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IPO Financing of Family Firms

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**ABBREVIATIONS**

CEO	Chief executive officer
CSR	Corporate social responsibility
e.g.	Exempli gratia; for example
FFS	Family firm status
F-PEC	Family influence scale (power, experience, and culture)
i.e.	Id est; that is
IPO	Initial public offering
ln	Natural logarithm
n	Number of observations
n/a	Not applicable
OLS	Ordinary least square
p	P-value
Prof.	Professor
R <sup>2</sup>	Coefficient of determination
SD	Standard deviation
SEW	Socioemotional wealth
SIC	Standard industrial classification
TMT	Top management team
U.K.	United Kingdom
U.S.	United States
WHU	Wissenschaftliche Hochschule für Unternehmensführung

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## **INTRODUCTION TO THE THESIS**

### **Background and motivation: Why are family firm IPOs important?**

Family firms are an increasingly popular topic both for society in general and for academic scholars in particular. Public opinion on family firms often has a positive bias because family firms focus on long-term objectives and account for a large part of employment in many countries around the world (Klein, 2000; Le Breton-Miller & Miller, 2006). Scholars are interested in family firms because they are distinctly different from non-family firms in particular with respect to firm goals and interactions between different stakeholder groups (e.g., Chrisman, Chua, & Litz, 2004; Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007).

These distinct differences are caused by strong family influence relative to the influence of non-family shareholders. Thus, although there is still no widely accepted definition of family firms (e.g., Astrachan, Klein, & Smyrnios, 2002; Klein, Astrachan, & Smyrnios, 2005; Chrisman & Patel, 2012), most definitions of family firms focus on whether a family controls a certain percentage of the respective firm's equity. The threshold of required family ownership to fulfill the various definitions usually ranges from 5% (Anderson, Mansi, & Reeb, 2003) to 50% (Coleman & Carsky, 1999). The European Commission (2009) defines family firms as firms in which 'the person who established or acquired the firm or their families or descendants possess 25% of the decision-making rights'. I follow this definition because under German law 25% equity ownership allows families to block major firm decisions (Franks & Mayer, 2001).

Financing of family firms is important because the availability of financial resources is one of the main determinants of long-term survival of family firms

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(Romano, Tanewski, & Smyrniotis, 2000). In particular, small family firms find it difficult to obtain financial resources (e.g., Coleman & Carsky, 1999; Harvey & Evans, 1995; Maherault, 2000). In recent years, the introduction of Basel II and the financial crisis starting in 2008 have reduced the availability of bank loans which traditionally were the main source of capital for many family firms (Heid, 2007; Ivashina & Scharfstein, 2010; Romano *et al.*, 2000). The link between the availability of financial resources and family firm survival is even more important given that only 30% of family firms survive past the first generation and only 15% of family firms survive past the third generation (Davis & Harveston, 1998; Handler, 1990).

An initial public offering (IPO) is a potential solution to the financing difficulties of many family firms. Compared to bank loans and other forms of financial debt, an IPO allows a family firm to raise capital while reducing its leverage and thus its bankruptcy risk (Baker & Wurgler, 2002). Compared to external equity from private equity investors, an IPO allows a family firm to better protect family control (Cronqvist & Nilsson, 2005). Previous studies have shown that even ten years after an IPO, many families continue to control their respective firms (Ehrhardt & Nowak, 2003). Options for ensuring prolonged family control of the respective firm after an IPO include issuing non-voting shares, bundling the family's shares in a holding, and ensuring a disproportionate representation of family members on the supervisory board of the firm (Cronqvist & Nilsson, 2005; Gorton & Schmid, 2000; Holmén & Högfeldt, 2004; Masulis, Pham, & Zein, 2011; Villalonga & Amit, 2008).

In summary, family firms are a crucial part of our economy, their survival depends (among other factors) on the availability of financial resources, and an IPO

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offers the potential to raise financial resources while maintaining family control. A better understanding of family firm IPOs might convince more family members to consider an IPO and more non-family investors to invest in family firms. In this context, it is important to understand the goals of both family members and non-family investors in order to reconcile potentially diverging goals.

**Theoretical foundation: Agency theory and socioemotional wealth (SEW)**

An IPO can strongly impact a family firm because the family normally has to partly cede control to non-family investors. Thus, an additional stakeholder group is introduced to the firm, which can result in additional conflicts between different stakeholder groups. Moreover, family-specific non-economic goals such as creating and sustaining a family dynasty (Casson, 1999) are more difficult or sometimes even impossible to attain after an IPO. In light of these considerations, I focus on two theoretical approaches.

First, if different stakeholders in a firm have different levels of information and diverging interests, there are potentially agency costs between these stakeholders (Jensen & Meckling, 1976). Agency costs include not only all actions by agents that contravene the interests of the respective principal(s), but also all incentives and structures used to align the potentially diverging interests of agents and principals (Jensen & Meckling, 1976). Scholars comparing agency costs in family and non-family firms differentiate between several types of agency costs (Chrisman *et al.*, 2004; Morck & Yeung, 2003). Type 1 agency costs, i.e., those between shareholders and managers, are lower in family firms (especially if the firm is managed by family members) because family ties reduce the need for formal controls and incentive systems (Jensen & Meckling, 1976; Eisenhardt, 1989). Type 2 agency costs, i.e.,



those between minority and majority shareholders, are higher in family firms because non-family minority shareholders are concerned that family members might extract private economic benefits, such as excessive management compensation (Chrisman *et al.*, 2004). Type 3 agency costs, i.e., those between shareholders and bondholders, are lower in family firms because bondholders and family shareholders share the common goals of conservative investments and long-term firm survival (Anderson, Mansi, & Reeb, 2003; Thomsen & Pederson, 2000). Type 4 agency costs, i.e., those among family members, only exist in family firms. In summary, it remains unclear whether the sum of all agency costs is lower or higher in family firms when compared to non-family firms. Table 0-1 provides an overview.

**Table 0-1: Overview of different types of agency costs (Chrisman et al., 2004)**

	Description	Family vs. non-family firms
<b>Type 1 agency costs</b>	Agency costs between managers and shareholders	Type 1 costs are lower in family firms because family influence can lower moral hazard in the management.
<b>Type 2 agency costs</b>	Agency costs between minority and majority shareholders	Type 2 costs are higher in family firms ... because the family might extract private economic perks and ... because the family might pursue non-economic goals at the expense of economic goals.
<b>Type 3 agency costs</b>	Agency costs between shareholders and bondholders	Type 3 costs are lower in family firms because shareholders and bondholders share the common goals of conservative investments and long-term firm survival.
<b>Type 4 agency costs</b>	Agency costs between different family members	Type 4 costs exist only in family firms.
<b>Total agency costs</b>	Sum of all four types of agency costs	Both theoretical arguments and empirical results are mixed on whether total agency costs are higher or lower in family firms when compared to non-family firms.

Second, the concept of SEW, i.e., the non-economic utility a family derives from its ownership position in a firm, is based on the central idea that family firms,

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in contrast to non-family firms, have both economic and non-economic goals (Gómez-Mejía *et al.*, 2007). Family firms' goal to preserve SEW strongly influences their corporate actions. For example, family firms pursue fewer socially or environmentally harmful activities than non-family firms (Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana, 2010), conduct more philanthropic activities (Deniz & Suarez, 2005), and avoid downsizing (Stavrou, Kassinis, & Filotheou, 2007). The pursuit of these non-economic goals will be more difficult after an IPO because the family partly cedes control to non-family investors at the IPO.

The two main theoretical approaches of this dissertation, i.e., agency theory and SEW, are closely linked because the pursuit of certain non-economic goals, such as avoiding layoffs (Batten & Hettihewa, 1999), might be at the expense of economic goals. Many family members accept a sacrifice of non-economic goals if this is the necessary price to pay for SEW preservation (Gómez-Mejía *et al.*, 2007). In contrast, non-family minority investors are usually assumed to have only economic goals (Villanueva & Sapienza, 2009). Thus, the pursuit of non-economic goals related to a family firm's SEW potentially increases the agency costs between family shareholders and non-family minority investors.

### **Research objective**

The overarching objective of this thesis is to expand our knowledge of IPO financing of family firms. The thesis consists of three essays that each individually addresses important aspects of family firm IPO financing. Table 0-2 provides an overview of these essays.

**Table 0-2: Overview of the three essays in this thesis (source: own)**

	<b>Essay 1</b>	<b>Essay 2</b>	<b>Essay 3</b>
<b>Title</b>	Capital Structure of Family Firms: A Systematic Literature Review	SEW and IPO Underpricing of Family Firms	Agency Costs and IPO Valuations of Family Firms
<b>Research question</b>	How does family firm status impact capital structure and the choice between different financing alternatives?	How does family firm status impact IPO underpricing?	How does family influence impact firm valuations after the IPO?
<b>Theoretical foundation</b>	SEW and agency theory	SEW	SEW and agency theory
<b>Main theoretical contribution</b>	The optimal capital structure of family firms depends among other factors on the degree of family members' personal wealth diversification and the SEW preservation focus.	Family firms accept higher IPO underpricing than non-family firms because underpricing helps them protect their SEW. I create a proxy for the costs of SEW preservation and contribute to the understanding of the IPO underpricing phenomenon.	SEW preserving activities do not impact firm valuations significantly. This suggests that SEW preserving activities do not appear to increase agency costs between majority and minority shareholders.
<b>Methodology</b>	Systematic literature review	Regression analysis	Regression analysis
<b>Sample</b>	68 research papers	153 German IPO firms	113 German IPO firms
<b>Data collection</b>	Search via EBSCO (including EconLit) and ABI Inform Global/ProQuest	Data collection via firms' emission prospectuses and Bloomberg	Data collection via firms' emission prospectuses and Bloomberg
<b>Dependent variable</b>	Leverage	IPO underpricing	Market-to-book ratio after an IPO
<b>Main empirical result</b>	N/a (conceptual paper)	Family firms have on average 8 percentage points more underpricing than non-family firms. I increase the explained variance of IPO underpricing from $R^2 = 0.15$ to $R^2 = 0.21$ .	True family firm status does not significantly impact IPO valuations after an IPO.
<b>Main practical implication</b>	Family firms can benefit from a better understanding of the consequences of various financing alternatives.	Investors can benefit from family firms' stock price increase on the first day of trading.	Investors need to evaluate whether SEW preserving behaviors are shareholder value neutral or not.
<b>Publication</b>	Unpublished manuscript.	This essay was presented at the SMS conference 2012 in Prague. It is accepted for publication at the Strategic Management Journal (SMJ).	Unpublished manuscript.

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The essays are linked in the following way. Essay 1 provides an overview of the choice between an IPO and other financing alternatives. Compared to raising additional financial debt, an IPO can help family firms better protect their SEW in the long-term because additional equity lowers the bankruptcy risk of the firm and thus the risk of a complete loss of SEW. However, an IPO can damage a family firm's SEW at least to some extent in the short-term because the family cedes control to non-family investors. I analyze in Essay 2 how family firms can minimize the potential threats to their SEW at the IPO. I argue that by setting a low issue price for their shares (i.e., by accepting high underpricing) family firms are able to atomize external ownership and thus to minimize the influence of non-family investors after the IPO.

Concerning agency costs, Essay 1 concludes (on the basis of a systematic literature review of previous research) that agency costs between minority and majority shareholders are higher in family firms than in non-family firms. I test in Essay 3 whether these potentially different agency costs are reflected in the IPO firms' valuations after the first day of trading. In summary, the systematic literature review of Essay 1 provides an overview of the topic, whereas Essay 2 and Essay 3 convert theoretical considerations into testable hypotheses which are examined using empirical data.

### **Abstracts of the three essays**

Abstract of Essay 1 – Family firms are distinctly different from non-family firms with respect to agency costs and firm goals. Based on this assessment, numerous studies have analyzed the differences between family firms and non-family firms regarding capital structure and approaches to various financing

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alternatives. We conduct a systematic literature review in order to synthesize theoretical arguments and empirical evidence. Traditional capital structure theories fail to consistently explain differences between family firms and non-family firms as well as within the group of family firms. This indicates the need for a family firm capital structure theory. We argue that the optimal capital structure for a family firm depends on various aspects such as the degree of myopic SEW preservation and the personal wealth diversification of family members. We identify blind spots in the family firm financing literature and suggest actionable avenues for further research.

Abstract of Essay 2 – Socioemotional wealth (SEW), i.e., the non-economic utility a family derives from its ownership position in a firm, is the primary reference point for family firms. Family firms are willing to sacrifice economic goals for non-economic goals in order to preserve their SEW. Thus, we argue that family firms sacrifice IPO proceeds by choosing higher IPO underpricing than non-family firms if underpricing helps them protect their SEW. We also submit that the relationship between family firm status and underpricing is positively moderated by valuation uncertainty of the firm. Our empirical results, based on a sample of 153 German IPOs, support our hypotheses. On average, family firms have 8 percentage points more IPO underpricing than non-family firms.

Abstract of Essay 3 – Theoretical and empirical evidence is mixed on whether agency costs are higher in family or non-family firms. Agency costs arising from the separation of management and ownership and agency costs arising between minority and majority investors appear particularly relevant. We review previous research on agency costs concerning interest alignment and entrenchment. In addition, we argue that agency costs in family firms strongly depend on whether family firms are likely to pursue non-economic goals. According to the concept of socioemotional wealth

(SEW) family firms might pursue these non-economic goals at the expense of economic goals. If this is the case, SEW increases agency costs for non-family minority investors. We analyze the effects of different types of agency costs on IPO firm valuations using a sample of 113 German IPOs including both family and non-family firms. We are able to reproduce previous findings on interest alignment and entrenchment. However, a high probability of SEW preserving activities does not appear to have a significant impact on firm valuations.

### **Empirical data analyzed in Essay 2 and Essay 3**

In the empirical parts of Essay 2 and Essay 3, I analyze IPOs at the Frankfurt Stock Exchange including both family firms and non-family firms. Germany offers an active IPO market with a high number of family firms due to 'German Mittelstand', often considered the backbone of the highly industrialized German economy (Fiss & Zajac, 2004). I analyze multiple years (2004-2011) in order to generate a sufficient sample size. I do not include any IPO prior to 2004 (there was no IPO fulfilling the sample criteria in 2003) because pricing and valuations of IPOs were fundamentally different during the internet bubble, which could distort the effects analyzed (Ljungqvist & Wilhelm, 2003). Table 0-3 presents an overview of the number of German family and non-family firm IPOs from 2004 to 2011.

**Table 0-3: Number of family and non-family firm IPOs from 2004 to 2011**

(source: own; based on Deutsche Börse, 2012)

	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>Total</b>
Family firm IPOs	2	11	46	25	3	1	6	0	<b>94</b>
Non-family firm IPOs	3	7	21	15	0	0	4	9	<b>59</b>
<b>Total</b>	<b>5</b>	<b>18</b>	<b>67</b>	<b>40</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>9</b>	<b>153</b>

The sample size differs between Essay 2 and Essay 3 because of the respective dependent variable analyzed. Essay 2 focuses on the difference between a supposedly fair value of shares and the price at which shares are sold. That kind of analysis can include IPO firms from all industries (e.g., Goergen, Khurshed, & Renneboog, 2009). However, Essay 3 focuses on the relation between the book value of equity and the market value of equity. In that case, I exclude financial institutions (including real estate firms) from the sample because valuations of financial institutions relative to balance sheet data are fundamentally different compared to all other industries (e.g., Certo, Daily, Cannella, & Dalton, 2003). Thus, the sample size is 153 IPOs for Essay 2 and 113 IPOs for Essay 3.

### **Structure of this dissertation**

Each of the following three chapters contains an independent research essay. All three essays were written together with my first supervisor Prof. Dr. Sabine Rau. The last chapter provides a brief summary of the findings and draws an overarching conclusion.

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## ESSAY 1: CAPITAL STRUCTURE OF FAMILY FIRMS: A SYSTEMATIC LITERATURE REVIEW<sup>1</sup>

### INTRODUCTION

Although numerous studies have analyzed capital structures of family firms, i.e., firms in which 'the person who established or acquired the firm or their families or descendants possess 25% of the decision-making rights' (European Commission, 2009), theoretical arguments and empirical evidence remain inconclusive (e.g., Anderson, Mansi, & Reeb, 2003; Coleman & Carsky, 1999; Gallo, Tàpies, & Cappuyns, 2004; Hagelin, Holmén, & Pramborg, 2006; Helwege & Packer, 2009; King & Santor, 2008; Matthews, Fialko, & McConaughy, 2001). Most importantly, traditional capital structure theories fail to consistently explain differences between family firms and non-family firms as well as within the group of family firms. Thus, a systematic literature review is essential for synthesizing findings, identifying blind spots, and proposing avenues for further research. The central research question of this paper is: 'How does family firm status impact capital structure?'

Family firms differ from non-family firms in several ways that are relevant for financing. First, compared to non-family firms, agency costs between bondholders and shareholders are lower in family firms, which might lead to more favorable debt conditions (Anderson, Mansi, & Reeb, 2003). Second, agency costs between majority and minority shareholders are higher in family firms, which might discourage family firms from including non-family minority shareholders (Chrisman, Chua, & Litz, 2004). Consequently, bondholders or banks prefer family

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<sup>1</sup> This essay is an unpublished manuscript written together with co-author Prof. Dr. Sabine Rau.



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firms to comparable non-family firms, whereas minority shareholders prefer non-family firms (Chrisman *et al.*, 2004). Third, family firms are willing to sacrifice economic goals for non-economic goals in order to preserve their socioemotional wealth (SEW), i.e., the non-economic utility a family derives from its ownership position in a firm (Chrisman & Patel, 2012; Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007; Gómez-Mejía, Cruz, Berrone, De Castro, 2011). In order to preserve SEW, family firms may pursue fewer socially or environmentally harmful activities than non-family firms (e.g., Batten & Hettihewa, 1999; Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana, 2010) or diversify less if diversification makes it more difficult to place trusted family members in key positions (Gómez-Mejía, Makri, & Larraza-Kintana, 2010). Thus, family firms might choose financing alternatives based on non-economic goals (Koropp, Grichnik, & Kellermanns, 2013). In particular the desire to keep family control limits the capacity to raise external equity (Blanco-Mazagatos, de Quevedo-Puente, & Castrillo, 2007).

Several questions, however, remain unanswered. First, how does family firm status impact leverage, i.e., the ratio of debt to equity? Second, how does the generation in control of the firm impact leverage? Third, how does family firm status impact dividend policy? Concerning these questions, both theoretical arguments and empirical findings are mixed. Generally speaking, traditional capital structure theories fail to consistently explain differences between family and non-family firms as well as differences within the group of family firms with respect to the choice of financing alternatives.

Our paper offers three theoretical contributions. First, we offer a starting point for the development of a family firm capital structure theory by integrating existing capital structure theories with family firm specific findings concerning agency costs

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and SEW. Second, we contribute to the family firm heterogeneity debate by analyzing the impact of family firm specific variables such as 'family generation in charge of the firm' on capital structure. Third, we identify blind spots in the literature and suggest actionable avenues for further research.

There are several practical implications as well. Family firms need to be aware of all available financing alternatives and the respective consequences for both economic and non-economic goals. Non-family investors or banks might benefit from a better understanding of the financing trade-offs faced by family firms.

## **LITERATURE SELECTION**

### **Literature selection process**

We follow the general approach for a systematic review suggested by Tranfield, Denyer, & Smart (2003) and applied by management researchers (e.g., David & Han, 2004). Systematic reviews are considered an appropriate method for identifying and evaluating research articles because of their replicable and transparent process (Mulrow, 1994). The search process consisted of the following steps and choices. We searched via EBSCO Business Source Complete (including EconLit) and ABI Inform Global/ProQuest from May 26<sup>th</sup> to May 31<sup>st</sup>, 2012. Our focus was on English, peer-reviewed academic journal articles and we identified potentially relevant articles via keyword search in abstracts:

'family firm' OR 'family business' OR 'family enterprise' OR 'family company'  
OR 'family-controlled' OR 'family-managed' OR 'family-owned' OR 'founding  
family' OR 'privately held firm'

in combination with (logical connector 'AND')

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'capital structure' OR 'financing' OR 'finance' OR 'financial' OR 'equity' OR 'debt' OR 'mezzanine' OR 'mortgage' OR 'borrowing' OR 'bank loan' OR 'credit' OR 'bond' OR 'IPO' OR 'SEO' OR 'capital market' OR 'public offering' OR 'private equity' OR 'venture capital' OR 'leverage' OR 'sources of capital'.

We removed false positives that were mostly related to financial performance of family firms. We identified additional articles via references of relevant articles. In order to ensure sufficient journal quality we focused on journals ranked at least grade 2 in the *Academic Journal Quality Guide* (Association of Business Schools, 2010).

### **Overview of selected articles**

This selection process resulted in a sample of 68 articles published between 1990 and 2012 (earlier years were included, but did not produce any relevant paper before 1990). In the 1990s, fewer than two articles per year, on average, were published; this average more than doubled after 2000, reflecting the increasing interest in the general field of family firms. Nevertheless, research on the capital structure of family firms is still immature compared to, for example, research on family firm performance (Di Giuli, Caselli, & Gatti, 2011).

More than 90% of the selected articles offer both theoretical arguments and empirical findings. Agency theory and SEW are the two theoretical approaches employed in most of the selected articles. Empirical approaches include both small sample analyses, such as case studies (e.g., Churchill & Tower, 1994), and large sample analyses (e.g., Schulze, Lubatkin, & Dino, 2003a). Although most large sample analyses are designed as cross-sectional regressions, the number of longitudinal studies has increased in recent years (e.g., Boubakri, Guedhami, &

Mishra, 2010). In the 1990s, the majority of empirical findings was generated in the U.S.; recent analyses include a variety of countries such as China (e.g., Au & Kwan, 2009; Chan, Dang, & Yan, 2012), France (e.g., Maherault, 2004), Italy (e.g., Dawson, 2011), and the Philippines (Sullivan & Unite, 2001). Less than 10% of the studies include international samples.

**Table 1-1: Overview of included articles and journals (source: own, journals)**

<b>Journal</b>	<b>No. of articles</b>	<b>2011 impact factor</b>
<b>Grade 4 in ABS 2010</b>	<b>20</b>	
Academy of Management Journal	1	5.608
American Economic Review	1	2.693
Entrepreneurship: Theory & Practice	3	2.542
Journal of Business Venturing	6	3.062
Journal of Finance	1	4.218
Journal of Financial Economics	3	3.725
Journal of International Business Studies	1	3.557
Journal of Management Studies	1	4.255
Review of Financial Studies	3	4.748
<b>Grade 3 in ABS 2010</b>	<b>18</b>	
Economics Letters	1	0.447
European Financial Management	1	1.029
Journal of Banking & Finance	4	2.600
Journal of Business Finance & Accounting	1	0.689
Journal of Corporate Finance	2	1.447
Journal of Financial Intermediation	2	1.808
Journal of Law and Economics	1	0.891
Journal of Small Business Management	3	1.392
Small Business Economics	3	1.549
<b>Grade 2 in ABS 2010</b>	<b>30</b>	
Applied Financial Economics	1	n.a.
Family Business Review	23	2.600
Global Finance Journal	1	n.a.
Pacific-Basin Finance Journal	3	0.552
Venture Capital	2	n.a.
<b>Sum of articles with grade 2 or higher</b>	<b>68</b>	

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The entire sample has an average impact factor of 2.4, indicating sufficient journal quality. The *Family Business Review* has been the strongest publisher; however, the number of relevant articles in high-ranking journals, such as the *Journal of Business Venturing*, increased after 2000. Table 1-1 provides an overview of included articles and their respective journals.

Several different family firm definitions are applied in the selected articles. For example, a family firm is defined as a firm with at least 50% of shares owned by a single family (Coleman & Carsky, 1999) or one whose largest shareholder is a family (Attig, Guedhami, & Mishra, 2008; Boubakri *et al.*, 2010). In most cases, family firm status is treated as a binary variable by assigning a value of one to family firms and a value of zero to non-family firms (e.g., Cronqvist & Nilsson, 2005). Some scholars apply continuous measures of family influence such as ownership percentages (Anderson, Mansi, & Reeb, 2003) or sub-scales of the F-PEC scale (Jaskiewicz, González, Menéndez, & Schiereck, 2005), a scale measuring the aspects of power, experience, and culture (Astrachan, Klein, & Smyrnios, 2002; Klein, Astrachan, & Smyrnios, 2005). Although different family firm definitions can change findings dramatically (Miller, Le Breton-Miller, Lester, & Cannella, 2007), few articles test whether empirical results are robust to different family firm definitions. In addition, many of the selected articles do not address family firm heterogeneity sufficiently, but treat family firms as a monolithic group (e.g., Gallo *et al.*, 2004; Steijvers & Voordeckers, 2009).

## LITERATURE ANALYSIS

The central research question of this review is: 'How does family firm status impact capital structure?' In order to answer this question we propose the following

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sections. In the first section, we analyze the impact of family firm status on capital structure by combining the distinct differences between family firms and non-family firms with existing capital structure theories. Based on this general understanding, we analyze the relationship between family firm status and the three main financing alternatives, i.e., retained earnings, external debt, and external equity. Within each of these four sections, we refer to the family firm heterogeneity debate and point out differences between the sub-groups of family firms.

### **Impact of family firm status on capital structure**

In the selected articles, there are several definitions of capital structure and leverage. For example, Romano, Tanewski, & Smyrnios (2000) define capital structure as the mix of different loans and securities and Mishra & McConaughy (1999) define leverage as the ratio of the book value of total liabilities to the sum of the book value of total liabilities and the book value of equity. For the purpose of synthesizing findings within this review we use capital structure and leverage as synonyms and define them as the ratio of debt to equity.

There are three main theoretical approaches concerning the optimization of capital structure: the capital structure irrelevance theorem, the trade-off theory, and the pecking-order theory. For each of these three theoretical approaches we show how the distinct differences between family firms and non-family firms could impact capital structure.

The capital structure irrelevance theorem states that capital structure is irrelevant as long as a firm's investment decisions are given (Modigliani & Miller, 1958). This idea is based on the assumption of perfect capital markets that are characterized by 'no taxes', 'no cost of financial distress', and 'no agency costs

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between stakeholders'. Given these theoretical assumptions, the capital structure irrelevance theorem is considered to have few merits in practice (Romano *et al.*, 2000). If the capital structure of firms were irrelevant, we would not expect any significant difference between family firms and non-family firms concerning capital structure.

According to the trade-off theory, there is a trade-off between interest tax shields (interest payments are tax-deductible) and the cost of financial distress (the more debt, the higher the probability of bankruptcy) (Harris & Raviv, 1990; Stulz, 1990). Thus, the trade-off theory proposes an optimal leverage for each firm (which varies because business models and firm characteristics impact the probability of bankruptcy) that each firm tries to reach with its financing decisions (López-Gracia & Sánchez-Andújar, 2007). Although it is still a popular theory, the trade-off theory cannot explain why the most profitable companies within an industry generally borrow the least, although high profits should mean lower probability of bankruptcy and more taxable income to shield (Harris & Raviv, 1990; Stulz, 1990).

When applying the trade-off theory to family firms, we need to focus on the two main determinants for optimal leverage, i.e., the cost of financial distress and the interest tax shield of debt. Family firm owners usually have an insufficiently diversified portfolio, with the majority of their personal wealth tied up in a single firm (Rydqvist & Högholm, 1995; Boubakri *et al.*, 2010). Thus, the cost of financial distress (relative to their total personal wealth) is significantly higher for family firm owners than for non-family firm shareholders with a diversified portfolio of shares. In addition, based on SEW, we argue that the bankruptcy of the firm also destroys the non-economic utility of family members (Gómez-Mejía *et al.*, 2007), which further increases the cost of financial distress for family members. Under the

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assumption that the interest tax shield of debt is not affected by family firm status, the trade-off theory implies that family firms have lower leverage than non-family firms (López-Gracia & Sánchez-Andújar, 2007). Consistently, scholars report that many family firms choose an all-equity capital structure in order to minimize the risk to the insufficiently diversified wealth and the non-economic utility of family members (Agrawal & Nagarajan, 1990; Andres, 2011; Dreux, 1990). Mishra & McConaughy (1999) focus on family firms' preference to reduce the likelihood of bankruptcy and offer empirical support for lower leverage of family firms. Similarly, Matthews *et al.* (2001) report that family firms carry less debt than non-family firms.

Whereas the trade-off theory only differentiates between equity and debt, the pecking-order theory differentiates between internal equity (retained earnings), external equity, and external debt (Donaldson 1961; Myers, 1984; Myers & Majluf, 1984). The main assumptions of the pecking-order theory are that firms need to overcome agency costs to investors when raising external capital and that these agency costs are higher for external equity than for external debt (Rydqvist & Högholm, 1995). Thus, the pecking-order theory proposes that a firm finances its investments in three steps: internal equity (retained earnings), followed by new issues of external debt (possibly followed by hybrid or mezzanine securities such as convertible bonds), and, finally, new issues of equity (López-Gracia & Sánchez-Andújar, 2007).

When applying the pecking-order theory to family firms, researchers incorporate different agency costs as well as SEW. Compared to non-family firms, Chrisman *et al.* (2004) argue that agency costs between owners and lenders are lower in family firms (due to the common goal of long-term firm survival), whereas the agency costs between majority and minority shareholders are higher in family firms



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(due to the possible extraction of private rents). Thus, if retained earnings are insufficient, the general preference for external debt before external equity should be even more important for family firms (Blanco-Mazagatos *et al.*, 2007). This is supported by the implications of the SEW because the family's ability to pursue non-economic goals such as providing employment to family members (even those who lack certain qualifications) and passing firm control over to the next generation decrease as the influence of non-family shareholders increases (Chrisman & Patel, 2012). Thus, family firms might use higher leverage than non-family firms in order to avoid dilution of ownership. Consequently (with the exception of firms that have sufficient retained earnings to finance their investments), the pecking-order theory implies that family firms have higher leverage than non-family firms. Poutziouris (2001), who argues that family firms adhere strongly to the pecking-order theory, offers empirical support drawn from a sample of 240 U.K. firms. Some family firms appear to follow the pecking-order theory even if it results in critically high debt levels (Levie & Lerner, 2009).

In summary, applying the trade-off theory and applying the pecking-order theory results in mixed theoretical arguments concerning the capital structure of family firms. Not surprisingly, empirical evidence exists not only for higher leverage (e.g., Helwege & Packer, 2009; King & Santor, 2008; Setia-Atmaja, Tanewski, & Skully, 2009; Wiwattanakantang, 1999) or lower leverage (e.g., Matthews *et al.*, 2001; Gallo & Vilaseca, 1996; Gallo *et al.*, 2004; Agrawal & Nagarajan, 1990) of family firms, but also for similar leverage, compared to non-family firms (e.g., Hagelin *et al.*, 2006; Anderson, Mansi, & Reeb, 2003; Anderson & Reeb, 2003; Coleman & Carsky, 1999). In the following, we argue that these mixed empirical results are partly due to the heterogeneity within the group of family firms.

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Heterogeneity with respect to general factors such as the country, firm size, or firm age, impacts both family firms and non-family firms and is sufficiently discussed in the finance literature (La Porta, Lopez de Silanes, & Shleifer, 1999). Thus, we focus on family firm specific variables that are discussed in our selected articles: 'family generation in charge of the firm' and 'number of family members involved'.

Succession from the first to the second generation might increase leverage because with increasing duration of bank relationships the status of the firm as a credible debtor might improve, leading to more favorable debt conditions (Le Breton-Miller & Miller, 2006). Empirical evidence shows that the necessity for family firms to provide collateral for loans decreases as the duration of the firm's relationship with the bank increases (Steijvers, Voordeckers, & Vanhoof, 2010). Moreover, the tax burden associated with business succession might force family firms to increase leverage (De Massis, Chua, & Chrisman, 2008). Consistently, empirical results from a sample of Belgium firms (Molly, Laveren, & Deloof, 2010) and a sample of U.S. firms (Sonfield & Lussier, 2004) show that first generation family firms have the lowest leverage when compared to second (or later) generation family firms. Only McConaughy & Philipps (1999) report no significant leverage differences between first generation and second (or later) generation family firms.

Schulze *et al.* (2003a) argue that family firms are vulnerable to agency conflicts among family members and least willing to bear added risk when ownership among family members is split in relatively equal proportions. Thus, they hypothesize that in family firms, ownership concentration impacts the use of debt in a curvilinear way. Specifically, family firms are more willing to use debt if ownership is concentrated (i.e., lone founder) or widely dispersed among family members (i.e., cousin consortium) than if ownership is moderately dispersed (i.e.,

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sibling partnership). In addition, family members who are not actively involved in the business may enforce higher leverage because debt can serve as a governance mechanism that reduces agency costs between family members that result from managerial opportunism (Molly *et al.*, 2010).

Several important questions regarding the impact of family firm specific variables on capital structure need to be addressed in more detail. First, how do family members' personal attitudes impact a family firm's capital structure (Matthews, Vasudevan, Barton, & Apana, 1994)? Second, how do non-family stakeholders such as a second large shareholder (besides the family) impact agency costs and thus capital structure (Attig *et al.*, 2008)?

In summary, the mixed theoretical arguments and empirical results concerning the relationship between family firm status and leverage are partly due to the heterogeneity within the group of family firms. In addition to this heterogeneity debate, we need to analyze the link between family firm status and each of the three main financing alternative (i.e., retained earnings, external debt, and external equity) in order to better understand the overall relationship between family firm status and leverage.

### **Impact of family firm status on retained earnings (dividend policy)**

Dividend policy, i.e., the split of earnings into retained earnings and dividends, is closely related to capital structure. As previously discussed, family firms prefer retained earnings above all other financing alternatives (e.g., Romano *et al.*, 2000; Graves & Thomas, 2008). Not surprisingly, there is empirical evidence from Spain and the U.K. that family firms have significantly lower dividend payout ratios

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(dividends as percentage of earnings) than non-family firms (Gallo *et al.*, 2004; Poutziouris, 2001).

However, family members who have a large proportion of their personal wealth invested in the firm may consider high dividends as an appropriate way to diversify personal wealth (Carney & Gedajlovic, 2002). Setia-Atmaja *et al.* (2009) argue that high dividend payout ratios help mitigate agency conflicts between majority and minority shareholders in family firms. Specifically, non-family minority shareholders demand high dividends in order to extract corporate wealth from the control of majority shareholders (Faccio, Lang, & Young, 2001). For samples from Hong Kong and Australia, there is empirical evidence that family firms have significantly higher dividend payout ratios than non-family firms (Carney & Gedajlovic, 2002; Setia-Atmaja *et al.*, 2009).

Consequently, the simplified question whether family firms have higher or lower dividend payout ratios than non-family firms needs to be replaced by more differentiated analyses. Whereas previous research on the relationship between family firm status and dividend payout ratio included only standard control variables such as firm size (Chen, Cheung, Stouraitis, & Wong, 2005), we argue that family firm specific variables should be considered. Compared to non-family firms, family members with diversified personal wealth might prefer lower dividends, whereas family members with insufficiently diversified personal wealth might prefer higher dividends. In addition, depending on educational background, the subjective relevance of dividends might differ. Generally speaking, future research on the dividend policy of family firms needs to focus more on family members and their characteristics.

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A better understanding of family firms' dividend policy is crucial. Finance scholars often assume that firms pursue all attractive investment opportunities (e.g., those with positive net present value) and raise capital accordingly. In practice, this assumption might hold true for large, listed non-family firms. Some family firms, however, refrain from pursuing highly attractive projects because they do not want to raise any external capital (i.e., neither external equity nor external debt), representing an extreme application of the pecking-order theory (Graves & Thomas, 2008). For these family firms, investments are limited to past earnings resulting in, on average, lower growth compared to firms that raise external capital (López-Gracia & Sánchez-Andújar, 2007). The growth restraints resulting from a focus on internal equity appear alleviated in large family firm groups, such as the chaebols (i.e., family firm conglomerates in South Korea), due to internal capital markets between business units or subsidiaries (Almeida & Wolfenzon, 2006; Shin & Park, 1999).

Several important questions regarding the dividend policy of family firms remain unaddressed. First, how does the generation in charge of the firm impact dividend policy? Second, what is the impact of a family CEO on dividend policy? Third, how do values and norms of family members' relevant peers impact dividend policy? Fourth, how do family firms solve heterogeneous interests of family members concerning dividend payout levels?

### **Impact of family firm status on external debt**

As previously discussed, the pecking-order theory proposes that external debt, i.e., bonds and bank loans, are the preferred financing alternative if retained earnings are insufficient. Empirical evidence shows that bank loans are the most important financing alternative for many family firms (Romano *et al.*, 2000). We draw on

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agency theory in order to analyze how family firm status impacts availability and cost of debt.

Jensen and Meckling (1976) argue that diversified shareholders have incentives to expropriate bondholders by investing in high-risk, high-return projects. When these projects are successful, shareholders capture most of the gains; if unsuccessful, shareholders and lenders often bear similar costs (Eisenhardt, 1989; Jensen & Meckling, 1976). Bondholders evaluate the probability of such expropriation projects and demand higher interests accordingly (Anderson, Mansi, & Reeb, 2003).

Family shareholders are less likely to conduct high-risk, high-return projects and are keener to lower the probability of bankruptcy than non-family shareholders (Danes, Stafford, Haynes, & Amarapurkar, 2009). From an economic perspective, family members fear bankruptcy more than non-family shareholders because they often have insufficiently diversified personal wealth and are often personally liable (Boubakri *et al.*, 2010). From a non-economic perspective, family members are concerned for the firm's long-term survival and its reputation (Anderson, Mansi, & Reeb, 2003; Bopaiyah, 1998). Specifically, due to the identity overlap between family and firm, the firm's reputation affects the family's reputation, in particular if the family name is part of the firm name (Dyer & Whetten, 2006).

Consequently, family firm status significantly lowers the cost of debt financing (Anderson, Mansi, & Reeb, 2003). A sample of 252 U.S. firms shows that the cost of debt is about 32 basis points lower for family firms than for non-family firms, after controlling for industry and firm-specific characteristics (Anderson, Mansi, & Reeb, 2003). Consistently, there is empirical evidence that family firms have better access to bank loans than non-family firms (Bopaiyah, 1998; Chua, Chrisman, Kellermanns,

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& Wu, 2011). Although it appears convincing that lower agency costs between lenders and shareholders result in lower cost of debt and higher availability of debt, there is empirical evidence that small family firms in the U.S. provide personal collateral for bank loans more often than small non-family firms, indicating that banks might regard loans to small family firms as particularly risky (Steijvers & Voordeckers, 2009). Generally speaking, personal collateral for firm loans and other intertwinement of family members' finances with the respective firm's finances are known as financial intermingling (Haynes, Walker, Rowe, & Hong 1999; Yilmazer & Schrank, 2006).

Within the group of family firms, scholars analyze the potential impact of a family member CEO on debt financing. If the CEO is a family member, a family can better align the firm's actions with family interests, which results in lower agency cost of debt compared to family firms with non-family CEOs (Anderson, Mansi, & Reeb, 2003). Although this effect is reinforced if banks develop personal and well-informed relationships with family members over successive generations (Anderson, Mansi, & Reeb, 2003; Bopaiah, 1998), it could be outweighed because bondholders might assume poorer operating performance if the CEO was chosen from the restricted labor pool of the founder's descendants (Anderson, Mansi, & Reeb, 2003).

Several important questions regarding debt financing of family firms remain unaddressed. First, how do family firms choose between different types of debt financing, such as bank loans and bonds? Second, although personal (long-term) relations between family managers and bank managers are known to improve the access to bank loans (Harvey & Evans, 1995; Voordeckers & Steijvers, 2006), what are the specific effects of such relationships on the cost of debt? Third, how do debt covenants differ between family firms and non-family firms?

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**Impact of family firm status on external equity**

As previously discussed, the pecking-order theory proposes that external equity is the least preferred financing alternative. In comparison to non-family firms, family firms are even less likely to raise external equity (Helwege & Packer, 2009; Wu, Chua, & Chrisman, 2007). Specifically, private benefits of control, such as allowing family members to work in the firm, may discourage family firms from including non-family shareholders (Churchill & Tower, 1994). In addition, family members might be reluctant to accept the additional transparency and reporting requirements of non-family shareholders (Upton & Petty, 2000). However, the possibility to decrease bankruptcy risk by decreasing leverage might convince family firms of an external equity offering (Helwege & Packer, 2009). In addition, an external equity offering allows family firms to better diversify personal wealth (Bodnaruk, Kandel, Massa, & Simonov, 2008).

The family firm's decision between a public and a private equity offering needs to incorporate both economic and non-economic goals. Agency costs between majority (i.e., family) and minority (i.e., non-family) investors are lower if the minority stake is controlled by a single private equity fund and not by dispersed shareholders because controlling the majority shareholder is economically reasonable only if the minority stake is sufficiently high (Cronqvist & Nilsson, 2005). Due to these lower agency costs, a private equity offering might achieve a higher price per share than a public offering. However, firms that are not publicly listed suffer from a discount to their share price because of the inability to sell shares publicly (McConaughy, 1999). Thus, theoretical arguments are mixed on whether public or private offerings best serve family firms' economic goals. Concerning non-economic goals, family firms are less likely to conduct a private offering to a single



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relatively large shareholder because of control considerations (Cronqvist & Nilsson, 2005). Specifically, a large minority shareholder might prevent the family firm from pursuing non-economic goals. Even if the family ensures that a potential investor shares the same goals, the investor might later sell shares to one who does not share these goals. Similarly, some family firms fear that selling shares to private equity investors results in tight control and detailed reporting requirements (Upton & Petty, 2000). Thus, concerning non-economic goals, many family firms prefer a public equity offering.

The general tendency of family firms to conduct public rather than private equity offerings needs to be reviewed in light of the heterogeneity within the group of family firms. First, for many smaller family firms, IPO costs and listing fees are prohibitively high (Dawson, 2011; Howorth, Westhead, & Wright, 2004). Second, family members might refrain from an IPO because of increased public transparency due to reporting requirements, such as annual reports (Rydqvist & Högholm, 1995). This might result in publishing personal wealth of family members, in particular, concerning those who are active in the management board. Third, some family firms combine the two options because an IPO is a suitable exit option for many private equity investors (Wang & Sim, 2001). Fourth, the existence of an interested private equity investor depends on (among other factors) the potential to improve economic efficiency by introducing tighter monitoring systems, streamlined organizational structures, and optimized managerial practices (Dawson, 2011). Within the group of family firms, private equity investors prefer firms with non-family managers, who indicate a minimum level of professionalism and openness to non-family stakeholders (Dawson, 2011).

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Family firms have various options to ensure family control after an external equity offering. First, scholars observe that many family firms simply keep the majority of shares (Ehrhardt & Nowak, 2003). Although this provides a positive signal to investors (Astrachan & McConaughy, 2001), it limits the amount of external equity raised. Second, families tend to own more voting than cash flow rights by offering primarily non-voting shares (Cronqvist & Nilsson, 2005; Hagelin *et al.*, 2006). The use of dual-class shares appears to vary widely between different countries, such as the U.S. and Sweden because of different regulations (Holmén & Högfeldt, 2004). The price discount of non-voting shares (compared to voting shares), however, is higher for family than for non-family firms, indicating investors' fear that family firms are more likely to expropriate non-voting shareholders (Caprio & Croci, 2008). An analysis of stock unification (i.e., converting dual-class shares to single-class shares) reveals that family firms demand higher monetary compensation for selling voting rights than non-family firms (Hauser & Lauterbach, 2004). Third, because many family firms are structured as corporate pyramids (Boubakri *et al.*, 2010), they might conduct IPOs of each subsidiary (as well as of a holding firm) in order to increase external equity while remaining in control of each individual firm (Dreux, 1990). Not surprisingly, there is empirical evidence that pyramid structures allow family firms to alleviate financing constraints while ensuring continued family control of the firm (Masulis, Pham, & Zein, 2011). In addition, family firms might employ voting agreements between family members or ensure a disproportionate representation of family members on the board (Villalonga & Amit, 2008).

Several of the selected articles offer findings on the consequences of an external equity offering for family firms. First, Mazzola & Marchisio (2002) find that family firm sales double three years after an IPO (compared to three years

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before the IPO) because additional resources allow family firms to streamline their growth efforts and to achieve internationalization. Second, for a sample of German IPOs between 1970 and 1990, Ehrhardt & Nowak (2003) find that 66% of firms were still in family control as long as 10 years after the IPO. Similarly, concerning private equity deals, there is empirical evidence that many families retain control after a private equity deal (Dawson, 2011). Third, public share prices and the increased quality of information available for investors might reduce overall monitoring costs, resulting in reduced financial constraints (Maherault, 2000).

Several important questions regarding external equity offerings remain unaddressed. First, what are the effects of a public listing on family firm culture? Second, does increased transparency after an IPO decrease the cost of debt significantly? Third, concerning private equity offerings, future research needs to analyze possible governance mechanisms that might help align the interests of family members and private equity investors. For family members who want to remain in control of their firm, it is particularly important to clarify the time horizon of the investor. Moreover, future research needs to determine the changes that the involvement of a private equity investor might bring to the firm (e.g., elimination of activities linked to corporate social responsibility).

## **DISCUSSION AND CONCLUSION**

### **Synthesized findings**

Our synthesis reveals that traditional capital structure theories fail to consistently explain differences between family firms and non-family firms. Most importantly, the trade-off theory predicts lower leverage for family firms, while the

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pecking-order theory predicts higher leverage (if internal capital is insufficient). To better understand this issue, we break down leverage to four key selection criteria for external financing alternatives: 'cost of debt', 'cost of financial distress', 'cost of external equity', and 'willingness to include new (non-family) shareholders'.

Based on agency theory and SEW, we summarize four key findings related to these selection criteria. First, family firms benefit from reduced agency costs between bondholders and shareholders, which results in a lower cost of debt compared to non-family firms (Anderson, Mansi, & Reeb, 2003). Second, family firms have higher cost of financial distress, i.e., a likely bankruptcy is more problematic for family members than for non-family shareholders because a potential bankruptcy destroys SEW and is particularly harmful given the often insufficiently diversified personal wealth of family members (Mishra & McConaughy, 1999). Third, family firms have greater agency costs between majority and minority shareholders, which results in higher cost of external equity compared to non-family firms (Chrisman *et al.*, 2004). Fourth, family firms fear that dilution of control could harm their SEW, which results in a lower willingness to include new shareholders (Gómez-Mejía *et al.*, 2007).

Three of these four findings imply that, compared to non-family firms, family firms are more likely to prefer external debt instead of external equity. The reduced cost of debt, the increased cost of equity, and the low willingness to include new shareholders are possible explanations why many family firms prefer external debt. Nevertheless, the higher cost of financial distress for family firms might result in a preference for external equity instead of external debt in order to minimize bankruptcy risk.

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Consequently, we argue that the potential solution to the question how family firm status impacts capital structure lies in the family firm heterogeneity debate. Whether a family firm chooses a higher or lower leverage than the average non-family firm might depend on the importance of the discussed selection criteria for external financing alternatives. In order to properly address the family firm heterogeneity debate and in order to overcome the shortcomings of traditional capital structure theories for explaining capital structure of family firms, we will offer in the following a potential starting point for a family firm capital structure theory.

### **Starting point for a family firm capital structure theory**

A potential family firm capital structure theory might depend on three assumptions. First, family firms choose the financing alternative that maximizes overall utility of family members, i.e., the sum of non-economic utility (SEW) and economic utility. Second, if all available financing alternatives decrease overall utility, then family firms will not raise additional capital but rather reduce their investments. Thus, in contrast to non-family firms, family firms might abstain from investment projects that are economically beneficial (e.g., projects that have a positive net present value). Third, within the group of family firms, family firms differ regarding the importance of their SEW and the short-term versus long-term SEW preservation focus.

Similar to non-family firms, family firms prefer most to use internal capital, i.e., retained earnings, for financing purposes because of agency costs in the process of raising external capital. Compared to non-family firms, their preference for retained earnings is even higher because both external debt and external equity potentially threaten their SEW. External debt increases bankruptcy risk and thus the

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long-term threat to SEW; external equity increases the influence of non-family shareholders and thus the short-term threat to SEW. In spite of the strong preference for internal capital, the dividend payout ratio of family firms is not necessarily lower compared to non-family firms. Specifically, the dividend payout ratio of family firms depends on family characteristics such as personal wealth diversification of family members and intra-family agency costs.

The importance of SEW appears to impact the use of external capital. Family firms with a very high importance of SEW are not willing to sacrifice any non-economic utility, will only employ retained earnings, and refrain from any external capital (they will even abstain from projects with positive net present value). Based on the concept of SEW, we argue that these firms are often (but not necessarily) characterized by second (or later) generation in charge of the firm, multiple family members involved as managers or major shareholders, and a family CEO. However, family firms that are willing to (partly) sacrifice non-economic utility in order to achieve a larger gain in economic utility will raise external capital if retained earnings are not sufficient for economically beneficial investment projects. Obviously the first group has an all-equity capital structure and thus a lower leverage than the average non-family firm. However, the leverage of the second group is more complex because these family firms have to choose between external debt and external equity (or a combination). As previously discussed this choice depends in particular on the four selection criteria 'cost of debt', 'cost of financial distress', 'cost of external equity', and 'willingness to include new shareholders'. In the following we show the impact of family firm heterogeneity for each of these four criteria.

Compared to non-family firms, family firms benefit from reduced agency costs between bondholders and owners, which results in a lower cost of debt compared to

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non-family firms (Anderson, Mansi, & Reeb, 2003). Within the group of family firms, these agency costs appear to depend on at least two aspects. First, banks associate a family CEO with a higher firm risk which results in higher cost of debt (Anderson, Mansi, & Reeb, 2003). Second, a higher duration of the relationship between a family firm and its banks reduces agency conflicts. Consequently, second (or later) generation family firms have lower cost of debt than first generation family firms (Le Breton-Miller & Miller, 2006).

Compared to non-family firms, family firms have higher cost of financial distress, i.e., a likely bankruptcy is more problematic for family members than for non-family shareholders because a potential bankruptcy destroys SEW and is particularly harmful given the often insufficiently diversified personal wealth of family members (Mishra & McConaughy, 1999). Within the group of family firms, we might expect a positive relationship between the degree of family members' personal wealth diversification and the cost of financial distress. In addition, previous research has shown that many family firms have a myopic SEW loss aversion and consequently focus on short-term SEW preservation (Chrisman & Patel, 2012). Specifically, an already highly leveraged family firm might prefer to increase leverage (and thus long-term bankruptcy risk) even further rather than to accept short-term SEW losses potentially caused by raising external equity. Thus, family firms that focus on myopic (only short-term) SEW preservation have lower cost of financial distress than family firm that try to preserve SEW in the long-term.

Compared to non-family firms, family firms have greater agency costs between majority and minority shareholders, which results in higher cost of external equity compared to non-family firms (Chrisman *et al.*, 2004). However, within the group of family firms, lone founder firms (first generation in charge, only one family member

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involved in the firm) achieve higher shareholder return than any other group of family firm (Miller *et al.*, 2007). Based on this assessment, we argue that first generation family firms have lower cost of equity than second (or later) generation family firms and family firms with only one family member involved have lower cost of equity than family firms with multiple family members involved. In addition, the cost of equity might differ within the group of family firm depending on whether a prestigious non-family investor can provide a certification effect (Astrachan & McConaughy, 2001).

Compared to non-family firms, family firms fear that dilution of control could harm their SEW, which results in a lower willingness to include new shareholders (Gómez-Mejía *et al.*, 2007). Within the group of family firms, the willingness to include new shareholders depends on the same aspects as the cost of financial distress. Specifically, family firms with a low personal wealth diversification and the goal to preserve SEW in the long-term are more willing to include new shareholders than family firm with a high personal wealth diversification and a myopic SEW preservation focus.

Our rough draft of this family firm capital structure theory offers one explanation why empirical evidence concerning the relationship between family firm status and leverage is mixed. In order to best protect their SEW, many family firms have a policy to use only retained earnings, whereas such a policy is uncommon for non-family firms. Thus, if those family firms dominate the respective sample, family firm status will have a negative impact on leverage. If firms that use only retained earnings are excluded from the sample, our predictions on the relationship between family firm status and leverage need to incorporate several factors. First, the better the personal wealth diversification of family members, the lower the economic cost



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of financial distress and the higher the possible maximum leverage. Second, the more myopic the SEW loss aversion, the more likely the family is to raise external debt instead of external equity. Third, first generation family firms have higher cost of debt and lower cost of external equity than second (or later) generation family firms. Thus, we expect that second (or later) generation family firms with well diversified wealth of family members and a high myopic SEW loss aversion have higher leverage than the average non-family firm whereas first generation family firms with insufficiently diversified personal wealth and a long-term SEW preservation focus have lower leverage than the average non-family firm.

Based on the arguments above, we propose three general clusters of family firms with respect to capital structure. First, there is a group of family firms with the main goal of maximum SEW preservation. These firms have an all-equity capital structure, do not raise any external capital, and consequently have lower leverage than the average non-family firm. Second, there is a group of family firms that accept long-term risks to their SEW, but refuse to accept short-term SEW damage caused by including non-family shareholders. These firms raise external debt and have a higher leverage than the average non-family firm (in particular if family members' personal wealth is sufficiently diversified). Third, there is a group of family firms that accept short-term SEW damage by including non-family shareholders in order to protect SEW in the long-term.

### **Future research**

Mixed empirical results for family firm financing might be due to methodological differences or shortcomings. For example, control variables such as firm size, firm age, and industry significantly impact leverage (Romano *et al.*, 2000).

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Nevertheless, several studies analyze leverage without including one or more of these variables (e.g., Gallo *et al.*, 2004). In addition, almost all of the empirical studies on capital structure employ national samples, although only international samples can possibly reveal the importance of institutional settings. For example, capital markets are different in the U.K. and in continental Europe. Thus, the finding from the U.K. that many family firms adhere strongly to the pecking-order theory (Poutziouris, 2001) need not be applicable to family firms in continental Europe. In addition, generalizations of empirical findings from very small samples are often problematic (e.g., Maherault, 2000). Moreover, few empirical studies test their ordinary least square regression assumptions, in particular concerning heteroscedacity, multicollinearity, and auto-correlation. Furthermore, several studies analyze differences between family firms and non-family firms without differentiating within the group of family firms according to the generation in control (e.g., Gallo *et al.*, 2004; Steijvers & Voordeckers, 2009).

We identify several avenues for further research. First, scholars need to overcome the identified empirical and methodological shortcomings by focusing on a single, international, and longitudinal sample and by analyzing financing aspects from different perspectives. Second, they need to conduct exploratory interviews with all stakeholders involved in family firm financing in order to validate and complement existing selection criteria for financing alternatives. Specifically, researchers need to develop scales in order to measure the importance of SEW and the degree of myopia with respect to SEW preservation. Third, while overall leverage has been extensively studied, specific aspects such as the dividend payout ratio have not yet been adequately examined. Fourth, research on specific financing alternatives often neglects the family firm heterogeneity debate.

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Based on the family firm heterogeneity debate and the sub-aspects of leverage we propose an overview (Table 1-2) of the theoretical relationship between family firm specific variables and their potential impact on all important sub-aspects of leverage. Concerning family firm specific variables we identified six variables in the selected articles: 'first generation in charge' ('1' if fulfilled, '0' if otherwise), 'multiple family members involved as blockholders or managers', 'CEO is family member', 'personal wealth diversification' (e.g., a continuous variable that measures the percentage of family wealth that is not tied to the firm), 'myopic SEW preservation' ('1' if firm focuses on short-term SEW preservation, '0' if firm focuses on long-term SEW preservation), and 'main goal is maximum SEW preservation' ('1' if firm does not accept any harm or risk to the SEW and consequently refrains from raising any external capital, '0' if otherwise). Concerning sub-aspects of leverage we identified five variables in the selected articles: 'dividend payout ratio', 'cost of debt', 'cost of financial distress', 'cost of external equity', and 'willingness to include new shareholders'.

Table 1-2 provides an overview of the resulting 42 relationships (R1 to R42) and the proposed theoretical relationships. Only very few relationships are sufficiently addressed from both a theoretical and empirical perspective. For example (R21), Anderson, Mansi & Reeb (2003) provide empirical support for the theoretical argument that banks associate a family CEO with a higher operating risk which results in higher cost of debt (i.e., there is a positive relationship between 'CEO is a family member = 1' and 'cost of debt').

**Table 1-2: Family firm variables and leverage aspects (source: own, based on listed research papers)**

No.	Independent variable	Dependent variable	Proposed theoretical relationship
R1	Family firm status = 1	Leverage	Mixed (see theory section)
R2	Family firm status = 1	Dividend payout ratio	Mixed (see theory section)
R3	Family firm status = 1	Cost of debt	Negative (Anderson et al., 2003)
R4	Family firm status = 1	Cost of financial distress	Positive (Mishra & McConaughy, 1999)
R5	Family firm status = 1	Cost of external equity	Positive (based on: Chrisman et al., 2004)
R6	Family firm status = 1	Willingn. to incl. new shareh.	Negative (Helwege & Packer, 2009)
R7	1st generation in charge = 1	Leverage	Negative (Le Breton-Miller & Miller, 2006)
R8	1st generation in charge = 1	Dividend payout ratio	N.a.
R9	1st generation in charge = 1	Cost of debt	Positive (Le Breton-Miller & Miller, 2006)
R10	1st generation in charge = 1	Cost of financial distress	Negative (based on: Gómez-Mejía et al., 2007)
R11	1st generation in charge = 1	Cost of external equity	Negative (based on: Miller et al., 2007)
R12	1st generation in charge = 1	Willingn. to incl. new shareh.	N.a.
R13	Multiple family members inv. = 1	Leverage	Mixed (see theory section)
R14	Multiple family members inv. = 1	Dividend payout ratio	Positive (based on: Setia-Atmaja et al., 2009)
R15	Multiple family members inv. = 1	Cost of debt	N.a.
R16	Multiple family members inv. = 1	Cost of financial distress	Positive (based on: Gómez-Mejía et al., 2007)
R17	Multiple family members inv. = 1	Cost of external equity	Positive (based on: Miller et al., 2007)
R18	Multiple family members inv. = 1	Willingn. to incl. new shareh.	N.a.
R19	CEO is family member = 1	Leverage	N.a.
R20	CEO is family member = 1	Dividend payout ratio	N.a.
R21	CEO is family member = 1	Cost of debt	Positive (Anderson et al., 2003)
R22	CEO is family member = 1	Cost of financial distress	Positive (based on: Mishra & McConaughy, 1999)
R23	CEO is family member = 1	Cost of external equity	N.a.
R24	CEO is family member = 1	Willingn. to incl. new shareh.	N.a.
R25	Personal wealth diversification	Leverage	N.a.
R26	Personal wealth diversification	Dividend payout ratio	Negative (based on: Carney & Gedajlovic, 2002)
R27	Personal wealth diversification	Cost of debt	N.a.
R28	Personal wealth diversification	Cost of financial distress	Negative (based on: Boubakri et al., 2010)
R29	Personal wealth diversification	Cost of external equity	N.a.
R30	Personal wealth diversification	Willingn. to incl. new shareh.	Negative (based on: Bodnaruk et al., 2008)
R31	Only myopic SEW preserv. = 1	Leverage	Positive (based on: Chrisman & Patel, 2012)
R32	Only myopic SEW preserv. = 1	Dividend payout ratio	N.a.
R33	Only myopic SEW preserv. = 1	Cost of debt	N.a.
R34	Only myopic SEW preserv. = 1	Cost of financial distress	Negative (based on: Chrisman & Patel, 2012)
R35	Only myopic SEW preserv. = 1	Cost of external equity	N.a.
R36	Only myopic SEW preserv. = 1	Willingn. to incl. new shareh.	Negative (based on: Chrisman & Patel, 2012)
R37	Main goal is max. SEW preserv. = 1	Leverage	Negative (based on: Gómez-Mejía et al., 2007)
R38	Main goal is max. SEW preserv. = 1	Dividend payout ratio	Negative (based on: Gómez-Mejía et al., 2007)
R39	Main goal is max. SEW preserv. = 1	Cost of debt	N.a.
R40	Main goal is max. SEW preserv. = 1	Cost of financial distress	Positive (based on: Gómez-Mejía et al., 2007)
R41	Main goal is max. SEW preserv. = 1	Cost of external equity	Positive (based on: Chrisman et al., 2004)
R42	Main goal is max. SEW preserv. = 1	Willingn. to incl. new shareh.	Negative (based on: Gómez-Mejía et al., 2007)

For many other relationships we can propose a theoretical link based on existing arguments, but empirical support is required. For example (R26), Carney & Gedajlovic (2002) point out that a low diversification of personal wealth is a key theoretical reason why many family members prefer high dividends. We argue that, within the group of family firms, a higher personal wealth diversification would lead

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to lower dividend payout ratios (i.e., negative relationship between 'personal wealth diversification' and 'dividend payout ratio').

### **Limitations**

Our systematic literature review has several limitations. First, the selection criteria for financing alternatives, which are derived from the selected articles, need not be exhaustive. Second, our literature selection might have omitted interesting research because it is limited to published peer-reviewed articles. Nevertheless, we believe that the potentially higher quality of peer-reviewed research outweighs this limitation. Third, although our search strategy may have neglected the entrepreneurship literature, we believe that including first generation (founder) family firms reduces the probability of overlooking research containing information that would critically alter our conclusions.

### **Practical implications and summary**

From a practitioner's point of view, the optimal financing solution for a family firm might be a mezzanine bond with annual interest paid only under the condition of firm profitability. Depending on the specific contract, interest payments are either cancelled completely or simply delayed until the firm reaches profitability again. Thus, compared to a standard bond, a mezzanine bond reduces the probability of bankruptcy because interest payments decrease in times of crisis; compared to external equity, this type of bond limits the influence of non-family stakeholders. Given the practical relevance of mezzanine financing, it is surprising that none of the selected articles addresses this alternative.

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In summary, our review demonstrates both the complexity and relevance of research on the capital structure of family firms. Although research on this topic has increased dramatically since the early 1990s, important questions remain disputed and several blind spots still exist. Further research on developing a family firm capital structure theory, appears promising for finance scholars, family firm scholars, and practitioners involved in family firm financing.

### **Implications of Essay 1 for Essay 2 and Essay 3**

The systematic literature review of Essay 1 offers an overview of the overall topic of family firm financing, whereas Essay 2 and Essay 3 focus on specific aspects of IPO financing of family firms. Both of the main theoretical approaches of this thesis, i.e., SEW and agency theory, are discussed in Essay 1, but specific contributions to these theoretical approaches are offered in Essay 2 and Essay 3. Essay 1 introduces the idea that family firms often face trade-offs between economic and non-economic goals at financing decisions. Based on this idea, it is the objective of Essay 2 to quantify the economic sacrifices that family firms are willing to accept in order to preserve their non-economic utility. Similarly, Essay 1 introduces the different types of agency costs and points out that agency costs between majority and minority shareholders are higher in family firms when compared to non-family firms. Thus, I analyze in Essay 3 whether a higher probability of SEW preserving activities (potentially at the expense of economic goals) increases agency costs between majority and minority shareholders.

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**ESSAY 2: SEW AND IPO UNDERPRICING OF FAMILY FIRMS<sup>2</sup>****INTRODUCTION**

This paper addresses two research questions: First, what are families willing to pay to preserve their socioemotional wealth (SEW), i.e., the non-economic utility a family derives from its ownership position in a particular firm (Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007)? Second, how does SEW help explain the unresolved phenomenon of IPO (initial public offering) underpricing, i.e., the stock price increase from the issue price to a supposedly fair value at the end of the first trading day (Ljungqvist, 2007)? We propose possible answers to both of these closely related questions by analyzing theoretically and empirically the IPO underpricing of family firms.

Family firms, in which 'the person who established or acquired the firm or their families or descendants possess 25% of the decision-making rights' (European Commission, 2009), have both economic and non-economic goals, in contrast to non-family firms (e.g., Chrisman, Chua, & Litz, 2004; Chrisman, Chua, Pearson, & Barnett, 2010). They are willing to sacrifice economic goals for non-economic goals in order to preserve their SEW (Chrisman & Patel, 2012) because SEW is the primary reference point for family firms (Gómez-Mejía *et al.*, 2007). Although the concept of SEW is used to explain observed empirical differences between family and non-family firms – e.g., family firms conduct fewer socially or environmentally harmful activities than non-family firms (Berrone, Cruz, Gómez-Mejía, Larrazza-

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<sup>2</sup> This essay (with the same title) was presented at the SMS (Strategic Management Society) conference 2012 together with co-author Prof. Dr. Sabine Rau. The essay is accepted for publication at the Strategic Management Journal (SMJ).

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Kintana, 2010) – little evidence exists concerning the quantification of SEW and its effects (Zellweger, Kellermanns, Chrisman, & Chua, 2012). Previous research linked a family's SEW to the price premium family owners demand when selling their firm (Zellweger *et al.*, 2012), but the rate of substitution between the economic and non-economic goals of family owners remains an unresolved research issue (Chrisman, Chua, & Sharma, 2005). Such a rate of substitution might clarify the sacrifices families are willing to make in order to protect their SEW.

We submit that the IPO of a family firm is the ideal time to analyze the potential trade-off that family firm owners face concerning economic and non-economic goals. It is a reasonable economic goal of pre-IPO shareholders to sell shares at the highest possible price, but it also may serve non-economic goals to sell shares below the highest possible price if the pre-IPO shareholders do not sell all of their shares. According to previous studies, IPO underpricing helps firms protect their reputation (Lowry & Shu, 2002) and optimize their shareholder structures (Brennan & Franks, 1997). Protecting the reputation and optimizing the shareholder structure are common non-economic goals of family firms and important aspects of SEW (Chrisman & Patel, 2012). Thus, family firms might willingly sell their shares at a higher discount than non-family firms in order to preserve their SEW, which is consistent with the SEW notion of sacrificing economic goals for non-economic goals (Gómez-Mejía *et al.*, 2007; Gómez-Mejía, Cruz, Berrone, & De Castro, 2011). Consequently, IPO underpricing is an outcome that allows to analyze the trade-off between economic and non-economic goals of family firms.

Numerous possible explanations for the IPO underpricing phenomenon have been advanced in both finance and strategy literature. Finance researchers developed explanations for IPO underpricing such as 'winner's curse' (Rock, 1986), 'valuation



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uncertainty' (Beatty & Ritter, 1986), and 'bookbuilding theory' (Benveniste & Spindt, 1989), while strategy researchers have analyzed the relationship between IPO underpricing and firm aspects such as CEO founder status (Certo, Covin, Daily, & Dalton, 2001) and board characteristics (Filatotchev & Bishop, 2002). It is worth mentioning that since IPO underpricing was first documented in the academic literature in the early 1970s (Ibbotson, 1975; Logue, 1973), no exception has been found to the rule that IPOs are, on average, underpriced across countries (Ritter & Welch, 2002).

We examine a sample of 153 German IPOs between 2004 and 2011 in order to test our hypotheses. Germany offers an active IPO market with a high number of family firms due to 'German Mittelstand', often considered the backbone of the highly industrialized German economy (Fiss & Zajac, 2004). In comparison to the United States, Germany was traditionally characterized by more stakeholder orientation, a larger role of universal banks as shareholders of industrial firms, and debt as the primary source of external financing (Fiss & Zajac, 2004; Wasserfallen & Wittleder, 1994). Nevertheless, since the early 1990s pressure from international capital markets, the receding role of banks, and the adaptation of international accounting standards have moved Germany towards an Anglo-Saxon style market model (Fiss & Zajac, 2004; Goergen, Khurshed, & Renneboog, 2009). Moreover, both in Germany and the United States, bookbuilding has become the dominant process of selling IPO shares (Elston & Yang, 2010; Ritter, 2003).

Our results support our main hypothesis that family firms have higher IPO underpricing than non-family firms. Our results are robust to varying definitions of family firms with respect to different ownership thresholds. Further analysis revealed that commonly tested sub-groups of family firms are all rather homogenous with

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respect to IPO underpricing and that all of these sub-groups have higher IPO underpricing than non-family firms. In addition, our results are also robust to different definitions of IPO underpricing.

Our study offers two main theoretical contributions related to our two research questions. First, the additional discount, at which families are willing to sell shares in their firm, could serve as a first proxy for the costs of SEW preservation at the IPO. Currently, there is little evidence concerning the quantification of SEW effects. Zellweger *et al.* (2012) could approximately quantify the compensation families demand before giving up their SEW in a hypothetical exit scenario. However, families can maintain a controlling interest and preserve their SEW at least to some extent in the case of an IPO. Thus, we create a first proxy for the costs of SEW preservation at the time of the IPO by measuring the additional underpricing associated with family firm status. Second, we contribute to the IPO underpricing literature (see Ljungqvist, 2007, for an overview) by offering a new explanation for differing degrees of IPO underpricing. Specifically, the willingness of family owners to sell their shares at an increased discount could serve as a new explanation for the so far unresolved phenomenon of IPO underpricing.

Our study also offers several practical implications. If family firms have significantly higher underpricing than non-family firms, investors can use this information to invest specifically in family firm IPOs. Family firms planning IPOs need to be aware of the possibility that higher IPO underpricing might help them protect their SEW. In addition, they may decide to sell a smaller proportion of shares at the IPO and sell additional shares after the IPO in order to minimize the costs of SEW preservation.

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## **THEORETICAL BACKGROUND AND HYPOTHESES**

### **SEW and the behavioral agency model prediction of SEW loss aversion**

Strategic decisions of family firms are often strongly influenced by the goal to preserve SEW. For example, Gómez-Mejía *et al.* (2007) showed that, in order to protect SEW, family-owned olive oil mills were less likely to join co-ops than non-family-owned olive oil mills despite the fact that co-op membership greatly reduced financial risks while increasing the likelihood of long-term survival. Further studies argued that, in order to protect SEW, family firms pursue significantly fewer socially or environmentally harmful activities than non-family firms (Berrone *et al.*, 2010), conduct more philanthropic activities (Deniz & Suarez, 2005), avoid downsizing (Stavrou, Kassinis, & Filotheou, 2007), implement more care-oriented contracts for non-family managers (Cruz, Gómez-Mejía & Becerra, 2010), and diversify less if diversification makes it more difficult to place trusted family members in key positions (Jones, Makri, & Gómez-Mejía, 2008; Gómez-Mejía, Makri, & Kintana, 2010). In all of these studies SEW is not measured directly, but rather employed as a conceptual construct that explains strategic decisions of family firms (Zellweger *et al.*, 2012).

The decision to conduct an IPO might conflict with the goal of SEW preservation. An IPO potentially damages a family firm's SEW at least to some extent in the short-term because an IPO most likely results in less influence of family shareholders relative to non-family shareholders. The increased influence of non-family shareholders can potentially hinder the fulfillment of the families' non-economic goals such as exercising authority (Schulze, Lubatkin, & Dino, 2003a), preserving the family dynasty (Casson, 1999), conserving the family firm's social capital (Arregle, Hitt, Sirmon, & Very, 2007), behaving altruistically toward family

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members (Schulze *et al.*, 2003a), and placing trusted relatives in key positions (Chrisman *et al.*, 2004).

Two arguments can possibly explain why family firms conduct an IPO in spite of the potential SEW damage. First, some family firm scholars argue that there is a rate of substitution between the utility derived from the pursuit of economic goals and the utility derived from the pursuit of non-economic goals (Chrisman *et al.*, 2005). Thus, for family firms that conduct an IPO, economic utility, in particular raising additional growth capital, might outweigh the non-economic utility of remaining private. Second, the potential trade-off between economic goals and non-economic goals might be related to the time horizon of family firms (Chrisman & Patel, 2012). Specifically, although an IPO might damage at least to some extent a family firm's SEW in the short-term, an IPO might also be the only option to preserve the family firm and, thus, the SEW in the long-term. We argue in both cases that a family firm will try to minimize the threats which going public can have for SEW once a family firm decides to conduct an IPO.

In the IPO context, family firms try to minimize the potential SEW losses caused by ceding control to non-family shareholders even if this means sacrificing potential gains related to selling shares. This behavior can be explained with the behavioral agency model (BAM) (Gómez-Mejía *et al.*, 2007; Wiseman & Gómez-Mejía, 1998). The BAM was developed to explain strategic decision making by focusing on the aspects of 'loss aversion' and 'problem framing' (Wiseman & Gómez-Mejía, 1998). 'Loss aversion' means that avoiding losses is more important than obtaining gains (Chrisman & Patel, 2012). 'Problem framing' stresses that choices are evaluated regarding potential losses and gains compared to current utility (Kahneman & Tversky, 1979; Gómez-Mejía *et al.*, 2010). In the IPO context, family

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firms evaluate potential IPO outcomes compared to pre-IPO utility. Specifically, for most family firms, an IPO will decrease non-economic utility because non-family shareholders gain importance, but increase economic utility because the firm raises additional capital and family members are able to better diversify their personal wealth. Combined with the aspect of loss aversion, this suggests that families will rather focus on minimizing the losses to their non-economic utility than on maximizing gains to their economic utility. In order to further elaborate on this argument, we need to focus on an IPO outcome that is related both to sacrificing economic gains and to minimizing non-economic losses.

### **The unresolved phenomenon of IPO underpricing**

IPO underpricing, i.e., the stock price increase on the first day of trading (e.g., Beatty & Ritter, 1986; Ljungqvist, 2007; Ritter & Welch, 2002), represents the discount to a fair value at which a firm's shares are sold. Most IPO underpricing studies focus on the share price on the first day of trading because many researchers assume that the first closing price is an adequate proxy of the shares' fair value (Ljungqvist, 2007). However, this approach is based on the strong assumption of market efficiency (Thaler, 1997; Thaler, 2005). In less than perfectly efficient markets, the fair value of a stock does not necessarily need to be determined on the first day of trading, but rather at some point during the first weeks of trading (Ljungqvist, 2007; Ritter, 1991). Besides calculating IPO underpricing with closing prices on the first day of trading, researchers have also employed closing prices on the 5th day, the 10th day, the 15th day, and the 20th day of trading (Brennan & Franks, 1997; Ellul & Pagano, 2006). Consequently, we will focus on the above definition of IPO underpricing with respect to the first closing price, but

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acknowledge the possibility that a share's fair value might be determined during the first four weeks of trading.

No complete answer has been found to the question why shares are sold at a discount to a supposedly fair value, although numerous possible explanations of the IPO underpricing phenomenon have been advanced (see Table 2-1). The IPO underpricing explanations all focus on the goals of one of the three main IPO stakeholders: lead underwriter, i.e., the bank marketing the shares, external (new) investors, and pre-IPO shareholders (e.g., Certo *et al.*, 2001). For a comprehensive review of IPO underpricing explanations see Ljungqvist (2007).

The degree of underpricing can be actively influenced by pre-IPO shareholders as the IPO firm makes several decisions that are relevant for underpricing: choosing the lead underwriter, deciding between a domestic or an international IPO (at a stock exchange with a potentially higher reputation and more liquidity), and choosing between bookbuilding and other types of offerings (Habib & Ljungqvist, 2001). Thus, pre-IPO shareholders are able to influence the degree of underpricing if this is in their interest (Lowry & Shu, 2002).

Consistent with previous studies on IPO underpricing, we assume that managers and pre-IPO blockholders (of both family firms and non-family firms) are able to determine approximately the fair value of their shares, which is a necessary prerequisite to willingly sell shares below that fair value (Aggarwal, Krigman, & Womack, 2002). This argument is supported by the fact that IPO firms usually have professional advisors in the form of investment banks that help determine a fair value and an offer price for a firm's shares. Thus, by willingly accepting higher IPO underpricing, family firms are able to sacrifice potential economic gains if it allows them to minimize potential losses to their SEW.

**Table 2-1: IPO underpricing (UP) explanations (source: own, based on listed research papers)**

<b>Main stakeholder</b>	<b>Underpricing (UP) explanation</b>	<b>Central idea</b>
IPO firm	Ownership dispersion (Booth & Chua, 1996)	UP reduces external ownership concentration
	Litigation risk (Ibbotson, 1975)	UP reduces risk of lawsuits
	Informational cascade (Welch, 1992)	UP reduces risk of a failed IPO
	Opportunity costs of issuance (Barry, 1989)	UP relevance for IPO firm depends on wealth loss
	Marketing costs (Habib & Ljungqvist, 2001)	UP reduces the IPO firm's marketing costs
	Signalling (Allen & Faulhaber, 1989)	UP is an up-front sacrifice for post-IPO benefits
External investors	Valuation uncertainty (Beatty & Ritter, 1986)	UP compensates for valuation uncertainty
	Winner's curse (Rock, 1986)	UP allows uninformed investors to break even
	Bookbuilding theory (Benveniste & Spindt, 1989)	UP compensates for revealing information
Lead underwriter	Conflict of interest (Baron, 1982)	Underwriter prefers higher UP than the IPO firm
	- Marketing costs (Baron, 1982)	- because it lowers marketing costs
	- Trading volume (Boehmer & Fische, 2001)	- because it increases trading volumes
	- Favor for institutional investors (Loughran & Ritter, 2002)	- because it increases other transactions
	- Favor for private clients (Loughran & Ritter, 2002)	- because it increases client satisfaction
	Underwriter reputation (Carter & Manaster, 1990)	Reputation increases certification effect

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### **SEW preservation by family firms at the time of the IPO**

We identified several underpricing explanations related to the goals of IPO firms and their pre-IPO shareholders from previous IPO studies (Table 2-1). All of these explanations assume that IPO firms willingly accept IPO underpricing in exchange for certain advantages of IPO underpricing. For the following three underpricing explanations we identified not only economic, but also non-economic advantages of IPO underpricing: reduced ownership concentration according to the ownership dispersion hypothesis (Booth & Chua, 1996), reduced risk of lawsuits according to the litigation risk hypothesis (Ibbotson, 1975), and reduced risk of a failed IPO due to an 'informational cascade' (Welch, 1992). In the following we will link these three underpricing explanations to the goal of SEW preservation.

According to the ownership dispersion hypothesis, IPO underpricing is designed, or willingly accepted, by the issuer in order to generate an oversubscription for the IPO firm's shares because investors evaluate the potential for underpricing in the weeks before the IPO and adjust share subscriptions accordingly (Booth & Chua, 1996). Oversubscription occurs when investors request more shares than are offered, which results in rationing shares (Brennan & Franks, 1997). For example, if twice as many shares are demanded than offered, each investor gets on average only half of the shares ordered, which reduces ownership concentration among new shareholders. Although this argument originally referred to the economic goals of the firm's management (Brennan & Franks, 1997), the reduction of outside ownership concentration is especially important for family firms in order to preserve SEW concerning the 'ability to exercise authority' (Schulze *et al.*, 2003a) and the 'preservation of the family dynasty' (Casson, 1999). There is empirical evidence that pre-IPO shareholders are less likely to be ousted from the



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firm when shares are sold widely rather than to just a few large shareholders (Brennan & Franks, 1997). Thus, by setting low issue prices, families try to increase oversubscription and share rationing in order to maximize their ownership control relative to new post-IPO shareholders because this helps family firms preserve their SEW.

Both the litigation risk hypothesis and the informational cascade imply that the higher the IPO underpricing, the lower certain risks. First, the litigation risk hypothesis proposes that the IPO firm benefits from underpricing because underpricing reduces both the probability of a lawsuit and the damages that plaintiffs can recover (Ibbotson, 1975). The original litigation risk hypothesis focused on potential economic costs of lawsuits (Ibbotson, 1975). Nevertheless, costs of IPO lawsuits include not only legal fees, but also reputational costs (Lowry & Shu, 2002). Second, according to the informational cascade (Welch, 1992), underpricing reduces the risk of a failed IPO because without the prospect of underpricing some investors might abstain from the IPO and the lack of interest of these investors might cause other investors to also abstain from the IPO. Costs of a failed or withdrawn IPO include not only funds spent on 'roadshows' for marketing the IPO, but also reputational costs (Busaba, Benveniste, & Guo, 2001).

The economic aspects of lawsuits and failed IPOs are similar for family and non-family firms, but due to the identity overlap between family and firm (Dyer & Whetten, 2006), any damage to the firm's reputation is also a damage to the personal reputation of family members (Zellweger & Nason, 2008). Consequently, both lawsuits and failed IPOs pose serious threats to the SEW of family firms. Thus, family firms are more determined than non-family firms to prevent IPO lawsuits or failed IPOs and accept higher IPO underpricing as a necessary price to pay.

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The BAM predictions concerning SEW suggest that family firms are willing to sacrifice economic gains in order to minimize threats to SEW. Specifically, the lower the issue price relative to an approximated fair value of shares (i.e., the higher the IPO underpricing), the better a family can minimize the threat of concentrated non-family ownership (ownership dispersion hypothesis) and the better a family can protect its reputation (litigation risk hypothesis and informational cascade). Thus, we expect that:

*Hypothesis 1: Family firms have higher IPO underpricing than non-family firms.*

### **Moderators of the main relationship between family firm status and IPO underpricing**

We expect that IPO underpricing is in the interest of family firms because it helps them protect their SEW. Consequently, as a second step, we analyze what could increase the described positive effects of IPO underpricing, i.e., reduced risk of law suits, reduced risk of a failed IPO, and atomized external ownership. We argue that the importance of these benefits varies across family firms. Thus, in the following section, we draw upon previous IPO underpricing publications to identify the moderator most likely to increase the described positive effects of IPO underpricing. We further argue that the understanding of these positive effects increases the likelihood of family firms influencing the degree of underpricing.

### **Degree of IPO underpricing benefits**

Valuations of firms planning an IPO are more uncertain than the valuations of firms already listed on a stock exchange because more information, e.g., concerning

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financial data, is available for listed firms. Thus, the valuation uncertainty hypothesis (Beatty & Ritter, 1986) states that underpricing compensates investors for valuation uncertainty because the price investors pay is below the supposedly fair value of the shares at the end of the first trading day (Certo *et al.*, 2001). More specifically, it suggests that the higher the valuation uncertainty the higher the underpricing (Beatty & Ritter, 1986). The degree of valuation uncertainty varies for different IPO firms due to, e.g., different business models, different ownership structures, or different financial structures. Investors are able to assess these differences in valuation uncertainty because during the 'roadshow' all of the three main stakeholders (IPO firm, lead underwriter, and external investors) exchange information regarding possible firm valuation and valuation uncertainty (Benveniste & Spindt, 1989). At the same time, family firm owners as well as non-family owners learn during the roadshow to evaluate the valuation uncertainty potential investors assess.

We submit that the degree of valuation uncertainty is linked to the described positive effects of IPO underpricing, i.e., reduced risk of law suits, reduced risk of a failed IPO, and atomized external ownership. First, we assume that the higher the valuation uncertainty the higher the probability that the stock price might fall after the IPO. According to the litigation risk hypothesis (reduced risk of lawsuits), a falling stock price after the IPO increases both the probability of a lawsuit and the damages that plaintiffs can recover (Ibbotson, 1975). Second, a high valuation uncertainty increases the risk of a failed IPO because the probability of accidentally setting the issue price so high that investors abstain from the IPO increases. Third, similar to the argumentation above, a high valuation uncertainty increases the probability of not attracting sufficient investor demand for the shares, which is the prerequisite for share rationing and atomizing external ownership. Thus, family firms

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with a high valuation uncertainty have a higher probability of an IPO lawsuit, a failed IPO, and not sufficiently atomized external ownership than family firms with low valuation uncertainty.

BAM predicts that family firms are loss averse with respect to their SEW and that avoiding losses is more important than obtaining gains (Chrisman & Patel, 2012; Gómez-Mejía *et al.*, 2007). An IPO lawsuit, a failed IPO, and not sufficiently atomized external ownership are potential threats to SEW, as previously discussed. Consequently the BAM prediction of SEW loss aversion implies that an increased risk of SEW losses results in increasing efforts to minimize these threats. Thus, family firms that realize based on investors' reactions during the roadshow that the valuation uncertainty of the firm is high will set the issue price of their shares even further below the fair value than family firms with low valuation uncertainty. The fact that avoiding losses is more important than obtaining gains means that sacrificing potential gains in the form of higher issue proceeds is the price family firms are willing to pay in order to protect their SEW. Based on these arguments, we hypothesize:

*Hypothesis 2: The relationship between family firm status and IPO underpricing is positively moderated by valuation uncertainty. More specifically, the positive relationship between family firm status and IPO underpricing will be stronger when valuation uncertainty is high rather than low.*

### **Understanding of IPO underpricing effects**

Family firms will increase the degree of underpricing only if they understand underpricing benefits. In turn, family firms without any understanding of underpricing benefits will most likely minimize underpricing. We will outline in the

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following that homogenous and heterogeneous levels of understanding are equally possible. Thus, if family firms are heterogeneous with respect to their understanding of IPO underpricing effects, this will result in varying actions to actively influence underpricing. If understanding is homogenous and all firms perfectly understand the benefits of IPO underpricing, we do not expect varying actions.

Family firms might be homogenous with respect to their understanding of underpricing benefits due to their interactions with the lead underwriters in the weeks before the IPO. The lead underwriters are likely to point out benefits of IPO underpricing to family firms because lead underwriters benefit from IPO underpricing in several ways. First, underpricing allows bankers to reduce their IPO marketing costs because low initial offer prices make it easier to find investors for IPOs (Baron, 1982). Second, if a lead underwriter offers numerous underpriced stocks, institutional investors will engage in more transactions with that underwriter in order to improve their priority for future share allocations of highly underpriced stocks (Loughran & Ritter, 2002). Third, there is empirical evidence that underpricing is positively correlated with post-IPO trading volume, which affects the revenues of lead underwriters, who are usually the primary market makers (Boehmer & Fische, 2001). Fourth, underwriters can sell shares of highly underpriced IPOs to wealthy private clients to increase client satisfaction (Loughran & Ritter, 2002).

Family firms might be heterogeneous with respect to their understanding of underpricing benefits if the understanding depends on the firm's TMT (top management team). First, a member of the firm's TMT might have personally experienced a previous IPO of a different firm or of a subsidiary. Second, the TMT's professional network of managers in different firms might provide counsel and point out underpricing benefits (Arthurs, Hoskisson, Busenitz, & Johnson, 2008). These

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two factors vary between family firms and non-family firms as well as within the group of family firms. Family firms differ from non-family firms concerning the selection of their TMT because the opportunity to place relatives in key positions is an important aspect of SEW, even if these relatives are not the most competent managers available (Ali, Chen, & Radhakrishnan, 2007; Chrisman *et al.*, 2004). This argument is supported by the fact that many family firms have trouble attracting and retaining highly qualified managers, especially before they go public (Sirmon & Hitt, 2003). Thus, we assume that, on average, family firms are less likely than non-family firms to have IPO experts in their TMT. However, within the group of family firms, due to the heterogeneity with respect to the selection of non-family managers, it is also likely that some family firms' TMT have high IPO understanding. Arthurs *et al.* (2008) argue that the TMT's number of board appointments in other firms is a reasonable proxy for the understanding of IPO underpricing because these board appointments are related to both the probability of personal IPO experience and the extend of a professional network of managers.

In summary, if lead underwriters ensure a homogenous understanding of IPO underpricing benefits, family firms most likely do not vary in their actions to influence IPO underpricing. However, if the level of understanding is heterogeneous, the TMTs are likely to impact the different levels of understanding. Family firms with IPO experience in the TMT and a large professional network of TMT members might have a better understanding of underpricing effects than family firms that do not have these characteristics (Arthurs *et al.*, 2008). Thus, either the level of understanding is homogenous due to the interactions with lead underwriters or the level of understanding is heterogeneous and determined by the TMT. In the latter case, we expect that IPO experience of TMT members moderates the relationship

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between family firm status and underpricing because understanding underpricing benefits is a necessary prerequisite for actively increasing underpricing.

Based on these arguments, we hypothesize:

*Hypothesis 3: The relationship between family firm status and IPO underpricing is positively moderated by the TMT's number of board appointments in other firms. More specifically, the positive relationship between family firm status and IPO underpricing will be stronger when the TMT's number of board appointments in other firms is high rather than low.*

## **METHODS**

### **Sample**

Our sample, which consists of German IPOs at the Frankfurt Stock Exchange, includes both family and non-family firms. Germany offers an active IPO market with a high number of family firms due to 'German Mittelstand', often considered the backbone of the highly industrialized German economy (Fiss & Zajac, 2004). Until the 1990s, Germany, in comparison to the United States, was described as a less developed financial market governed by different legal and institutional restrictions (Wasserfallen & Wittleder, 1994). Specifically, Germany has been characterized by more stakeholder orientation (e.g., employee representatives are included in supervisory boards), a larger role of universal banks as shareholders of industrial firms, and debt as the primary source of external financing (Fiss & Zajac, 2004). Nevertheless, since the early 1990s pressure from international capital markets, the receding role of banks, and the adaptation of international accounting standards has moved Germany towards an Anglo-Saxon style economic model (Fiss & Zajac,

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2004). Specific consequences include more shareholder value orientation, a growing number of IPOs, and a general shift from bank credit as a primary source of capital towards more equity financing (Fiss & Zajac, 2004; Goergen *et al.*, 2009). Moreover, both in Germany and the United States, bookbuilding (setting a price range for the shares while discussing demand with potential investors during the roadshow) is the dominant process of selling IPO shares (Elston & Yang, 2010; Ljungqvist & Wilhelm, 2002; Ritter, 2003). Both in Germany and the United States, there are few constraints on how shares are allocated (Ljungqvist & Wilhelm, 2002). Thus, in case of oversubscription, family firms can allocate shares primarily to small 'retail' investors, in order to further atomize non-family influence.

The following findings from research on publicly traded family firms in Germany are worth highlighting in our context. First, many families employ control enhancing mechanisms such as dual-class shares and corporate pyramids in order to maintain control of the respective firm after the IPO (Gorton & Schmid, 2000). Second, even ten years after an IPO, many families continue to control their respective firms (Ehrhardt & Nowak, 2003). Third, there is empirical evidence that the stock market performance of family firms and non-family firms during the three years after the IPO does not differ significantly (Jaskiewicz, González, Menéndez, & Schiereck, 2006).

We analyze multiple years (2004-2011) with both low and high IPO volume because IPO markets experience major fluctuations. This is consistent with previous IPO studies (e.g., Certo *et al.*, 2001). We do not include any IPO prior to 2004 (there was no IPO fulfilling the sample criteria in 2003) because previous studies reveal average underpricing of more than 70% during the Internet bubble, which could potentially distort the effects under consideration (Ljungqvist & Wilhelm, 2003).



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Consistent with previous studies, we consider only IPOs by domestic firms and exclude all foreign firm IPOs as well as transfers from other markets (Goergen *et al.*, 2009). Our final sample consists of 153 IPOs. All companies in our sample have only one class of shares. Thus, each share has equal voting and dividend rights. Companies are, on average, 25 years old and their size in terms of market capitalization averages ~ 400 million Euros.

We cross-reference three sources for our analysis. First, the list of IPOs including information such as the date of the IPO and the offer price were obtained from Deutsche Börse, the owner and operator of the Frankfurt Stock Exchange. Second, daily stock closing prices from Deutsche Börse are complemented with Bloomberg concerning delisted shares. Third, detailed information on each IPO firm, such as firm age, underwriters, and pre-IPO shareholder structure were collected manually from each company's emission prospectus.

### **Dependent variable**

The dependent variable is underpricing, or first-day return, calculated as the first-day closing price minus the offer price, divided by the offer price (Beatty & Ritter, 1986; Ljungqvist, 2007; Ritter & Welch, 2002). Consistent with current literature, we assume that the full extent of underpricing is already given at the end of the first trading day because the Frankfurt Stock Exchange has no restrictions on daily price fluctuations (Ljungqvist, 2007). Nevertheless, as described below, we provide extensive robustness tests for different underpricing definitions.

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**Independent and moderator variables**

Family firm status. We define family firms as firms in which 'the person who established or acquired the firm or their families or descendants possess 25% of the decision-making rights' (European Commission, 2009). The threshold of 25% is reasonable for our sample because in Germany holding 25% of shares grants the right to block any major decision of the firm (Franks & Mayer, 2001). However, results in family firm research may change significantly depending on the family firm definition (Miller, Le Breton-Miller, Lester, & Canella, 2007). Thus, we emphasize this robustness and provide the results of our analysis differentiated by different degrees of family ownership. Family firm status is treated as a dummy variable by assigning a value of one to family firms and a value of zero to non-family firms.

Valuation uncertainty. We argue that high post-IPO stock volatility indicates that investors are uncertain (pre-IPO and shortly after) about a company's valuation (Ljungqvist, 2007). Thus, consistent with recent IPO studies, we define valuation uncertainty as the standard deviation of daily returns in the first months of trading (Goergen *et al.*, 2009). Although numerous other proxies for measuring valuation uncertainty such as number of uses of proceeds (as listed in the prospectus) and the inverse of the gross proceeds have been developed, most are deemed unsuitable (see Ljungqvist, 2007, for an overview).

Number of board appointments. We define 'number of board appointments' as the sum of other firms in which one or more of the IPO firm's TMT has a position on the management and/or supervisory board. This is a proxy for the understanding of IPO underpricing benefits because board members of other companies may provide advice on the IPO and TMT members serving on other boards may better understand

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and be familiar with the IPO process (Arthurs *et al.*, 2008; Filatotchev & Bishop, 2002).

### **Control variables**

Overhang. We define 'overhang' as shares retained divided by shares offered (Dolvin & Jordan, 2008). Shareholders of firms retaining the majority of their shares may focus less on reducing underpricing because a lower proportion of their overall wealth is at stake (Dolvin & Jordan, 2008).

Underwriter market share. The involvement of large underwriters may signal that the issue price is an accurate appraisal of a firm's value that potentially influences underpricing (Carter & Manaster, 1990). Market share is measured as the sum of the IPO values underwritten by each underwriter (within the sample) divided by the sum of all IPO values in the sample (Megginson & Weiss, 1991).

Market capitalization. We control for size of the IPO, defined as the natural logarithm of market capitalization at the offer price. Information tends to be more readily available about larger firms, which could reduce underpricing (Beatty & Ritter, 1986), although larger issues are harder to market, which could increase underpricing (Baron, 1982; Michaely & Shaw, 1994).

Firm age. We control for firm age, defined as the natural logarithm of IPO year minus founding year plus one (Ljungqvist & Wilhelm, 2003). Less-seasoned firms with fewer years of published financial data are less likely to have been assessed by financial analysts than are older and more established firms, which might influence investors' perception of the firm (Daily, Certo, Dalton, & Roengpitya, 2003).

Venture capital backing. Venture capital backing is treated as a dummy variable by assigning a value of one if venture capital firms (or private equity firms)

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own shares of the firm and a value of zero otherwise. Venture capital backing potentially impacts underpricing because a venture capitalist can fulfill a certification role (Megginson & Weiss, 1991).

Financial institutions. Consistent with previous studies (e.g., Arthurs *et al.*, 2008), we control for industry effects by assigning a dummy variable equal to one for financial institutions (i.e., SIC codes from 6000 to 6900) and zero for all other IPO firms, as the particularities of financial institutions could potentially impact underpricing. Replacing this dummy variable with any other industry group dummy based on one-letter SIC codes does not change our results significantly.

IPO in 2006. We control for possible effects of the IPO year because IPO investors might be overly optimistic in certain periods that are often characterized by above-average underpricing and an unusually high number of IPOs (Filatotchev & Bishop, 2002). Thus, we assign a dummy variable equal to one for an IPO in 2006 and zero otherwise to account for overly optimistic investors, given that almost half of the IPOs in our sample occur in 2006. To further test the robustness of our results we replaced the 2006 year dummy with all other yearly dummies. We observed no significant changes to our results after replacing the 2006 year dummy with any other year dummy.

### **Analytical approach**

The data is analyzed using hierarchical multiple regression analysis following the general approaches employed in previous studies on IPO underpricing (e.g., Arthurs *et al.*, 2008; Certo *et al.*, 2001). The dependent variable in all regression models in this study is IPO underpricing. Consistent with Hypothesis 1, a positive and significant regression coefficient is expected for the family firm status variable.

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The coefficient for the interaction terms implied by Hypothesis 2 and Hypothesis 3 are also anticipated to be positive and significant.

In Model 1, we reconstruct the relationship between IPO underpricing and variables previously known potentially to explain underpricing. Family firm status is the new independent variable introduced in Model 2 in order to test Hypothesis 1. Within Models 3 and 4, valuation uncertainty and number of board appointments are moderator variables to test Hypotheses 2 and 3, respectively. Overhang, underwriter market share, market capitalization, firm age, venture capital backing, financial institution status, and year of the IPO (specifically, IPO in 2006 or not) are treated as control variables in all analyses.

## **Results**

Descriptive statistics and correlations among the research variables appear in Table 2-2. Three results in this table are particularly noteworthy. First, family firm status and underpricing are significantly ( $p < 0.01$ ) and positively correlated. Second, underpricing is also positively and significantly correlated with overhang ( $p < 0.05$ ) and with valuation uncertainty ( $p < 0.01$ ). Third, average underpricing of 6% in our sample is relatively low compared to previous IPO studies in the UK (e.g., Filatotchev & Bishop, 2002) and the United States (e.g., Arthurs *et al.*, 2008). The relatively low IPO underpricing in Germany is consistent with previous studies; Ljungqvist (1997) argued that the higher average age and the bigger average size of German IPOs might cause lower average underpricing than in the United States.

**Table 2-2: Descriptive statistics and correlations (source: own)**

Research variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1 Family firm status = 1	0.61	0.49	1.00										
2 Underpricing	0.06	0.15	0.24	1.00									
3 Valuation uncertainty	0.03	0.02	0.26	0.37	1.00								
4 Number of board appointments	24.71	25.22	-0.36	-0.04	-0.22	1.00							
5 Overhang	3.61	9.61	0.07	0.17	0.24	-0.09	1.00						
6 Underwriter market share	0.08	0.12	-0.29	0.04	-0.20	0.32	-0.14	1.00					
7 LN market capitalization	18.44	1.60	-0.32	0.10	-0.30	0.41	-0.15	0.70	1.00				
8 LN age	2.58	1.13	-0.21	0.03	-0.18	0.26	-0.19	0.27	0.41	1.00			
9 Venture capital = 1	0.48	0.50	-0.51	-0.11	-0.10	0.33	-0.06	0.23	0.12	0.11	1.00		
10 Financial institutions = 1	0.26	0.44	0.10	0.02	0.03	0.07	0.15	-0.13	-0.09	-0.24	-0.18	1.00	
11 IPO in 2006 = 1	0.44	0.50	0.13	-0.02	0.11	-0.05	0.08	-0.19	-0.22	-0.15	-0.03	0.01	1.00

n = 153; values greater than 0.16 (or lower than -0.16) are significant at  $p < 0.05$ ; values greater than 0.21 (or lower -0.21) are significant at  $p < 0.01$ .

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Consistent with prior IPO underpricing literature, we examine the variance inflation factors in order to test for multicollinearity (Arthurs *et al.*, 2008). None of the variance inflation factors approach the commonly accepted threshold of 10 (Filatotchev & Bishop, 2002); the highest is 2.5. These results suggest that multicollinearity is not a problem in our analysis.

Table 2-3 presents the results of the hierarchical regression analysis used to test the hypotheses. Model 1 represents the control model without any variable related to family influence. Concerning the variables employed, only valuation uncertainty and market capitalization (i.e., firm size) significantly (and positively) impact underpricing ( $p < 0.01$  and  $p < 0.05$ , respectively). This supports the arguments that marketing larger firms requires more underpricing and that investors demand higher underpricing given higher valuation uncertainty.

As shown in Model 2, family firm status significantly and positively impacts underpricing ( $p < 0.01$ ). Thus, consistent with Hypothesis 1, we find empirical support for our argument that family firms tend to accept or even cause higher IPO underpricing than non-family firms in order to preserve their SEW. According to Model 2, all other variables being equal, family firms have on average 8 percentage points higher underpricing than non-family firms.

Model 3 reveals that the interaction of family firm status and valuation uncertainty is positive and statistically significant ( $p < 0.1$ ). Thus, consistent with Hypothesis 2, there is an indication that the positive impact of family firm status on underpricing may be stronger when valuation uncertainty is high.

As shown in Model 4, the interaction of family firm status and number of board appointments is not statistically significant, indicating no support for Hypothesis 3.

**Table 2-3: Hierarchical regression results (source: own)**

	Model 1	Model 2	Model 3	Model 4
Constant	-0.51 ** (-2.54)	-0.64 *** (-3.18)	-0.52 ** (-2.47)	-0.71 *** (-3.41)
Valuation uncertainty	3.66 *** (5.06)	3.33 *** (4.65)	0.62 (0.39)	3.21 *** (4.47)
Number of board appointments	0.00 (-0.27)	0.00 (0.07)	0.00 (0.06)	0.00 (0.43)
Overhang	0.00 (1.41)	0.00 (1.56)	0.00 (1.45)	0.00 (1.58)
Underwriter market share	-0.05 (-0.36)	-0.05 (-0.37)	-0.02 (-0.16)	-0.06 (-0.49)
LN market capitalization	0.03 ** (2.24)	0.03 *** (2.62)	0.03 ** (2.39)	0.03 *** (2.85)
LN age	0.01 (0.45)	0.01 (0.59)	0.00 (0.29)	0.01 (0.52)
Venture capital = 1	-0.02 (-0.92)	0.01 (0.39)	0.00 (0.12)	0.02 (0.59)
Financial institutions = 1	0.00 (0.08)	0.00 (0.05)	0.00 (0.11)	0.01 (0.20)
IPO in 2006 = 1	-0.01 (-0.26)	-0.01 (-0.47)	-0.01 (-0.52)	-0.01 (-0.34)
Family firm status (FFS) = 1		0.08 *** (2.84)	0.09 *** (3.09)	0.08 *** (2.71)
(FFS = 1) x (valuation uncertainty)			0.06 * (1.93)	
(FFS = 1) x (board appointments)				-0.04 (-1.27)
R <sup>2</sup>	0.20	0.25	0.27	0.25
Adjusted R <sup>2</sup>	0.15	0.19	0.21	0.20
F	4.05 ***	4.63 ***	4.63 ***	4.38 ***

n = 153; underpricing is the dependent variable in all models; t-statistics in parentheses; asterisks represent statistical significance at <1% (\*\*\*), <5% (\*\*), <10% (\*), respectively



### Robustness of results with respect to the extent of family ownership

As results in family firm research may change depending on family firm definition, we put special emphasis on this robustness (Miller *et al.*, 2007). Thus, we retest Hypothesis 1 using Model 2 in our hierarchical regression model with the thresholds 10%, 15%, 20%, and 30% (with and without the family being the largest shareholder). In addition, we replaced the binary variable, family firm status, with continuous family ownership which is consistent with the power sub-scale of the F-PEC scale for measuring family influence (Astrachan, Klein, & Smyrnios, 2002; Klein, Astrachan, & Smyrnios, 2005). The results of these robustness tests appear in Table 2-4.

**Table 2-4: Model 2 differentiated by family firm definition (source: own)**

Definition of family firm	% of family firms in sample	OLS regression coefficients	Average underpricing: family firms	non family firms
The family owns at least 10% of the shares	69.3%	8.0% *** (2.71)	8.1%	0.2%
The family owns at least 15% of the shares	66.7%	7.9% *** (2.82)	8.5%	0.2%
The family owns at least 20% of the shares	64.1%	7.6% *** (2.71)	8.4%	0.9%
The family owns at least 30% of the shares	58.8%	7.5% *** (2.73)	8.9%	1.2%
The family owns at least 30% of the shares and is the largest shareholder	52.9%	5.5% ** (2.02)	8.6%	2.5%
Continuous family ownership		10.2% *** (2.63)		

n = 153; underpricing is the dependent variable in all models; t-statistics in parentheses; asterisks represent statistical significance at <1% (\*\*\*), <5% (\*\*), <10% (\*), respectively

Two results in Table 2-4 are particularly noteworthy. First, we find empirical support for Hypothesis 1 (i.e., family firms have higher underpricing than non-family firms) for various definitions of family firms. Our results appear to be robust to the family firm definition. Second, the continuous ownership variable is also

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positive and significant. Thus, we may assume that increased family ownership increases the effects of SEW on IPO underpricing.

### **Robustness of results with respect to sub-groups of family firms**

Family firm researchers often differentiate within the group of family firms between family firms with and without multiple family members involved as major owners or managers because of different governance characteristics (Chrisman & Patel, 2012, Miller *et al.*, 2007). The involvement of multiple family members could potentially increase the families' overall SEW and thus the willingness to increase IPO underpricing. In addition, researchers also differentiate within the group of family firms with respect to the generation in charge of the firm (Chrisman & Patel, 2012, Miller *et al.*, 2007). The BAM suggests that over time an increased attachment to the firm will increase SEW (Cyert & March, 1963; Wiseman & Gómez-Mejía, 1998; Gómez-Mejía *et al.*, 2007). Thus, compared to first generation family firms, second (or later) generation family firms might have an even higher SEW and due to the BAM loss aversion an even higher willingness to avoid SEW losses.

Based on the arguments above, we build on Model 1 and Model 2 of our previous hierarchical regression analysis and add Model 2A and Model 2B for a more differentiated analysis (Table 2-5). The differentiation between family firms with and without multiple family members involved as major owners or managers as well as the additional differentiation with regard to the generation in charge of the firm, result in statistically significant coefficients for all sub-groups. Thus, we find empirical support for Hypothesis 1 for all of these sub-groups of family firms.

**Table 2-5: Model 2 differentiated by different sub-groups of family firms (source: own)**

	Model 1	Model 2	Model 2A	Model 2B
Constant	-0.51 ** (-2.54)	-0.64 *** (-3.18)	-0.61 *** (-3.04)	-0.62 *** (-3.05)
Valuation uncertainty	3.66 *** (5.06)	3.33 *** (4.65)	3.24 *** (4.50)	3.27 *** (4.50)
Number of board appointments	0.00 (-0.27)	0.00 (-0.07)	0.00 (0.04)	0.00 (0.04)
Overhang	0.00 (1.41)	0.00 (1.56)	0.00 (1.63)	0.00 (1.62)
Underwriter market share	-0.05 (-0.36)	-0.05 (-0.37)	-0.04 (-0.29)	-0.04 (-0.28)
LN market capitalization	0.03 ** (2.24)	0.03 *** (2.62)	0.03 ** (2.47)	0.03 ** (2.48)
LN age	0.01 (0.45)	0.01 (0.59)	0.01 (0.61)	0.01 (0.67)
Venture capital = 1	-0.02 (-0.92)	0.01 (0.39)	0.01 (0.51)	0.01 (0.51)
Financial institutions = 1	0.00 (0.08)	0.00 (-0.05)	0.01 (0.20)	0.01 (0.21)
IPO in 2006 = 1	-0.01 (-0.26)	-0.01 (-0.47)	-0.01 (-0.51)	-0.01 (-0.53)
Family firm status (FFS) = 1		0.08 *** (2.84)		
FFS with multiple family members			0.10 *** (2.90)	
FFS without multiple family members			0.07 ** (2.29)	0.07 ** (2.30)
FFS with multiple family members in 1st generation = 1				0.11 *** (2.70)
FFS with multiple family members in 2nd generation = 1				0.09 ** (2.03)
R <sup>2</sup>	0.20	0.25	0.25	0.25
Adjusted R <sup>2</sup>	0.15	0.19	0.19	0.19
F	4.05 ***	4.63 ***	4.29 ***	3.92 ***

n = 153; underpricing is the dependent variable in all models; t-statistics in parentheses; asterisks represent statistical significance at <1% (\*\*\*), <5% (\*\*), <10% (\*), respectively

### **Robustness of results with respect to different definitions of IPO underpricing**

As previously discussed, the fair value of a firm's shares need not necessarily be reached on the first day of trading, but possibly during the first four weeks of trading. Consequently, as a robustness check, we recalculated Model 2 and Model 3 of our previous regression analysis (Table 2-3) with IPO underpricing defined as the difference between offer price and several closing prices during the first four weeks of trading. Specifically, we reran the analysis with closing prices on the 5th, the 10th, the 15th, and the 20th day of trading (one week, two weeks, three weeks, and four weeks, respectively).

**Table 2-6: Different closing prices employed in the calculation of underpricing**

(source: own)

Day of closing price	Model 2 coefficients for FFS=1	Model 3 coefficients for FFS=1	Model 3 coefficients for FFS=1 x Valuation Uncert.
1st closing price	0.08 *** (2.84)	0.09 *** (3.09)	0.06 * (1.93)
5th closing price (1 week)	0.06 * (1.97)	0.07 ** (2.18)	0.06 * (1.69)
10th closing price (2 weeks)	0.08 * (1.91)	0.09 ** (2.25)	0.11 ** (2.56)
15th closing price (3 weeks)	0.09 * (1.84)	0.11 ** (2.17)	0.12 ** (2.43)
20th closing price (4 weeks)	0.08 (1.48)	0.10 * (1.81)	0.14 ** (2.48)

n = 153; underpricing is the dependent variable in all models; t-statistics in parentheses; asterisks represent statistical significance at <1% (\*\*\*), <5% (\*\*), <10% (\*), respectively

We report the main results of this analysis in Table 2-6. In Model 2 of our regression analysis, the significance of the family firm status (FFS=1) variable gradually drops, but remains above the threshold of statistical significance for closing prices after one week, two weeks, and three weeks. For the closing price after four weeks, the variable drops below the threshold of statistical significance. This can be explained by additional information concerning the firm and its valuation that gradually emerges after the IPO. In Model 3, the family firm variable

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remains significant for all closing prices tested. The significance of the interaction term of family firm status and valuation uncertainty increases during the first four weeks of trading. Thus, we consider our results to be generally robust with respect to different closing prices in the first four weeks of trading.

## DISCUSSION AND CONCLUSION

This paper offers possible answers to both research questions outlined in the introduction. First, what are families willing to pay to preserve their SEW at the time of an IPO? Second, how does SEW help explain the unresolved phenomenon of IPO underpricing? In order to answer these questions, we explore the relationship between family firm status and IPO underpricing. Specifically, we assess whether family firms accept higher IPO underpricing than non-family firms in order to preserve their SEW.

The BAM predicts that family firms' loss aversion with respect to SEW strongly impacts strategic decisions of family firms (Wiseman & Gómez-Mejía, 1998; Gómez-Mejía *et al.*, 2007). Specifically, the BAM prediction of SEW loss aversion can be applied to explain empirical differences between family and non-family firms in a variety of phenomena such as risk taking (Gómez-Mejía *et al.*, 2007) and executive tenure (Gómez-Mejía, Núñez-Nickel, & Gutierrez, 2001). We join this discussion with the analysis whether pricing of shares at the IPO is another strategic decision that is impacted by the BAM prediction of loss aversion with respect to SEW.

We argue, based on existing IPO underpricing explanations, that higher underpricing helps family firms preserve their SEW. Higher underpricing reduces

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the risk of lawsuits (Ibbotson, 1975), minimizes the risk of a failed IPO due to an informational cascade (Welch, 1992), and allows the IPO firm to better atomize external ownership (Booth & Chua, 1996). In particular, the latter preserves the family firm's SEW, as atomization ensures the family's future influence on the firm. Consequently, family firms sacrifice, at least partly, their economic gains (i.e., maximizing issue proceeds at the IPO) in order to protect their SEW. The amount of additional underpricing associated with family firm status represents the costs of preserving SEW at the IPO. So far, there is no other proxy for measuring these costs. Specifically, at the time of the IPO, family firms pay, on average, 8% of their shares' value to preserve their SEW. The relationship between family firm status and IPO underpricing is robust to both different family firm definitions and different IPO underpricing definitions.

We argue that the main relationship between family firm status and IPO underpricing is positively moderated by valuation uncertainty and understanding of underpricing benefits. The empirical results support our argument that higher valuation uncertainty increases the underpricing benefits because valuation uncertainty increases the risk of lawsuits, the risk of a failed IPO and the risk of creating concentrated external ownership. However, the empirical results do not support our argument that higher understanding of IPO underpricing effects increases the likelihood of family firms to increase underpricing. This discrepancy might be due to the fact that all IPO firms are advised sufficiently by their lead underwriters resulting in homogenous levels of understanding.

In the family firm literature, the so-called family firm heterogeneity debate stresses that sub-groups within the group of family firms differ significantly from each other (Chrisman & Patel, 2012; Sharma, 2004). For example, lone founder

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firms have a better financial performance than family firms with multiple family members in board positions and/or as owners (Miller *et al.*, 2007). However, we find empirical support that all sub-groups tested in our robustness tests have significantly higher IPO underpricing than non-family firms. Specifically, our differentiation with respect to the number of active family members or the generation in charge of the firm resulted in statistically significant coefficients for all sub-groups. Thus, although family firms are often heterogeneous, they appear rather homogenous with respect to IPO underpricing. Consequently, all of these types of family firms cause or accept higher IPO underpricing in order to protect their SEW.

Our study complements previous research concerning the quantification of SEW effects. Zellweger *et al.* (2012) offer a first proxy for the value of SEW to family owners with their survey of acceptable sale prices for all of the family's shares in the firm adjusted for general factors such as size impacting the company valuation. Whereas Zellweger *et al.* (2012) confront family owners with a hypothetical sale of their firm, our measurement allows to focus on SEW preservation because none of the family owners in our study sold all of their shares at the IPO. Thus, we can approximately quantify the costs family owners are willing to pay for SEW preservation in a non-exit scenario.

Concerning the IPO underpricing phenomenon, we offer a new explanation focusing on the non-economic goals. Although the variance in IPO underpricing explained by our models is rather modest, as is the case in most IPO underpricing studies (e.g., Certo *et al.*, 2001), we increase the explained variance from an adjusted  $R^2$  of 0.15 to 0.19 by adding the variable of family firm status and to 0.21 by adding the valuation uncertainty moderator. Although we do not completely solve the IPO underpricing puzzle, we contribute to the study of this phenomenon by creating the

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'family firm SEW hypothesis on IPO underpricing' and demonstrating empirical support.

The outcome of our analyses also has practical implications. Investors may prefer investing in family firm IPOs rather than non-family firm IPOs. Family firms planning IPOs should consider offering a small proportion of shares at the IPO followed by an additional share offering after the IPO in order to reduce the effect of underpricing while protecting their SEW.

These conclusions should be considered in light of some study limitations. First, we have to assume a link between family ownership and SEW because SEW is a conceptual construct that has not yet been measured directly (Zellweger *et al.*, 2012). Second, IPO underpricing is a highly specialized, context-specific performance variable (Certo *et al.*, 2001). Generalizations from this study concerning a family firm's SEW should be made with caution. Third, the moderate size of our sample should be kept in mind when interpreting the results. Fourth, although we had strong reasons to choose Germany for our empirical data (relatively active capital market with a high number of family firms), we have to acknowledge the possibility that data from Anglo-Saxon IPO markets (Great-Britain and the United States) might offer different empirical results. Fifth, we have to acknowledge the possibility that different levels of agency costs in family firms and non-family firms might offer an alternative explanation for different levels of IPO underpricing. We did not focus on this issue because the question whether the overall agency costs are higher in family firms or non-family firms remains unclear both concerning theoretical arguments and empirical analyses (Chrisman *et al.*, 2005).

Given these limitations, future research on family firms' SEW preservation at IPOs should apply our approach to more active capital markets such as the United



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States, in order to increase the sample size. Long-term effects of an IPO on a family firm's SEW need to be analyzed both theoretically and empirically. In addition, survey-based studies might determine which of the three advantages of IPO underpricing related to SEW is the most important one for family firms. With respect to the homogeneous results of different types of family firms, qualitative research might address why lone founder firms protect their SEW. One possible reason could be that the founders intent to build a dynasty. Thus, protecting their SEW means protecting their dream. An alternative explanation would be that even family members without a position in the firm might be important discussion partners for the founder and influence strategic decisions. Although we were able to contribute to the family firm heterogeneity debate, other sub-groups of family firms need also be analyzed with respect to SEW preservation at the IPO. A differentiation between family firms with a family CEO and family firms with a non-family CEO appears particularly promising. We might expect family firms with a family CEO to have even greater SEW strength because family CEOs have a stronger emotional attachment to the firm than hired non-family CEOs. In addition, the evidence that family CEOs receive lower total compensation and a lower proportion of variable pay than non-family CEOs suggests that they have better interest alignment with the respective family (Gómez-Mejía, Larraza-Kintana, & Makri, 2003; McConaughy, 2000). This improved interest alignment could increase the probability that the family's interest in high IPO underpricing is reflected in the firm's decision on the offer price of shares at the IPO.

Gómez-Mejía *et al.* (2007) argue that SEW is the primary reference point for family firms. Consequently, family firms are willing to sacrifice economic goals for non-economic goals. The empirical evidence we present not only supports this

argument, but offers a first proxy for the costs of preserving SEW at the time of the IPO.

### **Link between Essay 2 and Essay 3**

Essay 2 supports the argument that family firms are willing to sacrifice economic utility in order to preserve their non-economic utility. Thus, family firms might conduct strategic actions such as avoiding layoffs (Batten & Hettihewa, 1999) at the expense of economic goals. Under the assumption that non-family minority investors focus on maximizing economic utility, the diverging interest between family members and non-family shareholders could increase agency costs. Thus, it is the objective of Essay 3 to analyze both theoretically and empirically the relationship between SEW preserving activities and agency costs.

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## **ESSAY 3: AGENCY COSTS AND IPO VALUATIONS OF FAMILY FIRMS<sup>3</sup>**

### **INTRODUCTION**

Theoretical arguments and empirical evidence are mixed on whether agency costs are higher in family or non-family firms (Chrisman, Chua, & Litz, 2004; Gómez-Mejía, Núñez-Nickel, & Gutierrez, 2001; Schulze, Lubatkin, Dino, & Buchholtz, 2001). Family firms might have lower agency costs than non-family firms because of the shared interests of principals and agents (e.g., Ang, Cole, & Lin, 2000; Fama & Jensen, 1983; Jensen & Meckling, 1976). However, family influence might also increase agency costs due to conflicting goals between shareholders, opportunism, and shirking (Schulze, Lubatkin, & Dino, 2003b). Chrisman *et al.* (2004) differentiate between different types of agency costs potentially present in family and non-family firms, but conclude that the question whether family firms have higher or lower total agency costs than non-family firms cannot be answered satisfactorily.

We elaborate on agency costs within the group of family firms because the mixed theoretical arguments and empirical results concerning agency costs in family and non-family firms might be due to a lack of differentiation within the heterogeneous group of family firms (Corbetta & Salvato, 2004). Most importantly, family firms are heterogeneous with respect to the influence of family shareholders relative to non-family shareholders. Family firms with dominant family influence (e.g., 90% of shares controlled by the family) have better interest alignment between managers and shareholders and lower agency costs between these stakeholder groups

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<sup>3</sup> This essay is an unpublished manuscript written together with co-author Prof. Dr. Sabine Rau.

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than family firms with lower family influence (Ehrhardt & Nowak, 2003). However, a dominant family influence increases the probability that family members might expropriate wealth at the expense of non-family shareholders (often referred to as 'entrenchment') resulting in higher agency costs between these stakeholder groups (Ehrhardt & Nowak, 2003; Morck, Shleifer, & Vishny, 1988; Morck & Yeung, 2003). In light of these considerations, a dichotomous differentiation between family firms and non-family firms might result in a heterogeneous group of family firms with respect to different types of agency costs. Instead of comparing total agency costs in family firms and non-family firms, it appears more promising to analyze the relationship between family influence (ideally measured on a continuous scale) and different types of agency costs.

In addition to the heterogeneity of family firms with respect to the degree of family influence, we also analyze heterogeneity with respect to non-economic goals and their impact on agency costs. Based on the concept of socioemotional wealth (SEW), defined as the non-economic utility a family derives from its ownership position in a particular firm (Gómez-Mejía, Haynes, Nuñez-Nickel, Jacobson, & Moyano-Fuentes, 2007), we argue that family firms might pursue non-economic goals even at the expense of economic goals (Gómez-Mejía *et al.*, 2007; Gómez-Mejía, Cruz, Berrone, & De Castro, 2011). This is detrimental to the economic goals of non-family minority shareholders (Chrisman *et al.*, 2004).

Based on the idea that family firms might differ concerning the importance of their SEW (Gómez-Mejía *et al.*, 2007), we argue that family firms with high importance of SEW are particularly likely to pursue non-economic goals (i.e., conduct SEW preserving activities) at the expense of economic goals (Stockmanns, Lybaert & Voordeckers, 2010). Examples of SEW preserving activities include

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philanthropic activities (Deniz & Suarez, 2005) and (extensive) pollution reduction (Berrone, Cruz, Gómez-Mejía, & Larraza-Kintana, 2010). Thus, minority shareholders might differentiate within the group of family firms with respect to the probability of SEW preserving behaviors. We argue that a higher probability of SEW preserving activities results in higher agency costs between family shareholders and non-family minority investors.

We created a sample of 113 German IPOs between 2004 and 2011 in order to test our hypotheses on agency costs. The time of the IPO is particularly useful because minority shareholders receive all relevant firm information (as a basis for an evaluation of agency costs) in each firm's emission prospectus (Certo, Daily, Cannella, & Dalton, 2003). We selected Germany because it offers an active IPO market with a high number of family firms due to the famous 'German Mittelstand', which is often considered the backbone of the German economy (Fiss & Zajac, 2004).

Our study offers three contributions. First, we offer further empirical support for the interest alignment hypothesis and the entrenchment hypothesis in the context of IPOs in Germany. Second, we analyze whether a high probability of SEW preserving activities increases agency costs from the perspective of non-family minority shareholders. Third, we contribute to the family firm heterogeneity debate (Sharma, 2004) by analyzing whether sub-groups of family firms differ concerning agency costs.

Our paper also offers several practical implications. First, family firms need to be aware of minority investors' agency considerations in order to respond to potential fears regarding expropriation or the pursuit of non-economic goals. Second, we offer the basis for possible future investment strategies because minority shareholders gain

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a better understanding of different types of agency costs in family firms and their potential impact on IPO valuations.

This article proceeds as follows. In the next section, based on agency theory and the concept of SEW several hypotheses are derived. In the subsequent section, the data, the empirical method, and results are presented. We end our article by discussing our results and presenting a conclusion.

## **THEORETICAL BACKGROUND AND HYPOTHESES**

### **Agency costs from the minority shareholders' point of view**

Agency costs are caused by conflicts of interest and asymmetric information between two contract parties (e.g., Jensen & Meckling, 1976; Eisenhardt, 1989). Agency costs include all actions by agents that contravene the interests of the respective principal(s) as well as all incentives and structures used to align the interests of agents and principals (Jensen & Meckling, 1976). The question whether agency costs are higher in family or in non-family firms has been subject of numerous publications and has not been answered satisfactorily (Chrisman *et al.*, 2004; Gómez-Mejía *et al.*, 2001; Schulze *et al.*, 2001).

In previous publications, two strongly opposing views on agency costs in family and non-family firms have been advanced. On the one hand, concentrated family ownership might neutralize the moral hazard on the part of managers resulting in a minimization of agency costs (Daily & Dollinger, 1992; Fama & Jensen, 1983). On the other hand, concentrated family ownership might lead to financial expropriation of minority shareholders (Anderson & Reeb, 2004; Dyck &

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Zingales, 2004) or the pursuit of non-economic goals that minority shareholders might consider contrary to their interests (Schulze *et al.*, 2003b).

We focus on the (non-family) minority shareholder's point of view because minority shareholders potentially evaluate the different types of agency costs in both family and non-family firms. We argue that minority shareholders compare investments in different firms (including family and non-family firms) and influence firm valuations with their investment decisions. The crucial question is how these investment decisions incorporate the different types of agency costs in family and non-family firms.

We assume that minority shareholders are characterized by three key aspects. Minority shareholders are able to sufficiently evaluate agency costs associated with investments in different firms (and this evaluation is at negligible costs), pursue only economic goals, and have a short-term investment horizon. This is consistent with previous research suggesting that non-family minority shareholders have a shorter investment horizon than the respective families (Le Breton-Miller & Miller, 2006; Poutziouris, 2001; Sirmon & Hitt, 2003). Although some non-family minority shareholders might have a long-term investment horizon, it is particularly reasonable to assume a short-term investment horizon in the IPO context because many IPO investors only own the shares for a few trading days or even a single trading day in order to benefit from so-called 'IPO underpricing', i.e., the difference between the issue price and a supposedly fair value (Ljungqvist, 2007).

Under the above assumption that minority shareholders are able to sufficiently compare agency costs in different firms, it appears plausible that minority shareholders prefer to invest in firms with lower agency costs resulting in higher firm valuations of these firms. At the time of the IPO, minority shareholders have the

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unique chance to easily collect huge amounts of information (by reading each IPO firm's emission prospectus) concerning the IPO firms (Certo *et al.*, 2003) and to evaluate the relevant agency costs. We analyze how firm valuations shortly after the IPO could reflect this assessment of agency costs from the perspective of minority shareholders.

### **Agency costs arising from separation of ownership and management**

Numerous researchers have offered evidence for the effect of ownership structure on firm value (e.g., Demsetz & Lehn, 1985, Morck *et al.*, 1988; Cho, 1998; Claessens, Djankov, Fan, & Lang, 2002; La Porta *et al.*, 2002; Oswald & Jahera, 1991). Separation of management and ownership potentially causes agency costs because the interests between managers and shareholders are not necessarily aligned (Jensen & Meckling, 1976; Harris & Raviv, 1988). This is based on the more general notion that conflicts of interest are especially problematic when an agent has control over the assets of a principal (Berle & Means, 1932; Fama, 1980; Jensen & Meckling, 1976). The standard assumptions are that shareholders (i.e., the principals) desire to maximize shareholder value, whereas managers (i.e., the agents) have other interests such as high compensation, low effort levels, and personal prestige (Thomsen & Pederson, 2000).

Interests between managers and shareholders can be (partially) aligned in a multitude of ways (e.g., Jensen, 1993; Nickel & Nicolitsas, 1997; Shleifer & Vishny, 1997). First, the observation, measurement, and assessment of managerial behaviors might induce agents to act on behalf of principals (Jensen & Meckling, 1976). Nevertheless, monitoring is limited because the agent's efforts are often difficult to observe resulting in high monitoring costs (Morck *et al.*, 1988). Second, granting



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CEO stock options might ensure that the CEO focuses on an increase of the firm's stock price. However, this option is characterized by a high 'upside potential' and a low downside risk for the CEO, which potentially results in the CEO taking unreasonably high risks for the firm (Certo *et al.*, 2003). Third, if the CEO (or the top management team) is a major shareholder of the firm, agency costs arising from separation of ownership and management are minimized (e.g., Certo, Daily, Cannella, & Dalton, 2003; Morck *et al.*, 1988). Fourth, the more concentrated the ownership structure or the bigger the largest shareholder, the better management can be controlled and the lower the respective agency costs (Bruton, Filatotchev, Chahine, & Wright, 2010).

In many cases, the CEO of a family firm is a family member and (together with his or her relatives) the largest shareholder (Chrisman *et al.*, 2004; Schulze *et al.*, 2003a; Thomsen & Pederson, 2000). Consistently, almost all family firms in our sample have a family CEO. Thus, we focus on the equity percentages of the controlling families (i.e., 'family equity') in order to measure interest alignment between managers and shareholders. In summary, higher family equity increases the interest alignment between managers and shareholders, thus reducing agency costs and increasing firm valuations (Jensen & Meckling, 1976). Based on the above arguments, we hypothesize:

*Hypothesis 1a: The higher family equity, the higher IPO firm valuations.*

### **Agency costs related to potential private benefits of majority shareholders**

Previous publications provide evidence that majority shareholders may be able to extract additional value from firm ownership at the expense of minority shareholders (e.g., Morck *et al.*, 1988, Villalonga & Amit, 2006). More specifically,

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the so-called 'entrenchment hypothesis' states that in particular controlling families might derive private financial benefits at the expense of minority shareholders (Fama & Jensen, 1983; La Porta *et al.*, 1998). In support of the entrenchment hypothesis, previous publications found support for the argument that ownership concentration beyond a certain point has negative effects on firm performance and firm valuations (Shleifer & Vishny, 1997; Morck *et al.*, 1988; Thomsen & Pederson, 2000).

In practice, there are several ways in which a family might extract private financial benefits at the expense of minority shareholders. First, the family might provide jobs to family members even if more qualified non-family candidates are available for the respective jobs (Gómez-Mejía *et al.*, 2001). Empirical support for this argument is offered by a study of Spanish newspapers with the conclusion that family CEOs retain their tenure much longer than their performance justifies (Gómez-Mejía *et al.*, 2001). Second, pay levels for family members working for the firm might be increased to levels above the market level concerning their qualifications (Anderson & Reeb, 2004). Third, in case of pyramidal corporate ownership structure, a family might engage in the predatory behavior known as 'tunneling' (Johnson, La Porta, Lopez-de Silanes, & Schleifer, 2000). 'Tunneling' means that families use transfer pricing within the firm to transfer profits from subsidiaries with low family ownership towards subsidiaries with high family ownership (Chrisman *et al.*, 2005).

In summary, higher family equity increases the probability that the respective families might extract private financial benefits at the expense of minority shareholders, thus increasing agency costs and decreasing firm valuations. Based on the above arguments, we hypothesize:

*Hypothesis 1b: The higher family equity, the lower IPO firm valuations.*

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**Synthesis of interest alignment hypothesis and entrenchment hypothesis**

Based on the interest alignment hypothesis (Hypothesis 1a) and the entrenchment hypothesis (Hypothesis 1b), it is not surprising that previous studies found a non linear relationship between ownership structure and firm valuation (Morck *et al.*, 1988; McConnell & Servaes, 1990). Morck *et al.*, (1988) report that there is a quadratic relationship (first increasing, then decreasing function) between CEO equity and firm valuation. Similarly, we argue that the estimation of a quadratic relationship between family equity and firm valuation is sufficient to analyze both an interest alignment effect and an entrenchment effect (e.g., Thomsen & Pedersen, 2000; McConnell & Servaes, 1990). Based on the above arguments on interest alignment and entrenchment, we hypothesize:

*Hypothesis 1 (synthesis of 1a and 1b): IPO firm valuation is a bell shaped (first increasing, then decreasing) function of family equity.*

**Agency costs related to non-economic goals of major shareholders**

It remains unclear whether and how the (potential) pursuit of the non-economic goals by family firms (e.g., Chrisman *et al.*, 2004; Chrisman, Chua, Pearson, & Barnett, 2010) impacts agency costs from the minority shareholder's point of view (Villanueva & Sapienza, 2009). In order to preserve SEW or similarly emotional value (e.g., Astrachan & Jaskiewicz 2008; Gómez-Mejía *et al.*, 2007), family firms might pursue significantly fewer socially or environmentally harmful activities than non-family firms (Berrone *et al.*, 2010), conduct more philanthropic activities (Deniz & Suarez, 2005), and avoid downsizing (Stavrou, Kassinis, & Filotheou, 2007). These activities not necessarily, but potentially, conflict with economic goals of the firm (Chrisman *et al.*, 2004).

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The concept of SEW is particularly useful for our purpose because it was developed to summarize non-economic family benefits from firm ownership and has been employed to explain observed empirical differences between family and non-family firms in a variety of phenomena such as executive tenure (Gómez-Mejía, Núñez-Nickel, & Gutierrez, 2001), risk taking (Gómez-Mejía *et al.*, 2007), and diversification (Gómez-Mejía, Makri, & Kintana, 2010). Nevertheless, due to the heterogeneity within the group of family firms (Sharma, 2004), family firms might attach different importance to their SEW (Gómez-Mejía *et al.*, 2007). Concerning the agency costs between non-family minority shareholders and the family controlling the respective firm, we need to focus on the activities motivated by SEW because the SEW itself only indirectly affects minority shareholders. Thus, for the purpose of this study, we define 'SEW activities' as family firms' corporate activities that are primarily motivated by the family's goal to preserve (or increase) SEW. As discussed above these SEW activities might include better environmental protection (this increases the family firm's reputation and thus SEW). The crucial question in our context of agency costs is how these SEW activities impact shareholder value.

SEW activities might decrease shareholder value. Previous research has offered empirical evidence for the argument that family firms are willing to sacrifice economic goals (i.e., shareholder value) in order to pursue non-economic goals related to the family's SEW (Gómez-Mejía *et al.*, 2007). Specifically, if the controlling family induces the firm to conduct an SEW activity, the family benefits from the preservation of the SEW, but all investors (i.e., including minority shareholders with only economic goals) pay for these activities proportionally to their equity share. Thus, SEW activities at the expense of economic goals create agency costs for minority shareholders.

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However, SEW activities might also increase shareholder value. Previous research on corporate social responsibility (CSR) has offered support for the argument that CSR activities, i.e., corporate activities not required by law that attempt to create some social good (McWilliams & Siegel, 2000), might even increase shareholder value (Godfrey, Merrill, & Hansel, 2009; Mackey, Mackey, & Barney, 2007) because CSR activities might improve relationships with customers (Brown & Dacin, 1997) or employees (Turban and Greening, 1997). Better stakeholder relationships could help the firm increase prices or reduce costs especially in times of crisis. As many activities such as environmental protection are included both in the definition of CSR activities as well as SEW activities, SEW activities could also increase shareholder value although the benefits of these activities might be intangible, long-term, and difficult to obtain (e.g., Harrison, Bosse, & Phillips, 2010; Hillman & Keim, 2001). It is important to point out that SEW activities differ from CSR activities: although both SEW activities and CSR activities might lead to the same results such as better environmental protection, the main motivation for SEW activities is the preservation or enhancement of the family's SEW, which obviously restricts SEW activities to family firms. In summary, SEW activities that are not at the expense of economic goals, do not create agency costs for minority shareholders.

Based on the arguments above, we differentiate between 'shareholder value positive SEW activities', e.g., protecting the environment in order to protect SEW only if the economic benefits (e.g., increase in future sales due to reputation) are higher than the economic costs, and 'shareholder value negative SEW activities', e.g., conducting even those environmental protection activities that have higher economic costs than benefits. Similarly, Hillman & Keim (2001) report that CSR activities,

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depending on whether the activities focus on stakeholder management or social issues, can be either negative or positive with respect to shareholder value. Consequently, minority shareholders should not only evaluate the probability of SEW activities, but also whether the sum of these activities is shareholder value negative or positive. If the sum of SEW activities is shareholder value negative (i.e., economic goals are sacrificed for the pursuit of non-economic goals), then they increase agency costs. In that case, minority shareholders might demand a firm valuation discount for firms with a high likelihood of SEW activities. Similar to the arguments above, minority shareholders will not demand a firm valuation discount for firms with a high likelihood of SEW activities, if they consider the sum of these activities to be shareholder value positive (or neutral).

Based on the arguments above, we create two contradicting hypotheses:

*Hypothesis 2a: Firms likely to pursue non-economic goals (i.e., conduct SEW activities) have lower IPO valuations than firms not likely to pursue non-economic goals.*

*Hypothesis 2b: Firms likely to pursue non-economic goals (i.e., conduct SEW activities) have higher IPO valuations than firms not likely to pursue non-economic goals.*

## **METHODS**

### **Sample**

Our sample consists of German IPOs at the Frankfurt Stock Exchange between 2004 and 2011, including both family and non-family firms. We selected Germany

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because it offers an active capital market (in terms of IPO numbers) with a high proportion of family firms (Fiss & Zajac, 2004). As IPO markets experience major fluctuations, we analyzed multiple years with both low and high IPO volume, which is consistent with previous IPO studies (e.g., Certo *et al.*, 2003). We do not include any IPO prior to 2004 (there was no IPO fulfilling the sample criteria in 2003) because the internet bubble could potentially distort the effects we want to measure in our study. In addition, consistent with previous German IPO studies, we only consider IPOs by domestic firms and exclude all IPOs by foreign firms as well as transfers from other markets (Goergen, Khurshed, & Renneboog, 2009). Similar to previous papers on IPO valuations (e.g., Certo *et al.*, 2003), we exclude all financial institutions (including real estate firms) because firm valuation are fundamentally different for these types of firms. Our final sample consists of 113 IPOs. All companies in our sample had only one class of shares, i.e., each share with equal voting and dividend rights.

### **Data source and collection**

We collected data from several sources. First, the list of IPOs (including IPO information such as the date of the IPO, the offer price and other listing particularities) was obtained from Deutsche Börse (owner and operator of the Frankfurt Stock Exchange). Second, stock prices obtained from Deutsche Börse were complemented from Bloomberg concerning delisted shares. Third, detailed information on each IPO firm (such as firm age and pre-IPO shareholder structure) was collected manually from each company's emission prospectus.

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### **Dependent variable**

IPO firm valuation. We calculated the market-to-book ratio as the market value of the company at the IPO (first-day closing price times number of shares after the IPO) divided by the post-IPO equity book value (last available pre-IPO book value plus capital inflow, i.e., issue price times number of new shares sold at the IPO) (e.g., Kim & Ritter, 1999). The market-to-book ratio has been shown in the literature to correlate strongly with Tobin's  $q$ , an alternative variable frequently employed for firm valuations (Godfrey, Merrill, & Hansel, 2009; Villalonga, 2004) and appears to be particularly reasonable in an IPO context due to the ratio's focus on equity. As market-to-book ratios are often not normally distributed (as is the case in our sample), we employ, consistent with previous publications, the natural logarithm of the market-to-book ratio (Godfrey *et al.*, 2009).

### **Independent and control variables**

Firm size. We control for the size of the IPO, defined as the natural logarithm of market capitalization at the end of the first day of trading. Information tends to be more readily available about larger firms which could reduce agency costs.

Firm age. We control for firm age, defined as the natural logarithm of IPO year minus founding year plus one, to control for organizations' maturity. Younger firms with fewer years of published financial data are less likely to have been assessed by financial analysts than older and more established firms which might influence agency costs.

Industry. We control for a possible 'industry effect' by assigning dummy variables based on one-letter SIC-codes. In our standard model we code firms in the service sector (i.e., SIC-codes from 7000 to 8900) with one and all other firms with



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zero. Replacing this industry dummy variable with any one-letter SIC code dummy did not change our results significantly.

Equity in % of total assets. We control for 'equity in % of total assets' as a proxy for bankruptcy risk. We calculate 'equity in % of total assets' based on the book equity and total assets as reported in the last available balance sheet in the emission prospectus corrected by the capital inflow at the IPO (the capital inflow, i.e., number of new shares sold times issue price, increases both equity and total assets).

Year of the IPO (IPO in 2006 = 1). We control for possible effects of the IPO year because IPO investors might be overoptimistic in periods with high numbers of IPOs (Filatotchev & Bishop, 2002). Thus, we assign a dummy variable equal to one for an IPO in 2006 and zero if otherwise because investors might be overoptimistic in 2006 given that almost half of the IPOs in our sample were in 2006.

Valuation uncertainty. We argue that high post-IPO stock volatility indicates that investors are uncertain (pre-IPO and shortly after) about a company's valuation (Ljungqvist, 2007). Thus, we define valuation uncertainty as the standard deviation of daily returns in the first months of trading (Goergen *et al.*, 2009). Although numerous other proxies for measuring valuation uncertainty such as number of uses of proceeds (as listed in the prospectus) and the inverse of the gross proceeds have been developed, most are deemed unsuitable (see Ljungqvist, 2007, for an overview).

Family equity and squared family equity. We define family equity as the equity percentage controlled by the respective families before the IPO. The emission prospectuses offer exact data on family equity before the IPO, but only a range of possible family equity after the IPO (range based on whether the so-called

'greenshoe' of additionally offered firm shares is sold or not). No significant changes to our results are observed when changing the pre-IPO family equity with minimum or maximum possible family equity after the IPO. In the regression analysis we included the variable 'family equity' as well as 'squared family equity' in order to test for a potentially bell-shaped relationship between family equity and the market-to-book ratio.

Likelihood of SEW activities (true family firm = 1). Previous researchers have demonstrated based on survey data that the 'intention of transgenerational control' might be the variable most strongly associated with high importance of SEW and the related non-economic goals (Zellweger, Kellermanns, Chrisman, & Chua, 2012). In most cases, minority shareholders are not able to interview family members. Thus, they might rely on observing whether transgenerational control intentions are probable based on whether multiple family members are involved in the firm. Consequently we employ the variable 'true family firm', i.e., firms with at least two family members involved as managers or major shareholders (Miller, Le Breton-Miller, Lester, & Cannella, 2007). Agency costs between majority and minority shareholders might be particularly high in true family firms due to the high levels of SEW and the high probability of SEW activities (if the majority of SEW activities are shareholder value negative).

### **Analytical approach**

The data was analyzed using hierarchical multiple regression analysis, following the general approaches employed in previous IPO studies (e.g., Certo *et al.*, 2003). Consistent with our hypotheses, we expect a positive and significant regression coefficient for 'family equity' as well as a negative and significant

coefficient for 'squared family equity'. The coefficient for the true family firm variable (our proxy for the likelihood of SEW activities) is anticipated to be significant and either negative (consistent with Hypothesis 2a) or positive (consistent with Hypothesis 2b).

## Results

Descriptive statistics and correlations among the research variables are shown in Table 3-1. Two results in this table are particularly noteworthy. First, IPO valuation is positively and significantly correlated to firm size ( $p < 0.05$ ) indicating that information might be easier available on larger firms which might minimize agency costs and increase valuations. Second, IPO valuation is neither significantly correlated with family equity nor with true family firm status.

**Table 3-1: Descriptive statistics and correlations (source: own)**

Research variable	Mean	S.D.	1	2	3	4	5	6	7	8	9
1 Ln market-to-book	1.2	0.4	1.00								
2 Ln size	4.7	1.6	0.19	1.00							
3 Ln age	2.7	1.2	0.04	0.40	1.00						
4 SIC 70-89 = 1	27%	45%	-0.01	-0.37	-0.29	1.00					
5 Equity / total assets	61%	25%	0.10	-0.33	-0.50	0.24	1.00				
6 IPO in 2006 = 1	43%	50%	-0.13	-0.23	-0.16	0.14	0.18	1.00			
7 Valuation uncertainty	3%	2%	0.14	-0.25	-0.18	-0.05	0.34	-0.01	1.00		
8 Family equity	43%	38%	0.12	-0.23	-0.13	0.10	0.14	0.03	0.23	1.00	
9 True family firm = 1	28%	45%	0.04	-0.06	-0.04	-0.08	0.03	0.04	0.19	0.55	1.00

$n = 113$ ; values greater than 0.19 (or lower than -0.19) are significant at  $p < 0.05$ ; values greater than 0.24 (or lower -0.24) are significant at  $p < 0.01$ .

We examined the variance inflation factors in order to test for multicollinearity (Arthurs *et al.*, 2008). None of the variance inflation factors approached the commonly accepted threshold of 10 (Filatotchev & Bishop, 2002); the highest was

below 3. These results suggest that multicollinearity was not a problem in our analysis.

Table 3-2 presents the results of the hierarchical regression analysis used to test the hypotheses. Model 1 is the control model without any variable related to our hypotheses. Concerning the variables employed in this model only firm size significantly (and positively) impacts firm valuation ( $p < 0.05$ ). As argued before, the significantly positive impact of size supports the argument that information tend to be more easily available for larger firm, which decreases agency costs and increases firm valuations.

As shown in Model 2, the coefficients of 'family equity' and 'squared family equity' impact firm valuation significantly ( $p < 0.01$  and  $p < 0.01$  respectively). As the coefficient of 'family equity' is positive and the coefficient of 'squared family equity' is negative, we find empirical support for the hypothesized bell-shaped relationship between family equity and firm valuation. However, true family firm status does not impact firm valuation significantly.

**Table 3-2: Hierarchical regression results (source: own)**

	Model 1		Model 2	
Constant	0.51 **	(2.00)	0.36	(1.44)
Ln size	0.07 **	(2.46)	0.09 ***	(3.32)
Ln age	0.02	(0.46)	0.02	(0.56)
SIC 70-89 = 1	0.08	(0.84)	0.06	(0.61)
Equity / total assets	0.28	(1.36)	0.09	(0.44)
IPO in 2006 = 1	-0.08	(-1.01)	-0.12	(-1.49)
Valuation uncertainty	4.20	(1.63)	2.47	(0.99)
Family equity			1.78 ***	(3.87)
Squared family equity			-1.60 ***	(-3.61)
True family firm = 1			-0.08	(-0.82)
R <sup>2</sup>	0.10		0.22	
Adjusted R <sup>2</sup>	0.05		0.15	
F	2.03 *		3.21 ***	

n = 113; market-to-book ratio is the dependent variable in all models; t-statistics in parentheses; asterisks represent statistical significance at <1% (\*\*\*), <5% (\*\*), <10% (\*), respectively

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## DISCUSSION AND CONCLUSION

Minority shareholders potentially face two types of agency costs. First, the managers of the firm (agents) might not act in the interests of the shareholders (principals) of the firm (Jensen & Meckling, 1976). Second, there might be a conflict of interest between minority and majority shareholders because the majority shareholder could extract private financial benefits at the expense of minority shareholders (Anderson & Reeb, 2004). In addition, families as majority shareholders might urge the respective firms to pursue economic goals at the expense of non-economic goals (Schulze *et al.*, 2003b).

We differentiate between these types of agency costs and analyze their effects on firm valuations at the time of the IPO. We argue, based on the 'interest alignment hypothesis' and the 'entrenchment hypothesis', that there is quadratic relationship (first increasing, then decreasing function) between family equity and IPO valuation. In addition, this paper draws on the concept of SEW in order to analyze whether the potential pursuit of non-economic goals increases agency costs and lowers firm valuations. Family firms might pursue SEW activities (such as excessive environmental protection) even at the expense of economic goals, which is detrimental to the economic interests of (non-family) minority shareholders. Based on previous research, we expect 'true family firms' to attach high importance to their SEW (Zellweger *et al.*, 2012) resulting in a high probability of SEW activities. The impact of a high likelihood of SEW activities on firm valuations depends on whether minority shareholders consider the majority of SEW activities to be shareholder value negative or positive.

The empirical results of our analysis support our first hypothesis because we found evidence of a bell-shaped (first increasing and then decreasing) effect of

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family equity on the market-to-book ratio. Whereas the coefficient of 'family equity' was positive and significant, the coefficient of 'squared family equity' was negative and significant. We observed an optimum of approximately 50% family equity with respect to the market-to-book ratio, which is similar to the optimum concerning 'interest alignment' and 'entrenchment' in previous studies (e.g., McConnell & Servaes, 1990). Thus, we provide additional empirical support of interest alignment and entrenchment in the special case of German IPOs.

We do not find a significant relationship between true family firm status and the market-to-book ratio. This result might be explained by one or more of several reasons. First, SEW activities might be on average neutral with respect to shareholder value. In that case, minority shareholders would regard SEW activities as neutral concerning acceptable market-to-book ratios. Second, we assumed that minority shareholder pursue only economic goals. Nevertheless, some minority shareholders might share the non-economic goals of family firms and care e.g., about the environment to an extent that they willingly sacrifice shareholder value (Villanueva & Sapienza, 2009). Third, minority shareholders might simply not be aware of the possibility of SEW activities, which would also explain that the relationship between true family firm status and market-to-book ratio is not significant.

The outcome of our analyses has practical implications to both investors and family firms planning an IPO. Currently, as there appears to be no negative effect of true family firm status on firm valuation, minority shareholders might not incorporate the possibility of agency problems due to SEW activities in their valuation models (further survey based research is required to clarify this). Minority shareholders need to evaluate not only the probability of SEW activities, but also the

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probability that these activities are conducted at the expense of economic goals. Generally speaking, minority investors need to evaluate the compatibility of their own goals with family firm goals (Villanueva & Sapienza, 2009). Family firms have to be aware of the fact that investors might incorporate at least some types of agency costs in their valuation models. Consequently they might evaluate possibilities of reducing agency problems by increasing transparency on firm policies or by increasing the number of non-family members in the supervisory board.

The preceding conclusions should be considered in light of the study's limitations. First, in our sample, there are few true family firms that are assumed to have particularly high levels of SEW and to have a particularly high probability to conduct SEW activities. Second, the moderate size of our sample as well as the focus on Germany should be kept in mind when interpreting the results of our study. For example, previous papers have shown that countries differ (due to institutional settings) with respect to the ownership levels that lead to entrenchment (Short & Keasey, 1999). Thus, generalizations from this study should be made with caution. Third, we assume that non-family minority shareholders can sufficiently and at negligible costs evaluate agency costs in different firms. Without this assumption a different approach to our analysis would be required. Similarly, we assume that non-family minority shareholders only pursue economic goals. If a sufficiently large number of non-family minority shareholders had also non-economic goals, the pursuit of non-economic goals by family firms would not increase agency costs.

In particular, given the limitations discussed above, future research on agency costs and family firms' SEW should apply the approach of this paper to more active capital markets such as the U.S. in order to increase both the sample size and the absolute number of true family firms. Generally speaking, this paper offered a first

step in incorporating the concept of SEW into the agency considerations of minority non-family investors. Further research in this direction might enhance our understanding both of SEW and agency theory.



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## DISCUSSION AND CONCLUSION OF THE THESIS

The overarching objective of this thesis is to expand our knowledge of IPO financing of family firms. The thesis consists of three essays that each individually addresses important aspects of this topic. Essay 1 analyses family firms' choice between different financing alternatives including IPOs. Essay 2 focuses on IPO underpricing and family firms' willingness to sacrifice economic gains for the preservation of non-economic utility. Essay 3 tests the argument whether a higher probability of SEW preserving activities is reflected in true family firms' valuations shortly after an IPO. In the following paragraphs, I summarize the theoretical contributions, the practical implications, the limitations, and the avenues for further research. I focus on the most important aspects and those that are relevant to all essays in order to minimize redundancies with respect to the discussions in the individual essays. Table 4-1 provides an overview of addressed topics.

### **Theoretical contributions**

Based on a systematic literature review, I conclude that traditional capital structure theories fail to consistently explain the financing behavior of family firms: compared to non-family firms, the trade-off theory predicts lower leverage for family firms due to higher cost of financial distress, while the pecking-order theory predicts higher leverage (if internal capital is insufficient) due to (among other factors) lower agency costs between bondholders and shareholders. Similarly, there is empirical evidence both for higher and for lower leverage of family firms when compared to non-family firms (e.g., Helwege & Packer, 2009; Gallo *et al.*, 2004). This indicates the need for a family firm specific capital structure theory.

**Table 4-1: Overview of topics addressed in this thesis (source: own)**

<b>Topic</b>	<b>Problem</b>	<b>Theoretical contributions</b>	<b>Practical implications</b>	<b>Limitations / further research</b>
<b>Capital structure theories</b> (Essay 1)	Traditional capital structure theories fail to consistently explain differences between family firms and non-family firms with regard to capital structure (result of Essay 1).	The optimal leverage of family firms depends on family firm specific variables such as the importance of SEW and the myopia with respect to SEW preservation.	Family firms need to optimize the sum of economic utility and non-economic utility when deciding between different financing alternatives.	Several relationships between family firm specific variables and leverage aspects need to be tested empirically.
<b>IPO underpricing</b> (Essay 2)	Although numerous researchers have contributed to the understanding of IPO underpricing, the explained variance of IPO underpricing remains modest (Ljungqvist, 2007).	In our sample, the additional variables related to family firm status increase the explained variance of IPO underpricing from $R^2 = 0.15$ to $R^2 = 0.21$ .	IPO investors should ceteris paribus rather invest in family firms than in non-family firms.	Future research needs to test the impact of family firm status on IPO underpricing in other countries.
<b>Socio-emotional wealth (SEW)</b> (all essays, in particular Essay 2)	It is difficult to quantify the cost of SEW preservation (Zellweger et al., 2011).	Family firms have on average 8 percentage points more underpricing than non-family firms. This is a proxy for the cost of SEW preservation at the time of an IPO.	In order to minimize the cost of SEW preservation, family firms might sell a low proportion of shares at the IPO and sell (if required) a large proportion of shares at a later point in time.	Future research needs to evaluate the long-term effect of an IPO on a family firm's SEW.
<b>Agency theory</b> (all essays, in particular Essay 3)	It remains unclear whether total agency costs are higher in family firms or in non-family firms (Chrisman et al., 2004).	We test whether a high probability of SEW preserving activities increases agency costs between family shareholders and non-family minority shareholders.	Non-family minority investors need to evaluate whether or not SEW preserving activities are shareholder value neutral (at least in the long-term).	A larger sample might reveal a statistically significant relationship between true family firm status and market-to-book ratios.
<b>Family firm heterogeneity</b> (all essays)	Many researchers still treat family firms as a monolithic block, although family firms are heterogenous along several dimensions (result of Essay 1).	We argue that all family firms are willing to sacrifice economic goals in order to preserve SEW, but that some family firms focus on myopic SEW preservation.	Whether and how practitioners need to differentiate within the group of family firms depends on the variables considered.	More empirical evidence is required to predict when family firms are heterogenous and when they are homogenous.

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I argue that a potential capital structure theory of family firms needs to include family firm specific aspects, such as the importance of SEW and the myopia of SEW preservation. Family firms with the main goal of maximum SEW preservation only rely on retained earnings and do not raise any external capital in order to minimize the influence of non-family stakeholders. However, for those family firms that are willing to (partly) sacrifice SEW, the decision between external debt and external equity in the form of an IPO depends (among other factors) on whether the SEW preservation focus is myopic or not. A myopic SEW preservation focus results in high external debt, which minimizes the short-term SEW damage (bondholders are less able to influence firm actions than shareholders), but increases the firm's bankruptcy risk and thus the long-term threat to SEW. We conclude that family firms that conduct IPOs are willing to (partly) sacrifice SEW in the short-term in order to gain economic utility and/or to preserve SEW in the long-term.

Nevertheless, it appears possible that family firms planning an IPO decide to minimize the short-term damage of an IPO to SEW. Thus, Essay 2 focuses on the quantification of SEW effects. We argue that family firms willingly accept higher IPO underpricing than non-family firms in order to protect their SEW. The additional IPO underpricing related to the family firm status variable is a first approximate quantification of the costs family owners are willing to pay for SEW preservation. Specifically, family firms have on average 8 percentage points more IPO underpricing than non-family firms. This result not only contributes to the family firm literature, but also to the IPO underpricing literature. The additional variables related to family firm status increase the explained variance of IPO underpricing from  $R^2 = 0.15$  to  $R^2 = 0.21$ .

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Agency theory is a crucial part of this thesis. Compared to non-family firms, family firms have lower agency costs between shareholders and managers (agency costs type 1), higher agency costs between majority shareholders and non-family minority shareholders (agency costs type 2), and lower agency costs between bondholders and shareholders (agency costs type 3) (Chrisman *et al.*, 2004). For non-family minority IPO investors it is particularly important to evaluate whether the lower agency costs type 1 outweigh the higher agency costs type 2.

I find empirical support for the hypotheses that a higher equity share of the respective family increases interest alignment between managers and shareholders, but also increases entrenchment because a family with a high equity share might expropriate wealth at the expense of non-family minority shareholders. In addition to this, I tested, based on the arguments in Essay 1 and Essay 2, whether family firms' willingness to sacrifice economic gains in order to preserve non-economic utility, increases agency costs. I do not find support for the hypothesis that non-family investors demand valuation discounts for an increased probability of SEW preserving behaviors. Two reasons could possibly explain this. First, the majority of SEW preserving activities (similar to CSR activities) might be shareholder value neutral or even positive at least in the long-term. Second, if SEW preserving activities are shareholder value negative even in the long-term, non-family investors might simply not be aware of the possibility of SEW preserving activities or they might evaluate them incorrectly.

In the family firm literature, the so-called family firm heterogeneity debate stresses that sub-groups within the group of family firms differ significantly from each other (Chrisman & Patel, 2012; Sharma, 2004). For example, lone founder firms exhibit better financial performance than family firms with multiple family

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members involved as managers and/or major shareholders (Miller *et al.*, 2007). Although many researchers acknowledge the heterogeneity within the group of family firms, most scholars still treat family firms as a monolithic block and employ only simplified binary variables to differentiate between family firms and non-family firms.

In Essay 1, I argue that this neglect of the family firm heterogeneity debate is the reason behind disputed theoretical arguments and mixed empirical results concerning leverage of family firms when compared to non-family firms. The results of Essay 2, however, indicate that family firms are rather homogenous with respect to sacrificing economic gains in order to protect non-economic utility at the IPO. Specifically, all sub-groups tested have significantly higher IPO underpricing than non-family firms. Thus, although family firms are heterogeneous with respect to leverage, they are rather homogenous with respect to IPO underpricing. Consequently, whether and how practitioners need to differentiate within the group of family firms depends on the variables considered.

### **Practical implications**

For family firms the choice between different financing alternatives affects both the economic and the non-economic utility of family members. Financing alternatives can increase one form of utility at the expense of the other. For example, a family firm that only relies on internal capital might consider external capital as harmful to non-economic utility even if the additional capital could enable investments that would increase economic utility. Once a family firm makes a choice for a specific financing alternative such as the choice to conduct an IPO, the family potentially faces the same trade-off between economic and non-economic utility for

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specific details within that specific financing alternative. For example, I argue in Essay 2 that family firms can sacrifice economic for non-economic utility by accepting higher IPO underpricing. Thus, family firms need to be aware of all financing alternatives, the more detailed choices within these financing alternatives, and the respective consequences for both economic and non-economic utility.

This thesis also identifies practical implications for non-family stakeholders. Banks and bondholders should *ceteris paribus* (similar firms as well as similar debt conditions) rather provide debt to family firms than to non-family firms because the respective family's interest in the long-term survival of the firm reduces agency conflicts between shareholders and bondholders. Minority investors should *ceteris paribus* rather invest in a family firm IPO than in a non-family firm IPO because the family's SEW preservation leads to higher IPO underpricing. However, after the first day of trading, minority investors need to acknowledge that family shareholders might expropriate private economic rents in the form of excessive management compensation or enforce firm policies (such as investments to reduce pollution) that preserve SEW but potentially damage shareholder value.

### **Limitations**

A central limitation of this thesis is linked to the two theoretical approaches. In line with previous research on SEW, I employ SEW as a theoretical construct in order to explain the behavior of family firms. However, I cannot measure SEW directly. Thus, I agree with other family firm researchers that the development of a scale for measuring SEW is crucial. Similarly, agency costs between different stakeholders can only be measured with proxies.

Two limitations of the sample employed in the empirical parts of Essay 2 and Essay 3 are important. First, the analyses are based on a sample of German IPOs. Thus, generalization of the results for other countries should be made with caution. Second, the small sample size in Essay 3 might explain why there is no statistically significant relationship between a high probability of SEW preserving behavior and IPO valuations.

### **Avenues for further research**

Essay 1 offers the starting point for a potential family firm capital structure theory. In order to elaborate on this topic, researchers need to analyze the relationships between family firm specific variables such as 'generation in charge of the firm' and aspects of leverage such as 'cost of debt'. Essay 1 provides an overview of these relationships.

Essay 2 and Essay 3 both focus on the day of the IPO. Future research needs to analyze the long-term effects of an IPO on SEW as well as on agency costs between different stakeholder groups. As most families control their firms even ten years after an IPO (Ehrhardt & Nowak, 2003), it is possible that families are also able to protect their SEW long after an IPO. It is also possible that transparency requirements after an IPO tend to limit agency conflicts between family shareholders and non-family minority investors over time. However, future research needs to empirically test these considerations.

All three essays have underlined the importance of the family firm heterogeneity debate. However, the group of family firms that conduct an IPO appear rather homogenous with respect to sacrificing economic gains in order to protect their SEW. I argue that the heterogeneity of family firms is more relevant for

the choice between different financing alternatives than for the implementation details within a specific financing alternative. However, further empirical research on this issue would be of interest.

### **Concluding remarks**

Family firms are a crucial part of our economy, their survival depends (among other factors) on the availability of financial resources, and an IPO offers the potential to raise these financial resources. The reluctance among family members to conduct an IPO might be caused by the possible damage of an IPO to SEW. However, I argue that the short-term SEW damage of an IPO can be minimized (among other factors with high IPO underpricing) and that the additional equity raised at an IPO allows family firms to reduce the long-term bankruptcy risk of the firm and thus the long-term risk to a complete loss of SEW. Thus, the overall topic 'financing of family firms' and the more specific topic 'IPO financing of family firms' remain crucial for family firm researchers and practitioners. This thesis contributed to our knowledge of these topics by generating a systematic literature review, by analyzing how family firms can protect their SEW at an IPO and by testing the effects of agency costs on family firm valuations after an IPO.



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