 1 when a

firm's board has both national and international board members and 0 otherwise. Similarly as for gender diversity, our sample included no board that consisted only of international board members. Thus, this variable represents the presence of international board members that takes the value 1 when a firm's board included at least one international board member and 0 otherwise. We chose to use dummy variables for the presence of both female and male as well as national and international board members instead of a proportion of female or international board members in our main analyses because these measures fit better to our developed hypotheses based on cognitive variety and the presence of complementary frames in boards.

To test the robustness of our findings in our supplemental analyses, we also measured tenure diversity as the standard deviation of time on board of board members as an alternative measurement. Furthermore, we used *proportion of female board members* (e.g., Erhardt, Werbel, & Shrader, 2003) and *proportion of international board members* to control for the alternative explanations. Instead of the cognitive variety argument made in our hypotheses development (that requires the presence of both female and male or international and non-international board members with complementary frames), female and international board members may be more effective per se. Thus, a higher proportion of female and international board members may be associated with higher firm performance.

Moderator variables. We constructed *family firm* as a dummy variable that takes the value 1 when an individual or a family is the largest shareholder and possess at least 25 percent of the outstanding cashflow rights.⁶ We chose the 25 percent threshold in line with other non-US studies (e.g., Andres, 2008; Franks, Mayer, Volpin, & Wagner, 2012; Leitterstorf & Rau, 2014; Lins et al., 2013) to ensure sufficient family control for family characteristics (in particular, power disparity) to influence firm performance. In our

⁶ To reduce the number of observations dropped due to missing data, ownership data of up to two years prior to the required year were used as approximation as family ownership does usually not change on a yearly basis but is held over generations (Jaskiewicz, Combs, and Rau, 2015).

supplemental analyses, we additionally use family ownership measured as the percentage of the outstanding cashflow rights in percent for family firms and 0 otherwise. Last, we measured *masculinity* on a scale from 0 to 100 according to the methodology of Hofstede et al. (2010).

Control variables. We attempted to control for alternative explanations by including control variables. We controlled for *number of directors* as large boards are associated with lower firm performance (e.g., Hermalin & Weisbach, 2003). We also controlled for *firm age* measured as the natural logarithm of firm age and *firm size* measured as the natural logarithm of total assets (e.g., Anderson & Reeb, 2003). Last, we include industry dummies based on primary two-digit US SIC codes, year dummies, and country dummies to control for time, industry, and country fixed effects. All independent and control variables were lagged by one year.

RESULTS

Descriptive Statistics

In our sample of publicly listed European firms, family firms account for 1,595 firm-year observations (27.4%) and the average ROA based on EBITDA is 6.3% in the full sample. Table 4 provides descriptive statistics and correlations of the full sample.

Test of Hypotheses

Table 5 reports the results of the OLS models with robust standard errors clustered at firm level as proposed and executed in prior research (e.g., Petersen, 2009; Villalonga & Amit, 2006). Model 1 includes all control variables. Firms with higher number of directors are negatively associated with firm performance ($\beta = -0.060, p = .001$) while larger firms ($\beta = 0.032, p < .001$) and older firms ($\beta = 0.011, p = .058$) are positively associated with firm performance.

TABLE 4: Correlation Matrix

Variable	Mean	S.D.	Min	Max	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) ROA based on EBITDA	0.06	0.25	-6.99	3.06	1												
(2) Tenure diversity based on time in company	5.25	3.67	0.00	20.00	.15	1											
(3) Tenure diversity based on time on board	4.28	2.91	0.00	20.10	.13	.86	1										
(4) Gender diversity	0.82	0.38	0.00	1.00	.06	.15	.11	1									
(5) Proportion of female board members	0.79	0.15	0.20	1.00	-.04	-.06	-.04	-.66	1								
(6) Nationality diversity	0.59	0.49	0.00	1.00	.03	.01	-.08	.09	-.03	1							
(7) Proportion of international board members	0.26	0.26	0.00	0.90	.01	-.07	-.13	.05	-.01	.85	1						
(8) Family firm dummy	0.27	0.45	0.00	1.00	.06	.10	.17	-.01	-.03	-.11	-.15	1					
(9) Family ownership	9.07	16.75	0.00	100.00	.06	.12	.18	-.02	-.02	-.12	-.16	.88	1				
(10) Masculinity	43.41	21.11	5.00	88.00	-.02	-.01	.03	-.26	.44	.07	.06	.05	.06	1			
(11) Number of directors	9.70	4.19	1.00	30.00	.13	.27	.15	.29	-.04	.29	.14	-.03	-.02	.16	1		
(12) Firm age (ln)	3.34	0.87	0.00	5.59	.14	.46	.42	.15	-.06	-.00	-.08	.06	.08	-.02	.30	1	
(13) Firm size (ln)	21.08	2.34	11.81	29.17	.27	.24	.11	.31	-.27	.29	.23	-.11	-.10	-.25	.54	.25	1

Note: All values greater than 0.03 are significant at 5% level.

TABLE 5: OLS Regressions with ROA based on EBITDA as Dependent Variable

	Model 1	Model 2	Model 3	Model 4
Tenure diversity		0.0025* (0.001)	-0.0007 (0.0025)	-0.003 (0.0028)
Gender diversity		-0.0104 (0.0271)	0.0522 (0.0392)	0.0847† (0.0495)
Nationality diversity		-0.0137 (0.0095)	-0.0477* (0.0196)	-0.0447* (0.0218)
Family firm		0.0367*** (0.0092)	0.0442 (0.0394)	0.1107 (0.0675)
Masculinity		0.0197 (0.0193)	0.0183 (0.0193)	0.019 (0.0195)
Tenure diversity × Family firm			-0.0061** (0.0023)	0.0073 (0.0061)
Gender diversity × Family firm			0.0118 (0.0383)	-0.1395* (0.0606)
Nationality diversity × Family firm			-0.0388* (0.0189)	-0.0441 (0.0337)
Tenure diversity × Masculinity			0.0001* (0.0001)	0.0002** (0.0001)
Gender diversity × Masculinity			-0.0013 (0.001)	-0.0019 (0.0013)
Nationality diversity × Masculinity			0.0011† (0.0006)	0.001 (0.0006)
Family firm × Masculinity			0.0008 (0.0005)	-0.0001 (0.0015)
Tenure diversity × Family firm × Masculinity				-0.0003* (0.0001)
Gender diversity × Family firm × Masculinity				0.0028† (0.0014)
Nationality diversity × Family firm × Masculinity				0.0002 (0.0008)
Number of directors	-0.006** (0.0018)	-0.0052*** (0.0015)	-0.0052*** (0.0015)	-0.0052*** (0.0015)
Firm age (ln)	0.0112† (0.0059)	0.0051 (0.0066)	0.0025 (0.007)	0.0017 (0.0071)
Firm size (ln)	0.0319*** (0.0073)	0.0333*** (0.0077)	0.0335*** (0.0078)	0.0337*** (0.0079)
2-dig industry controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes
R ²	17.8%	18.3%	18.9%	19.1%
n	5,817	5,589	5,589	5,589

Notes: Standard errors clustered at firm level (Petersen, 2009).

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 1a predicts that tenure diversity is positively associated with firm performance. The coefficient of tenure diversity (operationalized as standard deviation of time in company of board members) is, consistent with our hypothesis, positive and statistically significant in Model 2 ($\beta = 0.003, p = .001$). Thus, Hypothesis 1a is supported. Hypothesis 1b predicts that gender diversity is positively associated with firm performance. The coefficient of gender diversity is negative and not statistically significant in Model 2 ($\beta = -0.010, p = .700$), leading us to reject Hypothesis 1b. Hypothesis 1c predicts that nationality diversity is positively associated with firm performance. The coefficient of tenure diversity is negative and not statistically significant in Model 2 ($\beta = -0.014, p = .149$), leading us to reject Hypothesis 1c. For completeness, we also report a positive and statistically significant coefficient for family firms ($\beta = 0.037, p < .001$) and a positive but not statistically significant coefficient for masculinity ($\beta = 0.018, p < .344$) in Model 2.

Hypothesis 2a predicts that the positive effect of tenure diversity on firm performance is weakened in family firms compared to non-family firms. The coefficient of the two-way interaction is negative and statistically significant in Model 3 ($\beta = -0.005, p = .016$). Thus, Hypothesis 2a is supported. Hypothesis 2b predicts that the positive effect of gender diversity on firm performance is weakened in family firms compared to non-family firms. The coefficient of the two-way interaction is negative but not statistically significant in Model 3 ($\beta = -0.005, p = .893$), leading us to reject Hypothesis 2b. Hypothesis 2c predicts that the positive effect of nationality diversity on firm performance is weakened in family firms compared to non-family firms. The coefficient of the two-way interaction is negative and

marginally statistically significant in Model 3 ($\beta = -0.033, p = .059$). Thus, we find weak support for Hypothesis 2c.

Hypothesis 3a predicts that the two-way interaction effect of tenure diversity and family firm status on firm performance is strengthened in cultures characterized by high masculinity. The coefficient of the three-way interaction is negative and statistically significant in Model 4 ($\beta = -0.0003, p = .041$). To investigate this further, we calculated slope coefficients (Table 6) and conducted a pairwise slope test (Table 7). While the slope of family firms are indistinguishable from non-family firms in countries characterized by low levels of masculinity (i.e., mean minus one standard deviation), the slope of family firms is significantly lower ($p = .005$) than the slope of non-family firms in countries characterized by high levels of masculinity (i.e., mean plus one standard deviation). Thus, the results suggest that the level of masculinity moderates the effect of tenure diversity and family firm status on firm performance. In other words, Hypothesis 3a is supported.

Hypothesis 3b predicts that the negative two-way interaction effect of gender diversity and family firm on firm performance is weakened in cultures characterized by high masculinity. The coefficient of the three-way interaction is positive and marginally statistically significant in Model 4 ($\beta = 0.003, p = .050$). When we further explored the slopes (Table 6 and Table 7), we found that the slope coefficient of family firms is smaller than for non-family firms in countries characterized by low masculinity ($p = .033$, Table 7) while we found no significant difference in slope coefficients of family firms in countries characterized by high masculinity and low masculinity ($p = .26$). Thus, the results suggest that the level of masculinity moderates the effect of gender diversity and family firm status on firm performance, resulting in weak support for Hypothesis 3b.

TABLE 6: Slope Coefficients with 95% Confidence Intervals of Three-Way Interactions

Diversity variable	Slope	Coef.	Std. Err.	t-value	p-value	95% Conf. Int.	
						Lower	Upper
Tenure	(1) Non-family firm and low masculinity	0.0010	0.0016	0.60	0.550	-0.0022	0.0041
	(2) Non-family firm and high masculinity	0.0087	0.0024	3.56	0.000	0.0039	0.0134
	(3) Family firm and low masculinity	0.0017	0.0030	0.58	0.564	-0.0042	0.0076
	(4) Family firm and high masculinity	-0.0032	0.0029	-1.11	0.269	-0.0089	0.0025
Gender	(5) Non-family firm and low masculinity	0.0433	0.0292	1.48	0.138	-0.0139	0.1005
	(6) Non-family firm and high masculinity	-0.0369	0.0476	-0.78	0.439	-0.1302	0.0564
	(7) Family firm and low masculinity	-0.0349	0.0258	-1.35	0.176	-0.0854	0.0157
	(8) Family firm and high masculinity	0.0038	0.0216	0.17	0.862	-0.0386	0.0461
Nationality	(9) Non-family firm and low masculinity	-0.0232	0.0116	-2.00	0.046	-0.0460	-0.0004
	(10) Non-family firm and high masculinity	0.0185	0.0230	0.80	0.421	-0.0266	0.0635
	(11) Family firm and low masculinity	-0.0632	0.0192	-3.29	0.001	-0.1008	-0.0255
	(12) Family firm and high masculinity	-0.0134	0.0200	-0.67	0.502	-0.0527	0.0258

Hypothesis 3c predicts that the two-way interaction effect of nationality diversity and family firm on firm performance is weaker in cultures characterized by high masculinity. The coefficient of the three-way interaction is positive and not statistically significant in Model 4 of Table 6 ($\beta = 0.0002$, $p = .818$). After calculating the steepness of the slopes and conducting the pairwise slope tests (Table 6 and Table 7), we found that nationality diversity is negatively related with firm performance for both family firms ($\beta = -0.063$, $p = .001$, Table 6) and non-

family firms ($\beta = -0.023, p = .046$) in countries characterized by low and that the negative association is stronger family firms than for non-family firms ($p = .048$, Table 7). In contrast, the slopes of family firms and non-family firms are indistinguishable in countries characterized by high masculinity ($p = .272$). Thus, we reject Hypothesis 3c.

TABLE 7: Pairwise Slope Test of Three-Way Interaction Slopes

Diversity variable	Pair of Slopes	t for Slope Difference	p for Slope Difference
Tenure	(2) vs (1)	2.60	0.009
	(3) vs (1)	0.23	0.815
	(4) vs (1)	-1.31	0.192
	(3) vs (2)	-1.86	0.064
	(4) vs (2)	-2.80	0.005
	(4) vs (3)	-0.99	0.324
Gender	(6) vs (5)	-1.47	0.142
	(7) vs (5)	-2.13	0.033
	(8) vs (5)	-1.10	0.271
	(7) vs (6)	0.04	0.971
	(8) vs (6)	0.83	0.408
	(8) vs (7)	1.14	0.256
Nationality	(10) vs (9)	1.59	0.113
	(11) vs (9)	-1.98	0.048
	(12) vs (9)	0.45	0.656
	(11) vs (10)	-2.43	0.015
	(12) vs (10)	-1.10	0.272
	(12) vs (11)	1.67	0.094

Supplemental Analyses

To test the robustness of our findings and to avoid any misspecifications, we conducted several tests. First, we measured tenure diversity as the standard deviation of time on board of board members instead of standard deviation of time in company as in our main analyses. The results remain essentially the same.

Second, we used the proportion of female board members instead of gender diversity. The results remain essentially the same with the exception that the coefficient of the three-way interaction among gender diversity, family firm status, and masculinity becomes

insignificant ($\beta = .0031, p = .368$), suggesting that the effect in our main analyses is limited to gender diversity and not the degree of female board representation.

Third, we used the proportion of international board members instead of nationality diversity. The results remain essentially the same, suggesting that the negative effect of nationality diversity in family firms may not be limited to the presence of both international and non-international board members but even increase with the number of international board members (e.g., due to higher separation in values).

Fourth, we winsorized ROA based on EBITDA at the 1st and 99th percentile to reduce the effect of extreme outliers. The results remain essentially the same other than that the coefficient of the three-way interaction among tenure diversity, family firm status, and masculinity is not significant anymore ($\beta = -0.0002, p = .110$).

Fifth, we measured family firm as continuous ownership variable instead of a dummy variable. The results remain essentially the same other than that the coefficient of the three-way interaction among tenure diversity, family firm status, and masculinity is not significant anymore ($\beta < -0.0001, p = .268$). The detailed regression tables are not reported for the sake of brevity but can be obtained from the first author.

DISCUSSION

Extant research on the effect of diversity in family firms on firm performance was inconclusive for gender diversity (e.g., Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; Magnanelli et al., 2020; Vieira, 2018) and rather nascent for other types of diversity such as tenure and nationality diversity (e.g., Binacci et al., 2016). Thus, we explored the effects of tenure and nationality diversity in family firms as largely neglected diversity factors in family firm research. Our results show negative effects of tenure and nationality diversity on firm performance in family firms. Hence, they support our argument that the effects of diversity may be negated by a high degree of power disparity in family firms among family and non-family managers.

To reconcile contradictory findings in extant research on gender diversity in family firms, we departed from the view that gender diversity is either generally good or bad in family firms and proposed a contingency approach, focusing on *when* (i.e., under which circumstances) gender diversity has positive and negative effects on firm performance. Our study supports our prediction that the effect of board diversity in family firms is moderated by national culture. In line with our arguments, we found that the larger differences in gender roles in cultures characterized by a high degree in masculinity enhanced the benefit of cognitive variety from gender diversity in family firms. Also in line with our arguments, we found that the stronger preference on competition, achievement, and ego enhancement strengthened the negative separation effects of tenure diversity and negative power disparity effects in family firms. Both results indicate that national culture is an important contingency factor that may help to reconcile contradictory findings in extant research.

Contributions

We make several contributions to advance diversity research in family firms. First, we advance the diversity research in family firms (e.g., Abdullah, 2014; Binacci et al., 2016; Chadwick & Dawson, 2018; Ling & Kellermanns, 2010) by shifting the focus from the effect of diversity in family firms on firm performance to important contingencies moderating this relationship. In particular, our arguments and findings in support of a moderation effect of national culture may help to resolve contradictory findings in gender diversity research (e.g., Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; Magnanelli et al., 2020; Vieira, 2018). Specifically, we argue and show that the negative effect of gender diversity in family firms is weakened in cultures characterized by high masculinity compared to cultures characterized by low masculinity. We, thus, expect that a stronger focus on contingencies in future research may help to deepen the understanding of the mechanisms of the relationship of diversity in family firms on firm performance and their boundary conditions.

Second, we provide novel empirical evidence how various types of diversity contribute to firm performance by conducting a multi-country study and by including tenure diversity and nationality diversity. While prior diversity research studies on family firms focused on single countries (e.g., Chadwick & Dawson, 2018; Fèlix & David, 2019; McGuinness, 2018), our study is based on a sample of firms in 22 European countries with a variety of different institutional environments and cultures (e.g., having masculinity scores ranging from 5 to 88). As a consequence, we could test our hypotheses on the importance of national culture as a contingency and may increase the confidence in the generalizability of the findings. Thus, our study may help to shift the focus on important mediators to further explore why family firms seem to negate the positive effects of diversity and how family firms may create better conditions to take advantage of diversity in family firm diversity research. By providing novel empirical evidence on the effects of tenure and nationality diversity as largely neglected diversity types in family firm research (with few exceptions, e.g., Binacci et al., 2016), we additionally contribute by highlighting the importance of family firm status as a contingency that may increase the consideration of family firm effects in wider diversity research.

Third, we build on recent literature that aims to integrate diversity theory and family firm research (Kammerlander et al., 2020) to build a more nuanced theory on how various diversity dimensions conceptualized by Harrison and Klein (2007), i.e., separation, variety, and disparity, play out in the family firm context. More specifically, we build on this prior research to argue that the positive diversity affects based on cognitive variety may be mitigated through strong power disparity effects that are common in family firms between family and non-family managers. By proposing a mechanism how the discretion of family managers that is often referred to as an advantage of family firms (Gedajlovic et al., 2012) may alter the relationship between board diversity and firm performance in family firms, we made a first step towards a better understanding of the interplay of diversity dimensions.

Future research may further investigate the interplay of the three diversity dimensions in the family context.

Fourth, we introduce masculinity as an important cultural dimension in the only recently explored field of cultural contingencies of upper echelons theory. While upper echelons theory recognizes the moderating role of legal and socio-cultural contexts (e.g., Hambrick, 2007; Post & Byron, 2015), the role of national culture has largely been neglected despite studies exploring the different degrees of managerial discretion across national systems (e.g., Crossland & Hambrick, 2007) and calls to explore macro-contexts more (e.g., Hambrick, 2007; Nielsen & Nielsen, 2013). Only few recent exceptions explored national culture, in particular, the role of power distance (Boone et al., 2019) and uncertainty avoidance (Kalasin, 2021) but not masculinity as a contingency. We, thus, provide further support that upper echelons theory may be necessarily seen in the larger socio-cultural context and contribute to theory by introducing a new mechanism through which the effects of diversity are moderated by the degree of masculinity. Thus, future studies may control for macro-contexts—in particular, national culture—to reconcile earlier contradictory findings and gain a finer understanding of the effects of diversity on firm performance.

Managerial Implications

Our study also has managerial implications. First, while family firms generally have a higher proportion of female board members than non-family firms, they do not seem to leverage the same benefits as non-family firms from the added diversity. Thus, leaders in family firms may reflect whether they can further leverage the benefits of diversity by removing obstacles in their cultures and decision-making processes in order to fully deploy the benefits coming with diversity. Second, the benefits of gender diversity for family firms are stronger in countries characterized by high degree of masculinity. As gender roles are more strongly differentiated between women and men in these countries, women are likely to

add more to the cognitive diversity of boards in these countries. Thus, policy makers and other leaders—especially in cultures with stronger gender roles, i.e., countries characterized by high masculinity in their culture—may consider encouraging gender diverse boards.

Limitations and Future Research

While our study offers valuable theoretical and empirical insights, the findings of this study must be interpreted in light of its limitations. First, family firms are heterogeneous (e.g., Chua, Chrisman, Steier, & Rau, 2012; Nordqvist et al., 2014) and may affect diversity differently as different types of family firms have shown different firm performance outcomes (e.g., Anderson & Reeb, 2003; Villalonga & Amit, 2006). While we used family ownership as a continuous variable in our supplemental analyses to control whether the effects also hold for higher degrees of family influence, we did not control for family firm heterogeneity such as lone founders and true family firms (Miller et al., 2007). Future research may, however, use explore the effects of different family firm types to gain a finer-grained understanding of the mechanisms.

Second, our models may suffer from misspecification in terms of the required time-lag for firm performance to be affected by diversity. In line with prior research (e.g., Tuggle et al., 2010), we chose a 1-year time lag. However, the effects of diversity may take longer to materialize given that diversity enables better entrepreneurial thinking, the exploration of opportunities, and, hence, innovation.

Third, our sample is limited to large European publicly listed firms. While we included multiple European institutional and cultural contexts in our study, the generalizability to small, private, and non-European firms in different time frames may only be established through the replication in other contexts.

Fourth, our findings may not be applicable to other definitions of firm performance. While ROA on EBITDA is a well-established measurement of firm performance (e.g., Anderson & Reeb, 2003), the results may be different for other firm performance metrics.

Fifth, we cannot fully establish causality with the research design we used. While we used control variables to mitigate the risk of alternative explanations and lagged our independent variables to reduce concerns about reverse causality, we cannot fully rule out omitted variables or reverse causality in our study.

Furthermore, future research may explore other contingencies such as munificent environments (Nielsen & Nielsen, 2013) affecting the relationship of diversity in family firms to enhance the understanding when diversity has positive or negative effects in family firms. Additionally, future research may also consider further solving the “black box problem” (Lawrence, 1997) in family firms—i.e., on the underlying psychological and social processes that mediate the relationship of demographics of board members and firm performance in family firms.

CONCLUSIONS

Diversity research in family firms has yielded conflicting empirical evidence for the relationship of gender diversity on firm performance and has largely ignored other diversity types such as tenure and nationality diversity. Following the upper echelons tradition, we investigate the relationship of board diversity and firm performance and proposed that family firm status and national culture (i.e., the degree of masculinity in the country of the firms) are important contingencies moderating the relationship of tenure, gender, and nationality diversity on firm performance. Our results support most of our hypotheses. In particular, they support our argument that power disparity in family firms may negate the positive effects of cognitive variety of tenure and nationality diversity and that the degree of masculinity moderates the relationship of diversity in family firm on firm performance for gender and tenure diversity. We thereby advance diversity research in family firms to explain *when* (i.e., under what

conditions) positive diversity and negative diversity effects prevail by introducing national culture as a novel contingency factor that may help to reconcile conflicting findings in extant research.

ESSAY 3: FIRM VALUE IMPLICATIONS OF NON-FAMILY-MANAGED FAMILY FIRMS: A SIGNALING PERSPECTIVE IN THE ACQUISITION CONTEXT⁷

ABSTRACT

We explore the effect of non-family-managed family firms on firm value in the scarcely researched acquisition context. Drawing on signaling theory, we argue that the absence of family managers generates a positive signal for acquirers, resulting in higher valuations. Additionally, we argue that the type of acquirer (i.e., financial institutions and investment firms) and the relationship between acquirers and targets (i.e., industry relatedness) affects signal interpretation. Our results, based on private and public German and Italian acquisitions, support most hypotheses and provide evidence that firm valuations are driven not only by family firm heterogeneity but also by investor heterogeneity.

INTRODUCTION

Family firms are a common organizational form (Faccio & Lang, 2002) with idiosyncratic characteristics due to the influence of controlling families on firm decision-making (e.g., Gedajlovic et al., 2012; Gómez-Mejía et al., 2007; James, 1999). These characteristics can be both a source of superior and inferior financial performance and valuation outcomes compared to non-family firms (e.g., Anderson & Reeb, 2003; Gedajlovic et al., 2012; Miller et al., 2007; Villalonga & Amit, 2006). To better understand the underlying drivers of this family firm valuation heterogeneity, numerous studies explored among other factors the role of founders, descendants, family CEOs, family chairmen, control-enhancing corporate governance mechanisms, and environmental conditions based on samples of public markets

⁷ This essay is an unpublished working paper based on Tao-Schuchardt and Kammerlander (2021b) with the title „Firm value implications of non-family-managed family firms: A signaling perspective in the acquisition context“. A version of this manuscript was submitted to *Entrepreneurship Theory and Practice* in June 2021, went under review, and received a ‚revise and resubmit‘ in July 2021. After revising the manuscript, it was resubmitted under the new title “Firm Value of True Family Firms as Targets in Acquisitions: A Signaling Perspective” in January 2022 and is currently under review. Moreover, an earlier version of this manuscript was submitted at the *Strategic Management Journal* in February 2021, went under review, and was rejected in April 2021; another earlier version was submitted to and presented at Academy of Management Conference 2021.

(e.g., Chung & Luo, 2013; Jara-Bertin, López-Iturriaga, & López-de-Foronda, 2008; Lins et al., 2013; Maury & Pajuste, 2005; Miller, Minichilli, & Corbetta, 2013; Villalonga & Amit, 2006).

However, research on family firm valuation in the acquisition context is rather scarce (e.g., Granata & Chirico, 2010). While first studies explored the stock-market performance of various configurations family and non-family firm targets and acquirers (e.g., Feldman et al., 2019; Gonenc et al., 2013; Haider et al., 2020) and found a valuation discount for family firms with multiple family managers (Granata & Chirico, 2010), the valuation implications of family firms without any family managers are yet to be explored in the acquisition context. These non-family-managed family firms account for a substantial proportion of family firms⁸ and are theoretically interesting as owning families are incentivized through family ownership but have no active control through family management. As a consequence, this type of family firms has unique characteristics (e.g., Bennedsen, Nielsen, Pérez-González, & Wolfenzon, 2007; Chang & Shim, 2015; Dyer, 1989; Lin & Hu, 2007; Pérez-González, 2006; Stewart & Hitt, 2011) that may affect firm valuation. Thus, we explore the research question: *How does the absence of family managers in family firms affect the valuation of family firms as targets in acquisitions and what are important contingencies of this relationship?*

Drawing on signaling theory (Spence, 1973), we argue that the absence of family managers in family firms generates a relevant, costly, and visible signal for potential acquirers to infer more positive and less negative family firm characteristics, resulting in higher firm valuations. Furthermore, we argue that the signal is expected to be interpreted more positively by financial institutions and investment firms and that the signal is further strengthened by a higher degree of information asymmetry (i.e., non-industry relatedness between acquirers and

⁸ Approximately one in four family firms have no family members involved in management that share the same last name as the controlling family owners (defined as an individual or family being the largest shareholders with at least 25 percent ownership) based on all publicly listed firms in Germany and Italy available in the Amadeus database as of January 2021.

family firm targets). Based on a sample of 189 acquisitions in Germany and Italy from 2009 to 2019, we find support for most of our hypotheses.

We contribute to existing research in the following ways: First, we advance research on family firm valuation by extending the view that differences in family firm valuations are not only caused by family firm heterogeneity (e.g., Miller et al., 2007; Villalonga & Amit, 2006) but also by heterogeneity in investor preferences. In particular, we propose that heterogeneous preferences among different non-family investors and the relationship between acquirers and targets in terms of industry-relatedness impact firm valuation. Second, we advance research on family firm valuation by emphasizing the importance of non-family-managed family firms. Prior studies researched the effect of family involvement in management (e.g., Anderson & Reeb, 2003; Dawson, 2011; Eugster & Isakov, 2019a; Villalonga & Amit, 2006) but largely neglected the unique case of non-family-managed family firms in which the family has the incentives of ownership yet does not fill any management positions. Third, we advance research on the use of signaling theory in family firms by introducing the absence of family managers in family firms as a family firm-idiosyncratic signal that only is costly and, hence, credible through family firm-specific preferences and utilities (e.g., Gómez-Mejía et al., 2007; Zellweger et al., 2012)

THEORETICAL BACKGROUND

Valuation of Family Firms

A key driver of the valuation of firms is their fundamental financial performance (Graham, 1949). As a predominant organizational form, family firms are different from non-family firms because families are the dominant blockholders and have most of their wealth concentrated in their firms (Anderson et al., 2003; La Porta et al., 1999). As a consequence of the control of families over their firms, family characteristics—such as a more pronounced long-term orientation, risk-aversion, and preference to pursue non-financial family goals—

influence the decision-making of family firms and lead to differences in firm performance compared to non-family firms (Anderson & Reeb, 2003; Gedajlovic et al., 2012; Gómez-Mejía et al., 2007; James, 1999; Villalonga & Amit, 2006; Wright et al., 1996). These idiosyncratic characteristics, however, also vary across family firms and can be both beneficial and destructive for the family firm's ability and motivation to financially outperform non-family firms (Gedajlovic et al., 2012). Thus, a wide spectrum of performance outcomes is associated to family firms (e.g., Anderson & Reeb, 2003; Miller et al., 2007; O'Boyle et al., 2012), resulting in a high degree of information asymmetry between family firm owners and potential investors. This information asymmetry is even strengthened due to a higher opacity and less disclosed information in family firms compared to widely held firms (Anderson, Duru, & Reeb, 2009; Bona-Sánchez, Pérez-Alemán, & Santana-Martín, 2019).

Thus, investors may assume that family firms outperform non-family firms due to stronger motivation and unique capabilities (Gedajlovic et al., 2012). Controlling families have both the ability and the incentives to monitor managers and thereby reduce agency costs arising from conflicts of interests (Anderson et al., 2003). These stronger incentives can translate into a parsimonious use of resources (McConaughy, Walker, Henderson, & Mishra, 1998), a longer investment horizon (James, 1999), and infusions of additional resources in times of need (Lins et al., 2013). Additionally, families may have unique abilities as they can leverage their social capital, tacit knowledge, and discretion to make quick decisions in order to outperform non-family firms (Acquaah, 2012; Gedajlovic et al., 2012).

However, investors may also assume that controlling families extract private wealth by pursuing family goals at the expense of non-family shareholders (Eugster & Isakov, 2019a; Isakov & Weisskopf, 2014). Prior studies suggest that family firms are influenced by their desire to preserve the affective endowment of the controlling families (Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2011), resulting in risk-averse strategic decisions (Gómez-Mejía et

al., 2007; Wiseman & Gómez-Mejía, 1998) that fail to fully exploit available economic conditions (e.g., Feldman, Amit, & Villalonga, 2016)—e.g., by underinvesting during the financial crisis (Lins et al., 2013), implementing higher environmental standards even without clear financial benefits (Berrone et al., 2010), and larger IPO underpricing (Kotlar et al., 2018; Leitterstorf & Rau, 2014). Furthermore, investors may assume that family firms also suffer from a lower ability to outperform competitors, e.g., by hiring family members instead of better qualified non-family managers (Bennedsen et al., 2007), resulting in stronger financial performance when well-educated non-family managers take over (Chang & Shim, 2015) and in weaker financial performance and lower valuation when heir CEOs take over (Pérez-González, 2006). Additionally, family conflicts can impair the decision-making of the family firm (Davis & Harveston, 1999; Lee, Lim, & Lim, 2003) resulting in underperformance relative to non-family firms. Given this heterogeneity of family characteristics, numerous studies found evidence for a wide spectrum of family firms' performance outcomes (e.g., Anderson & Reeb, 2003; Miller et al., 2007; O'Boyle et al., 2012).

As a consequence of heterogeneity in family firm performance, empirical findings on family firm valuations are also heterogenous (e.g., Miller et al., 2007; Villalonga & Amit, 2006). Investors may be willing to purchase shares of family firms at a premium when they believe in superior motivation and abilities in family firms but may also demand a discount when they believe in inferior motivation and abilities in family firms (Granata & Chirico, 2010). To explain differences in family firm performance and valuation, researchers investigated the impact of control-enhancing governance mechanisms such as pyramidal ownership structures, dual share classes, and voting agreements (Cronqvist & Nilsson, 2003; King & Santor, 2008; Villalonga & Amit, 2006), the monitoring effect of other blockholders and independent directors (Chaganti & Damanpour, 1991; Jara-Bertin et al., 2008; Maury & Pajuste, 2005), financial crises (Baek, Kang, & Suh Park, 2004; Lins et al., 2013), and institutional

environments that protect minority shareholders (Jara-Bertin et al., 2008), as well as heterogeneity among family firms: e.g., family ownership, management and advisory board involvement, generation, and family firm size (Anderson & Reeb, 2003; Eugster & Isakov, 2019a; Miller et al., 2007; Miller et al., 2013; Morck, Shleifer, & Vishny, 1988; Villalonga & Amit, 2006).

Despite this progress, two aspects of family firm valuation remain scarcely understudied: non-family-managed family firms and the acquisition context. First, despite of several studies examining the effects of family member involvement in management, the effect of the special case of non-family-managed family firms—in which the family has the incentives of ownership yet does not fill any management positions—has been rarely isolated in extant research. Extant research mostly focused on the presence of family members in influential roles (such as CEOs or chairmen of the board of directors) and used family firm definitions that impair the ability to draw inferences on family firms without any family involvement in management roles.⁹ A strict distinction among family firms with significant family ownership and no family managers and other family firms may, however, be necessary given that family firm valuation has been proven to be sensitive to family firm definitions (e.g., Miller et al., 2007; Villalonga & Amit, 2006) and given that family firms without any family managers are theoretically different to family firms with family managers. In particular, the high power disparity between family and non-family managers as a result of the natural legitimacy of

⁹ On the one hand, non-family-managed were implicitly considered similar to non-family firms as (i) extant research mostly focused on the role of family CEOs and family chairmen of the board of directors (e.g., Anderson & Reeb, 2003; Lin & Hu, 2007; Miller, Le Breton-Miller, Lester, & Cannella, 2007; Poutziouris, Savva, & Hadjielias, 2015; Villalonga & Amit, 2006; Yeh, Lee, & Woidtke, 2001) and (ii) some studies required family involvement in management in their family firm definitions (e.g., García-Ramos & García-Olalla, 2011; Granata & Chirico, 2010; McConaughy, Walker, Henderson, & Mishra, 1998; Yeh, Lee, & Woidtke, 2001). On the other hand, some studies considered firms to be family firms when either families held sufficient cashflow right or voting right requirement *or* were involved in management (e.g., Anderson & Reeb, 2003; Andres, 2008; Haider, Li, Wang, & Wu, 2020; Martínez, Stöhr, & Quiroga, 2007; Miller, Le Breton-Miller, Lester, & Cannella, 2007; Poutziouris, Savva, & Hadjielias, 2015; Saito, 2008; Villalonga & Amit, 2006) and, hence, may have combined the cases of family firms with both family managers and significant ownership (or voting) rights, family-managed family firms and not significant ownership rights, and non-family-managed family firms (i.e., family firms without family managers and significant ownership rights).

family managers (Gedajlovic et al., 2004) may lead to different firm characteristics when any family member (instead of no family member) is involved in management—even outside the influential CEO or chairman roles. Thus, non-family-managed family firms may require more research.

Second, valuation research of family firms also mostly focused on stock-market value and largely neglected firm valuation in the acquisition context, which includes also private firms. This context is important because family firm performance and valuations have been proven to be sensitive to context (e.g., Miller et al., 2007) and initial results in the acquisition context are ambiguous whether family firms are purchased at a discount or at a premium (e.g., Gonenc et al., 2013; Granata & Chirico, 2010).

Signaling Theory in Family Firm Research

The origins of signaling theory are attributed to the work of Spence (1973) on job market signaling. In situations characterized by information asymmetry between insiders with knowledge about their unobservable quality or intent and outsiders without such knowledge, insiders (senders) can choose to send signals to outsiders (receivers) in order to indicate to outsiders that they possess the unobservable quality or intent. Under certain conditions, receivers can use the received and interpreted signals to infer the quality or intent of senders based on the signals (Connelly, Certo, Ireland, & Reutzel, 2010).

In particular, signals are reliable when signalers are honest about the extent they possess the unobservable quality and when the signals sent by the signalers are correlated with the unobservable quality (Connelly et al., 2010). Signaler honesty is driven by the differential signal cost for high-quality and low-quality signalers (Ndofor & Levitas, 2004). If there is no cost, receivers cannot infer the presence of the unobservable quality or intent because all potential senders would send such signals (Johnstone & Grafen, 1993). Hence, signals must be more costly for dishonest senders than for honest ones to reduce information asymmetry.

Additionally, signals are stronger when they are sent more frequently (Janney & Folta, 2003), are consistent among each other in the case of multiple signals sent (Gao, Darroch, Mather, & MacGregor, 2008), and are less distorted by the signaling environment (Lester, Certo, Dalton, Dalton, & Cannella Jr., 2006). On the receiver side, receivers must be able to observe signals and pay attention to them in a potentially noisy environment (Gulati & Higgins, 2003). Additionally, different receivers may interpret the same signal differently (Rynes, Bretz, & Gerhart, 1991).

Similar to various disciplines such as psychology (e.g., Rynes et al., 1991), management (e.g., Connelly et al., 2010), and finance research (e.g., Comment & Jarrell, 1991), signaling theory has attracted interest of family firm researchers and has been applied to a wide spectrum of contexts including corporate social responsibility, earnings management, employer attractiveness, consumer perception, investor preference, and family succession (e.g., Chandler, Payne, Moore, & Brigham, 2019; Gavana, Gottardo, & Moisello, 2017; Huang, Li, & Zhang, 2019; Schell, Groote, Moog, & Hack, 2020; Schellong, Kraiczy, Malär, & Hack, 2018). In the current literature, signaling is used in three different ways in family firm research: (i) signals family firms send, e.g., through charitable donations, compliance to governance standards, and other investments in environmental, social, and governance topics (Block, Stiglbauer, Kühn, & Wagner, 2015; Gavana et al., 2017; Louie, Ahmed, & Ji, 2019; Maung, Miller, Tang, & Xu, 2020), (ii) signals family members send, e.g., how heirs signal their abilities (Schell et al., 2020; Zhang, 2019), and (iii) the family firm status as a signal, e.g., for potential applicants, consumers, or investors (Botero, 2014; Duncan & Hasso, 2018; Kahlert et al., 2017; Schellong et al., 2018).

Potential signals that are family firm specific (i.e., signals that only family firms can credibly send) were so far, to the best of our knowledge, not considered—in particular, the absence of family members in management. The signal is particular costly because controlling

families do not only gain utilities from financial wealth but also from their affective endowments, also known as socioemotional wealth, that is attached to their family firms (Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2011). When controlling families lose (parts of) their influence on the decision-making of their family firms, e.g., by handing management to non-family managers, they lose parts of their affected endowment associated with the lost control (Zellweger et al., 2012), making the absence of family managers in family costly for controlling families.

In sum, both the family firm valuation research and the family signaling research, mostly neglected the choice of hiring only non-family managers in family firms even though a significant proportion of family firms are non-family-managed and the absence of family managers is a family firm-idiosyncratic signal. To study this signal, the acquisition context is particularly suitable as it is characterized by a high degree of information asymmetry and theoretical ambiguity due to conflicting results in regard of family firm valuation premia and discounts (e.g., Gonenc et al., 2013; Granata & Chirico, 2010).

HYPOTHESES DEVELOPMENT

Absence of Family Managers in Family Firms as a Signal of Firm Quality

The acquisition of family firms is characterized by a high degree of information asymmetry. In the acquisition context, the information asymmetry among potential investors, sellers, and management as corporate insiders is well-established (e.g., Comment & Jarrell, 1991; Louis & White, 2007; Reuer, Tong, & Wu, 2012). When introducing family firms as targets, the degree of information asymmetry may even be higher due to a higher degree of opacity associated with family firms (Anderson et al., 2009; Bona-Sánchez et al., 2019).

When acquirers cannot distinguish between targets with and without desired unobservable qualities due to high levels of information asymmetry, they are likely to assume the worst case scenario and apply a discount, resulting in a lower firm value (Dawson, 2011).

We argue that controlling families have more choices than other controlling blockholders in order to reduce information asymmetry about the true qualities of their firms, including the choice to employ family or non-family managers. Drawing on signaling theory (Spence, 1973), we argue that employing only non-family managers is a signal family firms can send to help acquirers infer superior qualities and to distinguish between firms with and without the unobservable positive qualities that enable them to earn higher future cashflows. This signal is effective because it is relevant to assess the ability to earn cashflows with the acquisition target, costly to produce for the controlling family, and easy to observe for potential investors (Connelly et al., 2010).

The signal of only employing non-family managers is *relevant* to assess the ability of acquirers to earn post-acquisition cashflows because it allows to infer the presence of good family firm characteristics and the absence of bad family firm characteristics. Family firms are characterized by both positive characteristics such as parsimony, long-term thinking, quick decision-making and negative characteristics such as inertia, risk-aversion, nepotism, family altruism, and a tendency for private wealth extraction (Gedajlovic et al., 2012). A nuanced look at family firm literature reveals that more negative characteristics than positive characteristics are associated with family managers (Stewart & Hitt, 2011). In contrast, many of the positive family firm characteristics seem to be largely independent of family management. Even without family managers, controlling families are motivated by their high wealth concentration (Anderson et al., 2003) and concerns for their affective endowment associated with their firms (Gómez-Mejía et al., 2007) to use resources parsimoniously (McConaughy et al., 1998), have a long-term investment horizon (James, 1999), and potentially infuse additional resources in times of need (Lins et al., 2013). In contrast, a number of key negative characteristics of family firms are either less likely or impossible to be present in the absence of family managers.

First, non-family-managed family firms (i.e. family firms without any family managers) may signal less characteristics associated with family firm underperformance (Gedajlovic et al., 2012; Miller, Le Breton-Miller, & Scholnick, 2007), including a lower risk of families influencing strategic decisions to extract private wealth at the expense of acquirers. In particular, research has established that controlling families prefer to pursue family goals instead of purely financial goals through their management involvement in various contexts: e.g., in the context of acquisitions (Gómez-Mejía et al., 2018), divestitures (Chirico, Gómez-Mejía, Hellerstedt, Withers, & Nordqvist, 2019), research and development investments (Chrisman & Patel, 2012), IPO underpricing (Kotlar et al., 2018), and management contracts (Cruz et al., 2010). Besides the lower risk of family managers influencing decisions at the (financial) expense of acquirers, family firms without family managers are also less likely to suffer from nepotism because family managers themselves are a manifestation of preferential treatment of family members compared to non-family managers (Pérez-González, 2006).

Second, non-family-managed family firms signal an ability to change. Due to their emotional attachment (Gómez-Mejía et al., 2011), family managers have a lower willingness to change (Kotlar, Massis, Frattini, & Kammerlander, 2020). As a result, family managers may become roadblocks to successfully restructure, transform, or reap synergies, especially when family members still act according to their desire to pursue their family goals and could block changes that may damage their reputation (Gómez-Mejía et al., 2007). In contrast, non-family managers generally have a higher willingness to change (Kammerlander et al., 2020). This higher ability to change increases the likelihood to successfully implement new initiatives and further professionalize the acquired firm, resulting in a higher value-add potential for acquirers.

Third, non-family-managed family firms signal less reliance on the selling families after the acquisition. The loss of good managers at the target companies is a risk that any acquirer faces (Wulf & Singh, 2011). However, there is an even larger risk associated with

family managers' departure after acquisitions than with non-family firms. Family managers often hold key positions to keep control of the firm (Chrisman & Patel, 2012; Gómez-Mejía et al., 2018) and may not trust other managers with important information (Lee et al., 2003). Hence, family firm targets may suffer more from the departure of family managers after acquisitions. In contrast, the absence of family managers is likely associated with a low reliance on the family to successfully operate the business and, hence, a lower risk to suffer financial losses after acquisitions.

The signal of non-family-managed family firms is also *costly* because giving up a significant part of the family's control and accumulated socioemotional wealth (SEW) by employing only non-family managers is against the natural interest of families to preserve their SEW (Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2011). The replacement of family managers by non-family managers comes at a cost for the owning family because family firms do not only exist to maximize financial wealth but also to preserve the SEW of the owning family (Gómez-Mejía et al., 2007; Zellweger et al., 2012). The employment of family managers is a means of families to influence firm decisions and continuously exert control over their family firm in order to preserve their families' SEW (Berrone et al., 2012). However, if families have chosen to replace family managers by non-family managers, families will lose part of their control. As a consequence, families choosing to employ only non-family managers act against their interest to preserve SEW due to the lower level of control they can exert over their firms (Zellweger et al., 2012). The signal of a non-family-managed family firms is even more expensive for firms without the positive qualities discussed above because family firms suffering from a low ability to change, high reliance on family managers, and stagnation view aspects (such as nepotism, family altruism, and other means to extract private wealth by pursuing family goals at the financial expense of other shareholders) would need to give up more SEW and, hence, non-financial utilities attached to the SEW than family firms lacking

these negative characteristics. As a consequence of the higher signal costs for firms without the unobservable qualities, the signal of non-family-managed family firms is more likely to be assessed as credible. If the signal was not costlier for firms without the positive quality, they also would send the same signal, resulting in indistinguishable signals for acquirers (Connelly et al., 2010). Furthermore, the signal of employing only non-family managers is *visible* through firm websites, annual reports, and management databases, increasing the likelihood to be used for decision-making by acquirers. If the signal were not easily observable, acquirers may not notice it and could not consider it in their decision-making.

As argued above, acquirers tend to apply a discount when facing high levels of information asymmetry as in the acquisition of family firms (Dawson, 2011). To reduce the information asymmetry, family firms may choose to only employ non-family managers to send a signal that is relevant to infer (positive) qualities that allow a better assessment of opportunities to generate future cashflows, costly to produce (especially for family firms without the qualities), and visible to acquirers. Thus, we argue that non-family-managed family firms reduce information asymmetry and increase the perceived value and, hence, the valuations paid by acquirers compared to non-family firms.

Hypothesis (H1). *Acquirers purchase non-family-managed family firms at higher firm valuation than non-family firms.*

Financial Institutions and Investment Firms as Moderator

Furthermore, we argue that different acquirers may interpret the signal of the absence of family managers in family firms differently. In particular, we argue that the positive relationship of employing only non-family managers on family firm valuation is strengthened in case of financial institutions and investment firms as acquirers. Due to their characteristics, those investors are more likely to pay attention to the signal and interpret it favorably for the selling family firm as they prefer to work with partners that they consider as professional.

We argue that financial institutions and investment firms are more likely to pay attention to the signal of non-family-managed family firms than other acquirers. Due to pressure to generate returns (Ball, 1996; Fama, 1965), financial institutions and investment firms are likely to consider a wider spectrum of information and, therefore, are more likely to include the absence of family managers in their assessment than other acquirers. Thus, financial institutions and investment firms may more likely consider and, hence, interpret the signal compared to other investors.

Additionally, financial institutions and investment firms may interpret the signal differently than other potential acquirers. For instance, they may have more extensive plans to restructure, refocus, and/or operationally improve the firm than other acquirers (e.g., Davis et al., 2014). They potentially see a higher likelihood to succeed with their plans with non-family-managed family firms as these family firms are associated with a higher ability to change, the absence of stagnation view characteristics such as nepotism, and a lower dependency on the support of family members post-acquisition. Especially the support of family members after the acquisition can become a major roadblock for financial institutions and investment firms to pursue their more extensive plans to transform their targets compared to other acquirers when family members as family managers may still act according to their desire to pursue their family goals and attempt to negate changes that may damage their reputation (Gómez-Mejía et al., 2007).¹⁰ In sum, financial institutions and investment firms may more actively use the absence of family managers in family firms in their assessment of the firm value and interpret the signal more favorably than other firms, resulting in a strengthened effect of the signal on firm valuation.

¹⁰ Additionally, financial institutions and investment firms may also prefer to work with non-family managers. For instance, they may assume that non-family managers have a more effective working style as investment professionals can more easily relate to the managers as professionals like themselves (e.g., Dawson, 2011; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and, hence, assume to be able to add more value to the target.

Hypothesis (H2). *The positive effect of non-family-managed family firms on the firm valuation paid by acquirers is stronger for financial institutions and investment firms compared to other acquirers.*

Degree of Information Asymmetry as Moderator

The core of signaling theory is that signaling is used to mitigate information asymmetry between signalers and receivers (Spence, 1973). If, however, more information becomes generally available and, hence, the information asymmetry is overall reduced, the receiver depends less on signaling to infer the unobservable quality or intent of the sender. As a consequence, signals have less impact in situations characterized by low levels of information asymmetry and more impact in situations characterized by high levels of information asymmetry.

In the family firm acquisition context, the degree of information asymmetry is higher when acquirers and targets are not industry-related (Borochin, Ghosh, & Di Huang, 2019). Non-industry-related acquirers have less knowledge to evaluate their ability to generate future cashflows when acquiring the target and, hence, are more likely to rely on signals to derive their target valuation. In contrast, operating in the same or related industry as the target enables acquirers to draw on a larger knowledge pool to assess the investment opportunity (e.g., Ahuja & Katila, 2001; Graham, Walter, Yawson & Zhang, 2017). Based on their knowledge and experience, industry-related acquirers are more likely to understand than non-related acquirers what part of the performance can be attributed to the firm and its characteristics (rather than to e.g., the overall economy or market). Hence, they are better positioned to gauge the existence of good and bad firm-specific characteristics in order to estimate future cashflows and, hence, are less likely to rely on signals.¹¹ Hence, the signal of only employing non-family managers is expected to be stronger for acquirers that do not operate in the same industry as their targets.

¹¹ Additionally, non-industry-related acquirers are less likely to have managers with relevant abilities and experiences to step in when family managers leave the firm, resulting in a higher downside risk for non-industry-related acquirers and a lower ability to reap synergies compared to industry-related acquirers.

Hypothesis (H3). *The positive effect of non-family-managed family firms on the firm valuation paid by acquirers is stronger for non-industry-related acquirers compared to industry-related acquirers.*

METHODS

Sample and Data Collection

Our sample includes acquisitions of family and non-family firms located in Italy or Germany from 2009 to 2019. We chose Germany and Italy because both countries (i) are among the five largest European economies, i.e., number one and number four, (ii) have a high proportion of family controlled firms, i.e., more than half (Faccio & Lang, 2002), (iii) have a high percentage of private firms, i.e., private firms account for more than 80 percent of the largest 1000 firms (Franks et al., 2012), making the inclusion of publicly listed and private firms in the acquisition context more relevant.

The deal data were retrieved from Thomson's SDC Platinum Mergers and Acquisitions database and the financials, ownership, and manager data were obtained from Bureau van Dijk's Amadeus database.¹² Our starting population included all 5,058 completed company acquisitions available in the SDC Platinum database in Germany and Italy for the years from 2009 to 2019—the last year for which full fiscal year financials prior to deal completion is available. We excluded debt restructurings, share buybacks, and acquisitions with acquired stakes below 50 percent to ensure that the acquirers had sufficient control over the target to implement potential changes after deal completion, reducing the sample to 3,385 firms. To map deal data with firm data, we identified corresponding firms of the target companies of SDC Platinum deals in the Amadeus database by matching full firm names including legal entity types with at least one location identifier matching such as city, zip code, and/or street name and number. We excluded observations when matches would have been speculative, further reducing the sample to 1,522 firms. Upon dropping observations with missing enterprise value

¹² We combined annually archived Amadeus extracts with the online version of Amadeus to identify global ultimate owners also for past years and to increase the yield of identified firms.

(639 firms), incomplete data in other model variables (583 firms) and negative earnings before interest, taxes, depreciation, and amortization (EBITDA) (110 firms)¹³, we arrive at a final sample of 189 acquisitions.

Model Variables

Dependent variable. The dependent variable in our study is the valuation of the acquired firm (*firm valuation*). Following prior research on valuation in an acquisition context (Bianconi & Tan, 2019; Granata & Chirico, 2010), we use an Enterprise Value/EBITDA multiple (EV/EBITDA multiple). We chose EV/EBITDA multiple as valuation metric because it measures firm value irrespective of capital structure and potentially arbitrarily chosen depreciation and amortization schedules and, thus, is one of the most commonly used multiples by investment professionals (Mukhlynina & Nyborg, 2016). The Enterprise Value at deal effective date were obtained from the SDC database and the EBITDA of the latest last twelve months prior the deal effective date were obtained through the Amadeus database. To mitigate the impact of data errors and outliers in our firm valuation variable (e.g., Villalonga & Amit, 2006), we winsorize the EV/EBITDA multiple at the 5th and 95th percentile (e.g., Flammer & Bansal, 2017; Stiroh, 2006).

Independent variables. *Non-family-managed family firm*, the independent variable in our study, was operationalized as dummy variable and was determined in a two-step process, that consisted of (i) the determination of family firm status and (ii) the identification of family members in the family firm's management. This variable was coded as 1 when (i) the firm was coded as a family firm and (ii) no identified manager shares the family name of the family owners in the last year prior to acquisition completion (and 0 otherwise). Family firm was defined as a firm in which an individual or a family (based on a shared last name) (i) are the

¹³ Negative EBITDA multiples were not considered as they are not comparable with positive EBITDA multiples.

largest shareholder and (ii) own more than 25 percent of the outstanding cashflow rights. The 25 percent threshold was chosen to ensure sufficient family control for family characteristics to influence firm performance and is in line with other non-US studies (e.g., Andres, 2008; Franks et al., 2012; Leitterstorf & Rau, 2014; Lins et al., 2013). We identified family firms using the Amadeus database which traces the global ultimate owner of a firm even through more complicated and nested ownership structures. The manager data was also obtained from the Amadeus database.

In our supplemental analyses, we also use *family ownership in non-family-managed family firm* as an alternative continuous independent variable. This variable is measured as the ownership stake of families in family firms without family managers in the year before the deals became effective for all non-family-managed family firms and has a value of 0 when the non-family-managed family firm dummy also has a value of 0. We obtained the ownership stake from the Amadeus database.¹⁴ Additionally, we use *number of family managers* as a continuous variable to test for an alternative hypothesis. The variable is measured as the number of managers that share the family name of the family owners in the last year prior to acquisition completion in family firms and takes a value of 0 for non-family firms.

Moderators. We tested two moderators: The first moderator *financial acquirer* is a dummy variable and is coded as 1 when the acquirer is a financial institution, an investment holding company, and/or an investment fund or investment professional based on the acquirer industry sector and acquirer short business description variables of the SDC database (and 0 otherwise). The second moderator *not-industry-related acquirer* is a dummy variable that takes a value of 1 (and 0 otherwise) when the two digit primary SIC code of targets does not match the one of acquirers (Dahya, Golubov, Petmezas, & Travlos, 2019).

¹⁴ In the case of missing ownership data for a given year, ownership data up to three years prior to the deal were used as approximation as family ownership does usually not change on a yearly basis but is held over generations (Jaskiewicz, Combs, & Rau, (2015)).

Control variables. To compare non-family-managed family firms to non-family firms, we control for family firms with family managers. Analog to the independent variables used in the models, we used the dummy variable *family-managed family firm* that was coded as 1 when (i) the firm was coded as a family firm and (ii) at least one manager shares the family name of the family owners in the last year prior to acquisition completion (and 0 otherwise). In our supplemental analyses, we controlled also for *family ownership in family-managed family firm*, measured as the ownership stake of families in family firms with family managers in the year before the deals became effective and is 0 for non-family firms and non-family-managed family firms.

We also included a number of firm-level, deal-level, and context variables to control for alternative explanations. To control for firm-specific conditions and company lifecycles, we controlled for *firm size*, measured as the natural logarithm of total assets, and *firm age*, measured as the natural logarithm of the age of the firms (Anderson & Reeb, 2003; Isakov & Weisskopf, 2014). In addition, we controlled for return on assets based on EBITDA, one of the most commonly used variables measuring firm performance (Anderson & Reeb, 2003), and decomposed it into *EBITDA margin* and *asset turnover* in the last twelve months prior to the deal effective date to control for historic profitability and effectiveness of assets to generate sales. To account for firms in financial distress and turnaround situations (Ang & Mauck, 2011; Bruton, Oviatt, & White, 1994), we created a dummy variable, which we labeled *negative profit* that was coded 1 if the target did earn a negative net income in the last twelve months available prior to deal closing and 0 otherwise. To control for capital structure, we used *financial leverage*, measured as total liabilities divided by total shareholders' equity (Isakov & Weisskopf, 2014). To control for bidder competition and liquidity discounts for unlisted targets (Officer, 2007), we used a dummy labeled *publicly listed* that was coded 1 if the target was publicly listed and 0 otherwise. Additionally, we controlled for the *stake acquired*, measured

as the ownership share acquired by the acquirer through the deal to control for deal-specific conditions, control premiums, and minority discounts (Damodaran, 2011). To control for influencing factors of the environment, we used a dummy variable called *financial crisis* to control for the special circumstances in 2008 and 2009, a country dummy, and industry dummies based on one digit SIC codes¹⁵.

RESULTS

Descriptive Statistics

Table 8 provides the summary statistics and correlations of the model variables. The variance inflation factors (VIFs) of Model 1 to 5 range from 1.00 to 4.35 with a maximum mean of 2.07, indicating the absence of problematic multicollinearity (Hair, JR., Anderson, Tatham, & Black, 1995; Menard, 1995). In our sample, 30 percent of acquired firms are family firms of which 49 percent are non-family-managed family firms.

Test of Hypotheses

We use ordinary least squares regressions to test our hypotheses. The results of our hypotheses tests are presented in Table 9. Model 1 shows the estimates for the control variables, and Model 2 includes the main effect. Models 3 and 4 present the estimates for the interaction effects for financial investors and non-industry-related acquirers. Model 5 shows the full model including the main effect and all interaction effects.

. Hypothesis 1 suggests that acquirers purchase non-family-managed family firms at higher firm valuation than non-family firms. In Model 2, we find a positive but not a significant main effect ($\beta = 3.9, p = .303$). This coefficient is negative and not significant in Model 3 ($\beta = -6.92, p = .119$) but negative and marginally significant in Model 4 ($\beta = -11.3, p = .051$) and Model 5 ($\beta = -11.0, p = .054$). Thus, we reject Hypothesis 1

¹⁵ To preserve degrees of freedoms, we combined agriculture and raw material SIC codes (starting with 0 and 1) as well as manufacturing SIC codes (starting with 2 and 3).

TABLE 8: Summary Statistics and Correlations

Variables	Mean	S.d.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) EV/EBITDA multiple (wins. at 5 th and 95 th)	15.43	19.42	1															
(2) Non-family-managed family firm	0.15	0.36	.13	1														
(3) Family-managed family firm	0.15	0.36	.03	-.18	1													
(4) Family ownership in PFF	5.77	15.34	.10	.91	-.16	1												
(5) Family ownership in family-managed family firm	9.32	24.04	.05	-.16	.91	-.15	1											
(6) Number of family managers	0.21	0.58	.01	-.15	.86	-.14	.73	1										
(7) Financial acquirer	0.31	0.46	-.11	.04	-.19	-.01	-.18	-.19	1									
(8) Industry-related acquirer	0.44	0.50	.08	-.04	.24	-.01	.22	.24	-.56	1								
(9) Firm size (ln)	17.84	2.10	-.04	.01	-.35	.00	-.36	-.24	.20	-.19	1							
(10) Firm age (ln)	3.08	0.79	.17	-.05	.01	-.07	-.00	.06	.09	-.09	.27	1						
(11) EBITDA margin	15.00	14.29	-.20	-.02	.002	-.06	-.03	-.01	.03	-.03	.09	-.12	1					
(12) Asset turnover	1.90	3.78	.28	.05	.02	.06	-.03	-.00	-.03	.08	.12	.08	.36	1				
(13) Negative profit	0.17	0.38	.27	.20	-.12	.20	-.14	-.05	-.01	.04	.11	-.00	-.27	.06	1			
(14) Financial leverage	1.28	2.48	-.02	-.09	.03	-.04	.02	.00	.05	.01	-.12	-.02	.00	-.01	.28	1		
(15) Publicly listed	0.07	0.25	.05	-.05	-.12	-.07	-.11	-.10	-.05	-.03	.37	.17	.12	.11	.21	.02	1	
(16) Stake acquired	81.85	18.92	-.06	.05	-.00	.01	-.01	-.03	.02	-.03	-.05	-.08	.20	.10	-.11	-.08	-.10	1
(17) Financial crisis	0.04	0.20	-.11	.06	-.02	.07	-.03	-.03	.20	-.08	.08	.08	-.00	-.04	-.03	-.04	-.06	.09

Note: 189 observations. All correlations greater than 0.14 are significant at the .05 level.

TABLE 9: Effect of Non-Family-Managed Family Firms on EV/EBITDA Multiples paid by Acquirers

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Financial acquirer	-1.65 (3.49)	-1.77 (3.49)	-7.27† (3.69)	-2.74 (3.45)	-7.46† (3.88)
Not industry-related acquirer	-0.14 (3.21)	-0.13 (3.21)	-0.45 (3.10)	-2.35 (3.60)	0.08 (3.68)
Family-managed family firm (FF)	0.13 (3.90)	0.78 (3.95)	-1.69 (3.97)	1.38 (4.64)	1.09 (4.64)
Non-family-managed family firm (FF)		3.92 (3.79)	-6.92 (4.42)	-11.29† (5.75)	-10.95† (5.65)
Family-managed FF X financial acquirer			8.45 (10.96)		9.43 (11.04)
Non-family-managed FF X financial acquirer			32.19*** (7.51)		25.81** (9.35)
Family-managed FF X not industry-related acquirer				-7.56 (7.89)	-10.36 (7.87)
Non-family-managed FF X not industry-related acquirer				25.19*** (7.33)	10.28 (9.02)
Firm size (ln)	-0.77 (0.77)	-0.75 (0.77)	-0.38 (0.75)	-0.79 (0.75)	-0.43 (0.75)
Firm age (ln)	3.10† (1.75)	3.18† (1.75)	3.28† (1.67)	3.41* (1.69)	3.35* (1.67)
EBITDA margin	-0.30** (0.11)	-0.30** (0.11)	-0.35** (0.11)	-0.28* (0.11)	-0.33** (0.11)
Asset turnover	1.83*** (0.37)	1.81*** (0.37)	1.95*** (0.36)	1.93*** (0.36)	1.96*** (0.36)
Negative profit	10.06* (3.91)	9.13* (4.01)	6.85† (3.87)	8.73* (3.88)	7.09† (3.86)
Financial leverage	-0.66 (0.55)	-0.56 (0.55)	-0.37 (0.53)	-0.51 (0.54)	-0.40 (0.53)
Publicly traded	2.31 (5.88)	2.73 (5.89)	2.92 (5.63)	1.68 (5.70)	2.35 (5.61)
Stake acquired	-0.01 (0.07)	-0.01 (0.07)	-0.02 (0.07)	-0.02 (0.07)	-0.02 (0.07)
Financial crisis	-6.32 (6.77)	-6.81 (6.78)	-9.63 (6.57)	-7.50 (6.56)	-9.73 (6.55)
Constant	16.37 (17.49)	15.30 (17.52)	15.07 (16.74)	16.11 (17.06)	13.49 (16.83)
Target industry dummies	Yes	Yes	Yes	Yes	Yes
Target country dummy	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	18.9%	18.9%	26.1%	24.3%	26.8%
Number of observations	189	189	189	189	189

Note: standard errors in parentheses.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Hypothesis 2 posits that the positive effect of non-family-managed family firms on the firm valuation paid by acquirers is stronger for financial institutions and investment firms compared to other acquirers. In Model 3, the interaction of non-family-managed family firms and financial institutions and investment firms as acquirers is positive and statistically significant ($\beta = 32.19, p < .0001$). In contrast, the interaction effect of family-managed family firms and financial institutions and investment firms is positive but not statistically significant ($\beta = 8.45, p = .442$), indicating that the moderation effect does not apply to all family firms and is limited to non-family-managed family firms. As shown in Figure 5 based on Model 3, predicted EV/EBITDA multiples of non-family-managed family firms and other firms differ for financial institutions and investment firms as acquirers at a 95 percent confidence level while they are indistinguishable for other acquirers. In particular, managements consisting of only non-family managers do not help to increase the valuation of the firm when the acquirer is not a financial institution or an investment firm—they even reduce the predicted EV/EBITDA valuation by nearly 40 percent. In contrast, the predicted EV/EBITDA valuation of non-family-managed family firms is more than two times higher than the EV/EBITDA valuation of other firms when they are acquired by financial institutions or investment firms. Thus, we find support for Hypothesis 2.

Hypothesis 3 predicts that the positive effect of non-family-managed family firms on the firm valuation paid by acquirers is stronger for non-industry-related acquirers compared to industry-related acquirers. In Model 4, we find that non-industry-related acquirers have a positive and significant interaction effect with non-family-managed family firms ($\beta = 25.19, p = .0007$). In contrast, we find a negative and not significant interaction effect of non-industry-related acquirers and family-managed family firms ($\beta = -7.6, p = .339$), indicating that the moderation effect does not apply to all family firms and is limited to non-family-managed family firms. As shown in Figure 6 based on Model 4, the predicted EV/EBITDA multiples of

non-family-managed family firms are more than twice as high as multiples of other firms when acquirers not industry-related. In contrast, the predicted multiples are nearly 70 percent lower for non-family-managed family firms than for other firms when acquirers are industry-related. Thus, we find support for Hypothesis 3.

FIGURE 5: Predicted Valuation Multiple with 95% Confidence Intervals (Interaction Effect with Financial Acquirer)

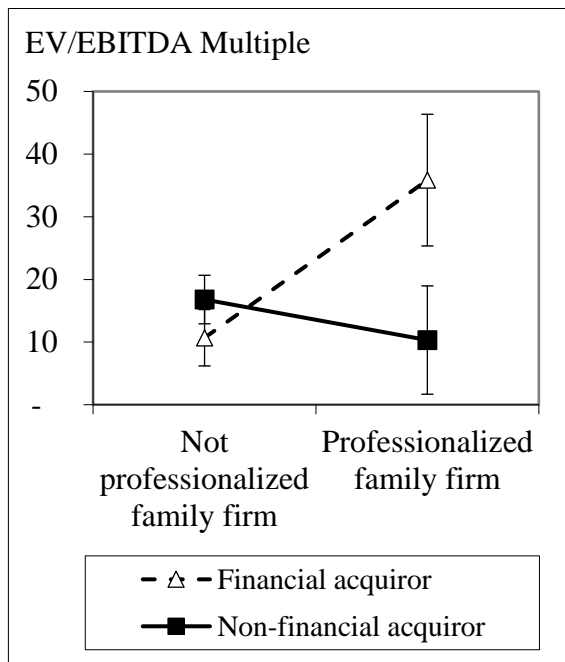
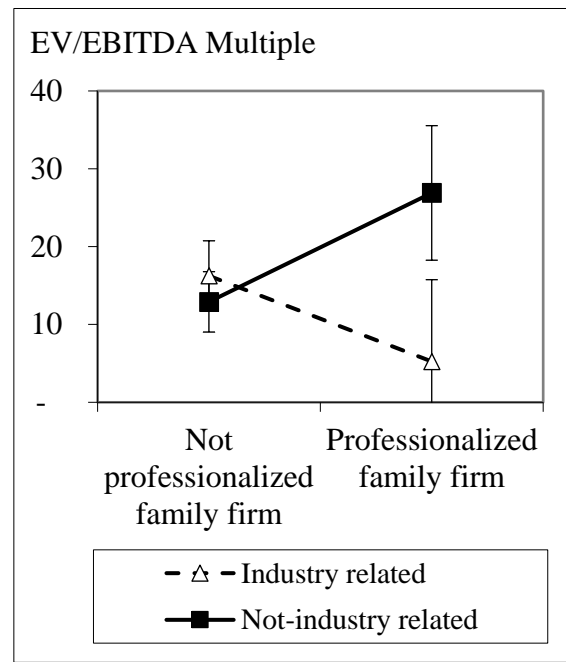


FIGURE 6: Predicted Valuation Multiple with 95% Confidence Intervals (Interaction Effect with Industry Relatedness)



Supplemental Analyses

To assess the robustness of our findings to alternative specifications, we conducted additional robustness tests. First, we tested the robustness to all acquired share levels between 20 and 100 percent in 10 percent increments. Second, we tested the robustness by altering the family ownership threshold in our family business definition from 25 percent to 50 percent. For both tests, the results of the interaction effects of non-family-managed family firms with financial investors (H2) and industry-related acquirers (H3) are robust in the Models 3 and 4 for almost all alternative specifications. Only when we require that at least 80 percent of shares

are acquired, the coefficient of the interaction effect between non-family-managed family firms and financial investors (H2) becomes marginally significant.

Additionally, we test the robustness of our findings by using a continuous family ownership variable instead of dummy variables for non-family-managed family firms and family-managed family firms. We conduct this test because acquirers may expect stronger idiosyncratic family firm characteristics as the result of higher levels of family ownership and family firm valuation research frequently used family ownership as a predictor of family firm valuation (e.g., Anderson & Reeb, 2003; Eugster & Isakov, 2019a). The results are shown in Table 10 and are basically the same as in the main analyses.

Last, we test the alternative hypotheses that the number of family managers as a continuous variable can explain the findings—instead of the used dummy and family ownership variables that differentiate among non-family firms, non-family-managed family firms, and family-managed family firms. We find no significant direct effect and no significant interaction effect of the number of family managers with either financial investors (H2) or industry-related acquirers (H3) and, hence, reject this alternative hypothesis. Detailed results from non-reported robustness tests are available from the first author.

TABLE 10: Supplemental OLS Regressions

Variables	Model 6	Model 7	Model 8	Model 9	Model 10
Financial acquirer	-1.55 (3.48)	-1.55 (3.49)	-6.74† (3.67)	-2.36 (3.44)	-6.68† (3.81)
Not industry-related acquirer	0.17 (3.20)	0.17 (3.21)	0.00 (3.10)	-1.65 (3.50)	0.20 (3.54)
Family ownership in family-managed family firm	0.04 (0.06)	0.05 (0.06)	0.02 (0.06)	0.07 (0.07)	0.07 (0.07)
Family ownership in non-family-managed family firm		0.02 (0.09)	-0.15 (0.09)	-0.28* (0.12)	-0.26* (0.12)
Family ownership in family-managed family firm × financial acquirer			0.10 (0.19)		0.10 (0.19)
Family ownership in non-family-managed family firm × financial acquirer			0.87*** (0.20)		0.68** (0.23)
Family ownership in family-managed family firm × not industry-related acquirer				-0.14 (0.12)	-0.17 (0.12)
Family ownership in non-family-managed family firm × not industry-related acquirer				0.59*** (0.16)	0.29 (0.19)
Constant	16.55 (14.62)	16.33 (14.68)	14.30 (14.02)	16.99 (14.24)	13.66 (14.05)
Other controls as in main analyses	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	19.1%	18.7%	26.2%	24.8%	27.6%
Number of observations	189	189	189	189	189

Note: standard errors in parentheses.

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

DISCUSSION

Extant studies explaining differences in family firm valuation by focusing on family firm heterogeneity—especially, on how idiosyncratic family firm characteristics influence agency costs and, hence, family firm valuations (e.g., Anderson & Reeb, 2003; Eugster & Isakov, 2019a; Isakov & Weisskopf, 2014; Villalonga & Amit, 2006). These studies implicitly

assume that various market participants interpret family firm characteristics similarly. In contrast, we argue based on signaling theory (Spence, 1973) that heterogeneity in investor preferences explain parts of the differences in family firm valuation additionally to family firm heterogeneity. In particular, we show that the type of acquirer (i.e., financial institution and investment firms versus other acquirers) and the relationship between acquirers and targets (i.e., industry relatedness) affect the interpretation of non-family-managed family firms in the acquisition context.

Theoretical Implications

Our study makes several contributions to the literature: First, we advance research on family firm valuation by setting forth theory that differences in family firm valuations are not only caused by family firm heterogeneity as argued in prior work but also by heterogeneity in investor preferences. While prior research focused primarily on family firm characteristics as the underlying reason for valuation discounts and premiums (e.g., Miller et al., 2007; Villalonga & Amit, 2006), only recent research started to explore the interaction among acquirers and targets in terms of family firm status (e.g., Feldman et al., 2019; Gonenc et al., 2013; Haider et al., 2020). We extend this research by arguing that also non-family investors can have heterogeneous preferences and that the relationship between acquirers and targets does not only matter in terms of family firm status but also investor type and industry-relatedness. In particular, our results suggest that financial institutions and investment firms interpret the signal of non-family-managed family firms positively (in line with prior research on preferences of private equity professionals (Dawson, 2011)) while other acquirers—especially other industry-related acquirers—interpret the signal negatively.

This negative interpretation by acquirers is unexpected based on our initially developed hypotheses but can be explained by their potentially lower expectations on how much additional value can be captured by further professionalizing non-family-managed family firms

(i.e., investors do not see ‘low hanging fruits’ in case of family with only non-family managers). This is in line with the general connotation in family firm research that replacing family managers by non-family managers increases family firm performance due to a professionalization in decision-making, processes, and structures (e.g., Bennedsen et al., 2007; Chang & Shim, 2015; Dyer, 1989; Pérez-González, 2006; Stewart & Hitt, 2011). In contrast, financial institutions and investment firms are pictured as more advanced in their monitoring ability and value capturing ability (e.g., Acharya, Gottschalg, Hahn, & Kehoe, 2013; Cornelli, Kominek, & Ljungqvist, 2013) and, hence, may see additional value-add potential compared to other acquirers even when their targets’ management teams only consist of non-family managers.

Overall, these findings also extend Duncan and Hasso’s (2018) research on heterogeneity in retail investor preferences in family firm governance by linking differences in preferences of investors to differences in valuations and investigating professional investors in the acquisition context. By introducing heterogeneity in investor preferences as a factor affecting family firm valuation, our results may also help to reconcile seemingly contradictory results from studies in the acquisition context: in particular, Granata and Chirico (2010) showed based on an Italian sample that family firms are acquired at a discount but Gonenc et al.’s (2013) results based on a European sample suggest that the family firms are acquired at a premium, resulting in lower cumulative announcement returns for family-controlled targets than for non-family-controlled targets. These contradictory results in support of a both a family firm premium and a family firm discount may be reconciled through our findings on the influence of investor preferences on family firm valuations.

Second, we advance research on family firm valuation by emphasizing the importance of non-family-managed family firms. Prior research focused primarily on the presence and absence of family CEOs, family chairmen, and non-family managers as management

involvement characteristics (e.g., Anderson & Reeb, 2003; Dawson, 2011; Eugster & Isakov, 2019a; Villalonga & Amit, 2006) but mostly neglected the extreme case of family firms without any family managers despite accounting for a significant proportion of family firms. Specifically, our results show that accounting for the effect of non-family-managed family firms (in combination with financial acquirers and industry-relatedness) can explain substantial variance in family firm valuation.

Third, we advance research on the use of signaling theory in family firms by introducing the absence of family managers in family firms as a family firm-idiosyncratic signal. The use of signaling as theoretical basis in family firm research is rather recent and is limited to signaling the family firm status—which does not necessarily lead to separating equilibria as the signal is only ‘hard to fake’ and not necessarily costlier for firms without the desired quality or intent—and signals that are not exclusively available to family firms. In contrast, the absence of family managers in family firms can send a signal that is family firm-specific and credible due to the idiosyncratic preferences and utilities of family managers (Gómez-Mejía et al., 2007). This argument builds on the unique desire of controlling families to preserve their stock of SEW (e.g., Berrone et al., 2010; Berrone et al., 2012; Cruz et al., 2010; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2011; Gómez-Mejía et al., 2018) and the established relationship that loss of managerial control results in a loss of SEW (Zellweger et al., 2012). The more controlling families prioritize non-financial goals over financial goals, the more costly the loss of SEW will be, making the absence of family managers in family firms a costly and, hence, credible signal for the presence of more positive and less negative characteristics associated with family firms.

Limitations and Future Research

The contributions should be seen in perspective of their limitations. First, we did not directly measure that financial institutions and investments firms differently interpret the

absence of family managers in family firms. Despite having controlled for some alternative explanations, we cannot fully rule out that the firms available to purchase for financial institutions and investment firms differ from those available to other acquirers. Thus, future research should either supplement our work by using experiments (e.g., Duncan & Hasso, 2018) or qualitative methods. Second, the valuations paid by acquirers may not be the result of different perceptions of the underlying business but influenced by the negotiation ability of sellers and acquirers. However, as one might expect that financial investors may be *better* negotiators than other acquirers (potentially resulting in valuation discounts), the positive and significant interaction coefficient for financial investors may become even larger and, hence, may further *strengthen* our arguments if we controlled for negotiation ability. Nevertheless, future research in this area may explore how differences in education and experiences of negotiation teams representing sellers and acquirers influence the firm valuation. Third, our results may not be generalizable to other cultural contexts. As signal interpretation differs across cultural contexts (Botero, 2014), our study may require replication in other cultural contexts.

Furthermore, we suggest conducting future research on how family firms can use family specific signals such as hiring only non-family managers in other contexts outside of family firm valuation research to not only help investors but also other stakeholders to overcome information asymmetries. Additionally, future research may explore what family firm characteristics last the sale of the controlling family and what are important factors impacting the retention of family characteristics after the sale as these factors would also influence the willingness to pay of acquirers.

Managerial Implications

Our study also has managerial implications. First, as families have a long-term horizon (James, 1999), they are well positioned to consider and to already employ non-family managers

when they want to sell in the near future. By reducing the information asymmetry in the business transaction between selling families and acquirers, acquirers are less likely to expect the worst case (Dawson, 2011), resulting in higher valuations for the selling family. Second, also other acquirers than financial institutions and investment firms may explore the option to use non-family-managed family firms as a signal in their decision-making as the absence of family managers suggests the presence of positive firm characteristics such as a willingness to change, the absence of some negative family firm characteristics such as nepotism and insular management, and a reduced risk of dependence on family managers after the sale.

CONCLUSION

We explored the effect of family firms without any family managers in the scarcely researched acquisition context to provide support that the variance in family firm valuations may also be explained with signaling theory and, hence, through differences in investor interpretation and degree of information asymmetry. Furthermore, we introduce the absence of family managers in family firms as a costly signal that may be explored in further research as a family firm-specific signal.

DISCUSSION AND CONCLUSION OF THE THESIS

The overall research objective in this doctoral dissertation is to create and extend theories on family firm decision-making, performance, and valuation. In each of my essays, I focused on one of these research areas to craft distinct contributions to advance extant research: Essay 1 provides evidence that stocks (and not only flows) matter in family firm decision-making and explains how the size of stocks influences family firm decision-making in the repurchasing context. Essay 2 focuses on how board diversity affects financial performance in family firms compared to non-family firms and explored the role of national culture as an important contingency. Essay 3 focuses on how the absence of family managers in family firms affects the valuation of family firms as targets in acquisitions and explores differences in acquirer interpretations. In the remainder of the thesis, I synthesize the theoretical contributions, practical implications, main limitations, and opportunities for future research from the three essays. Table 11 provides a summary of the main topics addressed in this doctoral dissertation.

THEORETICAL CONTRIBUTIONS

Extant research acknowledges the importance of family firm decision-making, performance, and valuation and has offered numerous studies in each one of these fields (e.g., Anderson & Reeb, 2003; Chrisman & Patel, 2012; Feldman et al., 2019; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2018; Villalonga & Amit, 2006). Yet, some research gaps remain to be addressed. To contribute to closing these gaps, this doctoral dissertation crafts new theory and extends existing theory in several ways.

TABLE 11: Summary of Main Topics addressed in this Doctoral Dissertation

Main Topics	Problem/Research Gap	Theoretical contributions	Practical implications	Limitations/ Future Research
Family Firm Decision-Making <i>Essay 1</i>	Extant research is theoretically grounded in prospect theory and its derivatives (Kahneman & Tversky, 1979; Wiseman & Gómez-Mejía, 1998) and has, hence, so far mostly neglected the size of stocks as a factor influencing family firm decision-making and, in particular, the value function used.	Essay 1 introduces a theory how the size of stocks influences family firm decision-making. Thus, it suggests that controlling families expect to derive higher utilities associated with their SEW stocks as a consequence of strategic decisions instead of lower ones as argued based in extant research (e.g., Leitterstorf & Rau, 2014)	Investors may reconsider the idea that high levels of family control necessarily lead to expropriation of non-family minority shareholders and instead consider the combination of family management involvement and the the size of stocks in the predictions of family firm behavior.	Not all wealth stocks were measured to confirm the underlying mechanisms. Future research may directly measure the size of SEW stocks and FW stocks and explore boundary cases such as (i) situations with very large or very low potential gains and losses and (ii) situations at which desires and needs are already or not at all satisfied.
Family Firm Share Repurchasing Behavior <i>Essay 1</i>	Extant research neglected to explore which types of firms are more likely to repurchase to the financial benefit of their shareholders (e.g., Deslandes, Fortin, & Landry, 2016; Hu et al., 2007; Lau & Block, 2014).	Essay 1 draws on motivation-opportunity- ability theory to argue that family managers are uniquely positioned with their abilities and incentives to take advantage of undervaluation opportunities.	Investors may interpret the repurchasing of family firms as a stronger signal of undervaluation than the repurchasing of non-family firms (especially when the family managers do not have a minority stake)	Following Ikenberry et al. (1995), I used book to market ratio to approximate undervaluation. Future research may additionally measure abnormal returns to strengthen the evidence for a market timing ability of family managers.
Board Diversity Effects on Family Firm Performance <i>Essay 2</i>	Extant research provided conflicting results for the effect of gender diversity on family firm performance (e.g., González et al., 2020; Magnanelli et al., 2020; Sarkar & Selarka, 2021) and	Essay 2 introduces national culture as a contingency factor that may help to resolve the contradictory findings of the effects of gender diversity on family firm performance.	Leaders in family firms may reflect whether they can further leverage the benefits of diversity by removing obstacles in their cultures and decision-making processes in order to fully deploy the	Family firm heterogeneity (e.g., Chua et al., 2012; Nordqvist et al., 2014) may affected the effects of board diversity, given future researchers an opportunity to

<p>Heterogeneity in Investor Preferences <i>Essay 3</i></p>	<p>mostly neglected tenure and nationality diversity. While prior research focused primarily on family firm characteristics as the underlying reason for valuation discounts and premiums (e.g., Miller et al., 2007; Villalonga & Amit, 2006), only recent research started to explore the interaction among acquirers and targets in terms of family firm status (e.g., Feldman et al., 2019; Gonenc et al., 2013; Haider et al., 2020).</p>	<p>Essay 3 extends this research by arguing that also non-family investors can have heterogeneous preferences and that the relationship between acquirers and targets does not only matter in terms of family firm status but also investor type and industry-relatedness.</p>	<p>benefits coming with diversity. Also other acquirers than financial institutions and investment firms may explore the option to use non-family-managed family firms as a signal in their decision-making to assess the quality of acquisition targets.</p>	<p>explore to gain a finer-grained understanding. Future research may explore what family firm characteristics last the sale of the controlling family and what are important factors impacting the retention of family characteristics after the sale.</p>
<p>Effect of the Absence of Family Managers on Firm Valuation <i>Essay 3</i></p>	<p>Extant research has only scarcely considered the acquisition context when studying family firm valuations and mostly neglected the effect of the special case of non-family-managed family firms.</p>	<p>Essay 3 introduces the absence of family managers in family firms as a family firm-idiosyncratic signal that is relevant, credible, and visible for acquirers to infer the quality of their targets.</p>	<p>As families have a long-term horizon (James, 1999), they are well positioned to consider and to already employ non-family managers when they want to sell in the near future to reduce the information asymmetry between selling families and acquirers, acquirers.</p>	<p>Future research may explore how family firms can use family specific signals such as hiring only non-family managers in other contexts outside of family firm valuation research to not only help investors but also other stakeholders to overcome information asymmetries.</p>

First, I set forth new theory in Essay 1 on how the size of stocks influences family firm decision-making. While extant research focused on flow-based theories such as prospect theory and its derivatives to explain family firm decision-making, I developed a stock-based view on family firm decision-making and provided evidence that the size of stocks matters in repurchasing decisions. Based on this stock-based view, I argue that owning families derive utility from the SEW stocks (similarly to stocks of FW) when these stocks enable them to satisfy their needs such as needs for belonging, identity, autonomy, and intimacy (Kepner, 1983). Thus, the accumulation of SEW (*flows*) and the possession of SEW stocks per se are expected to not have an intrinsic value for owners of these flows and stocks without needs. Additionally, I theorize and provide first evidence that the value of financial and non-financial stocks and, hence, family firm decision-making depends on the goals, need fulfilment, and exchange opportunities of stocks.

Second, I identified family managers as unique corporate insiders and developed the argument drawing on motivation-opportunity-ability theory in Essay 1 that they are uniquely incentivized and capable to take advantage of undervaluation opportunities. Extant research on family firm repurchasing focused only on predicting the propensity of firms to repurchase and the amount firms repurchase (e.g., Deslandes et al., 2016; Hu et al., 2007; Lau & Block, 2014), leaving the question which types of firms are more likely to repurchase to the financial benefit of their shareholders unanswered. Essay 1 fills this gap by providing a robust theoretical basis for why family managers may or may not repurchase in the best interest of their shareholders and further adds to the scholarly discussion on the market timing ability of managers (e.g., Ikenberry et al., 1995; Loughran et al., 1994; Seyhun, 1990).

Third, I extended family firm diversity research with the study comprised in Essay 2 by introducing national culture as a contingency for the effects of board diversity on firm performance. Prior research has yielded contradictory empirical evidence in the case of gender

diversity and has neglected the socio-cultural context given the focus on single country studies in extant family firm diversity research (e.g., Ararat & Yurtoglu, 2020; Chadwick & Dawson, 2018; Magnanelli et al., 2020; Vieira, 2018). Hence, introducing national culture (i.e., the degree of masculinity) as a moderator of the board diversity-family firm performance relationship may help to reconcile the ambiguous results in prior research.

Fourth, I extend theories on family firm valuations by arguing in Essay 3 that not only family firm heterogeneity but also heterogeneity in investor interpretations drive the variance in family firm valuations in the acquisition context. Extant research mostly focused on family firm heterogeneity (e.g., Anderson & Reeb, 2003; Miller et al., 2007; Villalonga & Amit, 2006) and only recently considered retail investor heterogeneity as a driver of family firm valuation variance (e.g., Duncan & Hasso, 2018; Feldman et al., 2019). By introducing the relationship of the acquirer to the target (i.e., industry relatedness) and different types of acquirers (i.e., financial institutions and investment firms compared to other acquirers) as contingency factors altering the relationship between non-family managed family firms and their valuation in acquisitions, Essay 3 provides evidence that not only retail investors in an experimental setting (Duncan & Hasso, 2018) but also strategic acquirers and investment firms differ in their perceptions on family firms.

Fifth, I advance research on the use of signaling theory in family firms by introducing the absence of family members in management of family firms as a family firm-idiosyncratic signal for acquirers. The use of signaling as theoretical basis in family firm research is rather recent and is limited to signaling the family firm status which does not necessarily lead to separating equilibria as the signal is only ‘hard to fake’ and not necessarily costlier for firms without the desired quality or intent—and signals that are not exclusively available to family firms (e.g., Chandler et al., 2019; Gavana et al., 2017; Huang et al., 2019; Schell et al., 2020; Schellong et al., 2018). In contrast, hiring only non-family managers in family firms sends a

signal that is family firm-specific and credible for the presence of more positive and less negative characteristics associated with family firms due to the idiosyncratic preferences and utilities of family managers to preserve their SEW (Berrone et al., 2012; Gómez-Mejía et al., 2007).

PRACTICAL IMPLICATIONS

Given the omnipresence of family firms, multiple stakeholders have an interest to understand them. Among others, investors, employees, suppliers, customers, policy makers, and generally members of our societies are either part of family firms or interact with them. Thus, I present in the following some practical implications that may be derived from the three studies.

First, the common belief that high levels of family control leads to family firms pursuing the goals of the controlling families even at the expense of non-family shareholders should be refined. At least in repurchasing decisions (but also potentially for other strategic decisions), high levels of family control (i.e., majority control) are associated with profit-maximizing repurchasing behavior for all shareholders while low levels of family control (i.e., minority control) in combination with family managers are not. Hence, investors may consider the combination of family management involvement and the size of stocks in evaluating expected family firm behavior.

Second, investors may interpret the repurchasing of family firms as a stronger signal of undervaluation than the repurchasing of non-family firms (especially when the family managers do not have a minority stake) as the evidence in Essay 1 suggests that these firms generally repurchased at higher levels of undervaluation.

Third, leaders in family firms may consider ways how to better leverage the benefits of diversity in their firms. As family firms generally have a higher proportion of female board members than non-family firms but do not benefit from the benefits of diversity as non-family

firms do, leaders in family firms may reflect how they can remove obstacles in their cultures and decision-making processes in order to fully leverage the benefits coming with diversity.

Fourth, policy makers and other leaders—especially in cultures with stronger gender roles, i.e., countries characterized by high masculinity in their culture—may consider encouraging even more gender diverse boards. Given that the benefits of gender diversity for family firms are stronger in countries characterized by high degree of masculinity, firms, states, and society as a whole may benefit from leveraging the higher cognitive diversity based on gender in these countries.

Fifth, controlling families may consider hiring only non-family managers when they consider selling their firms in the near future. Given their long-term horizons in planning and their ability to implement long-term plans (James, 1999), controlling families may prepare the sale similarly as they would have prepared family successions. Removing family managers by non-family managers may help to reduce the risk of acquirers that the family firm has negative qualities that are associated with family management such as insular management, nepotism, or the reliance on family managers to run the business. Otherwise acquirers are likely to expect the worst case and infer negative qualities (Dawson, 2011), resulting in a valuation discount when the controlling family wants to sell.

MAIN LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

As in all research studies, all three essays have limitations that in turn offer opportunities for future research.

First, to rule out even more alternative explanations, some assumptions may be further substantiated through additional measurement. For instance, in Essay 1, transgenerational control intentions and the stock of SEW (outside of control rights) were not separately measured to confirm the hypothesized mechanisms—as it is common practice in family firm decision-making (Chrisman & Patel, 2012; Gómez-Mejía et al., 2007; Gómez-Mejía et al., 2018; Kotlar et al., 2018). To reduce the implications of this limitation, I conducted an additional analysis

and differentiated between family firms with differently high (theoretically) associated transgenerational control intentions, improving the robustness of the used theoretical assumptions. However, future research should (i) directly measure transgenerational control intentions, (ii) measure the changes of SEW stocks, and (iii) test their results in boundary conditions to investigate when flow-based or stock-based explanations hold. Similarly, future research may also measure the interpretation of acquirers to further strengthen the ‘signaling story’ (Essay 3) and measure abnormal returns after repurchases of family managers with majority control to further strengthen the evidence for a market timing ability of family managers (Essay 1).

Second, all research designs in this doctoral dissertation relied either on panel data or cross-sectional data and, hence, cannot conclusively proof causality of the hypothesized mechanisms. This limitation was reduced by thoroughly crafting hypotheses, controlling for various alternative explanations, and using lagged variables but requires experiments in future research to be fully eradicated.

Third, the effects may be limited may not be generalizable due to family firm heterogeneity and context-dependency. As it is well-known that family firms are heterogenous (e.g., Chua, Chrisman, Steier, & Rau, 2012; Nordqvist et al., 2014), I differentiated among family-managed and non-family-managed family firms in Essay 1 and Essay 3. However, other family firm definitions exist (e.g., Miller et al., 2007; Villalonga & Amit, 2006) and even finer-grained definitions of distinct family firm types may be used in future research to further explore the effects of family firm heterogeneity in family firm decision-making, performance, and valuation. Additionally, the cultural and socio-economic context dependency may limit the generalizability of the findings to other contexts as for instance, signal interpretation differs across cultural contexts (Botero, 2014) and may have an impact on the results in Essay 3. Despite the use of multi-country designs in Essay 2 and 3, future research may both replicate

the results in other contexts (e.g., American, African, and Asian) and control for other context dimensions such as munificent environments (Nielsen & Nielsen, 2013) and other cultural dimensions outside the degree of masculinity used in Essay 2 (e.g., Hofstede et al., 2010).

Furthermore, future researchers may explore the questions (i) how family firms can use family specific signals such as hiring only non-family managers in other contexts outside of family firm valuation research to not only help investors but also other stakeholders to overcome information asymmetries and (ii) what family firm characteristics last the sale of the controlling family. Investigating latter question may yield interesting complementary knowledge to Essay 3 as some acquirer types may be better in the retention of positive family firm characteristics or better in the alleviation of negative ones, influencing the willingness to pay of acquirers.

CONCLUDING REMARKS

Family firms are the backbone of our economy and a distinct organizational form from non-family firms. Particularly interesting are the differences in firm decision-making that have firm performance and firm valuation consequences. In my doctoral dissertation, I challenged the idea in extant research that family managers primarily assess the value of strategic decisions based on the magnitude of gains and losses along a value function (i.e., flows instead of stocks), presented evidence that the size of stocks matters in family firm decision-making (even though it should not have had based on the isolation assumption of prospect theory and its derivatives), and introduced a stock-based view on family firm decision-making to incorporate the possibility that the size of stock (and not the size of flows) matter in determining the value of strategic options. Furthermore, I argued and presented evidence that family firms are not leveraging diversity as good as non-family firms in their decision-making due to the negative effects of power disparity and that national culture can further enhance and alter the diversity effects in family firms. And last but not least, I argued that the value lies in the eyes of the beholder—i.e., that acquirers of family firms differ in their interpretations and perceptions of

non-family-managed family firms—and provided evidence that the variance of family firm valuations not only stems from family firm heterogeneity but also heterogeneity in acquirer preferences. Overall, this doctoral dissertation emphasizes the importance of considering family firm characteristics and decision-making to better understand family firms and consequently their performance and valuation outcomes.

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