Foundation and Family Office-owned Firms: Heterogeneity, Firm Growth, M&A Behavior, and Capital Structure

DISSERTATION

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Preface

During the past 4 years of my dissertation process, I have acquired valuable understanding of the impact of international research initiatives on global advancement. My dissertation could not have been realized without the support of my supervisors, colleagues, family, and friends. In the following sections of this preface, I wish to express my sincere gratitude to these individuals.

First of all, I would like to thank my supervisor Prof. Dr. Jörn H. Block for giving me this unique opportunity, his extremely competent support, his patience, and the effort he has put into the success of this work. I further would like to thank him for motivating and inspiring my research in several ways. I am also very grateful to my second supervisor and co-author Prof. Massimo Báu, PhD, for his amicable support and valuable research insights. I further would like to thank my co-author and friend Onur Eroglu for contributing to my research project on family offices.

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This dissertation was composed during my tenure as an Associate in the M&A department at SSC Consult Corporate Finance GmbH & Co. KG. The company is a leading, independent corporate finance and M&A advisory firm with a focus on small and mid-cap transactions. Therefore, I would also like to thank the managing partners Albert Savelberg and Artur Deichmann for giving me the opportunity to realize synergies between research and practical matters.

Finally, I want to express my deepest gratitude to my family, in particular my parents Nasrin and Amir, my sister Elnaz and my brother Adrin, for their infinite support and encouragement throughout this journey.

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List of Abbreviations

AD	Anno Domini (After Christ)
AktG	Aktiengesetz (German Stock Corporation Act)
Approx.	Approximately
BAFIN	Bundesanstalt für Finanzdienstleistungsaufsicht (Federal Financial Supervisory Authority)
BC	Before Christ
BGB	Bürgerliches Gesetzbuch (German Civil Code)
BVD	Bureau Van Dijk
CAGR	Cumulative Average Growth Rate
CSR	Corporate Social Responsibility
coeff.	Coefficient
DACH	Deutschland/Austria/Confoederatio Helvetica (Germany/Austria/Switzerland)
DEI	Direct Entrepreneurial Investment
e.g.	Exempli gratia (for example)
ESG	Environmental, Social, and Governance
et al.	Et alii (and others)
ff.	Following
FOF	Foundation-owned firm
IPO	Initial Public Offering
M&A	Mergers and Acquisitions
MFO	Multi Family Office
N	Sample size
n.a.	Not available
NextGen	Next Generation
nFOF	Non-Foundation-owned firm
OLS	Ordinary Least Squares
p.a.	Per Annum
Para.	Paragraph
PE	Private Equity
R&D	Research & Development
ROA	Return on Assets

ROE	Return on Equity
RQ	Research Question
SEW	Socioemotional Wealth
SFO	Single Family Office
SME	Small and Medium-sized Enterprises
UHNWI	Ultra-High-Net-Worth Individual
VC	Venture Capital
VIF	Variance Inflation Factor

Zusammenfassung

Familienunternehmen stellen weltweit den am weitesten verbreiteten Unternehmenstypus dar: Rund 90% aller Unternehmen in den deutschsprachigen Ländern befinden sich derzeit in Familienbesitz. Sie stellen fast 60% aller Arbeitsplätze dar und erweisen sich auch in konjunkturell schwierigen Zeiten als stabilisierender Faktor auf dem Arbeitsmarkt. Seit Jahren befinden sich Familienunternehmen verstärkt in einem Transformationsprozess. Denn zum einen hat sich im Zeitablauf die Komplexität der Eigentümerstrukturen in Familienunternehmen zugenommen. Dies resultiert aus der Tatsache, dass sich grundsätzlich während des Entwicklungsprozesses der Familienunternehmen die Gruppe der Eigentümer kontinuierlich durch weitere Familien (oder auch andere Eigentümertypen), z. B. durch Heirat, erweitert wird. Beispielsweise wird der in 1756 gegründete Haniel-Konzern aktuell von mehreren hundert unterschiedlichen Familien kontrolliert. Es liegt nahe, dass verschiedene Familieneigentümer unterschiedliche finanzielle und nicht-finanzielle Ziele verfolgen. Dies könnte zu Interessenskonflikten innerhalb der Familien führen. Die Komplexität, die sich aus den heterogenen Interessen mehrerer Familieneigentümer ergibt, erfordert eine Koordinierung der unterschiedlichen Interessen der einzelnen Familienmitglieder. Zum anderen hat sich der Bedarf an Unternehmensnachfolgen erhöht und auch verkompliziert. Allein in Deutschland werden für rund 190.000 Unternehmen passende Nachfolger für den Zeitraum zwischen 2022 bis 2026 gesucht – Tendenz steigend. Der anstehende Generationswechsel wird viele Unternehmen vor Herausforderungen stellen, da die Anzahl der potenziellen qualifizierten Nachfolgeunternehmer zu gering ist. Nicht grundlos schaffen nur die wenigsten Familienunternehmen die Weitergabe des Unternehmens in spätere Generationen. 42% der Familienunternehmen in Deutschland sind in der Lage, das Unternehmen an die zweite Generation zu übergeben, während nur 2% die vierte Generation erreichen.

Um diesen Herausforderungen gerecht zu werden, versuchen immer mehr Familien durch die Installierung von Intermediären das Familieneigentum von ihrem Unternehmensvermögen zu separieren. Dabei rücken Stiftungen und Family-Offices immer mehr als Intermediäre in den Fokus. Insbesondere die gegenwärtigen negativen Entwicklungen, geprägt durch die nachlassende COVID-19-Pandemie, die Energiekrise sowie die allgemeinen schlechten weltwirtschaftlichen Entwicklungen, unterstreichen die Relevanz der Funktion beider Intermediäre: die langfristige Sicherstellung des Unternehmens bzw. des Familienvermögens. Nicht grundlos sagte Otto Fürst von Bismarck: „*Die erste Generation verdient das Geld, die*

zweite verwaltet das Vermögen, die dritte studiert Kunstgeschichte und die vierte verkommt vollends".

Einige der größten Unternehmen in West- und Nordeuropa befinden sich im Eigentum von Stiftungen. Dazu zählen Unternehmen wie beispielsweise Robert Bosch (Deutschland), Carlsberg (Dänemark), oder Ikea (Schweden). Darüber hinaus verwalten aktuell Family-Offices weltweit mehrere Billionen US-Dollar, um das Vermögen von Familien zu verwalten und zu vermehren. Da sich die Anzahl und Größe der hochvermögenden Familien künftig weiterhin zunehmen wird, wird die Bedeutung von Family-Offices immer größer. Zur Erlangung eines tiefergehenden Verständnisses dieser Intermediäre, untersucht diese Dissertation auf der Basis von vier quantitativen empirischen Studien, die Heterogenität sowie den Einfluss von Stiftungen als Eigentümer auf das Wachstum und das M&A-Verhalten der von ihnen kontrollierten Unternehmen. Darüber hinaus wird der Effekt von Family-Offices als Eigentümer auf die Kapitalstruktur der beteiligten Unternehmen untersucht.

Nachdem Kapitel 1 die Motivation und den Aufbau dieser Dissertation darstellt, werden in Kapitel 2 der theoretische Rahmen sowie der institutionelle Hintergrund über Stiftungen und Family-Offices als Unternehmenseigner, erläutert. Hierbei wird unter anderem auf die unterschiedlichen Arten von Stiftungen und Family-Offices eingegangen. Die bisherige Literatur unterscheidet grundsätzlich zwischen gemeinnützigen- und Familienstiftungen. Gemeinnützige Stiftungen verfolgen primär gemeinnützige Ziele durch Investitionen in Projekte in die Themenbereiche wie z. B. Bildung, Wissenschaft, Kunst und Gesundheit, während Familienstiftungen primär das Vermögen der Familie langfristig sichern sollen. Bei Family-Offices wird hingegen zwischen Single-Family Offices (SFOs) sowie Multi-Family Offices (MFOs) differenziert. Während Ersteres das Vermögen einer einzigen Familie verwaltet, werden in einem MFO mehrere Familien bedient. Insgesamt soll dieses Kapitel dem Leser ein Grundverständnis für die Thematik der von Stiftungs- und Family-Office getragenen Unternehmen vermitteln, um den Analysen in den nachfolgenden Kapiteln besser folgen zu können.

Da innerhalb der Stiftungsunternehmen eine starke Heterogenität existiert, werden im 3. Kapitel Divergenzen innerhalb der Stiftungsunternehmen untersucht. Hierzu wurden insgesamt 169 Stiftungsunternehmen aus Deutschland im Zeitraum 2010 bis 2019 durchleuchtet. Die Ergebnisse zeigen, dass zwischen den verschiedenen Stiftungstypen (signifikante) Unterschiede bestehen. Die Familie als zentraler Stakeholder einer Familienstiftung erlaubt eine Governance, die Rendite und Wachstum fördert.

Kapitel 4 untersucht den Einfluss von Stiftungseigentum auf das Unternehmenswachstum. Anhand eines Datensatzes von 204 Stiftungsunternehmen aus der DACH-Region (Deutschland, Österreich, Schweiz) wird gezeigt, dass Stiftungsunternehmen in Bezug auf den Umsatz signifikant weniger wachsen als Nicht-Stiftungsunternehmen. In Bezug auf das Mitarbeiter-Wachstum konnte jedoch kein signifikanter Effekt beobachtet werden. Darüber hinaus wurden mit Hilfe von Quantilsregressionen festgestellt, dass der negative Effekt stärker für die oberen als für die mittleren und unteren Quantile der Wachstumsverteilung ist.

In Kapitel 5 wird erörtert, inwiefern sich Familien- von gemeinnützigen Stiftungen in Bezug auf das M&A-Verhalten unterscheiden. Insgesamt wurde ein Panel-Datensatz von 164 Stiftungsunternehmen mit 316 durchgeführten Akquisitionen untersucht. Der Datensatz umfasst alle abgeschlossenen Übernahmetransaktionen zwischen 2010 und 2019, bei denen das Stiftungsunternehmen als Erwerber fungierte. Die Ergebnisse zeigen, dass Unternehmen, die eine gemeinnützige Stiftung als Gesellschafter haben, mit einer höheren Wahrscheinlichkeit Übernahmen tätigen als Unternehmen mit einer Familienstiftung als Eigentümer. Hierbei übernehmen sie vornehmlich Zielgesellschaften, die geografisch und kulturell weiter voneinander entfernt sind. Entgegen der Logik aus der Agency-Theorie, zeigt die Studie indes, dass der Besitz einer gemeinnützigen Stiftung Unternehmen dazu veranlasst, Zielgesellschaften aus derselben oder einer verwandten Branche zu erwerben.

Kapitel 6 untersucht den Effekt von SFO-Eigentum auf die Kapitalstruktur der beteiligten Unternehmen. Auf Basis einer umfassenden händischen Datenerhebung von 173 Unternehmen aus der DACH-Region, zeigen die Ergebnisse, dass von SFO gehaltene Unternehmen einen höheren langfristigen Verschuldungsgrad in Relation zu Familienunternehmen aufweisen und ähnlich wie Private-Equity-Unternehmen der Trade-Off-Theorie folgen. Weiterhin zeigen die Ergebnisse, dass die SFOs, die ursprüngliches Familienunternehmens veräußert haben, eine noch höhere (langfristige) Fremdkapitalquote vorweisen. Im Gegensatz dazu sind Familienunternehmen in ihren finanziellen Entscheidungen eher konservativ und folgen eher der Pecking-Order-Theorie.

Die Ergebnisse dieser Dissertation weiten die Forschung im Bereich der Intermediäre für Familienunternehmen aus und bieten zahlreiche Implikationen für die Praxis. Die Forschung kann mit Hilfe der durchgeführten Analysen die Ähnlichkeiten und Unterschiede beider Intermediäre besser einordnen. Familien sollten sich bewusst sein, dass die Auswahl des jeweiligen Intermediäres weitreichende Folgen für die künftige Entwicklung des Unternehmens haben kann.

Executive Summary

Family firms represent the most widespread firm type worldwide. In recent years, more and more families are separating family shareholders from their business assets by establishing intermediary structures in order to overcome family-related issues such as the growing complexity within a group of family blockholders and the increasing difficulty in identifying a suitable firm successor. Two widespread intermediaries are foundations and family offices. The relevance of both intermediaries for the economy in the German speaking countries is not based on the absolute number of companies, but from their significant size. Some of the largest firms in the DACH region (Germany, Austria, Switzerland) are (partially) owned by a foundation and/or a family office. Despite the growing importance, prior research neglected to analyze the impact of these intermediaries on the firms they own. This dissertation closes this research gap by providing a deeper understanding about the heterogeneity, firm growth and M&A behavior of foundation-owned firms. In addition, this dissertation analyzes capital structure decisions of single family office-owned firms. The results of this thesis serve as guidance for families on how to deal with such intermediaries or succession vehicles in the long run.

CHAPTER 1

Introduction

The introduction of this dissertation is separated into three sections: Section 1.1 presents the motivation behind this thesis. Section 1.2 describes the structure and data of this thesis, and Section 1.3 outlines the research questions explored in the following chapters.

1.1 Motivation

Family firms are the most widespread firm type worldwide (Kelley et al., 2020). In Germany, more than 90% of all companies are family-owned (Foundation for Family Businesses, 2023). They account for 58% of all jobs and are a stabilizing factor for the employment market in times of economic downturn (Foundation for Family Businesses, 2023). The same also applies to Switzerland (Astrachan Binz & Ruesen, 2014) and Austria (Federal Ministry of Digitization and Business Location Austria, 2019).

In recent years, more and more families are separating family shareholders from their business assets by establishing intermediary structures (Zellweger & Kammerlander, 2015) in order to overcome family-related issues such as the growing complexity within a group of family blockholders (Zellweger & Kammerlander, 2015) and the difficulty in identifying a suitable firm successor (Schickinger et al., 2021). Two widespread intermediaries are foundations and family offices (Zellweger & Kammerlander, 2015; Thomsen & Rose, 2004; Liechtenstein et al., 2008). Although both intermediaries substantially differ in numerous aspects, they primarily aim to secure the wealth of the family in the long term (Herrmann & Franke, 2002; Welsh et al., 2013). Particularly in times of the COVID-19 pandemic, the energy crisis, and the general poor global economic developments with a high inflation, the long-term security of family wealth is becoming more essential and challenging. This challenging task was underlined from Otto von Bismarck with this quote[1]:

> *"The first generation earns the money, the second manages the wealth, the third studies art history and the fourth completely degenerates."*

Some of the largest firms in Western and Northern Europe are owned by foundations, including Ikea (Sweden), Robert Bosch (Germany), A.P. Moller – Maersk (Denmark), Rolex (Switzerland) and Llyods Register (UK). Some of them, e.g., Fresenius, ZF Friedrichshafen or Carl Zeiss, are also listed on the stock exchange. In contrast, family offices are currently managing trillions of dollars worldwide, in order to accumulate wealth for the respective families (Beech, 2019). For example, BMW, BionTech SE or Knorr-Bremse AG are (partly) owned by a family office. Since the number and size of ultra-high-net-worth individuals (UHNWIs) are expected to rise, the importance of family offices is likely to grow (Hagan, 2021; Wessel et al., 2014; Welsh et al., 2013). Despite the increasing interest in foundations and family offices as firm owners, research on both intermediaries is still in its infancy. This is

[1] This is a translation of the German quote: "Die erste Generation verdient das Geld, die zweite verwaltet das Vermögen, die dritte studiert Kunstgeschichte und die vierte verkommt vollends" of Otto Fürst von Bismarck (lived from 1815 to 1898), who was a German politician and statesman.

primarily due the lack of transparency and difficulty in obtaining reliable information on foundations and SFOs (Zellweger & Kammerlander, 2015; Amit et al., 2008; Cumming & Groh, 2018).

Consequently, this dissertation examines what impact do these intermediaries have on the firms they own. A firm which is partly or fully owned by a foundation is called "foundation-owned firm" (FOF) (Achleitner et al., 2018). A foundation is a legal entity without any shareholders (Thomsen & Rose, 2004). In the most cases a foundation is created by owning assets – typically equity stakes of the family firm – which are donated by the founding family (Hansmann & Thomsen, 2021; Thomsen & Kavadis, 2022). Furthermore, every foundation has a foundation charter, which defines the allocation of profits and the purpose of the foundation (Herrmann & Franke, 2002). Basically, two types of foundations can be distinguished: charitable and family foundations (Herrmann & Franke, 2002), which substantially differ in their main characteristics and purposes (Block et al., 2020a). Whereas the former foundation pursues charitable goals through investments in projects e.g., in the area of education, science, art and health (Herrmann & Franke, 2002), the primary purpose of a family foundation is to secure the wealth of the founding family and ensure long-term (financial) stability of the firm (Herrmann & Franke, 2002; Block et al., 2020a).

In contrast, family offices are distinguished between single family offices (SFOs) and multi family offices (MFOs) (Wessel et al., 2014; Welsh et al., 2013). One major difference is that SFOs are dedicated to managing the wealth of just one family, whereas a MFO is run by several families (Rivo-López et al., 2017). Typically, the founding family creates a further organizational entity and transfers the equity stake in the family firm (or otherwise the cash from the business disposal or from the operating business) into this independent institution (Kammerlander et al., 2018). Alternatively, the family office is embedded in the initially family firm (Bierl & Kammerlander, 2019; Kammerlander et al., 2018). Like the most of other studies, this dissertation is only limited to SFOs. This is because MFOs are typically managed by third parties such as banks, brokerage firms or boutique professional service firms (Welsh et al., 2013). Therefore, the families have no direct impact on this MFO.

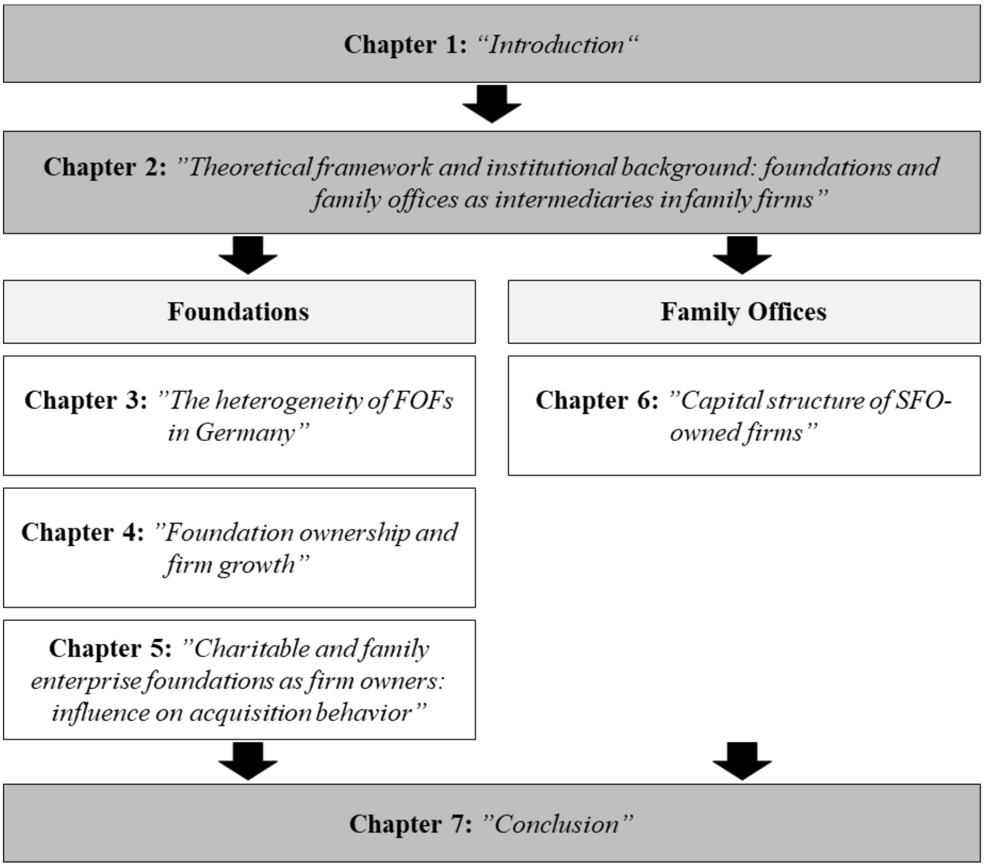
Even though FOFs and SFO-owned firms originate typically from an entrepreneurial family, both differ substantially from family firms (Thomsen et al., 2018; Block & Fathollahi, 2022; Schickinger et al., 2022). In contrast to family firms, FOFs are restricted and bound by their foundation charter (Thomsen et al., 2018; Block & Fathollahi, 2022). This creates inflexibility. Furthermore, the owners of the FOF are unable to sell their shares, removing the personal profit motive and the incentive to prioritize short-term profits (Thomsen et al., 2018; Block & Fathollahi, 2022).

SFO-owned firms, deviates from family firms in terms of portfolio of investments (original family firm versus outside direct investments) (Bierl & Kammerlander, 2019), governance structures (a united group of family owner versus the SFO as an intermediary structure) (Zellweger & Kammerlander, 2015), entrepreneurial behavior across generations (the motivation to pass on entrepreneurial investments to the next generation or not) (Schickinger et al., 2020), and preferences related to financial resources (equity versus debt) (Schickinger et al., 2020, 2022). Based on these divergences, it is necessary to better understand the phenomenon of FOFs and SFO-owned firms. This provides valuable advice to families, such as guidance on how to deal with such intermediaries or succession vehicles in the long run.

1.2 Structure and data of the dissertation

This dissertation comprises primarily of four quantitative empirical studies. The first three quantitative studies focus on FOFs, the last study targets SFO-owned firms. Specifically, after introducing the topic in the first chapter, chapter two demonstrate the theoretical framework of this dissertation. Chapter three analyses heterogeneity of FOFs in Germany. Chapters four and five explores the effect of foundation ownership on growth and M&A behavior of the firms they own. Additionally, chapter six demonstrate the capital structure of SFO-owned firms. In the final chapter seven, the key findings of this dissertation are summarized, the implications for theory and practice are discussed and the limitations and suggestions for future research are demonstrated. Figure 1 provides an overview of the structure of this thesis:

Figure 1: Structure of the dissertation



Through a comprehensive multi-step manual data collection process, 333 FOFs and 173 SFO-owned firms in the German speaking (DACH) region could be identified.[2] Based on the individual structure and research question of each chapter, the underlying sample size varies per section. Table 1 provides an overview of the samples studied in each chapter of this thesis.

Table 1: Investigated samples of this thesis

Chapter	Time period	Region	Main group	Control group
Chapter 3	2010 – 2019	Germany	Firms with a family, family foundation, or dual foundation as major shareholder (N = 94)	FOFs with a charitable foundation as major shareholder (N = 75)
Chapter 4	2010 – 2019	DACH	FOFs (N = 204)	nFOFs (N = 204)
Chapter 5	2010 – 2019	DACH	FOFs with a charitable foundation as shareholder (N = 85)	FOFs with a family foundation as shareholder (N = 79)
Chapter 6	2011 – 2020	DACH	SFO-owned firms (N = 173)	Family-owned firms (N = 684)

[2] More information about the exact data collection process can be taken from the respective chapters. In addition, a list of the FOFs which are used in the studies is appended to this dissertation (see Table 24).

1.3 Chapter outlines

Chapter 2: *Theoretical framework and institutional background: foundations and family offices as intermediaries in family firms*

This chapter outlines the theoretical foundations by showing how family firms have changed over the time and that intermediaries are becoming more and more relevant to solve family firm-related issues. In the next step two important intermediaries such as foundations and family offices are presented. Here, particularly the unique characteristics of these intermediaries are discussed.

Chapter 3: *The heterogeneity of FOFs in Germany*

Together with the increase in the number of FOFs in Germany (Institute for Demoscopy Allensbach, 2012), the complexity of this phenomenon has also grown. This is because there is a high flexibility in the establishment of a foundation (Sasse, 2009; Block & Fathollahi, 2022; Ørberg, 2022), making them very heterogenous as firm owner. For example, a wide variety of regulations regarding the management or continuation of the firm can be laid down in the foundation charter, which are individually adapted by each company to the individual objectives and framework conditions (Herrmann & Franke, 2002; Block & Fathollahi, 2022). Although foundations are generally considered as risk-averse, conservative, and long-term oriented owners, there is therefore a significant variance in governance among them (Thomsen et al., 2018; Thomsen & Kavadis, 2022). Thus, chapter three investigates following research question:

> ***RQ 1:*** *How is the heterogeneity of FOFs in Germany?*

This research question is addressed by categorizing the shareholder of the firms based on their foundation type and their equity stake level. In the next step, descriptive statistics of various variables were analyzed, including growth (sales and employee growth), performance (return on equity and return on assets), and leverage of both foundation types. This thesis takes a holistic perspective to develop a taxonomy for foundations that are shareholders of companies.

Chapter 4: *Foundation ownership and firm growth*

Firm growth is an important determinant for long-term success of a firm and can lead to economies of scale, learning curve effects and therefore to a better profitability (Block &

Fathollahi, 2022; Erhardt; 2021). Particularly in the age of digitalization, growth is becoming increasingly important as firms can rapidly scale their businesses through digital business models (Huang et al., 2017; Lee & Falahat, 2019; Westerlund, 2020). Despite the growing relevance of firm growth in times of digitalization, research lacks an understanding of how foundation ownership impact firm growth. To address this research gap, chapter four investigates the following research question:

RQ 2: *How does foundation ownership influence firm growth?*

Using a quantitative research method, consisting of univariate and multivariate analyses, chapter four attempts to answer this question by analyzing 204 FOFs with a one-to-one matched (Børsting & Thomsen, 2017) control group of non-FOFs (nFOFs) based on industry and firm size. Firm growth is measured through sales and employee growth, which are the two most common indicators of firm growth in the literature (Delmar, 1997).

Chapter 5: *Charitable and family enterprise foundations as firm owners: influence on acquisition behavior*

Both charitable and family foundations substantially differ in their main characteristics and purposes (Block et al., 2020a), leading to heterogeneity within the FOFs which has strong impact on the strategy and the behavior of the firms they own. This dissertation analyzes this influence by taking a managerial M&A behavior as a context because it´s accurately reflects the strategy as well as the risk tolerance of a firm (Cai & Shefrin, 2021). Therefore, this study investigates the following research question:

RQ 3: *How does foundation ownership impact the M&A behavior of the firms they own?*

This research question is tackled by analyzing the M&A behavior of 164 FOFs, where 52% are owned by a charitable and 48% by a family foundation. These FOFs conducted a total of 316 acquisitions. The analyses include two steps. First, the M&A probability for each foundation type is analyzed. Second, the acquired target is investigated in order to derive conclusions regarding the diversification strategy of the FOFs. The diversification comprises investigations regarding industry relatedness, geographic and cultural distance.

Chapter 6: *Capital structure of SFO-owned firms*

Financing decisions are essential for the long-term survival of a firm (Koropp et al., 2014; Jansen et al., 2023), as it directly influences a firms´ financial stability (e.g., Gertler & Hubbard, 1990), growth potential (e.g., Hackbarth & Mauer, 2012; Billett et al., 2007), bankruptcy risk (e.g., Castanias, 1983; Ayres & Dolvin, 2019) and the cost of capital (e.g., Molly et al., 2012; Chua et al., 2011). While previous research has started to investigate the leverage of the SFOs itself (Schickinger et al., 2022) or of family firms (e.g., Bacci et al., 2018; Koropp et al., 2013; Gottardo & Moisello, 2014), there is a need to understand more the effect on the financing decisions of the firms the SFOs own. Therefore, chapter six investigates the following research question:

> ***RQ 4:*** *How do SFO-owned and family-owned firms differ in terms of debt financing?*

To address this question, an explorative method is used in chapter six. More specifically, this chapter is based on sample of 173 SFO-owned firms with matched 684 family-owned firms as control group. The firms are matched based on industry and firm size. This chapter also reviews the literature on factors which impacts the financial decision-making process (Gompers et al., 2016; Schickinger et al., 2022), focusing primarily on the pecking order (Myers, 1984) and trade-off theory (Harris & Raviv, 1991; Myers, 1977).

Chapter 7: *Conclusion*

The last chapter of this thesis briefly summarizes the key findings of each chapter. In addition, this chapter discusses implications for theory and practice, explores the limitations of this dissertation and suggests avenues for further research.

CHAPTER 2

Theoretical framework and institutional background: foundations and family offices as intermediaries in family firms

Chapter 2 of this dissertation provides the theoretical framework and institutional background for foundations and family offices as intermediaries for family businesses. Section 2.1 explores the evolution of family enterprises and the need for intermediaries. Section 2.2 delves into the history, significance, characteristics, and motives behind the establishment of foundations and family offices as firm owners.

2.1 Family firms through the ages

Family firms are those in which the family controls the business through involvement in ownership and management positions (Sciascia & Mazzola, 2008). This involvement is measured as the percentage of equity held by family members and the percentage of a firm's managers who are also family members. Family business is the oldest and the most common model of economic organization globally (Kelley et al., 2020).

In recent years, family firms have undergone significant transformations since more and more families are installing an intermediate organizational entity between them and their initial firm (Zellweger & Kammerlander, 2015). But why do family firms are increasingly implementing such intermediaries? This is mainly due to two reasons. First, complexity of family ownership is increasing over time, which arises from the natural drift of families across different generations (Gersick et al., 1997). Contrary to founder-controlled firms, most of the later-generation family firms are controlled by multiple family owners, such as the German Haniel group which is founded in 1756 (Zellweger & Kammerlander, 2015). Today, the company is controlled by several hundred families. Several family owners are likely to have divergent financial and non-financial interests, which can lead to potential conflicts of interests within the family (Bertrand et al., 2008; Eddleston & Kellermanns, 2007). The complexity arising from heterogeneous interests among multiple family owners requires coordination of the different interests of each family member (Zellweger & Kammerlander, 2015). Second, the demand for firm succession has increased and also made it much more complicated. Approximately 190,000 companies in Germany in the period 2022 to 2026 will seek for an appropriate succession with a rising tendency (Institute for SME Research Bonn, 2021; KfW, 2018). The upcoming generation change will pose problems for many companies, because the number of successor entrepreneurs who can take on a qualified successor is too small (KfW, 2018). In addition, the confidence of the aging generation in the ability of the descendants to manage the firm has declined due to strong differences in the values of both generations (Crumpacker & Crumpacker, 2007; Spitzley & Prügl, 2017; Sessa et al., 2007). The difficulty of finding suitable successors is underlined by the following figures: Only 42% of the family firms in Germany are able to transit the firm to the second generation, whereas just 2% reaching the fourth generation (Prügl, 2020).

One way for families to address these issues is to separate family shareholders from their business assets by establishing intermediary structures, such as foundations and family offices (Zellweger & Kammerlander, 2015; Thomsen & Rose, 2004; Liechtenstein et al., 2008).

However, the establishment of such intermediary structures generally result in a double separation of ownership and control, leading to double-agency costs (Carney et al., 2014). These costs arise when a first-tier agent, such as a foundation trustee or family officer, is placed in an intermediary position between the principal and the second-tier agent (e.g., corporate manager) (Zellweger & Kammerlander, 2015). Both foundations and family offices are commonly observed family governance structures with different levels of separation between family and business (Zellweger & Kammerlander, 2015). Prior research neglected to analyze the effect of these intermediaries on the firms they own. Since both intermediaries substantially differ in various aspects, it is crucial to consider them as two separate types of shareholders. These differences strongly impact the future development of the original family firm and/or the wealth of the family. Therefore, families should carefully decide the selection of the appropriate intermediary according to their future goals. In order to increase the understanding of these phenomenons, the characteristics of both intermediaries are discussed in detail in the following chapters.

2.2 Intermediaries in family firms

2.2.1 Foundations

2.2.1.1 The German foundation system and its development

Foundations are historically among the oldest institutions worldwide (Fleschutz, 2009). Plato had already established a foundation from 347 BC to 529 AD with the academy he founded (Strachwitz, 1996). In the Middle Ages, during their first prime in Germany, foundations were mostly religious institutions with a focus on health care as well as education (Campenhausen et al., 1988). The second prime, during industrialization (Schiller, 1969), the middle classes took on an increasingly important role as benefactors, complementing the nobility and clergy (Coing, 1981). The basis of the modern foundation model, however, started emerging in the 19th century (Richter, 2000). The German foundation system suffered a severe setback in the first half of the 20th century due to the two world wars (Herzog, 1997). Before the First World War, about 100,000 foundations existed, of which about 90% were dissolved and thus assets valued at approx. D-Mark 3.4 billion were lost (Mestmäker & Reuter, 1971).

In the last three decades, the German foundation system has again experienced a boom (Fleschutz, 2009). Foundations have become increasingly important due to the Act on the Modernisation of Foundation Law (Gesetz der Modernisierung des Stiftungsrechts) of 15 July 2002 (Habersack, 2021). This modernization laid down in § 80 (2) 1 BGB the fundamentals that allow foundations to hold equity stakes in firms, making them therefore attractive from business perspective (Burgard, 2002; Habersack, 2021). In the further course, the 2016 inheritance tax reform in particular has prompted numerous entrepreneurial families to transfer their shares of the family firm into foundations (Burgard, 2002; Habersack, 2021).

Due to the continued lack of a foundation register – similar to a commercial and association register – and the difficulty in navigating federal and state regulations, another major reform was passed in the German parliament on 24 June 2021, which is legally effective on 1 July 2023 (Association of German Foundations, 2023). Beside to a foundation register from 2026 and a uniform law at federal level, the reform offers far-reaching additions such as improved liability regulations and uniform regulations on mergers of foundations (Association of German Foundations, 2023).[3]

2.2.1.2 Definition and classification of foundations

Until recently, there was no uniform and generally applicable definition for the term foundation. The foundation reform of 2021 defined for the first time in § 80 (1) 1 BGB the legal foundation under civil law (rechtsfähige Stiftung des bürgerlichen Rechts) as a legal entity without members that is endowed with assets for the permanent and sustainable fulfilment of a purpose specified by the founder. According to Habersack (2021), a legal foundation under civil law is characterized by:

(1) the absence of owners/members,
(2) the purpose of the foundation (which may be determined by the founder at his discretion, as long as it does not endanger the common good, and which determines the identity of the foundation and to which all actions for the foundation must be oriented),
(3) the foundation's assets are exclusively dedicated to the realization of the purpose of the foundation,
(4) the sufficient organization of the foundation which characterizes the legal foundation under civil law.

According to § 80 (1) BGB, the establishment of a legal foundation under civil law requires the execution of the foundation transaction ("Stiftungsgeschäft") by the founder and the recognition by the state authority in which the foundation is located (Habersack, 2021).

[3] For a detailed overview of the legal changes, see the Federal Government's draft bill: https://dserver.bundestag.de/btd/19/281/1928173.pdf.

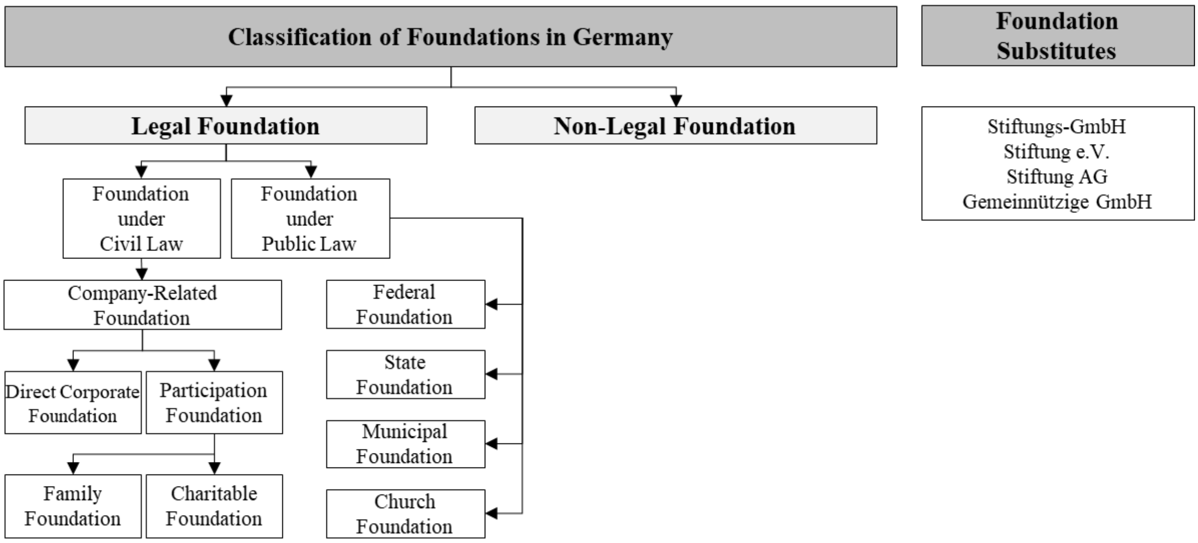
The above-mentioned foundation type represents together with the legal foundation under public law ("rechtsfähige Stiftung des öffentlichen Rechts") the group of legal foundations ("rechtsfähige Stiftungen") in Germany (Werhahn, 2020; Wigand et al., 2015). Legal foundations under public law basically pursue public, religious, or communal interests (Eulerich & Welge, 2011; Wigand et al., 2015). These foundations often only own tangible assets (e.g., works of art, real estate, media) that do not generate any income such as rents, interest or leases (foundations under civil law would hardly have a chance of recognition with comparable assets). Therefore, they remain permanently dependent on government grants (Federal German Parliament, 2018).

Non-legal foundations ("nicht rechtsfähige Stiftung" or also called "Treuhandstiftung") also exist in Germany. In contrast to the legal foundation, the non-legal foundation is not a legal entity and does not require state recognition for establishment (Werhahn, 2020). Therefore, a legally capable trustee is required to which the assets are transferred with the obligation that they also exclusively pursue specific purposes (Wigand et al., 2015). In the day-to-day business, the trustee acts on behalf of the non-legal foundation.

In the corporate context, there are two types of foundations that are eligible as firm owners: the direct corporate foundation ("Unternehmensträgerstiftung") and the participation foundation ("Unternehmensbeteiligungsstiftung") (Werhahn, 2020; Wigand et al., 2015). A direct corporate foundation does not hold shares in a firm, but operates a firm as a foundation (Werhahn, 2020; Wigand et al., 2015). With the conversion of the Carl Zeiss Foundation into a participation foundation, the last significant direct corporate foundation in Germany has disappeared (Fleschutz, 2008). The reason for the low prevalence of this type could be attributed to the disadvantageous tax treatment, the general lack of advantages compared to other legal forms as well as the limited flexibility (Fleschutz, 2008). In contrast, the participation foundation – in the form of a family foundation and/or a charitable foundation – holds a significant share in a firm as part of its foundation assets (Werhahn, 2020; Wigand et al., 2015; Fleschutz, 2008). Whereas family foundations are mainly established to secure the wealth of a family and ensure long-term stability, charitable foundations follow charitable goals through investments in philanthropic projects (Thomsen & Rose, 2004; Herrmann & Franke, 2002; Fleschutz, 2008). The FOFs listed in this dissertation refer precisely to these two categories of foundations as firm owners.

Next to these common foundation options, there are also other constructs similar to foundations (Wigand et al., 2015; Besecke, 2014), such as the Stiftungs-GmbH, Stiftung e.V., Stiftung AG or the gemeinnützige GmbH, which will not be discussed in detail due to their limited relevance. The following figure summarizes the classification of foundations in Germany:

Figure 2: Classification of foundations in Germany (simplified form with a focus on corporate foundations)



Fleschutz (2008) shows the distribution of the shares of these foundation types in Germany. Over 90% of the foundations are legal foundations, only 3% are non-legal foundations. The remaining 7% is accounted for foundation substitutes, such as e.g., the Stiftungs-GmbH or Stiftung e.V. With a share of 83%, foundation under civil law represents the most important foundation type. Therefore, all foundations under public law play only a minor role.

2.2.1.3 Significance and structure of the German foundation landscape

Germany has the highest number of foundations in Europe (Federal Association of German Foundations, 2022a). In recent years in particular, not only the total number, but also the number of new foundations with legal capacity has grown significantly: while in 1990 there were 181 new foundations, in 2021 this value climbed to 863 (Federal Association of German Foundations, 2022b). Almost two thirds of the approx. 24,650 legal foundations by civil law existing in 2021 were established in the past twenty years (Federal Association of German Foundations, 2022b; 2022c). The following figure shows the development of the number of foundations over time:

Figure 3: Number of foundations in Germany between 2001 and 2021

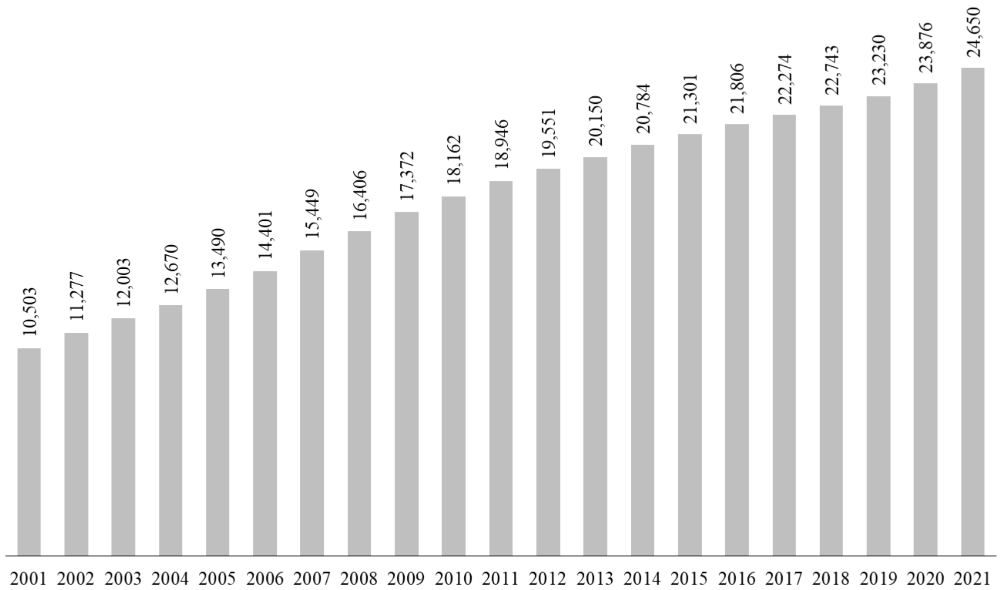


Figure 3 shows that the average annual growth rate (CAGR) of the number of foundations in Germany is about 4.40% in the period from 2001 to 2021. Furthermore, German foundations manage assets of around €110 billion in 2021 (Federal Association of German Foundations, 2021). With a share of 90%, most foundations in Germany pursue charitable purposes (Federal Association of German Foundations, 2021, 2022d). The main focus of these foundations (multiple answers possible) is in the areas of society (51.30%), education (34.30%), art and culture (31.30%), and science (24.10%) (Federal Association of German Foundations, 2021, 2022c). Private purposes only account for 9.50%. By considering the geographical distribution of foundations in Germany, it becomes clear that the consequences of the suppression of the foundation system in Eastern Germany are still reflected today in a very low density of foundations in this region (Fleschutz, 2009). Hamburg, Bremen, Hesse, Bavaria and Baden-Wuerttemberg have the highest density of foundations, while Mecklenburg-Western Pomerania, Saxony-Anhalt, Saxony and Thuringia have the lowest (Federal Association of German Foundations, 2021).

The boom of foundations in Germany has various causes (Fleschutz, 2009). From an economic perspective, private wealth in Germany has risen to record levels in recent years (Baresel et al., 2021). In 2020 alone, the fiscal administration in Germany assessed wealth transfers through inheritances and gifts in the amount of approx. €84.4 billion (German Federal Statistical Office, 2021). Overall, the inherited assets have increased by almost 20% in real terms over the last 15 years (Baresel et al., 2021). Not only financial motives are relevant to founders for the establishment of foundations: the will of wealthy families to solve a problem or to give something back to society is also increasing (Buteau et al., 2022). Since the number and size of UHNWIs are expected to rise (Hagan, 2021), it is to expect that the number of foundations in Germany will further rise in the coming years. But how are foundations established and what are the typical characteristics?

2.2.1.3 Characteristics of foundations

The establishment of a foundation

Basically, the requirements for the establishment of a legal foundation under civil law (hereinafter referred to as "foundation") are not particularly high. Pursuant to § 80 (1) BGB, the foundation transaction (Stiftungsgeschäft) and the approval of the foundation by the state authority is sufficient.

The foundation transaction contains a declaration of intent by the founder for the establishment of a foundation as well as details of the future charter (Hof, 2004). The founder must also declare that certain assets will be subjected to specific purposes in perpetuity (Wigand et al., 2015). With the foundation transaction, the founder undertakes to transfer all assets to the foundation upon its recognition (Eulerich & Welge, 2011). By approving the foundation, the foundation is established as an organization with legal capacity (Hosseini-Görge & Hirschmann, 2020). The foundation can be established either inter vivos or upon death. The former represents about 90% of cases, as the founders want to secure the opportunity to directly influence the established foundation during their lifetime, for example to counteract undesirable developments or to optimize the foundation organization by adjusting the charter (Hof, 2004; Eulerich & Welge, 2011). In the case of a foundation upon death, the founder can establish the foundation in a private or notarial will or in a contract of inheritance (Eulerich & Welge, 2011).

The charter is the fundament of a foundation (Heinzelmann, 2002), which must contain the following elements of the foundation in concrete terms: the foundation purpose, the foundation organization, and the foundation assets (Hosseini-Görge & Hirschmann, 2020). Furthermore, the name and the location of the foundation must be stated in the charter (Eulerich & Welge, 2011). Depending on the federal state, further provisions are defined that must be considered in the charter (Fleschutz, 2008). Any kind of amendment to the charter from the time of recognition of the foundation is only permitted under certain conditions (Herrmann &

Franke, 2002). In addition to the specific conditions, the founder can also specify regulations in the charter regarding the organs and under which circumstances changes to the charter are possible. Any alteration of the charter requires the approval of the competent foundation supervisory authority, otherwise the alteration is invalid (Wigand et al., 2015). This process is intended to protect the will of the founder and prevent frivolous or uncontrolled changes (Fleschutz, 2008). When the change is approved, the supervisory authority considers whether the proposed change is compatible with the founder's will or not (Berndt, 2003). The majority of state foundation laws permit an amendment to the charter if there is a substantial change in circumstances (Berndt, 2003). If an amendment is explicitly excluded in the charter, only a sovereign amendment of the charter according to § 87 BGB is possible (Fleschutz, 2008). In this case, the foundation must apply for the amendment with a detailed justification to the foundation supervisory authority (Wachter, 2001).

The founder may also determine in the charter the group of beneficiaries, and under which conditions they are entitled to the benefits of the foundation (Wigand et al., 2015). Especially in charitable foundations, the beneficiaries are usually not specified by name, but described in abstract terms (Fleschutz, 2008). Basically, in this case, charitable organizations are then the beneficiaries, whereas in family foundations the individuals (typically family members) are usually described in detail (Hosseini-Görge & Hirschmann, 2020). If the charter does not include beneficiaries and if the founder is not a member of the foundation´s organ, the founder will not have any influence on the foundation in the future (Jeschke, 2020). Typically, beneficiaries have no control or co-administration rights in the foundation (Hof, 2004). However, in particular in family foundations where family members are part of the foundation organs, certain control rights are granted (Hof, 2004).

<u>The purpose of the foundation</u>

The central importance of the foundation is represented by the purpose of the foundation, since the entire work of the foundation is explicitly and exclusively directed towards the realization of the purpose defined in the foundation charter (Eulerich & Welge, 2011). A foundation without a purpose is therefore inconceivable (Hosseini-Görge & Hirschmann, 2020). Basically, a foundation can be established for any purpose, if it is not against the law (Eulerich & Welge, 2011). The purpose of the foundation should be formulated as broadly as possible and as specifically as necessary (Wigand et al., 2015). On the one hand, if the purpose is too general and broad, then there is significant leeway for the organs to use e.g., liquid funds to advance their own interests. On the other hand, if the purpose is too narrowly defined, there is a risk that at some point the purpose can no longer be realized, e.g., if a serious illness becomes curable over time (Wigand et al., 2015). Therefore, the risk of a too narrowly defined purpose is that the foundation is not able to adapt dynamic and rapidly to changing environmental conditions (Eulerich & Welge, 2011). To further address these issues, the founder can also define several purposes next to each other or successive, temporary, or conditional purposes (Hof, 2004).

A fundamental distinction is made between private-benefit and charitable purposes (Wigand et al., 2015). Family foundations generally pursue private-benefit purposes, such as the long-term provision for the family (Hosseini-Görge & Hirschmann, 2020) or securing a company succession (Eulerich & Welge, 2011). Typically, in this case the charter would specify exactly which family member receives which benefits from the foundation and to what extent. All foundations that pursue private-benefit purposes are generally not tax-privileged; in the case of family foundations, moreover, a fictitious succession is simulated for tax purposes every 30 years in order to determine the amount of inheritance tax due (Wigand et al., 2015). In contrast, foundations that pursue charitable purposes benefit from far-reaching tax relief (Block et al., 2020a). In § 52 Abgabenordnung (AO), the German law defines activities that promote the general public as charitable ("gemeinnützig"). In particular, this includes the promotion of science and research, education and upbringing, art and culture, religion, international understanding, development aid, environmental, landscape and monument protection, the idea of homeland, the welfare of youth and old people, public health, welfare and sport. Once the foundation has been accepted by the state authority, it is hardly possible to change the purpose of the foundation (Wigand et al., 2015; Hosseini-Görge & Hirschmann, 2020). Only the foundation supervisory authority can change the purpose on its own. According to the general regulation of § 87 (1) BGB it may be changed if the fulfillment of the foundation purpose has become impossible or if it endangers the common good (Wigand et al., 2015).

The assets of the foundation

In order to fulfill the purpose of the foundation in the long-term, the foundation requires assets previously transferred by the founder. The income resulting from the assets of the foundation (e.g., rental income from real estates or dividends from equity stakes in firms) must cover the administrative expenses of the foundation and may only be used for the purposes in accordance with the charter (Fleschutz, 2008). The endowment of the foundation with assets is thus a prerequisite for the existence of a foundation; without assets, the foundation will not be approved by the state authorities (Hosseini-Görge & Hirschmann, 2020). If the assets are lost, the charter can no longer be complied with. In this case the foundation would lose its existence (Hosseini-Görge & Hirschmann, 2020). The assets of a foundation capital are comparable to the common capital stock of a corporation, which is generally not permitted to be consumed either (Eulerich & Welge, 2011). Thus, foundations strongly focus on the principle of asset preservation (Wigand et al., 2015). This principle is a prerequisite for the long-term operation of the foundation. Almost all state foundation laws manifest the principle of asset preservation. In addition, a corresponding passage can also be found in almost all foundation charters (Wigand et al., 2015).

Basically, the founder can transfer all components of his assets to a foundation, regardless of the type and value of the assets (Wigand et al., 2015). Typically, the assets of the foundation may be real estate, funds, or equity stakes of a firm (Hansmann & Thomsen, 2021; Thomsen & Kavadis, 2022). In the case of company-related foundations, inalienability clauses are often included in the charter to achieve a stronger commitment of the firm to the foundation (Staudinger & Rawert, 2001). There is also no legal requirement on the amount of the foundation´s assets (Wigand et al., 2015). Rather, the decisive factor is that the purpose of the foundation can be fulfilled sustainably with the promised foundation assets (Fleschutz, 2008). Despite the non-statutory minimum capital requirement for a foundation, experts recommend that at least €50,000 to €100,000 should be provided (Eulerich & Welge, 2011).

<u>The organization of the foundation</u>

The foundation must be capable of making decisions from the moment of its recognition by the supervisory authority (Hof, 1999a). However, German law contains only very rudimentary regulations on the foundation organization (Wigand et al., 2015). The necessary foundation organ is solely the foundation board (Habersack, 2021), which represents the foundation externally and acts on its behalf. According to § 81 (1), it is the responsibility of the founder to regulate the number, as well as the procedure of appointment and dismissal of the board members (Fleschutz, 2008). In addition, the founder can decide whether and in what form to appoint further organs for its control or supervision and how the relationships between the individual organs are structured (Hof, 1999b). If only the foundation board is appointed as an organ, it has great possible freedom of action. Due to the lack of members or owners, the foundation has no internal control authority (Fleschutz, 2008). Even the founder has an influence on the foundation during his lifetime only if he has appointed himself to the foundation board (Hof, 1999a). In practice, however, in most cases there is a board of trustees, which is often composed of external personalities who have a distinctive professional or social reputation (Eulerich & Welge, 2011). These board members can be honorary, part-time or full-time (Fleschutz, 2008).

2.2.1.4 Foundation Supervisory Authority in Germany

Based on the absence of an owner in foundations, legal foundations in Germany are subject to supervision by a state supervisory institution (May & Jeschke, 2020; Habersack, 2021; Besecke, 2015). This supervisory authority monitors whether the foundation organs behave in accordance with the charter, the founder's will and the applicable law (Heinzelmann, 2002; Sasse, 2009). In addition, further aspects such as the realization of the purpose, the preservation of the assets and the use of the income in accordance with the charter are also monitored (Fleschutz, 2008). In this context, the supervisory authority must respect the autonomy of the foundation, which is protected by fundamental rights, and may only intervene if the interests of the foundation are not sufficiently safeguarded by its organs (Staudinger & Rawert, 2001). Furthermore, the intensity of state supervision varies greatly in the different federal states (May & Jeschke, 2020). Thus, the founder can choose the extent of the supervision by selecting the location of the foundation. In general, it should be noted that the influence of foundation supervision is generally overestimated (May & Jeschke, 2020), since family foundations, for example, are only subjected to limited supervision (Fleschutz, 2008). In addition, it is important to remember that supervision is limited only to the foundation, but not to the FOF (Hennerkes, 2004).

2.2.1.5 FOFs: The phenomenon

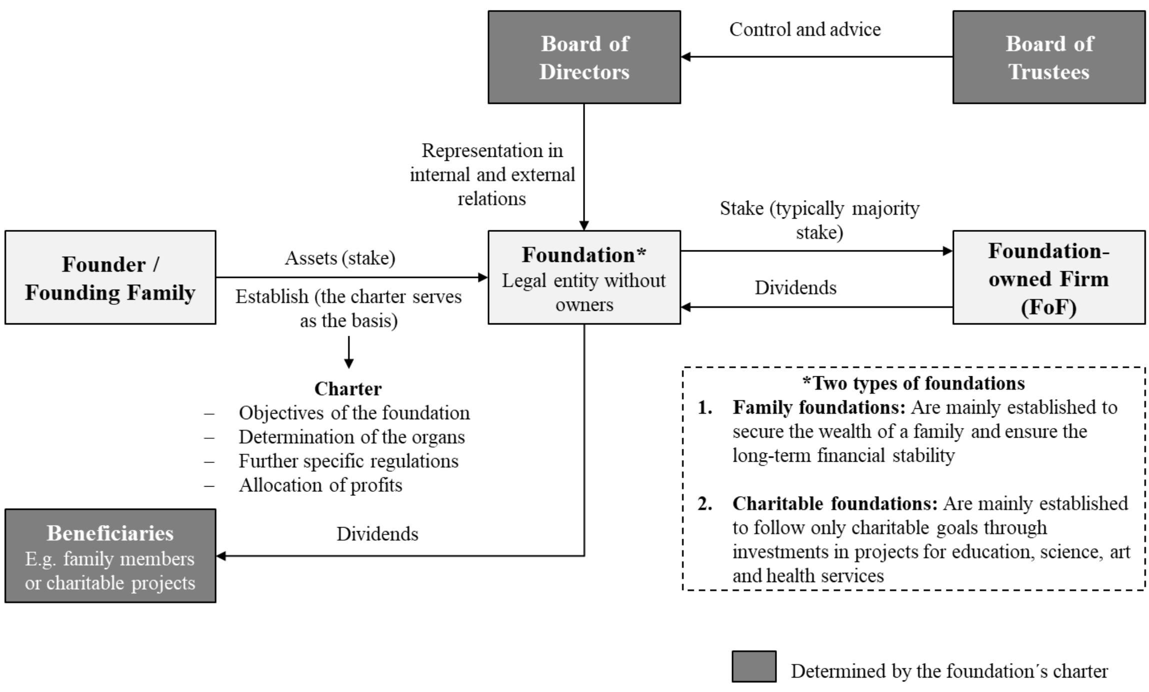
Neither the naming of FOFs (“Stiftungsunternehmen”) nor the definition is consistent in the literature.[4] In line with most of the studies (Herrmann, 1996, 1997; Herrmann & Franke, 2002; Fleschutz, 2008) this dissertation defines a FOF as a firm with a foundation as shareholder or if the foundation acts as general partner. In this context, it is crucial to consider general partners since they do not necessarily have any equity stake in a company but possess substantial decision-making power due to their unlimited liability risk (Chen et al., 2020). This thesis does not set a threshold (partly depending on the object of investigation) for the ownership, since

[4] Besecke (2015) provided a comprehensive overview of various FOF definitions used in prior studies.

even a smaller equity stake can also create dependencies or control relationships (Berndt, 2003). Therefore, this dissertation takes a much broader definition than some other prior studies (e.g., Thomsen, 1996, 1999; Thomsen & Rose, 2004).

In general, a FOF is created by the founder of a firm or a founding family which transfer their equity stake into a foundation (Achleitner et al., 2018; Block & Fathollahi, 2022). Essentially, the FOF allocates its dividends to the foundation, which then will be allocated to the beneficiaries (Block & Fathollahi, 2022). In some (but not all) cases, the family of the founder continues to have a management or representative role in the FOF. According to Block and Fathollahi (2022), the FOF construct seems as follows:

Figure 4: Typical structure of a FOF



In this dissertation, 333 FOFs were identified within the DACH region. Even though the list obtained identifies considerably more examples than prior lists (e.g., Draheim & Franke, 2015; Herrmann, 1997; Herrmann & Franke, 2002), no claim is made to completeness. Nevertheless, experts confirm that the dataset is very comprehensive.

The absolute importance of foundations as owners is still very low in the DACH region compared to other owner types: Measured by the share of FOFs in the total number of firms within the DACH region, they represent just 0.01% of all firms (Federal Statistical Office

Germany, 2020; Federal Statistical Office Austria, 2020; Swiss Confederation, 2020). Nevertheless, their importance from an economic perspective is enormous. By focusing on the largest 100 firms in Germany, it is shown that over 20% of them are wholly or partly owned by foundations. Compared to studies of Herrmann (e.g., 1997), this share has almost doubled in the past few years. The growing importance of FOFs for the German economy and the increasing use of the foundation as an intermediary, especially for family businesses, highlights the question of the best possible design of foundation solutions.

2.2.1.6 Motives for the establishment of a FOF

Due to the various design options for foundations, there are typically multiple motives underlying the establishment of a FOF. According to Habersack (2021), the motives mentioned in the literature can be divided into five overarching categories:

1) **Long-term firm continuity**: The long-term preservation of the company is in the literature the predominant goal of the founder (Berndt, 2003; Wigand et al., 2015; May & Jeschke, 2020). By transferring the shares into a foundation, the shares are collected there for the long-term and there is no fragmentation through succession or sale (Eulerich & Welge, 2011). Another argument in this context is the protection against hostile takeovers (Wigand et al., 2015). In addition, the foundation can also serve as an instrument to regulate succession (Habersack, 2021), if no natural person can be considered as successor. This may be due to childlessness, the lack of a desire for succession or the expectation that the successor would take an undesirable course (Fleschutz, 2008; Hennerkes & Kirchdörfer, 2015). Furthermore, with a foundation solution, conflicts at shareholder level can be reduced, which can otherwise occur especially in the context of family firms (Hennerkes & Kirchdörfer, 2015). At the very least, the conflicts are shifted to the foundation level and thus do not affect the management of the company directly (May & Jeschke, 2020).
2) **Preservation of the lifework**: The founder's will is perpetual, so that the long-term orientation of the firm can be predetermined by the charter in the sense of a "testamentary execution" (Hennerkes & Kirchdörfer, 2015). Following to this, it is ensured that the firm will permanently act in the sense of the founder (Habersack, 2021). In addition, the foundation can also explicitly serve the goal of preserving a memory of the lifework of the founder. Thus, the foundation functions as a kind of monument to the entrepreneur's lifework (Hosseini-Görge & Hirschmann, 2020).

3) **Asset protection**: While company shares can be attached by creditors, creditors of beneficiaries of a foundation have no claim to foundation assets, as claims to the foundation's profits are typically not enforceable (May & Jeschke, 2020). The foundation can thus serve to protect the contributed assets from access by third parties (Habersack, 2021). If assets were transferred to a close person for the same reason, there would be a risk of an undesirable development of the personal relationship (Hennerkes & Kirchdörfer, 2015). Family assets can thus be kept together in the long term, also in the interest of generations far behind. Individual "black sheeps" who cannot handle assets or squander them for selfish reasons do not endanger the business or the provision for future generations (May & Jeschke, 2020).
4) **Family provision**: The goal of safeguarding the descendants of the family can be realized by designating them as beneficiaries of the foundation (Holler, 2007; Wigand et al., 2015). On the other hand, transferring equity stake to the descendants is always accompanied by the transfer of control (Habersack, 2021). Therefore, the foundation provides the opportunity for securing provision for descendants but without changes of control rights (Habersack, 2021).
5) **Idealistic reasons**: Philanthropy may also play an important role for most of the founders. After a successful life as an entrepreneur, there may be a desire to make a special, lasting contribution to the common good (Habersack, 2021). For example, with the establishment of a charitable foundation, general public can benefit in the future, e.g., through donations in the areas of sport, culture, politics or science. Family businesses are predominantly socially committed (Adloff, 2009). A foundation can institutionalize this commitment and also express regional ties (Habersack, 2021).

Transferring the equity stake into a foundation leads also to consequences that could be disadvantageous from the founder perspective (Habersack, 2021). Examples include, among other, the (formal-legal) loss of ownership (Hennerkes & Kirchdörfer, 2015), the limited reversibility of the foundation solution (May & Jeschke, 2020), the concern about the potential loss of identity as a family firm because the family does not hold any direct shares (May & Jeschke, 2020), the restriction of entrepreneurial flexibility due to being bound by the will of the founder (Schiffer, 2020), the possible interpretation of the foundation solution as an (unintentional) act of lack of trust of the founder towards the descendants (Hennerkes & Kirchdörfer, 2015), and the influence of the foundation supervisory authority (Habersack, 2021).

2.2.1.7 Differentiation between FOFs and family firms

Even though FOFs originate typically from an entrepreneurial family, they differentiate substantially from a family firm (Thomsen et al., 2018; Block & Fathollahi, 2022). Since foundations have no owners, residual claimants who can demand dividends are weak or absent in FOFs, resulting in low pressure on the management of the FOF, e.g., for higher firm growth or profits (Draheim & Franke, 2018). The residual claimant of FOFs with a family foundation as shareholder is much stronger than a charitable foundation because family members are mostly still involved in management or supervisory board of the firm (Block et al., 2020a). Nevertheless, even in the context of a family foundation, it is substantial from legal point of view that the family members are no shareholders but only beneficiaries (Habersack, 2021). In contrast, in a family firm the family members are typically shareholders with voting rights, creating the opportunity to directly affect the firm (Zellweger & Kammerlander, 2015). The privileges of a shareholder come along with a share in the firm profits and future voting rights (Zellweger & Kammerlander, 2015). However, as a beneficiary of a family foundation, family members previously specified in the charter receive grants from the foundation (Draheim & Franke, 2018; Block et al., 2020a; Achleitner et al., 2018).

Moreover, FOFs are bound by the charter of the foundation which is strictly regulated and controlled by the board of trustees and state foundation supervision (Thomsen et al., 2018; Block & Fathollahi, 2022). Depending on how the purpose of the foundation is defined in the charter, the pursuit of the purpose may perhaps no longer be optimal after a certain time (Eulerich & Welge, 2011; Wigand et al., 2015). As already shown, a subsequent change of the purpose – especially after the death of the founder – is extremely challenging (Herrman & Franke, 2002; Wigand et al., 2015; Berndt, 2003). In addition, inalienability clauses are also often included in the charter (Staudinger & Rawert, 2001), thus it is not an option for new generations to cash in by selling their shares (Thomsen et al., 2018). This creates inflexibility. In typical family firms, this inflexibility does not exist.

Finally, based on the asset preservation principle in foundations (Draheim & Franke, 2018; Børsting & Thomsen, 2017), their most important goal is to ensure the long-term survival of the firm (Thomsen & Hansmann, 2014; Børsting & Thomsen, 2017). This implies a long-term, risk-averse, and conservative business strategy (Draheim & Franke, 2018) – even more than in family firms (Thomsen et al., 2018). This risk aversion is further increased as they typically have not diversified their investments but have concentrated their investment into a single firm (Børsting & Thomsen, 2017). These characteristics highlight the unique framework of foundations as firm owners. The ultimate goal of asset preservation is also present in family firms (Zellweger & Kammerlander, 2015), but here this principle is not prescribed by law. Since prior research neglected investigating this owner type, it is important to contribute to a better understanding of this phenomenon. A further widespread intermediary for family firms are family offices (Zellweger & Kammerlander, 2015).

2.2.2 Family offices

2.2.2.1 Definition and classification of family offices

The term "family office" is not defined by law. The German Federal Financial Supervisory Authority (2018) (Bundesanstalt für Finanzdienstleistungsaufsicht or BAFIN) defines it as companies, regardless of their legal form, that are engaged in the management of large private assets independently of banks. Before families create a legally independent structure for the management of their assets and investments, these tasks are often initially bundled in a department of the family firm, creating so-called "embedded" family offices (Bierl & Kammerlander, 2019; Kammerlander et al., 2018). In addition, "virtual" family offices are also existent, which are mainly characterized by a low institutional character, a high degree of outsourcing and digitalization (Jandt et al., 2021). These virtual family offices are mostly present in the context of smaller asset sizes, up to around €30 million, and in the context of wealth succession by the next generations, who prefer low-cost, flexible and digitized wealth management (Bierl et al., 2018).

However, if families seek institutionalized structures in a separate and independent organizational unit, a SFO or a MFO can be established (Liechtenstein et al., 2008; Schickinger et al., 2021). As the term already suggests, SFOs are controlled and owned by a single family only and provide dedicated and tailored services according to individual needs of wealth owners (Liechtenstein et al., 2008), whereas a MFO is run by several families (Welsh et al., 2013). This enables the advantage for MFOs that the running costs are relatively decreased, since they are shared among several families (Bruzek, 2018). Typically, in the case of SFOs, the founding family creates a further organizational entity (basically any legal form is possible) and transfers the equity stake in the family firm or otherwise the cash from the business disposal into this independent institution (Kammerlander et al., 2018). The family is basically the sole owner of this institution (Bierl et al., 2018). The minimum asset size for MFOs is significantly lower than those of SFOs. While a successful MFO can be run with assets of €5 to €30 million (Bruzek, 2018), this value ranges typically between €50 to €500 million for SFOs (Welsh et al., 2013;

Liechtenstein et al., 2008; Bierl et al., 2018). Below this critical asset size, a professional SFO is hardly reasonable or cost-efficient to implement in the long run (Bierl et al., 2018).

Like most other studies, this dissertation is only limited to SFOs. This is because MFOs are generally managed by several families or third parties such as banks, brokerage firms or boutique professional service firms (Welsh et al., 2013). Therefore, the initial founding family have no direct (significant) impact on this MFO.

2.2.2.2 Historical development and significance of SFOs in Germany

Family offices also have a long history. In fact, Liechtenstein et al. (2008) have pointed out that family offices began during Roman Empire. Here, the head of the house was responsible for the management of the treasury and servants, a role that was transformed into the chief steward of a great household, by the Middle Ages. In addition, during the 7th and 8th centuries in the Frankish kingdoms, the chief steward was often the true power behind the throne. Between the 14th and 18th centuries the title “superintendent” was mostly used to refer to the individual who managed the household of a wealthy family.

Over time, many family firms expanded, new firms were founded, investments were made in other firms in order to diversify the assets. Families such as the Rockefellers, Carnegies, Fords, Vanderbilts, Roosevelts, and Morgans built such large fortunes that they faced much increased demand to manage both their firms and their huge asset pools (Gray, 2005). The responsibility for wealth management was increasingly borne by the business staff of the family, not all of whom were family members (Liechtenstein et al., 2008). Therefore, the first modern SFO – as in the form of today – was born in 1838 as the "House of Morgan," which initially concerned itself solely with the management of the assets of its own family (Friedrich & Stadlmann, 2010). Interestingly, the Morgan family was also the majority shareholder of the renowned financial institution “J.P. Morgan”. Based on its success, other families such as Guggenheim, Dupont and Vanderbilt adapted this model to also manage their wealth (Liechtenstein et al., 2008).

This successful model also spread later to Europe, so that the first SFOs were also founded in German-speaking countries at the end of the twentieth century. The development of SFOs in the DACH region was examined by Jandt et al. (2021), among others, in a practice study by the German consulting company Roland Berger and the business school WHU. According to this study, 25 SFOs existed in the DACH region in 1985, which were primarily active in asset management, following a conservative investment profile. From 2000, a boom was observed in the German-speaking region. At this time, the number of SFOs rose to 70 legal entities. The number of SFOs has been growing disproportionately for years: Today, a total of around 350 to 450 SFOs are counted in the Germany, of which around 70% were founded after the year 2000.

According to Jandt et al. (2021), the main drivers for this development were the loss of confidence in banks during the financial crisis, but also the increased number of business disposals and the demand to invest the income from these transactions in the best interests of the family. Whereas in the 1980s it was often inconceivable to sell the family business, in the early 2000s there were more entrepreneurs who decided to take this step. Some SFOs have done so primarily to improve asset diversification. In addition, there are also entrepreneurial families who continue to own their businesses and build their own SFO due to the huge size of their assets. The objective is to diversify and ideally to increase the value of the assets. Today, SFOs manage trillions of dollars worldwide, representing an important type of owner (Beech, 2019). Since the size and number of UHNWIs are expected to rise globally, the importance of SFOs is likely to grow substantially (Hagan, 2021). Many entrepreneurial fortunes have a major impact on the real economy and thus on the development of Germany. Therefore, the academic study of entrepreneurial families, their family office structures, their strategies, goals and the resulting consequences is also of high political, economic, and social importance (Bierl et al., 2018).

2.2.2.3 Motives for the establishment of an SFO

Prior literature highlighted the various motives for the establishment of an SFO (e.g., Rivo-López et al., 2017; Liechtenstein et al., 2008; Roure et al., 2013). There are a diverse range of motives which are based on the value, culture, and objectives of the SFO (Rivo-Lopéz et al., 2017). The motives can partly overlap, support, or compete with each other. This dissertation divides the motives into five categories:

1) **Long-term continuity through effective intergenerational wealth and succession planning**: The most important reason for the establishment of an SFO is the intergenerational protection and increase of the family wealth (Liechtenstein et al., 2008; Rivo-Lopéz et al., 2017; Roure et al., 2013). This is necessary to ensure the continuity of the family history and the financial support of future generations in the long term. The importance of this goal is shown by the example of the Vanderbilt

family: They were once the richest and most influential family in the U.S., but due to an excessive lifestyle and bad-performance investments, the family lost almost all their influence and wealth.

To achieve the goal of asset preservation and wealth accumulation, the entire asset management process of the family is professionalized within the SFO, for example by setting-up a team consisting of various investment experts, by clear investment profiles as well as standardized investment processes (Liechtenstein et al., 2008; Gaska, 2018; Bierl & Kammerlander, 2019). Based on the more professional investment approach, SFOs actively perform strategic asset allocation and diversify the portfolio in order to minimize cluster risks which arise from the investment in just one family firm (Roure et al., 2013; Gaska, 2018; Liechtenstein et al., 2008). Typically, SFOs therefore make investments in various asset classes, predominantly in direct investments in other established companies, Venture Capital (VC) investments, real estate, equities, bonds or art (Gaska, 2018; Rivo-López et al., 2017; Schickinger et al., 2021).

But why do families turn to a SFO rather than other wealth optimization services? Regarding this question, Curtis (2001) quotes a family office manager: "The most fundamental reason has to do with the challenge of stewardship: no one will take your issues as seriously as you will take them yourself." Indeed, prior research indicates that individualized service, confidentiality, flexibility, and control of the family are among the key benefits (Avery, 2004). Other key factors are privacy and the absence of conflicting interests e.g., between financial institutions and the family (Allen, 2007).

2) **Improving governance**: By separating family wealth and the assets of the family firm and by educating the younger generation in financial matters, SFOs may improve the governance of the family firm (Benson, 2007; Daniell & Hamilton, 2010; Gray, 2005; Wessel et al., 2014). This can help to prevent conflicts of interest and allow the business to be run more objectively and effectively without losing control of the firm (Gaska, 2018).
3) **Bundling of administrative activities**: Through SFOs, all administrative activities, such as legal, tax or investment advisory, or risk management, can be bundled together for all family members in order to create synergies between these areas (Rivo-López et al., 2017; Liechtenstein et al., 2008). However, the increasing institutionalization of SFOs and the associated increased complexity of structures and processes may also lead to an increased administrative burden as well as rising costs. Therefore, some successful

SFOs in the DACH region are again outsourcing certain activities to external parties (Jandt et al., 2021).

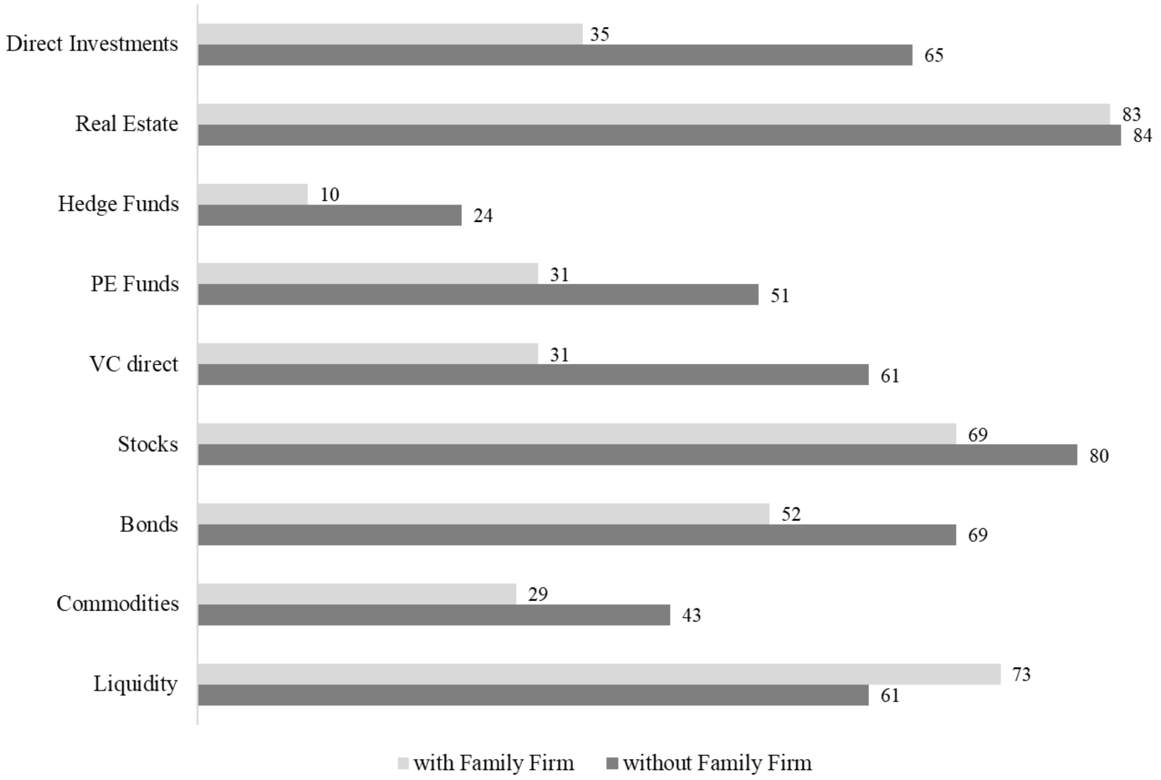
4) **Family-related motives**: SFOs can provide family-related solutions, such as promoting family education (Rivo-López et al., 2017; Gaska, 2018; Welsh et al., 2013), counselling services (Liechtenstein et al., 2008), or enhancing relationship management by maintaining relationships with groups of family members (Liechtenstein et al., 2008). While the primary objective for SFOs is trans-generational wealth management, educational programs may pass on the knowledge, culture and legacy of the family to the future generations (Rivo-López et al., 2017). In addition, education in SFOs can also serve for planning the succession by training the next generations as future shareholders, managers and/or directors (Rivo-López et al., 2017). Prior empirical studies also indicate a strong positive correlation between educational programs and the performance of SFOs (Rivo-López et al., 2017).
5) **Legacy and philanthropic reasons**: Philanthropic engagements also play an important role for most SFOs (Rivo-López et al., 2017; Rottke & Thiele, 2018; Wessel et al., 2014). According to Decker and Lange (2013), philanthropy is important for two reasons: First, involvement in charitable initiatives promotes family cohesion among different branches and generations by uniting them around a common set of values. Second, it is beneficial to teach the next generations the value of money and the responsibility that it implies. Family offices in general are an appropriate tool for organizing activities that will allow younger generations to learn about the history and culture of the family, as well as business (Rivo-López et al., 2017).

Only a few reasons exist that could be argued against the establishment of an SFO. Here, the relatively high establishment and running costs should be mentioned (Gaska, 2018), and on the other hand, the potential dependence on a few key employees (Dunn, 1980). If these key employees leave the SFO, the family could get in serious trouble.

2.2.2.3 Asset allocation of German SFOs

Prior research neglected to investigate the quantitative asset allocation of SFOs. The only large-scale analysis of SFOs in Germany to date is conducted by Kammerlander et al. (2018). This study is based on expert interviews with principals and family office managers of 109 SFOs, including 11 of the 20 wealthiest entrepreneurial families in Germany. The interviews show the following asset allocation:

Figure 5: Asset allocation of SFOs in DACH region (in %)



The above figure show that the asset allocation of SFOs that have sold their family business and SFOs that are still owner of the original family business pursue different investment strategies, especially with regard to direct investments: Around 65% of SFOs that have already sold their family business make direct investments. By contrast, SFOs that have not yet sold their business, only 35% invest in direct investments and about 30% invest in Private Equity (PE) funds or VC. If a large part of the assets of the family is still bound in the family business, lower-risk investments, such as real estate, are preferred and liquidity reserves are kept. Thus, the SFO is seen more as risk insurance for the family business. Consequently, SFOs without a family business generally invest more broadly across the various asset classes.

In many cases, greater professionalization in SFOs has led them to an increasing focus on direct investments.[5] In addition to the desire to remain entrepreneurial after the sale of the family business, one of the biggest challenges for SFOs is to generate attractive returns and preserve existing capital. With this approach, SFOs are increasingly pursuing a business model comparable to PE firms.

[5] This dissertation focuses on precisely those SFOs that engage in direct investments. A company is identified as “SFO-owned” when a SFO holds an equity stake (of at least 25%) in the firm.

Even though SFOs and PEs are increasingly competing, both differentiate in various aspects. Jandt et al. (2021) and Kammerlander et al. (2018) address the main differences. One fundamental difference is the origin of the invested funds. While SFOs invest family funds, PE funds raise the required money on the capital market and are obligated to their investors (which may include SFOs) to repay them within a certain period. Therefore, PE funds are under much greater investment pressure than SFOs, which are exclusively committed to the family. Further differences arise in terms of objectives: The top priority of most SFOs is capital preservation for future generations, whereas PE funds are more profit-focused due to their exclusively financial incentive. In addition, non-financial objectives such as compliance with certain Environmental Social Governance (ESG) criteria, long-term risks (e.g., market, regulatory, and reputational), or other family values explicitly play a great role for SFOs. Non-financial objectives are particularly important for SFOs with intra-family management and are weighted higher the more actively the family is involved in the acquisition and investment process. In summary, these differences result in "staying power" and maximum flexibility for SFOs, which also manifests themselves in terms of the average holding period. With an average holding period of 19 years, SFOs have a longer-term investment horizon and can often hand over the portfolio firm to the next generation, ensuring therefore intergenerational entrepreneurship. In contrast, PE funds have a holding period of 5 to 7 years, on average, but tend to invest larger amounts in each company. On median, SFOs invest in companies with revenues of about €50 million, while traditional PEs invest in firms with revenue of about €75 million. SFOs and PE funds also differ in terms of sector focus. 60% of SFOs focus on specific industries and invest in a maximum of two sectors. In contrast, 45% of PE funds operate with a sector focus and implement this in an average of three sectors. The higher sector focus among SFOs can mostly be explained by the specific industry background of the owner family, which can ideally be leveraged. By bringing in industry knowledge, network and own entrepreneurial experience, synergies between the individual portfolio firms are realizable.

2.2.2.5 Concluding comparison between SFOs and foundations as firm owners

The previous chapters have shown that although both intermediaries have the same origin as family businesses, they exhibit fundamental differences in terms of ownership, establishment, flexibility, and purpose. Families should carefully decide the selection of the appropriate intermediary according to their future goals, as the decision will have a significant impact on the future development of the family business or the wealth of the family. The following table summarizes these divergences between both intermediaries:

Table 2: Differences between SFOs and foundations as firm owners

Dimension	**SFO**	**Foundation**
Ownership	Family members	Without owner
Legal entity	Typical legal forms of corporations and partnerships (GmbH, GmbH & Co. KG, KG, OHG, AG and so on)	Typical legal forms of foundations (legal foundation under civil law or legal foundation under public law)
Initial family firm	Different scenarios are possible: First, the founding family sells the family firms and transfers the generated cash surplus from this sale to an SFO. Second, the founding family transfers the majority equity stake in the family firm directly into the SFO	Typically, the founding family transfers the majority equity stake in the family firm into the foundation
Flexibility	More flexible, since there is no legally required control mechanism. However, it is common that family members control the firm through a seat on the management or supervisory board of the SFO-owned firm	Less flexible, due to the existence of a foundation purpose which is constituted in the foundation charter. This purpose is strictly regulated and controlled by the board of trustees of the foundation and by the state foundation supervision
Main Purpose	Long-term preservation of assets with a strong focus on wealth management and wealth growth. In addition, many other purposes can be followed according to the family demand	Long-term preservation of assets
Business strategy	More aggressive business strategy. Typically, SFOs act more and more like financial investors such as PEs	Due to the strong focus on asset preservation, the ultimate goal of the FOF is firm survival. This implies a more long-term, conservative, and risk-averse business strategy of the FOF
Asset allocation	Conducting professional strategic asset allocation. Portfolio management through investments in various asset classes, such as direct investments, real estates, start-ups, land & forest, art	No asset allocation. High cluster risk, as assets are typically only invested in one established single firm

Note(s): This table visualizes the differences between SFOs and foundations as firm owners.

CHAPTER 3

The heterogeneity of FOFs in Germany

Together with the increase in the number of FOFs in Germany, the complexity of this phenomenon has also grown. This is based on the high flexibility in the establishment of a foundation as firm owner. Although foundations are generally considered as risk-averse, conservative, and long-term oriented owners, there is a significant variance in governance among them. Our study assesses this heterogeneity by applying a descriptive analysis to a sample of 284 German FOFs. The results indicate that the family as a central stakeholder in a family foundation allows a governance that promotes performance and growth.

This chapter is based on

Fathollahi, R., Block, J. H., Kohrmann, H. (2023). Stiftungsunternehmen in Deutschland: eine Kategorisierung und Übersicht. *Zeitschrift für Familienunternehmen und Strategie*, in press.

3.1 Introduction

Foundations as firm owners have recently received increasingly attention from business and law research. We want to contribute to this research field by developing a taxonomy for foundations that are shareholders of companies, creating the phenomenon of the so-called FOFs. In the next step we apply a descriptive analysis to a sample of 284 German FOFs. By undertaking this, our study provides valuable insights into the composition and characteristics of foundations as firm owners, thereby facilitating a comprehensive understanding of their role and impact within the German economic context. This study fills a critical knowledge gap and serves as a basis for future research, policy formulation, and strategic decision-making pertaining to FOFs and their contributions to the socio-economic fabric of the country.

The most recent data on FOFs in the DACH region was developed at the chair of Jörn Block, Professor at the University of Trier. In total, this dataset contains 333 FOFs as part of a comprehensive manual data collection. Since this paper focuses on the German region, all non-German FOFs (49 companies in total) were excluded, so that the dataset consists of a total of 284 firms from Germany.[6] To identify FOFs, we started with a list by Fleschutz (2008) and Besecke (2015) as a basis, which we then supplemented with additional firms by the means of the BAFIN and other databases such as Hoppenstedt and "Bureau Van Dijk Amadeus". This data was further compared with the "Deutsche Wirtschaft" Institute's file on 1,000 and 10,000 family businesses in which a foundation is a shareholder. Accordingly, a company is classified as a FOF if a foundation holds an equity stake in a company and/or acts as a general partner.

Subsequently, all ownership and accounting data for all foundation companies were extracted from the BvD Amadeus database for the period 2010 to 2019. In addition, missing data were extracted from the German Federal Gazette. The largest part of these firms is operating in the manufacturing industry (38% share), followed by services (22% share), trade (18% share), and construction (4% share). Other industries account for around 17%. About 9% of the companies are listed on the stock exchange. The sample does not include firms in the banking, insurance, finance industry and companies from the public sector.

[6] For the complete data set, see here: https://osf.io/vsdxp/files/osfstorage/63d288d38a2ec200866347c8.

3.2 Categories of foundations

3.2.1 Juridical categories

Foundations are like other institutions responsible for the organization of economic activities and therefore constructs of the legal system. Thus, it is necessary to start from the legal perspective, which are then assigned to economic functions in the following section. Here, we limit ourselves to the functions of foundations only as firm owners. These are initially divided into "direct corporate foundation" (Unternehmensträgerstiftung), which hardly exists after the transformation of the Carl Zeiss Foundation, and the "participation foundation" (Unternehmensbeteiligungsstiftung). The latter appears as private-benefit family foundation and/or as charitable foundation. This separate view outlines the following categories of foundations in Germany:

- Charitable foundations that manage financial assets (or art) and thus pursue charitable purposes
- Consumption foundations, which have been possible since the reform of foundation law in 2013, but which do not qualify as a permanent shareholder of a firm
- Foundations with the purpose to fulfil an operation of general interest, such as a hospital or a nursing home, are referred as "purpose-fulfilment operations" (Zweckverwirklichungsbetrieb) or "foundation purpose operations" (Stiftungszweckbetrieb) (Hoffmann-Becking, 2014) or "institutional foundation" (Anstaltsträgerstiftung) (Fleisch et al., 2018)
- Foundations established and endowed by companies to serve charitable purposes. We also include the foundations of savings banks in this category

The charitable foundation can also be included in other legal forms such as a gGmbH, but also an association. In our context we would equate these constructions to a foundation model, as the purpose are the same or at least similar. We also exclude "GmbH with tied assets" which is propagated in the discussion. Yet, it is unclear whether and how this will become a separate legal form.

In our categorisation and the analyses, we focus on who is the "principal" of the company by being able to enforce his interests qua capital share and voting rights. In this perspective, the "private-benefit family foundation" – in the interests of the family – is a different category from the charitable foundation which owns a company wholly or by a majority (minorities are also possible). Instead of the bulky term "majority-owned corporate foundation", we prefer the term "FOF" – analogous to the abbreviated term "family enterprise" or "stock exchange enterprise."

In the following, we focus on firms where a charitable foundation is the relevant shareholder of a company. To clarify this limitation, we must first distinguish the family foundation from the charitable foundation.

3.2.2 The family foundation as firm owner

Family shareholders often use intermediate companies prior to direct equity stakes in order to bundle their shares in them. The purpose may be, for example, to use a limited liability company as an intermediate company for an investment in a partnership in order to break through the transfer of the determination of taxable income in the partnership to the partners by a legal entity.

A family foundation has the status of an intermediate company. In a typology, it is useful to distinguish whether all shareholders establish a family foundation, or each family branch establishes a family foundation for itself. The main purposes of the family foundation are either only tax optimization or additionally the structuring of shareholder rights and governance in the family firm, e.g., in order to avoid or reduce family disputes (Herrmann & Franke, 2002). Whether this is always possible in individual cases through the foundation structure is doubtful, as recent developments in the case of Knorr-Bremse, for example, show.

This foundation is a structuring instrument especially for the optimization of inheritance tax. For the structuring of the shareholder rights, the interesting options are, on the one hand, the possible exclusion of the termination or withdrawal rights of the individual shareholder and, on the other hand, the structuring of the profit distribution according to freely chosen criteria (apart from the respective capital shares of the shareholders). Senior shareholders find the regulation of profit distribution according to the number of beneficiaries (shareholders) particularly attractive. Thus, the branches of the family with more children also receive a higher share of the profit.

For governance, the family foundation offers quite idiosyncratic design options. The responsibility of the family shareholders can be reduced or fully preserved.[7] The decisive feature of the family foundation is that the family does not relinquish its ownership. The family foundation can also be dissolved again, and the ownership repatriated – but with adverse tax consequences.

[7] For more information on the family foundation as an instrument for securing the future of family firm, see Block et al. (2020b).

In short: In our view, a company that is owned by a family foundation as the top unit under company law is more likely to belong to the family firm type. Empirical research on the characteristics of companies owned by family foundations confirms this decision and shows that this type of company should be distinguished from FOFs with charitable foundations as owners (Block et al., 2020a). The family foundation is an instrument that, in the first approximation, offers many advantages and few disadvantages.

3.2.3 The family foundation in context of dual foundations

A further less widespread foundation type is the dual foundation (Doppelstiftung). Here, the function of the shareholders is constituted in two institutions. First in a charitable foundation with the majority of the capital and a minimal share of the voting rights. Thus, the majority of the capital is saved from inheritance tax. Second in a private-benefit family foundation with the rest of the capital and the dominant share of the voting rights. Friedrich Boysen Holding GmbH is a typical case. In addition, the foundation construct of Robert Bosch GmbH is also regarded as a basic model of a dual foundation (Kögel & Berg, 2011). By means of this construct, a clear separation between entrepreneurial and philanthropic interests may be ensured (Kögel & Berg, 2011).

3.2.4 The family foundation as general partner in family partnership

Frequently, the top unit of a family-owned firm is constituted as XY Stiftung & Co. KG. This is generally a private-benefit family foundation which – instead of an otherwise used GmbH – takes the general partner position in a partnership. The purpose of this arrangement is to prevent the company from falling within the scope of the laws on parity co-determination. One effect of this arrangement is also to insulate the family partners from any liability claims. As in the case of the otherwise usual general partner GmbH, such a construct is endowed with only a small amount of capital.

3.2.5 The charitable foundation as firm owner

The charitable foundation does not longer belong to the family, nor does it have any other owner. In this institution, the owning family renounces all or part of its ownership. The charitable foundations are exempt from tax insofar as their capital and income are dedicated to charitable purposes. These recognized purposes are defined by law. A selection of purposes may be specified in the foundation's charter. The foundation is managed by an executive board and (typically) supervised by a board of trustees. While the management of all companies and partnerships is prescribed by law, the founders of a foundation have considerable leeway to define their own management system. Often the members of the management team of the charitable foundation have no professional connection to the FOF but have a professional background from a third sector. The foundations we focus on below do not receive money for investments in income-producing assets, but the investment itself. The company shares are transferred to the foundation. We need to further subdivide these charitable foundations in order to identify and descriptively capture its possible functions:

a) **100% shareholding (or close to 100%)** means that the charitable foundation is the sole owner of the company. This case is almost always based on the fact that the original shareholder family had no (or no suitable) successor.
b) **High share of capital and lower share of voting rights**: in the design of the dual foundation.
c) Cooperative shareholdings with a charitable foundation and with family shareholders (or other partners)

In these cases, a significant portion (25% to 50%) of the shareholding was transferred to the charitable foundation. The other parts are held by family shareholders. Ultimately, the reasons for this constellation can be left open. In most cases, these transfers were carried out at a time when inheritance tax was high and there were no exemption options. By transferring a substantial part of the assets to a charitable foundation, the inheritance tax on the remainder of the assets becomes bearable for the family members. In this constellation, the influence in governance lies with the family shareholders – no matter how high the shareholding of the foundation is. This is due to the influence that the family has on the appointments of the charitable foundation. In such a constellation, a family that can exercise its influence remains the managing partner. The foundation is then a silent partner.
d) Share of the charitable foundation with an equity stake of 25,1%

A participation rate of this magnitude signals that the aim is not to achieve high distributions for philanthropic purposes. A higher participation rate could have been chosen for this. A special function is envisaged here for the foundation: participation in resolutions that require a majority that changes the charter. It can therefore prevent a sale of the family business if this requires a majority of more than 75% of the votes in the charter. Moreover, a firm with such a foundation shareholding can probably only be sold if the foundation agrees. In this respect, a foundation can act as a "poison pill" against undesirable takeover bids.

e) Small stake of charitable foundations

A high number of charitable foundations have a 5% to 10% stake in a family firm. This stake is intended to provide the foundation with regular income from the profit distributions. Participation in the governance of the company is not intended and is not possible due to lack of voting shares.

f) Impartial shareholder

Sometimes there are also cases with an equity stake of 1%. This one percent certainly does not allow for large philanthropic projects. These foundations are – to all appearances – the impartial third party in parity joint ventures. The fact that the mandates are filled by co-optation independently of the other shareholders ensures that the neutral third party is always able to make decisions. Another obvious reason for such a model may be to avoid the proportionate or even full consolidation of this joint venture with the parent companies.

3.3 Quantitative structure of FOFs in Germany

As listed above, there are different estimations regarding the number of existing FOFs in Germany (e.g., Herrmann, 1996; Fleschutz, 2008; Fleisch et al., 2018). In the following, we start with the before mentioned data file of the chair of Prof. Block and apply the taxonomy developed above to this population:

Table 3: Breakdown of FOFs in Germany

All FOFs	Foundation has majority share	Foundation has minority share	Σ	Example
Family foundation			104	
> 50%	69 (thereof 40 Panel A of Table 4)			Adolf Würth GmbH & Co. KG
25 – 50%		9 (thereof 5 Panel A of Table 4)		Müller (retail chain)
0 – 25%		26 (thereof 17 Panel A of Table 4)		Leistritz AG
Dual foundation			21	
> 50%	17 (thereof 15 Panel A of Table 4)			Friedrich Boysen Holding GmbH
25 – 50%		2		Elringklinger AG
0 – 25%		2		Dürr AG
Charitable foundation			159	
> 50%	104 (thereof 75 Panel B of Table 4)			Sedus Stoll AG
25 – 50%		18 (thereof 7 Panel A of Table 4)		Fresenius SE & Co. KgaA
0 – 25%		37 (thereof 10 Panel A of Table 4)		Drägerwerk AG & Co. KgaA
Total	**190**	**94**	**284**	

Note(s): The following table shows all FOFs divided by foundation type and equity stake size class. We were able to identify a total of 284 FOFs in Germany. Of these, 104 are owned by family foundations, 21 by dual foundations and 159 by charitable foundations. This table also shows the reconciliation of FOFs used as a basis in Table 4. It should be noted that this table includes all FOFs, including those without financial ratios. Therefore, there are differences in the number of FOFs between Table 3 and 4. For example, in 69 cases a family foundation is the majority shareholder of a firm. Since only 40 of these firms have complete financials, this number was used as the basis for Table 4.

In 104 cases a charitable foundation is the majority shareholder of the FOF. All other firms have a family or other owner(s) as principal. The relevance of these firm types for the German economy is not based on the number of companies, but from their size. In 2019, the FOFs we identified realized total sales of around €615 billion with almost 1.8 million employees. The following table illustrates the descriptive statistics for these firms:

Table 4: Descriptive statistics by foundation type

Variables	Time period	Average	Median	25% Quantile	75% Quantile
Panel A: FOFs with a family, family foundation or dual foundation as firm owner (majority shareholder) (N = 94)					
Employees (#)	2019	6,806.72	1,686.00	761.00	5,039.00
Net sales (€ million)	2019	1,434.13	422.00	200.55	1,207.00
Debt ratio (%)	Ø 2010-2019	53.49	55.22	37.49	65.92
ROE (%)	Ø 2010-2019	10.34	10.29	5.94	15.30
ROA (%)	Ø 2010-2019	5.64	5.03	2.65	7.61
Sales growth (%)	Ø 2010-2019	6.22	5.49	2.64	7.78
Employee growth (%)	Ø 2010-2019	3.94	3.88	1.40	6.89
Panel B: FOFs with a charitable foundation as firm owner (majority shareholder) (N = 75)					
Employees (#)	2019	8,002.87	908.00	339.00	3,833.00
Net sales (€ million)	2019	1,845.49	213.00	86.17	625.00
Debt ratio (%)	Ø 2010-2019	51.31	53.24	37.14	64.82
ROE (%)	Ø 2010-2019	9.36	8.57	3.25	11.82
ROA (%)	Ø 2010-2019	3.69	3.43	1.57	6.04
Sales growth (%)	Ø 2010-2019	4.29	3.70	1.62	6.95
Employee growth (%)	Ø 2010-2019	3.99	3.01	0.66	5.13

Notes: The following table shows descriptive statistics of selected variables of FOFs divided by foundation type. In total, we were able to identify 284 FOFs in Germany. Panel A includes 94 FOFs that are owned (majority owned) by a family, family foundation, or a dual foundation. Panel B includes 75 FOFs that are owned (majority owned) by a charitable foundation. The "debt ratio" was calculated as the ratio of debt to total assets (average from 2010 to 2019). The profitability ratio "return on equity" (ROE) was calculated as the ratio of net income to equity (average from 2010 to 2019) and "return on assets" (ROA) was calculated as the ratio of net income to total assets (average from 2010 to 2019). The variable "sales growth" was calculated as the yearly percentage change from sales between t and t-1 (average from 2010 to 2019). The variable "employee growth" was calculated as the yearly percentage change in the number of employees between t and t-1 (average from 2010 to 2019).

In 207 cases (out of all identified FOFs of 284 in Germany) the firms have complete information of the financial ratios. Thus, for the excluded companies, there are either no financial ratios at all or only isolated ones. From this data set, we draw Panel A with 94 FOFs that are owned (majority owned) by a family, family foundation, or a dual foundation.

By breaking down the FOFs with charitable foundations as firm owners, we identify 104 firms with a majority equity stake (above 50%), typically they are then close to 100%. In this case, the founding family no longer has a statutory and determining influence. In addition, we have a further 32 firms in which the family has the majority of the voting shares and also holds a stake – possibly in the form of a dual foundation – through a charitable foundation. Panel B consists of 75 firms and includes the FOFs that are owned (majority owned) by a charitable foundation. The companies in Panel A and B show large differences.

3.4 Divergence between family and charitable foundations as firm owners

Based on net sales and number of employees, on average, firms of Panel A appear to be about the same size as the charitable FOFs in Panel B. However, by focusing the median it´s clear that Panel A contains much larger outlier. Furthermore, both panels seem to have about the same firm age. While Panel A firms are on average about 51 years old, firms owned by a charitable foundation are about 57 years old. Moreover, the industries in which the companies from both panels operate are similarly distributed: Firms with a family as principal are from manufacturing 39% (in parentheses is the share of the respective industry for Panel B) (39%), followed by trade with a share of 22% (15%), services with 17% (24%), construction with 5% (5%) and other industries with 17% (17%). In addition, the results show that Panel A companies are significantly more often listed on the stock exchange (9% versus 4%) than Panel B companies.

Even though the data structure in terms of firm size, age as well as the distribution of industries is very similar between both panels, both groups show considerable differences in relevant financial ratios. In FOFs that are majority-owned by a family are only slightly more leveraged than those that are primarily owned by charitable foundations (53.49% versus 51.31%), but the difference in profitability is notable.

Return on equity (ROE) as well as return on assets (ROA) were used as profitability ratios. ROE is calculated as the ratio of net income to equity (average from 2010 to 2019). ROA was calculated as the ratio of net income to total assets (average from 2010 to 2019). Both profitability ratios suggest that Panel A firms are significantly more profitable, both on average and median. T-tests we conducted show that these differences are also statistically significant (ROA: 5.64% versus 3.69%, p-value = 0.001). This is consistent with prior research (Block et al., 2020a; Draheim & Franke, 2018).

The striking difference in returns with a family as principal is obviously achieved by the fact that – due to productivity gains of approx. 2% p.a. – the number of employees increases less strongly in percentage terms than sales. The influence of the family as principal also leads to significantly more dynamic sales growth than in the comparison group (6.22% versus 4.29%). The higher performance allows this growth to be financed without straining the financial equilibrium. Overall, however, it should be noted that FOFs grow more slowly in terms of sales than nFOFs (Block & Fathollahi, 2022). In Block and Fathollahi (2022), employees also grow less than sales. This could be because the long-term orientation of FOFs leads to a risk-averse and conservative business policy due to the primary goal of asset preservation. Block and Fathollahi (2022) assume that higher growth is fundamentally associated with higher risk and that FOFs therefore pursue slower and controlled growth.

3.5 Conclusion

Finally, this study shows that there is a great heterogeneity within FOFs in Germany. Even though foundations as shareholders are generally considered to be a risk-averse, conservative, and long-term oriented type of owner, there are large differences in governance, as well as in the performance and growth of the companies. The comparison shows both ownership and governance matters. The family as a central stakeholder in a family foundation allows governance that promotes performance and growth. The governance of a charitable foundation certainly equals this only in individual cases (compare best quartile of charitable foundation companies with worst quartile of family foundation). Across the panel, however, FOFs with a charitable foundation as shareholder show weaker performance in performance and growth.

CHAPTER 4

Foundation ownership and firm growth

Prior research has analyzed how different ownership types affect firm growth. Yet, so far, we know little about the effect of foundation ownership on firm growth. This is an important research gap as some of the largest firms in Western and Northern Europe are either fully or partly owned by foundations. Our study addresses this gap and analyzes the effects of foundation ownership on sales and employee growth. Based on a matched sample of FOFs and nFOFs from the DACH region, our analyses show that FOFs grow significantly less in terms of sales but not with regard to employees. In addition, we find that the negative effect is stronger for the upper than for the middle or lower quantiles of the growth distribution. Our results can be explained through the characteristics of foundations as owners, particularly their long-term orientation and their goal of preserving the assets of the foundation. It seems that foundations as firm owners avoid the risks associated with extreme sales growth and aim for a risk-averse and conservative growth strategy.

This chapter is based on

Block, J. H., Fathollahi, R. (2022). Foundation ownership and firm growth. *Review of Managerial Science*, in press.

4.1 Introduction

Prior research has investigated the effects of firm ownership on different firm-level outcomes. The identity of large owners, such as families (Miller et al., 2010; Caprio et al., 2011), management (Alessandri & Seth, 2013; Denis et al., 1997), institutional investors (Brooks et al., 2017; Wright et al., 1996), foundations (Draheim & Franke, 2018; Thomsen et al., 2018) or governments (Nogueira & Kabbach de Castro, 2020), has been shown to have significant implications for firm strategy. In this literature stream, some studies focus on firm growth, which is an important determinant of the long-term success of a firm. Growth can lead to economies of scale and scope as well as learning curve effects and thus to greater profitability. Especially in digital markets characterized by strong network externalities, the speed at which companies grow is of crucial importance as the “winner-takes-all” effect prevails.

Whereas prior studies on the relationship between firm ownership and growth focused on family (Miroshnychenko et al., 2020), managerial (Lappalainen & Niskanen, 2009), and financial investor ownership (Thomsen & Pedersen, 2000), our study investigates foundation ownership, which has been overlooked so far. Foundations differ from other types of firm owners as they lack a residual claimant (Draheim & Franke, 2018) and follow a strict charter defining their goals and profit allocation (Herrmann & Franke, 2002). These unique characteristics of foundations as firm owners have been shown to spill over to FOFs. Due to their primary goal of preserving the assets of the foundation (Herrmann & Franke, 2002), FOFs are often risk-averse following a conservative and low risk firm strategy (Thomsen et al., 2018). We argue that the unique characteristics of foundations as firm owners cause FOFs to differ from other firms regarding firm growth. Hence, our study analyzes the effects of foundation ownership on firm growth, distinguishing between sales and employee growth.

To investigate the effect of foundation ownership on firm growth, we apply OLS panel and quantile regressions using a manually collected matched panel data set of more than 204 FOFs and 204 nFOFs from the DACH region. Our results indicate that FOFs grow on average 2.33% less per year in terms of sales than nFOFs. However, no difference exists with regard to employee growth. We further find that the negative effect of FOFs on sales growth is stronger for the upper than for the middle or lower quantiles of the growth distribution.

An investigation of how foundations as owners affect firm growth is not only important for research but also matters for practice as some of the largest public and private companies in Western and Northern Europe are FOFs, including Aldi, Bosch, Carlsberg, Carl Zeiss, Ikea and Trelleborg. Through transferring their ownership into a foundation, business families can avoid family conflicts and ensure the continuity of the firm. Our analysis shows that this transfer of ownership is associated with a lower subsequent sales growth, though.

Our study contributes to the literature on how firm ownership affects firm behavior (e.g., Claessens et al., 2002; Wellalage & Locke, 2015) and firm growth (e.g., Miroshnychenko et al., 2020; Navaretti et al., 2014). Moreover, we contribute to the small but growing literature on FOFs (e.g., Achleitner et al., 2018; Block et al., 2020a; Børsting & Thomsen, 2017; Draheim & Franke, 2018).

4.2 Theoretical background of FOFs and firm growth

4.2.1 Definition and characteristics of FOFs

FOFs can be defined as firms that are fully or partly owned by a foundation (Achleitner et al., 2018). A foundation is a legal entity without owners or shareholders (Thomsen & Rose, 2004). It is often created by the founder of a firm or a founding family transferring their assets into a foundation (Achleitner et al., 2018). The assets of the foundation may be real estates, funds, or the shares of a firm (as in our study) (Hansmann & Thomsen, 2021; Thomsen & Kavadis, 2022).

The foundation charter defines the allocation of profits and the goals with which the foundation must comply. Essentially, the FOF allocates its dividends to the foundation, which will then be allocated to the beneficiaries. According to German law, it is extremely difficult to change the charter after the death of the founder of the foundation. State authorities, who act as supervisory institutions, make sure that the foundation complies with its charter and the will of the founder of the foundation (Herrmann & Franke, 2002). The board of directors is mostly self-elective, restricted only by the respective law and the foundation charter. In some (but not all) cases, the family of the founder continues to have a management or representative role in the foundation and/or the firm.

Two types of foundations can be distinguished, namely family and charitable foundations. Family foundations are established to secure the wealth of the family and ensure the long-term survival of the firm (Herrmann & Franke, 2002). Here, the beneficiaries are typically members of the owner family. Charitable foundations, in turn, pursue charitable goals through projects in education, science, art and health (Herrmann & Franke, 2002). In this foundation type, the beneficiaries are typically charitable projects.[8] Family and charitable foundations can also be

[8] Note that charitable foundations do not need to distribute 100% of their dividends to charitable projects and are allowed to make (very) small financial payments to private persons (often family members).

combined into so-called dual foundations, where the family foundation holds the majority of the shares of the firm and the charitable foundation receives the dividends.

From a founder's perspective, there are several reasons to create a FOF. Under particular circumstances, tax savings can apply, and disclosure and co-determination obligations can be circumvented. Tax savings are particularly relevant for charitable foundations and apply less to family foundations. This is because the state aims to promote charitable donations through tax advantages, which seems be an effective instrument (Boenke et al., 2010). Charity in terms of the Fiscal Code (Abgabenordnung) is defined as aims that benefit the public, benevolent aims, or religious aims. It comprises the advancement of science, religion, art and culture, education, protection of the environment, public welfare, support for persons persecuted for political, racial, or religious reasons, and sports (Richter & Gollan, 2016). When assets are transferred into a charitable foundation either before or immediately after the death of the founder of the foundation, as defined in his or her last will, no inheritance or gift tax has to be paid (Richter & Gollan, 2016). This can be a benefit for FOF compared to other firm types as it does not reduce the firm's capital or asset base. Such (inheritance) tax benefits for charitable foundations exist also in other countries (e.g., Henrekson et al., 2020; von Hippel, 2014). For family foundations, the situation with regard to the inheritance tax is different. For them, a so-called "Erbersatzsteuer" (pseudo inheritance tax) applies that assumes and taxes an asset transfer every 30 years. The associated tax, however, can be paid on a yearly basis, making the tax consequences of firm succession somewhat more plannable (as compared to firm succession in "regular" family firms). Moreover, depending on the exact design of the firm succession and asset transfer event, family foundations may also benefit from monetary tax advantages (Kussmaul & Schuman, 2020).

Next to these tax benefits, setting up a FOF may help to ensure the continuity of the firm. Especially in family firms, power struggles within the owner family can arise and create succession problems. By transferring the ownership stakes into a foundation, the negative influence of family conflicts on the firm is reduced increasing the firm's prospects for long-term survival. In this regard, Thomsen et al. (2018) mention two main differences between FOFs and family firms. First, FOFs are bound and restricted by their foundation charters, which is not the case for family firms. This creates inflexibility. Second, it is not possible for owners of the business family to cash in by selling their shares. The personal profit motive and the incentive to maximize short-run profits is consequently absent, or at least reduced. This leads to a strong long-term orientation.

FOFs are mostly located in Northern and Western Europe (Thomsen & Rose, 2004). In Germany, Switzerland, Austria, the Netherlands and Scandinavian countries, some of the largest companies are foundation-owned. FOFs can also be listed on stock exchanges. For example, the FOFs Beiersdorf, Carl Zeiss, Fielmann, Henkel, Thyssenkrupp and the Software AG are listed on the German stock market.

4.2.2 Prior research about FOFs

The majority of the previous research on FOFs focused on the (accounting) performance of FOFs. Analyzing the 300 largest Danish companies between 1982 and 1992, Thomsen (1996) shows that FOFs in Denmark have a slightly better accounting performance than companies with private or public ownership. For Germany, the evidence is mixed. While Herrmann and Franke (2002) show that the accounting performance of FOFs is slightly better compared to listed firms, Draheim and Franke (2018) find the opposite. Block et al. (2020a) go a step further and analyze the performance within the group of FOFs. Based on a sample of 142 German FOFs between 2006 and 2016, they show that FOFs owned by family foundations have a higher accounting performance than firms owned by charitable foundations. Furthermore, they find a performance-enhancing effect of family involvement in the management or supervisory board of the firm. In addition, Hansmann and Thomsen (2021) present evidence that the profitability of FOFs depends on the governance structure of the foundation, in particular on the relationship between the board of the foundation and the management of the FOF.

Adopting a market performance perspective, Achleitner et al. (2018) find that the share price of FOFs increases following the announcement by a foundation to decrease its ownership share, as opposed to no reaction after the announcement to increase its ownership share. They argue that equity markets are sceptical about foundations as shareholders. This scepticism might be rooted in the monitoring problems of foundations as owners, goal divergences between the foundations and FOFs, or legal restrictions that come with this particular form of ownership. Thomsen and Rose (2004) find that FOFs listed on the Copenhagen Stock Exchange are at least as efficient as other listed firms in terms of risk-adjusted stock returns, accounting returns and Tobin’s Q.

With regard to non-financial firm outcomes, Børsting and Thomsen (2017) indicate that foundation ownership is associated with a better firm reputation and more employee stability, higher pay for employees, and more long-term employment. Overall, these firms are characterized as firms with more responsible business behavior towards employees. The sample of this study consists of large Danish FOFs between 2001 and 2011. Moreover, Thomsen et al. (2018) elaborate that foundation ownership is associated with stability as FOFs replace managers less frequently and follow a conservative and long-term oriented financing, investment, and employment strategy. Their sample consists of Danish FOFs between 2003 and 2012. Draheim and Franke (2018) show similar results for German FOFs. In addition, Hansmann and Thomsen (2013), Børsting and Thomsen (2017), and Thomsen et al. (2018) find that FOFs have a lower debt ratio (probably due to their strong risk aversion).

4.2.3 Sales and employee growth as two measures of firm growth

We measure firm growth through sales and employee growth, which are the two most common indicators of firm growth in the literature (Delmar, 1997). Surprisingly, the correlation between these two growth measures is often low (Delmar et al., 2003; Davidsson et al., 2010; Weinzimmer et al., 1998; Shepherd & Wiklund, 2009; Achtenhagen et al., 2010; Erhardt, 2021), which can be explained by some fundamental differences that exist between the two measures:

First, the reaction of sales and employment to changes in demand is different. An increase in product/service demand will lead quickly to higher sales, whereas it takes more time to influence employment (Delmar, 1997). Second, the two measures differ in their manipulability. To manage higher demand and sales volumes, firms may decide not to hire new employees but to outsource the production or improve productivity (Davidsson et al., 2010; Delmar, 1997; Chandler et al., 2009). In such cases, sales may increase without a growth in employees. Particularly in traditional, low-tech, or stagnant industries, these growth patterns exist (Delmar et al., 2003). Third, sales and employee growth generally relate to different priorities and firm goals. When firms pursue sales growth, they prioritize the market in their development process and aim for a large market share. With employment growth, they enlarge their human resources by hiring new staff to increase labour productivity and prepare for long-term growth (Chen et al., 2020). Finally, sales is a better measure to compare growth across industries because it is not influenced by differences in employee intensity across industries (Weinzimmer et al., 1998). Table 5 summarizes the main differences between sales and employee growth.

Table 5: Sales growth versus employee growth

Dimension	Sales growth	Employee growth	Reference(s)
Reaction to demand changes	Short-term response to demand changes, therefore higher volatility	Long-term response to demand changes, therefore lower volatility	Delmar (1997) Shepherd & Wiklund (2009)
Manipulability	Possible, because sales growth may be boosted price changes	Difficult, because employee growth may only be boosted by hiring new employees	Weinzimmer et al. (1998) Delmar (1997) Chandler et al. (2009)
Underlying perspective	Market-based-view (output)	Resource-based-view (input)	Chen et al. (2020)
Comparability of firms from different industries	Good comparability	Bad comparability because industries differ in their employment intensity	Weinzimmer et al. (1998)

Notes: This table show a comparison of sales growth and employee growth.

It should be noted that the literature also differentiates between inorganic and organic growth (Delmar, 1997; Delmar et al., 2003). While inorganic growth may be achieved through acquisitions, the latter results from growth in the operating business of a firm. In our study, we focus on total growth, defined as the sum of inorganic and organic growth.

4.3 Hypotheses

4.3.1 Foundation ownership and sales growth

Based on the unique characteristics of FOFs, we assume that foundation ownership has a significant impact on sales growth. Since foundations are legally constrained to preserve the value of their assets (Draheim & Franke, 2018; Børsting & Thomsen, 2017; Herrmann & Franke, 2002), their most important goal is to ensure the long-term survival of the firm (Thomsen & Hansmann, 2014; Børsting & Thomsen, 2017). This implies a long-term, risk-averse, and conservative business strategy (Thomsen et al., 2018; Draheim & Franke, 2018). This risk aversion is further increased as they typically have not diversified their investments but have concentrated their investment in a single firm (Børsting & Thomsen, 2017). Since sales growth is generally associated with higher market risks (Markman & Gartner, 2002), we expect foundation ownership to have a negative effect on sales growth. We formulate the following hypothesis:

H1a: Foundation ownership is negatively associated with sales growth.

Moreover, we expect that the negative effect of foundation ownership on sales growth might be stronger for the upper than for the middle or lower quantiles of the growth distribution. It is the extreme and not the low or middle growth rates that jeopardize the long-term survival of a firm (Markman & Gartner, 2002; Puig et al., 2018; Hambrick & Crozier, 1985). In this regard, Hambrick and Crozier (1985) identified four fundamental challenges for extreme high-growth firms, namely instant size[9], a sense of infallibility[10], internal turmoil and frenzy[11], and extraordinary resource needs. The additional resources are needed to finance additional equipment, plant, and working capital to keep up with the dynamics of the industry. Such a situation can lead to short-term cash flow and liquidity problems threatening the survival of the firm, which is a situation that foundations as owners seek to avoid. The following hypothesis should apply:

H1b: The negative effect of foundation ownership on sales growth is stronger for the upper than for the middle or lower quantiles of the growth distribution.

4.3.2 Foundation ownership and employee growth

Due to the absence of strong owners in foundations, the residual claimants of FOFs are weak (Draheim & Franke, 2018). Other stakeholders fill this power void. Prior research shows that managers and employees of FOFs are very powerful stakeholders that promote their interests very effectively (Draheim & Franke, 2018; Børsting & Thomsen, 2017). Moreover, empirical evidence demonstrates that FOFs are indeed more stable employers, who pay their employees better and keep them for longer (Børsting & Thomsen, 2017). In addition, Børsting and Thomsen (2017) suggest that FOFs have better firm reputations than other firms have and are regarded as more socially responsible in corporate image ratings. We posit that based on their

[9] The problem of instant size arises when the firm becomes bigger without having the necessary attitude for being big. The required managerial skills in a 5000-person firm are different from those in a 500-person firm.

[10] The problem is that the strategies of high-growth firms may have worked so well in past so that they may become inflexible and unwilling to adapt to market developments.

[11] High growth is typically associated with a stream of new faces and unknown people who are not award of the company culture. The amount of information to be processed and the number of decisions to be taken accelerates, which can create internal turmoil and frenzy leading to problems in product quality and production.

strong employee and reputation orientation, FOFs tend to avoid hiring too many employees because higher employee growth may lead to an increased risk of future layoffs. Flanagan and O'Shaughnessy (2005) show that layoffs harm firm reputation and have long-lasting negative effects on the remaining employees. Accordingly, we expect that foundation ownership has a negative impact on employee growth and posit the following hypothesis:

H2: Foundation ownership is negatively associated with employee growth.

4.4 Data and methods

4.4.1 Sample construction

To begin with, we manually collected a comprehensive list of the FOFs in the DACH region from various sources, such as associations of foundations or former research papers. A firm is classified as a FOF if the foundation holds an equity stake of at least 25% of the firm. We then obtained accounting and ownership data for the 229 FOFs from the Amadeus database for the years between 2010 and 2019. Due to missing financials, we had to exclude 25 firms leaving us with a sample size of 204 FOFs. To identify comparable nFOFs, we follow a one-to-one matching approach (the nearest neighbour) based on industry and firm size (Børsting & Thomsen, 2017). For the matching process, we used the four-digit NAICS 2017 codes for industry classification and the total revenues in 2010 (or total assets if total revenue was not available) for firm size. Hence, every FOF was matched with a firm not only from the same industry but also with the most similar total revenue or assets, respectively.

Our final sample comprises a panel dataset of 204 FOFs and 204 matched nFOFs, which is representative of the DACH region and comparable with previous research (Block et al., 2020a; Draheim & Franke, 2018). Table 6 outlines the variables we use in this study:

Table 6: Variable definitions for growth investigations of FOFs

Variables	Definition
Dependent variables	
Sales growth	Yearly percentage increase/decrease of net sales between t and t-1
Employee growth	Yearly percentage increase/decrease of employee number between t and t-1
Independent variable	
FOF	Dummy for whether the firm is a FOF (1) or not (0)
Control variables	
Firm size	Natural logarithm of the year-end number of employees
Listed	Dummy for whether the firm is listed (1) or not (1)
ROA	Annual net income/book value of total assets at the end of the year
Firm age	Firm age in years
Debt ratio	1 – (book value of equity/total assets)
Year (2010-2019)	Year dummies for each year
Industry*	Industry dummies

Notes: This table describes the construction of the relevant variables used in this study. Note that we previously matched our sample based on industry and firm size. There, firm size is defined as total sales or total assets. This should not be confused with the firm size of this table.
*Industry categories includes (1) Retail, (2) Manufacturing, (3) Services and (4) Other.

Since our dataset does not include M&A data, we are not able to distinguish between organic and inorganic growth and accordingly only consider total growth.

4.4.2 Empirical model

We apply linear OLS panel and quantile regressions with robust standard errors to test our hypotheses. The quantile regressions are needed to test hypothesis 1b, which postulates that the negative effect of FOF on sales growth becomes stronger for the upper than for the middle or lower quantiles of the growth distribution. Standard OLS regressions cannot be used to test this hypothesis as they estimate the effect of the independent and control variables on the mean of the dependent variable. We estimate the following regression equations:

$$(1)\ \gamma_{i,t} = \beta_0 + \beta_1 FoF_{i,t} + \beta_2 X_{i,t} + \ Industry\,\&\,Year\ Fixed\ Effects + \varepsilon_{i,t}$$

where i indexes firms and t indexes time.

The dependent variable γ represents the sales growth or employee growth of a firm. Growth is calculated as the yearly percentage increase/decrease of net sales (or number of employees) for firm i between time t and t-1. If the net sales are not available for an observation, we use total assets instead.

The independent variable $\mathrm{FoF}_{i,t}$ is a dummy variable that indicates whether a firm is an FOF (1) or not (0). This is crucial because our main interest in this study is to determine how the heterogeneous group of FOFs differs in terms of growth from firms that are not owned by foundations. We identify a firm as an FOF if the foundation holds an equity stake of at least 25% in the firm.

Furthermore, several control variables $X_{i,t}$ are included, such as firm size (as natural log of the year-end employee number) and firm age (in years) to control for effects related to the size or the life cycle of the firm. In addition, we include listed as a dummy variable that indicates whether the firm is listed on a stock exchange or not. To control for profitability and capital structure we include ROA and debt ratio as further control variables. Debt ratio is calculated as 1 – (book value of equity/total assets). Finally, we include industry and year dummies to control for industry and recession/boom periods. With regard to industry effects, we distinguish between the four categories retail, manufacturing, services and other.

As noted already above to test hypothesis 1b, we also estimate quantile regressions. These regressions estimate conditional quantile functions, that is, models in which quantiles of the conditional distribution of the dependent variable are expressed as functions of several independent variables (Block, 2010; Koenker & Bassett, 1978; Koenker & Hallock, 2001). By using these regressions, we can estimate the effects of FOF on different quantiles of the growth distribution and test whether the effects are stronger for the upper than the middle or lower quantiles of the growth distribution. Such a test would not be possible with an OLS regression, which estimates the effects of FOF on the mean of the dependent variable.

4.5 Results

4.5.1 Descriptive statistics, univariate analysis and correlation matrix

Almost half of the firms in the sample (47%) come from the manufacturing sector, followed by services (24%), retail (17%) and other (12%). The other category primarily includes investment companies and excludes financial institutions (NAICS 2017 codes: 521110-525990). About 9% of the firms in our dataset are listed on the stock market. We find that most non-listed firms have either a large or a medium blockholder. Listed firms usually do not have large blockholders, which is in line with prior research (Claessens & Tzioumis, 2006). 82% of the firms in our sample are from Germany, followed by Austria (15%) and Switzerland (3%).

Table 7 provides some summary statistics and a univariate analysis of our key variables, including parametric (T-test) and nonparametric tests (Mann-Whitney-U-Tests) comparing FOFs with nFOFs.

Table 7: Univariate analysis for growth investigations of FOFs

	Number of observations			**Means**		**Differences in means**
Variables	**FOFs**	**nFOFs**		**FOFs**	**nFOFs**	**(FOF - nFOF)**
1. Parametric test (T-test)						
Sales growth (%)	881	1,160		3.9	7.2	-3.3**
Employee growth (%)	881	1,162		2.9	5.4	-2.5
ROA (%)	778	896		4.2	4.8	-0.6
Debt ratio (%)	869	1,158		52.9	64.2	-11.3***
Firm size	881	1,162		6.9	6.6	-0.3***
Firm age	881	1,160		57.0	54.0	3.0
Listed	881	1,160		0.1	0.1	0.0
Net sales (€ million)	781	1,096		2,129.5	1,958.7	-170.81

	Number of observations			**Rank-Sum**		**Differences in Rank-Sum**
Variables	**FOFs**	**nFOFs**	**Z**	**FOFs**	**nFOFs**	**(FOF - nFOF)**
2. Non-parametric test (Mann-Whitney-U-Test)						
Sales growth (%)	881	1,160	2.6	865,345	1,218,516	-353,171**
Employee growth (%)	881	1,160	0.8	888,683	1,195,178	-306,495
ROA (%)	778	896	-1.5	666,737	735,238	-68,501
Debt ratio (%)	869	1,158	11.7	728,694	1,326,684	-597,990***
Firm size	881	1,162	-4.9	864,525	1,123,421	-258,896***
Firm age	881	1,160	2.86	861,803	1,222,058	-360,255*
Listed	881	1,160	1.27	890,494	1,193,368	-302,874
Net sales (€ million)	781	1,096	0.87	731,456	1,031,048	-299,592

Note(s): This table provides some descriptive statistics and the results of the univariate analysis. This analysis consists of two steps: 1. Parametric test (T-test) and 2. Non-parametric Test (Mann-Whitney-U-Test). All variables are normally distributed. Note that we matched our sample based on industry and firm size (as measured by total sales or total assets). This should not be confused with the firm size (=number of employees) of this table.
* indicates $p<0.05$, ** indicates $p<0.01$, *** indicates $p<0.001$.

Both sales growth (-3.30%, $p<0.01$) and employee growth (-2.50%, insignificant) are on average smaller for FOF in relation to nFOFs. In addition, debt ratio (-11.30%, $p<0.001$) is also lower for FOF, which is in line with prior research (Thomsen et al., 2018; Draheim & Franke, 2018). In contrast to Børsting and Thomsen (2017), we could not identify differences with regard to profitability. Firm size, firm age and net sales are also nearly on the same level for both panels, indicating a good matching quality. To summarize, the univariate analysis shows that FOFs grow less in terms of sales than nFOFs, which is in line with hypothesis H1a.

Table 8 shows the correlation matrix (Pearson Correlation Coefficients) and Variance Inflation Factors (VIFs).

Table 8: Correlation matrix for growth investigations of FOFs

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	VIF
(1) Sales growth								
(2) Employee growth	0.15^{***}							1.01
(3) FOF	-0.08^{***}	-0.03						1.08
(4) Firm age	0.06^{*}	0.07^{**}	-0.02					1.03
(5) Firm size	-0.04	0.07^{**}	0.08^{**}	-0.14^{***}				1.24
(6) Debt ratio	0.10^{***}	0.01	-0.25^{***}	0.02	-0.08^{***}			1.11
(7) ROA	0.05	0.01	-0.04	0.02	0.01	-0.15^{***}		1.03
(8) Listed	0.00	0.03	-0.05^{*}	-0.11^{***}	0.40^{***}	0.06^{*}	0.01	1.22

Note(s): This table shows a matrix of Pearson Correlation Coefficients for all key variables. VIF refers to the Variance Inflation Factor.
* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001.

The Variance Inflation Factors (VIFs) show that multicollinearity is unlikely to be a concern for our study. The average VIF is 1.10, the maximum VIF is 1.24. We find that sales growth is positively correlated with employee growth (p<0.001), firm age (p<0.05) and debt ratio (p<0.001). Employee growth is positively correlated with firm age (p<0.01) and firm size (p<0.01). In addition, we find that FOF is negatively correlated with sales growth (p<0.001) but not with employee growth.

4.5.2 Regression results

Sales growth regressions

The regression results for the effect of foundation ownership on sales growth are depicted in Table 9. In Model 1, we run an OLS panel regression with sales growth as the dependent variable. Sales growth is calculated as the yearly percentage increase/decrease of net sales for a firm i between time t and t-1. FOF is the independent variable, which indicates whether the firm is an FOF (1) or not (0). The control variables are firm age, firm size, the listed dummy variable, ROA and debt ratio. Industry and year dummies are included but not reported. In

Models 2 to 6 we estimate quantile regressions for the 10th, 25th, 50th, 75th and 90th quantiles with the same variables:

Table 9: Effect of foundation ownership on sales growth

Variables	Model 1 OLS panel regression Sales growth	Model 2, 10th quantile regression Sales growth	Model 3, 25th quantile regression Sales growth	Model 4, 50th quantile regression Sales growth	Model 5, 75th quantile regression Sales growth	Model 6, 90th quantile regression Sales growth
FOF	-2.33*	1.06	0.47	-1.00*	-1.70*	-3.97*
	(0.93)	(1.09)	(0.50)	(0.50)	(0.72)	(1.63)
Firm age	0.03***	0.00	0.01	0.01**	0.03***	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Firm size	-0.26	1.19***	0.63***	0.11	-0.24	-0.89*
	(0.50)	(0.29)	(0.13)	(0.13)	(0.19)	(0.44)
Listed	0.75	0.15	0.04	0.40	-0.52	2.62
	(1.93)	(1.72)	(0.78)	(0.80)	(1.14)	(2.58)
ROA	0.15	0.25***	0.24***	0.27***	0.20***	0.18
	(0.09)	(0.07)	(0.03)	(0.03)	(0.04)	(0.10)
Debt ratio	0.10*	0.03	0.03*	0.02*	0.05**	0.07
	(0.04)	(0.03)	(0.01)	(0.01)	(0.02)	(0.04)
N	1,672	1,672	1,672	1,672	1,672	1,672
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note(s): This table shows the results of quantile regressions. FOF is the independent dummy variable in all models, which indicates whether the firm is an FOF or not. Sales growth is the dependent variable in all models, and it is calculated as the yearly percentage increase/decrease of net sales for firm i between time t and t-1. Industry and year dummies are not reported but included in the regressions.
* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001.

The coefficient in the OLS panel regression is -2.33. It is significant at the 5% level, and it indicates that FOFs grow on average 2.33% less per year in terms of sales than matched control firms.

The coefficients of the quantile regressions show that the effect is stronger for the upper than for the middle or lower quantiles of the growth distribution. It seems that foundation ownership only has a negative effect from the 50th quantile onwards. The coefficient of the 50th quantile is -1.00 (p<0.05), which becomes stronger for the 75th quantile with a coefficient of -1.70 (p<0.05) and for the 90th quantile with a coefficient of -3.97 (p<0.05). Thus, the results are not only statistically but also economically significant. Our results support hypotheses 1a and 1b. Foundation ownership is negatively associated with sales growth and the effect is stronger for the upper than for the middle or lower quantiles of the growth distribution.

Employee growth regressions

The regression results on the effect of foundation ownership on employee growth are presented in Table 10. All parameters remain as in sales growth regressions except for the dependent variable, which is employee growth. Employee growth is calculated as the yearly percentage increase/decrease in number of employees between time t and t-1.

Table 10: Effect of foundation ownership on employee growth

Variables	**Model 1 OLS panel regression Employee growth**	**Model 2, 10th quantile regression Employee growth**	**Model 3, 25th quantile regression Employee growth**	**Model 4, 50th quantile regression Employee growth**	**Model 5 75th quantile regression Employee growth**	**Model 6, 90th quantile regression Employee growth**
FOF	-1.98	-0.20	-0.57	0.02	-0.37	0.15
	(1.49)	(0.94)	(0.39)	(0.31)	(0.65)	(1.43)
Firm age	0.04***	0.03**	0.01**	0.01*	0.02**	0.03*
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
Firm size	1.35*	0.85***	0.43***	0.30***	0.11	0.05
	(0.53)	(0.25)	(0.11)	(0.08)	(0.17)	(0.38)
Listed	0.58	2.21	0.51	0.02	-0.32	6.14**
	(2.78)	(1.48)	(0.62)	(0.50)	(1.02)	(2.26)
ROA	0.03	0.16**	0.09***	0.14***	0.15***	0.19*
	(0.06)	(0.06)	(0.02)	(0.02)	(0.04)	(0.09)
Debt ratio	0.02	0.00	-0.00	0.01	0.02	0.03
	(0.03)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03
N	1,674	1,674	1,674	1,674	1,674	1,674
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note(s): This table shows the results of quantile regressions. FOF is the independent dummy variable in all models, which indicates whether the firm is an FOF or not. Employee growth is the dependent variable in all models, and it is calculated as the yearly percentage increase/decrease of the number of employees for firm i between time t and t-1. Industry and year dummies are not reported but included in the regressions.
* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001.

The coefficient of the linear OLS panel regression is negative (-1.98) but statistically not significant. The results of the quantile regressions also show non-significant results. Our results do not support hypothesis 2. Foundation ownership seems not to have an effect on employee growth.

4.5.3 Robustness checks

The robustness checks are shown in Table 11:

Table 11: Robustness checks for growth investigations of FOFs

	A. Different growth rate calculation groups					
Variables	**1-year growth rate Model 1 Sales Growth**	**2-year growth rate Model 2 Sales Growth**	**3-year growth rate Model 3 Sales Growth**	**1-year growth rate Model 4 Employee Growth**	**2-year growth rate Model 5 Employee Growth**	**3-year growth rate Model 6 Employee Growth**
FOF	-2.33*	-5.92*	-8.33*	-1.98	-4.21	-5.52
	(0.93)	(-2.44)	(-2.15)	(1.49)	(-1.50)	(3.87)
Firm age	0.03***	0.9***	0.12***	0.04***	0.08**	0.10***
	(0.01)	(3.60)	(4.04)	(0.01)	(3.11)	(0.03)
Firm size	-0.26	-0.03	0.08	1.35*	2.00**	4.44***
	(0.50)	(-0.03)	(0.05)	(0.53)	(2.80)	(1.32)
Listed	0.75	4.01	-0.03	0.58	7.13	-3.05
	(1.93)	(0.62)	(-0.00)	(2.78)	(0.88)	(6.06)
ROA	0.15	0.54*	0.91**	0.03	-0.11	-0.08
	(0.09)	(2.11)	(3.01)	(0.06)	(-0.47)	(0.12)
Debt ratio	0.10*	0.12	0.24	0.02	-0.03	0.03
	(0.04)	(1.40)	(1.62)	(0.03)	(-0.36)	(0.09)
N	1,672	1,721	1,454	1,674	1,647	1,356
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Table 11: Robustness checks for growth investigations of FOFs (continuing)

	B. Different ownership stake groups			
	Foundation ownership in FOF between 25-100%	**Foundation ownership in FOF between >50-100%**	**Foundation ownership in FOF between 25-100%**	**Foundation ownership in FOF between >50-100%**
Variables	**Model 7 Sales Growth**	**Model 8 Sales Growth**	**Model 9 Employee Growth**	**Model 10 Employee Growth**
FOF	-2.33*	-2.69*	-1.98	-2.37
	(0.93)	(1.11)	(1.49)	(1.77)
Firm age	0.03***	0.03***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)
Firm size	-0.26	-0.34	1.35*	1.52*
	(0.50)	(0.62)	(0.53)	(0.68)
Listed	0.75	0.75	0.58	0.43
	(1.93)	(2.40)	(2.78)	(3.53)
ROA	0.15	0.11	0.03	0.01
	(0.09)	(0.10)	(0.06)	(0.07)
Debt ratio	0.10*	0.09	0.02	-0.00
	(0.04)	(0.05)	(0.03)	(0.04)
N	1,672	1,353	1,674	1,353
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Note(s): This table shows the result of the robustness checks. In (A) we check for different growth rate calculations for both sales and employee growth. Here, we use the 1-year (between time t and t-1), 2-year (between time t and t-2) and 3-year (between time t and t-3) growth rate. In (B) we check for different ownership stakes for both sales and employee growth. Here, we consider cases where the foundation holds between 25 and 100% of the FOF (Model 7 and 9) and cases where the foundation holds between more than 50% of the FOF (Model 8 and 10). In all models, FOF is the independent variable. Industry and year dummies are not reported but included in the regressions.
* indicates p<0.05, ** indicates p<0.01, *** indicates p<0.001.

The first robustness check concerns an alternative method to calculate growth. In our main analyses, we used the one-year firm growth rate. In this robustness check, we use a two-year growth rate (yearly increase/decrease between time t and t-2) and a three-year growth rate (yearly increase/decrease between t and t-3) for both sales and employee growth. The coefficients of -5.92 ($p<0.05$) and -8.33 ($p<0.05$) show that foundation ownership still has a negative effect on sales growth and that these coefficients become even stronger than for the regressions using the one-year growth rate. As with our main analyses, we could not find an effect of foundation ownership on employee growth.

The second robustness check focuses on the definition of FOFs. In our main analysis, FOFs are defined as firms where the foundation holds more than 25% of the equity. Now, we apply a stricter and narrower definition and define FOFs as firms where the foundation holds more than 50% of the equity. We also excluded the respective control firms. Since a higher equity stake is generally associated with a higher influence on the firm, we expect a higher effect for FOFs when using this stricter definition. The coefficient of -2.69 ($p<0.05$) supports our expectation. FOFs grow 2.69% (versus 2.33% when using the wider definition) less per year in relation to the control group. Again, we did not find an effect with regard to employee growth.

As another robustness check, we ran our models without industry controls, which may not be necessary as industry effects are already accounted for through the matching process. Excluding industry variables from our regressions leaves the results almost unchanged pointing towards their robustness.

4.6 Discussion

How does foundation ownership influence firm growth? Our analysis shows that foundation ownership has a negative effect on sales growth but no effect on employee growth. We also find that the negative effect on sales growth becomes stronger for the upper than for the middle or lower quantiles of the growth distribution. We explain our results with the characteristics of foundations as owners. As an important goal, foundations strive to preserve their assets. Thus, they avoid unnecessary risks such as extreme sales growth, which can endanger firm survival. The non-significant effect of foundation ownership on employee growth can be explained by the strong employee orientation of FOFs leading them to invest more than other firms into their own capabilities and human resources, particularly when growth opportunities arise. This strong employee orientation should have a positive effect of foundation ownership on employee growth, which counteracts the negative effect resulting from the strong risk aversion of the foundation. In sum, we argue that building up staff is a double-edged sword. For FOFs, there exist two effects or rationales that go in different directions and seem to cancel out each other explaining the non-significant result. On the one hand, building up personnel and staff can be risky and costly, which FOFs may not like due to their strong risk aversion. On the other hand, FOFs and foundations as owners also value being independent from other firms and suppliers, which is why they invest more than other firms into their core competences, key personnel and key resources with the goal of building up a strong resource base.

By showing that FOFs seem to avoid extreme risks, our study contributes to the literature on FOFs and performance. So far, prior research has investigated the performance implications of FOFs (Herrmann & Franke, 2002; Thomsen & Rose, 2004; Block et al., 2020a) without considering that FOFs may also differ with regard to their risk (behavior). Yet, risk and return are two sides of the same coin and only looking at performance without considering risk provides an incomplete picture. The results of our study are also in line with prior research as they demonstrate that FOFs have a strong stakeholder and employee orientation (Børsting & Thomsen, 2017; Draheim & Franke, 2018). The strong employee orientation helps to explain why the negative effect of foundation ownership on firm growth seems to exist only for sales growth but not for employee growth. Beyond the research on FOF, our paper also contributes to the broader literature on how firm ownership affects firm growth. So far, this literature has focused on family (Miroshnychenko et al., 2020), managerial (Lappalainen & Niskanen, 2009), and financial investor ownership (Thomsen & Pedersen, 2000). Our study shows that foundation ownership matters as well.

Our results also have practical implications. It appears that transferring ownership into a foundation may come with a growth penalty for the firm, which is an important information for founders and business families who consider setting up a foundation for succession purposes as well as for investors seeking to invest in FOFs. FOFs may have problems to compete against other firms in dynamic and high-growth industries.

However, our study is not without limitations, which open avenues for further research. First, as there is hardly any data available on foundations, we may miss important information and variables, which could help us to dig deeper into the reasons behind the high-risk aversion of foundations as owners. For example, it would be highly instructive to investigate the charters of foundations charters, particularly the description of the purposes of foundations. Qualitative, interview-based research may also help to understand better the motives of foundations that lead FOFs to avoid high growth. Second, one needs to be careful to generalize the results of our study to FOFs beyond the DACH region. Although the phenomenon of FOFs also exists in Northern Europe, the legal and institutional context in Northern Europe is different from the DACH region and it is unclear whether similar results would be obtained. Moreover, there are also special cases such as the US where private foundations and trusts are not allowed to own more than 20% of the equity of a firm (Fleishman, 2003). Thus, it is necessary that future research focuses on firm growth in FOFs using samples from a variety of legal, cultural and institutional contexts. Third, we cannot differentiate between the treatment and selection effects of foundation ownership. Do owners of firms with low growth (ambitions) choose foundations as a succession vehicle or does foundation ownership lead to lower firm growth? To explore this question in detail, longer time series data allowing a before-after comparison is needed. Next, our study only considers total growth and does not distinguish between different growth modes such as organic or inorganic growth. We would expect that due to their risk aversion, FOFs are less likely than other firms to grow through mergers and acquisitions (M&A). Future research could therefore investigate the effects of foundation ownership on M&A behavior and performance. Finally, as our non-significant results for employee growth demonstrate, there may also be situations where FOFs are less risk averse than other firms. Future research could follow family firm research on innovation (Block et al., 2022) and explore under which conditions and circumstances FOFs make (risky) investments in Research & Development (R&D) and how these turns into innovation.

CHAPTER 5

Charitable and family enterprise foundations as firm owners: influence on acquisition behavior

Some of the largest firms in Europe are owned by enterprise foundations. These firms are referred to as FOFs. So far, however, we know little about how enterprise foundations as firm owners influence the strategy and behavior of the firms they own. Our study takes an agency perspective and investigates the acquisition behavior of FOFs. We distinguish between charitable and family enterprise foundations as firm owners. Our results show that firms with charitable foundations as owners are more likely to undertake acquisitions and acquire targets that are geographically and culturally more distant. Contrary to an agency perspective, we find that charitable foundation ownership leads firms to acquire targets from the same or a related industry, which we explain through the will of the founder imprinted in the purpose of the foundation.

This chapter is based on

Báu, M., Block, H. J., Fathollahi, R. (2023). Charitable and family enterprise foundations as firm owners: influence on acquisition behavior. *Working paper.*

5.1 Introduction

Enterprise foundations are a common type of firm owners in several European countries (Thomsen & Kavadis, 2022). Firms owned by enterprise foundations are referred to as FOFs. Prominent examples of such FOFs are Ikea (Sweden), Robert Bosch (Germany), A.P. Moller – Maersk (Denmark), Rolex (Switzerland), and Llyods Register (UK). Depending on the purpose of the foundation, one distinguishes between FOFs owned by charitable foundations and FOFs owned by family foundations (Block et al., 2020a; Uhl, 2022). While charitable foundations as firm owners distribute the dividends of the firm to charitable purposes, family foundations have the founder family as beneficiary and residual claimant. But how does this difference in ownership impact the FOF and its behavior and strategy? Despite enterprise foundations being owners of some of the largest and most successful firms in the world, we know little about their impact on the strategy and behavior of the firms they own. This is an important gap in the literature limiting our understanding of the role and impact of (enterprise) foundations in our society. Our study aims to reduce this gap by analyzing the acquisition behavior of FOFs, distinguishing between FOFs owned by charitable and family foundations.

Prior research shows that the identity and goals, as well as the monitoring capabilities of firm owners, have a strong impact on firm development and performance (Williams et al., 2018; Wright et al., 2002). Charitable foundations differ from family foundations in that they have little or no connection to the residual claimants of their assets as they distribute the dividends of the firm to charitable projects. The research on FOFs shows that such a situation can create a power void filled by the managers and employees of the FOF (Draheim & Franke, 2018), leading to agency costs. We posit that such agency costs should be lower with family foundations, which are typically set up as a succession vehicle to secure the founding family's long-term wealth and ensure the survival of the family firm (Block et al., 2020a; Uhl, 2022). The fact that the family as residual claimant is, in most cases, involved in the management of the foundation and monitoring of the firm reduces agency costs.

Such differences in agency costs have implications for the acquisition behavior of FOFs. FOFs owned by charitable foundations should be more likely to conduct acquisitions for managerial (empire-building) motives than FOFs owned by family foundations. Such a situation should (1) increase the likelihood of pursuing acquisitions, and (2) decrease the relatedness of the acquisition targets regarding industry, geography, and national culture.

Using a sample of 164 FOFs, owned by 85 charitable and 79 family foundations, we find support for some of our hypotheses. In line with an agency perspective, our results show that

FOFs with charitable foundations as firm owners are more likely to undertake acquisitions and acquire targets that are geographically and culturally more distant. Yet, contrary to an agency view, charitable foundation ownership increases the industry relatedness of acquisition targets, which we explain through an imprinting effect resulting from the will of the founder of the foundation.

With these results, our study contributes to the literature on FOFs and enterprise foundations as firm owners (Achleitner et al., 2018; Block et al., 2020a; Block, & Fathollahi, 2022; Børsting & Thomsen, 2017; Draheim & Franke, 2018; Herrmann & Franke, 2002; Thomsen et al., 2018). Previous research suggests agency problems in FOFs due to the absence of residual claimants (Draheim & Franke, 2018) and limited control mechanisms (Block et al., 2020a; Zellweger & Kammerlander, 2015). Our study supports this argument and shows that managers in FOFs owned by charitable foundations are more likely than managers in FOFs owned by family foundations to show agency behavior in firm acquisitions. By explicitly distinguishing between FOFs owned by charitable and family foundations, we also contribute to the literature on the heterogeneity within the group of FOFs (Block et al., 2020a). It seems that the foundation purpose makes a strong difference and affects the strategic behavior of FOFs. Finally, we contribute to the M&A literature (Eulerich et al., 2022), in particular to those studies analyzing how blockholder ownership influences the acquisition behavior of a firm (e.g., Chen et al., 2022; Miller et al., 2010). So far, this literature has not considered enterprise foundations as a separate blockholder type. Our results show that foundations as firm owners influence a firm's acquisition behavior and that this influence differs depending on the purpose of the foundation.

Regarding practical implications, the results of our study help owner families of family firms in their decision of setting set up a foundation as a succession vehicle (Uhl, 2022; Zeiter, 2004). While the potential for family conflicts may be reduced when transferring the family's ownership share into a foundation (Zellweger & Kammerlander, 2015), new owner/manager agency conflicts can arise. In particular, the choice of a charitable foundation as a succession vehicle, can lead to the development of a power void which managers might use to their personal advantage. This owner/manager agency conflict is reduced with family foundations, as the (former) business-owning remains the residual claimant. Hence, with charitable foundations there exists a trade-off situation between the reputation and tax benefits on the one hand and the owner/manager agency costs on the other hand. Another practical implication exists for the governance of FOFs (Hansmann & Thomsen, 2021). Our results imply that charitable foundations as firm owners need to carefully monitor the behavior of the managers of FOFs. To be able to do so, they might need to develop their own monitoring skills or hire external professional expertise.

5.2 Research context: FOFs in the German context

5.2.1 Definition and characteristics of enterprise foundations and FOFs in Germany

An enterprise foundation is defined as a foundation that owns a company. Other terms that are used in the literature are “industrial foundation”, “foundation with corporate interests”, and “Unternehmensträgerstiftung” as well as “unternehmensverbundene Stiftung” in the German context (Fleisch et al., 2018; Thomsen & Kavadis, 2022). The defining characteristic of enterprise foundations is that they own and control a firm, not the other way around. Hence, company foundations which pursue charitable projects on behalf of a firm as part of the Corporate Social Responsibility (CSR) strategy are not enterprise foundations. The enterprise foundation is independent and governs itself. Moreover, it has no owner or shareholder (Draheim & Franke, 2018; Thomsen & Rose, 2004). It is a legally independent institution that owns assets donated by the founder of the foundation (Hansmann & Thomsen, 2021; Thomsen & Kavadis, 2022; Van der Ploeg, 1995). Enterprise foundations have equity stakes as assets (Hansmann & Thomsen, 2021; Thomsen & Kavadis, 2022). Furthermore, every foundation has a foundation charter, which defines the purpose of the foundation as well the allocation of profits. According to German law, it is difficult to change the foundation charter after the founder of the foundation has passed away (Herrmann & Franke, 2002). State authorities act as supervisory institutions and ensure that the foundation complies with its charter.

FOFs are firms that are partly or fully owned by enterprise foundations (Block et al., 2020a; Eulerich, 2015; Herrmann & Franke, 2002; Thomsen, 2012). The FOF allocates its dividends to the enterprise foundation. In a next step, the foundation distributes these dividends to the beneficiaries of the foundation following the foundation purpose described in the foundation charter. Some of the largest firms in German-speaking countries are partially or fully owned by enterprise foundations. Some FOFs are even listed on the stock exchange (e.g., Fielmann, Beiersdorf, Thyssenkrupp, and SAP). For instance, Robert Bosch Stiftung GmbH, the owner of the Bosch company, is one of the largest and most visible enterprise foundations in Germany, with an equity stake of more than €5 billion (book value) in the Robert Bosch company. The Bosch foundation supports charitable projects in education (day-care and schools), health (hospitals) and global issues (democracy, climate change, peace, inequality, migration).[12]

5.2.2 Charitable versus family enterprise foundations as firm owners

In the German context, enterprise foundations fall into two broad categories. Depending on the purpose described in the foundation charter, the enterprise foundation may be either a charitable (i.e., "gemeinnützige Stiftung") or a family foundation (i.e., "Familienstiftung").

The two types of enterprise foundations differ substantially in their main characteristics and purpose (Block et al., 2020a). The purpose of charitable enterprise foundations as firm owners is to assure the long-term existence of the FOF and support society through financing charitable projects in education, science, art, and health (Thomsen & Kavadis, 2022; Van der Ploeg, 1995). Charitable enterprise foundations benefit from a favourable treatment by the German tax system. When assets are transferred into a foundation with a charitable purpose either before or immediately after the death of the founder of the foundation, as defined in the last will, no inheritance tax needs to be paid (Block et al., 2020a). This also applies to other types of taxes. In § 52 Abgabenordnung, the German law defines activities that promote the general public as charitable ("gemeinnützig"). In particular, this includes the promotion of science and research, education and upbringing, art and culture, religion, international understanding, development aid, environmental, landscape and monument protection, the idea of homeland, youth and old people's welfare, public health, welfare and sport.[13] Importantly, a foundation is not considered charitable when the beneficiaries of the foundation are a closed circle of persons. Family foundations as firm owners also aim to ensure the long-term existence of the FOF. However, their beneficiaries are not charitable projects but private individuals or families. Family foundations are typically used as a succession vehicle in case of absent children or sibling conflicts (Block et al., 2020a, b; De Massis et al., 2008; Friedman, 1991; Zellweger & Kammerlander, 2015). Due to the regulation of inheritance and succession in the charter, potential family conflicts may be reduced (Block et al., 2020a, b). The primary purpose of a family foundation is to secure the wealth of the founding family and ensure the long-term (financial) stability of the firm (Herrmann & Franke, 2002; Block et al., 2020a). With this foundation type, the family as the beneficiary will continue to profit from the dividends of the FOF (Block et al., 2020a). When assets are transferred into a family foundation, the equivalent

[12] See https://www.bosch-stiftung.de/en/what-we-do.
[13] See https://www.gesetze-im-internet.de/ao1977/52.html.

of an inheritance tax must be paid (Block et al., 2020a), although tax exemptions apply if the substance of the firm as a business enterprise is kept intact.

The two types of enterprise foundations differ with regard to the composition of their management board. The management board of charitable foundations is often staffed with individuals who have a non-profit background, lacking the relevant industry or business expertise and the entrepreneurial or managerial know-how to effectively control the management of the FOF (Block et al., 2020a; Maier et al., 2016; Zellweger & Kammerlander, 2015). In contrast, the management board of a family foundation typically consists of members of the business family who have the necessary skills and motivation for effective corporate control (Block et al., 2020a).

With a charitable foundation as the sole firm owner, no residual claimants exist (Draheim & Franke, 2018), resulting in low pressure on the management of the FOF, e.g., for higher profits (Franke & Draheim, 2018). This strengthens the power and position of the managers and employees of the FOF (Draheim & Franke, 2018), giving them an opportunity to act in personal self-interest. Table 12 summarizes the main differences between charitable and family foundations as owners of FOFs.

Table 12: Differences regarding charitable and family foundations as firm owners

Dimension	Charitable foundation as owner of FOF	Family foundation as owner of FOF	Reference(s)
Purpose of the foundation	Assures long-term existence of the FOF and support of society through financing of charitable projects	Assures the long-term existence of the FOF firm and support of the individuals or business families as beneficiaries, securing family wealth and avoidance of (family) conflicts over business succession	Draheim & Franke (2018) Block et al. (2020a) Achleitner et al. (2018)
Distribution of firm dividends and ultimate beneficiaries	Dividends are distributed from FOF via the foundation to charitable projects as ultimate beneficiaries	Dividends are distributed from FOF via the foundation to individuals or business families as ultimate beneficiaries	Block et al. (2020a) Achleitner et al. (2018)
Management board of the foundation	Foundation is managed by individuals with a background from the non-profit or philanthropic sector	Foundation is managed by members of the business family and/or professionals with a business background	Block et al. (2020a) Herrmann & Franke (2002) Achleitner et al. (2018)
Supervisory board of the FOF	Management of the foundation has a seat in the supervisory board on the FOF	Management of the foundation has a seat in the supervisory board on the FOF; typically, members of the business family are also involved	Herrmann & Franke (2002) Block et al. (2020a)
Relationship of residual claimants (= ultimate beneficiaries) with the firms	Residual claimants have no relationship with the FOF	Residual claimants are typically involved in the management board of foundation and sometimes also in the supervisory board of the firm	Draheim & Franke (2018)
Taxation	(Partial) exemptions from corporate, income and inheritance taxes	Corporate, income and inheritance taxes apply	Draheim & Franke (2018) Block et al. (2020a) Thomsen & Rose (2004) Uhl (2022)

Note(s): This table shows the differences between charitable and family foundations as owners of FOFs.

5.3 Theory and hypotheses

5.3.1 Charitable foundation ownership and the likelihood of acquisitions

Firms with a charitable foundation as an owner have no residual claimant (Draheim & Franke, 2018). That is, they do not have a (natural) person or a family, who receives the profit after all prior obligations have been paid. In addition, the control or monitoring capabilities of these firms are restricted due to the lack of specific industry knowledge and managerial expertise of the charitable foundation and its board members (Block et al., 2020a; Zellweger & Kammerlander, 2015).

From an agency perspective, such circumstances can facilitate a moral hazard behavior of the managers of the FOF. When managers have the possibility to engage in moral hazard and act in self-interest, agency theory would predict a trend toward over-investments and empire-building (André et al., 2014; Craninckx & Huyghebaert, 2015; Miller et al., 2010). Based on the free cashflow (Jensen, 1988) and hubris hypothesis (Malmendier & Tate, 2008; Roll, 1986), one would expect managers to use free cash flow to engage in acquisitions that enhance firm size rather than firm value leading to private benefits from managing a larger firm (Craninckx & Huyghebaert, 2015; Jensen, 1988; Miller et al., 2010; Wright et al., 2002). Managers in such firms may also overestimate their own abilities and believe they can manage the assets of the target more efficiently than the current management of the target firm (Roll, 1986). Thus, they may acquire other firms to boost their productivity by replacing the previous managers. We formulate the following hypothesis:

H1: FOFs with a charitable foundation as an owner have a higher likelihood to undertake acquisitions than FOFs with a family foundation as an owner.

5.3.2 Charitable foundation ownership and the relatedness of acquisition targets

We conjecture that the moral hazard behavior of managers in FOFs with a charitable foundation as an owner affects the acquisition propensity as well as the characteristics of the selected acquisition targets. Agency scholars have argued that opportunistic managers are more likely to make risk-diversifying acquisitions than other managers (Miller et al., 2010; Amihud & Lev, 1981). That is, they seek to build large conglomerate firms or empires of unrelated business units. Such diversifying acquisitions reduce the managers' employment risks as their job performance no longer hinges on the development of a single or a few related business units. Yet, while such diversifying acquisitions increase the managers' job security, they also increase the risk of acquisition failure and do not produce value for the firm and its shareholders, ultimately leading to a conglomerate discount (Berger & Ofek, 1995).

Regarding characteristics or relatedness of the acquisition targets, we distinguish between three forms of relatedness, namely (1) industry, (2) geographical, and (3) cultural relatedness.

Industry relatedness

We expect that managers in FOFs with charitable foundations as owners are exposed to a lower degree of monitoring from the foundation board. Charitable foundation boards exercise a weaker external ownership pressure toward the management of the FOF than family foundation boards. Moreover, the literature has shown that family-controlled firms prefer related acquisitions, as they represent a valuable access to external assets and expertise which may reduce firm risk (Gómez-Mejia et al., 2018; Hussinger & Issah, 2019). Thus, the private interests of family members in the performance of the FOF require a stronger monitoring of the controlled firms. This higher degree of freedom for managers of FOFs controlled by charitable foundations can favour opportunistic behaviors, including the decision to acquire targets in unrelated industries. By doing so, they try to hedge or at least reduce the risk that a downturn in one industry affects their job performance. Consider the example of Thyssenkrupp, a stock market listed German FOF with a charitable foundation as a block holder. For many years, the highly volatile and loss-making steel business was heavily cross subsidized by the firm's other business units, namely automotive, elevator, and submarines. Several hedge funds and activist investors tried to (unsuccessfully) change this situation and force the management to break up the conglomerate.[14] The Alfried Krupp von Bohlen und Halbach Foundation as the largest shareholder were in favour of the management not breaking up the conglomerate.

Therefore, while a manager's job may become more secure through an acquisition in an unrelated industry, there is a high risk that the acquisition itself fails and is value-destroying (Park, 2003; Bernile et al., 2017). Managers typically possess better knowledge and expertise about industries similar to their own in terms of markets, products, and technologies. The lack of knowledge and expertise from the target industry makes it harder for the managers to identify and realize synergies. Yet, charitable foundations as firm owners may lack the monitoring capabilities to stop managers from such moral hazard behavior. Indeed, in line with Desai et al.

[14] See https://www.ft.com/content/80c0d002-427c-11ea-a43a-c4b328d9061c.

(2005), we expect insider directors to exercise stronger monitoring in family foundations compared with weaker external ownership pressure in charitable foundations. Thus, we suggest:

> *H2a: FOFs with a charitable foundation as an owner have a higher likelihood to undertake industry unrelated acquisitions than FOFs with a family foundation as an owner.*

Geographical relatedness

A similar argument can be formulated for the geographical relatedness of the acquisition target. By acquiring a firm in a geographically distant country, managers can reduce the dependence of the firm on the home market and thereby make their own job safer. From a portfolio management perspective, distant acquisitions can provide benefits, including the ability to move resources, which can lead to greater security and the potential for more wealth in the primary business (Capron et al., 1998; Ragozzino & Reuer, 2011).

However, with geographically distant deals, it is also harder to send your own staff and management to run the target firm and manage the integration process (Malhotra & Gaur, 2014). Consider, for example, the current geopolitical situation resulting from the Ukraine conflict. By acquiring a US target, a manager of a European firm can reduce the exposure of the firm to geopolitical risks. Yet, while the exposure to geopolitical risks may decrease, the acquisition risk is higher than with geographically closer acquisition targets because geographically distant acquisitions present greater challenges for the acquirer than geographically close acquisitions. Moreover, it is more difficult to observe the quality of the target ex-ante before the deals and conduct careful due diligence, which increases information asymmetries.

Nonetheless, managers of FOF might still find it harder to integrate targets that are geographically close. The geographical proximity of the acquired entity might disrupt existing bonds with employees and communities. Thus, the easier solution might favour geographically distant targets even at the cost of higher coordination costs (Galdino et al., 2022). Therefore, in line with hypotheses 2a, we argue that charitable foundations as firm owners have a lower monitoring capacity and consequently might not discourage managers from a moral hazard behavior. Hence:

> *H2b: FOFs with a charitable foundation as an owner have a higher likelihood to undertake geographically distant acquisitions than FOFs with a family foundation as an owner.*

Cultural relatedness

Finally, cultural distance is another distinct source of uncertainty that might lead to acquisition risks. The integration of culturally distant target firms is complicated by differences in norms, values, communication styles, and behaviors between the acquirer and the target firm. This can lead to an increase of conflict, misunderstanding, and social barriers (Malhotra et al., 2011; Shimizu et al., 2004; Basuil & Datta, 2019). Moreover, cultural distance makes it harder to evaluate the quality of the target firm and the markets in which it operates and conducts careful due diligence. Furthermore, family-controlled firms might exacerbate potential cultural contrasts (Vaara, 2003). Hidden issues, connected to family culture or values might significantly influence the integration process (King et al., 2022) and discourage the acquisition of culturally distant targets. Thus, in line with the previous hypotheses, we suggest that charitable foundations as firm owners might exercise a lower monitoring of the managers of their FOF, leaving them opportunities for pursuing moral hazard behaviors. Therefore:

> *H2c: FOFs with a charitable foundation as an owner have a higher likelihood to undertake culturally distant acquisitions than FOFs with a family foundation as an owner.*

5.4 Data and methods

5.4.1 Sample and data sources

The focus of our study is on FOFs with headquarters in the DACH region, which are similar regarding (formal and informal) institutions. Some prior studies also focused on FOF focused on the DACH region, e.g., Achleitner et al. (2018) and Draheim and Franke (2018). FOFs are also common in Belgium, Luxemburg, the Netherlands, and Scandinavian countries.

We identified 333 FOFs in the DACH region through comprehensive manual data collection. We started with a list of German FOFs from Fleschutz (2009) and Besecke (2015), and we extended this list with additional firms by the BAFIN and other databases, such as Hoppenstedt and Amadeus. A firm is identified as a FOF when a foundation holds an equity stake[15] in the firm and/or acts as a general partner. Since general partners do not necessarily have an equity stake in a firm but possess substantial decision-making power due to their

[15] On average, the foundations in our sample hold more than 50% of the FOF shares. Nevertheless, there are a few foundations as minority equity stakes. But in these cases, the foundation acts as general partner.

unlimited liability risk (Chen et al., 2020), it is also important to consider them. Accounting data were available for 164 FOFs between 2010 and 2019.[16]

We retrieved accounting and ownership data from the Amadeus database provided by Bureau Van Dijk. Moreover, supplementary accounting data were collected from the German Federal Gazette (Bundesanzeiger). In addition to the ownership and accounting data, we collected acquisition data from Zephyr maintained by Bureau Van Dijk. Our data includes all completed acquisition transactions between 2010 and 2019, where the FOF acted as the acquirer.[17] Only transactions associated with a change of corporate control are included. In addition, the sample includes the deals of all subsidiaries of our sample of FOFs located in the DACH region. All other non-M&A related transactions, such as Initial Public Offerings (IPOs), capital increases, share buybacks, and joint ventures, are excluded. In so doing, we created a panel dataset that includes 164 FOFs and 316 acquisition transactions with complete information on the ownership, acquisition, and financial indicators.

In our panel dataset, 52% of the FOFs are controlled by charitable foundations and 48% by family foundations. 84% of the firms have their headquarters in Germany, 12% in Austria, and 4% in Switzerland. Nearly half of the FOFs (44%) operate in the manufacturing sector, followed by services (24%), retail (11%), and other sectors (21%). The firms in our dataset have a mean of 9,821 employees and were established on average 60 years ago. Since only about 10% of the firms in our sample are listed, we do not use stock market data.

Table 13 presents the annual distribution of acquisitions per year for FOFs owned by a charitable foundation (Group A) versus those owned by a family foundation (Group B).

[16] Several of the 333 FOFs do not have to publish their financial statements as they are excluded from the disclosure obligations due to small firm size.
[17] This comprises also the deals of the subsidiaries of the FOFs located in the German speaking region.

Table 13: Annual distribution of acquisitions

	A. FOFs owned by charitable foundations		B. FOFs owned by family foundations		Total (A + B)	
Year	**N**	**In % of total**	**N**	**In % of total**	**N**	**In % of total**
2010	24	10.20	7	8.60	31	9.80
2011	22	9.40	6	7.40	28	8.90
2012	20	8.50	6	7.40	26	8.20
2013	21	8.90	11	13.60	32	10.10
2014	27	11.50	5	6.20	32	10.10
2015	34	14.50	9	11.10	43	13.60
2016	22	9.40	14	17.30	36	11.40
2017	30	12.80	7	8.60	37	11.70
2018	25	10.60	12	14.80	37	11.70
2019	10	4.30	4	4.90	14	4.40
Total	235	100.00	81	100.00	316	100.00

Note(s): This table shows the annual distribution of acquisitions per year for each group (A) and (B).

5.4.2 Dependent variables

Acquisition(s). We consider only ownership transactions that are associated with a change of corporate control. In doing so, we excluded the non-M&A-related transactions, such as IPOs, capital increases, share buybacks, and joint ventures. We obtained this information from the Zephyr database. We computed two acquisition measures. The first measure is a dummy variable that takes the value 1 when the FOF has completed at least an acquisition in the respective year. The second measure is the number of acquisitions completed by a FOF in the respective year (Miller et al., 2010). The period considered in the study is between 2010 and 2019.

Industry Relatedness. Following Wang and Zajac (2007), we use a common measure for the business relatedness of two firms considering their statistical classification of economic activities. In the European community the statistical classification corresponds to the NACE code that is based on the international ISIC classification. In detail, we set the business similarity of two firms to be 1 if the first four digits of the NACE codes of the firms are the same, 0.75 if the first three digits are the same, 0.5 if the first two digits are the same, 0.25 if the first digits of the two firms are the same, and 0 if the first digits of the two firms are different.

Geographical Distance. In line with prior studies (Malhotra et al., 2009; Slangen & Beugelsdijk, 2010), we measured geographical distance as the actual distance in kilometres between the capital cities of the acquiring and the target countries. To correct for skewness, we log-transformed these distance values.

Cultural Distance is measured adopting the seven value dimensions identified by Schwartz (1994, 1999, 2006) by constructing a Mahalanobis distance measure (Mahalanobis, 1936; Berry et al., 2010). Schwartz developed the Schwartz Value Survey, which consists of seven national cultural value orientations: harmony, embeddedness, hierarchy, mastery, affective autonomy, intellectual autonomy, and egalitarianism. The index was calculated on the data collected from approx. 75,000 individuals in 71 countries. Adopting the cultural distance index proposed by Schwartz allowed us to avoid missing data among the international acquisitions. As a robustness test, we also consider the two other national culture frameworks commonly used in international business studies – Hofstede (2001) and GLOBE (House et al., 2004). For our calculations we rely on the measures calculated by Beugelsdijk et al. (2018).

5.4.3 Independent variable

Charitable foundation. A foundation can serve a charitable or a private purpose (e.g., Adloff, 2009). According to German law, an organization with a charitable purpose is defined as “A corporation shall serve public-benefit purposes if its activity is dedicated to the altruistic advancement of the general public in material, spiritual or moral respects” (§ 52 Abgabenordnung).[18] Charitable foundations enjoy tax exemptions and tax benefits. However, a family foundation serving private interests is taxed similarly to other legal entities (Uhl, 2022). This dichotomic variable takes a value of 1 when the FOF has a charitable foundation among its owners and is 0 when only a family foundation is among the owners. Note that in some cases, both a family and a charitable foundation can be present as firm owners. This legal construct is commonly referred to as a “Doppelstiftung” (Klinkner et al., 2020) and was present in 11 FOFs in our sample.

5.4.4 Control variables

First, we controlled for firm characteristics that might influence acquisition decisions. Since firm age and size may affect the propensity of a firm to acquire a business, we controlled for both measures. Firm age was calculated as the natural logarithm of the number of years that passed since the establishment of the firm. Firm size was measured as the natural logarithm of the net sales of a FOF at each year-end.

[18] See https://www.gesetze-im-internet.de/ao1977/52.html.

Second, to distinguish firms facing financial difficulties from better-performing firms, we controlled for firm growth, firm performance, debt ratio, and cash holdings. Firm growth was proxied as the log difference of the net sales of a focal firm between time t and t-1. Performance was measured as the ROA of the focal firm, calculated as the net income divided by total assets. The debt ratio, which may affect the decision to engage in restructuring activities, was calculated as total debt divided by total assets (Kaplan & Weisbach, 1992). Cash holdings was calculated as the ratio of cash and cash equivalents to total assets.

Third, to address potential alternative reasons for acquisition decisions, we control for alternative ownership structures that might influence the acquisition decision-making processes of the firm, such as the percentage of ownership controlled by the foundation, the presence of family owners, and being a listed firm. Thus, we introduced the following control variables in our regressions: Foundation ownership is the actual level of control exercised by a foundation in the FOF, measured as the percentage of shares controlled by a foundation. Family involvement is a dummy variable that indicates whether the founding family is present in the firm with family members involved in the FOF as owners or managers. Listed is a dummy variable that indicates whether the FOF is listed on a stock exchange.

Fourth, given that industry-specific factors may encourage companies to acquire and divest business units (Mulherin & Boone, 2000), we also controlled for the fixed effect of the industry by distinguishing four macro-categories, (1) retail, (2) manufacturing, (3) services and (4) other (Block et al., 2020a). Finally, to control for time dependency, the fixed effect of time was also incorporated into the analyses.

Table 14 summarizes the variables used in this study.

Table 14: Variable definitions for acquisition behavior investigations of FOFs

Variables	Definition
Dependent variables	
Acquisition (dummy)	Indicates whether a FOF acquired another firm (1) or not (0)
Acquisitions (continuous)	Number of deals per year for the focal firm
Industry relatedness	Count variable with following values: 0.00 = None of the NAICS 2017 digits match (e.g., 7145 and 8449) 0.25 = The first digit match (e.g., 2489 and 2571) 0.50 = The first two digits match (e.g., 2135 and 2198) 0.75 = The first three digits match (e.g., 2117 and 2113) 1.00 = All four digits match (e.g., 2113 and 2113)
Geographic distance	Distance in KM between the country of the acquiror and target (beeline). The distance between the respective capitals serves as the basis for the calculation
Cultural distance	Mahalanobis Cultural Distance for 7 Schwartz dimensions (1) Harmony (2) Embeddedness (3) Hierarchy (4) Mastery (5) Affective Autonomy (6) Intellectual Autonomy (7) Egalitarianism
Independent variable	
Charitable foundation	Indicates whether the foundation is a charitable (1) or a family (0) foundation.
Control Variables	
Listed	Dummy whether firm is listed (1) or not (0)
ROA	(Net income divided by total assets) * 100
Debt ratio	(Total debt divided by total assets) * 100
Firm size	Natural logarithm of the year-end net sales
Firm growth	Log-difference of net sales for firm i between time t and t-1
Cash holdings	Ratio of cash and cash equivalents to total assets
Firm age	Natural logarithm of the firm age
Family involvement	Family member has an equity stake or is in the board (supervisory or management) of the FOF
Foundation ownership	Ownership of foundation in firm in %
Year (2010-2019)	Year-dummy (fixed effects included) (are not reported)
Industry (four dummies)	Industry dummies (fixed effects included) (are not reported) Industry categories: (1) Retail, (2) Manufacturing, (3) Services, and (4) Other

Note(s): This table present the used variables in this study.

5.5 Results

The correlations are presented in Table 15. An inspection of the VIFs shows that multicollinearity is not a concern (Kutner et al., 2004). Table 16 displays the descriptive statistics and t-test results on the firm level and deal level for FOFs owned by a charitable foundation (Panel A) and a family foundation (Panel B).

Hypothesis 1 indicates that FOFs with a charitable foundation as an owner have a higher likelihood to undertake acquisitions than FOFs with a family foundation as an owner. We run a logistic regression to test this hypothesis using the acquisition dummy as the dependent variable (Table 17, Model 2). The regression coefficient is positive and significant (coeff. = 0.06; $p<0.01$), supporting our first hypothesis. Second, we consider the number of acquisitions each year as a dependent variable to further confirm our results. As this variable constitutes a nonnegative count variable, we run a negative binomial regression model (Table 17, Model 4). The regression coefficient is again positive and significant (coeff. = 0.12; $p<0.001$).

Hypotheses 2a, b, and c suggest that FOFs with a charitable foundation as an owner favour acquisitions that are less industry related (H2a), and more geographically (H2b), and culturally distant (H2c). For H2a (industry relatedness), we ran a tobit regression model (Table 18, Model 2) as the dependent variable is censored at zero and one; the regression coefficient is positive and significant (coeff. = 0.13; $p<0.05$), showing that FOFs with a charitable foundation as an owner increase the likelihood of acquisitions in related industries. The result contradicts hypothesis 2a. Then, we test hypothesis 2b (geographical distance). As the dependent variable is a nonnegative count variable, we run a negative binomial regression model (Table 18, Model 4). The regression coefficient is positive and significant (coeff. = 1442.20; $p<0.05$), showing that FOFs with a charitable foundation as an owner favour geographically distant acquisitions. This result supports hypothesis 2b. Finally, we test Hypothesis 2c (cultural distance) with a linear regression model (Table 18, Model 6). The regression coefficient is positive and significant (coeff. = 2.14; $p<0.05$), showing that FOFs with a charitable foundation as an owner favour culturally distant acquisitions. The result supports hypothesis 2c. Figure 6 summarizes our main findings.

Table 15: Correlation matrix for acquisition behavior investigations of FOFs

Variables	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Acquisition (dummy)	0.19	0.39														
(2) Acquisitions (continuous)	2.23	1.81	.													
(3) Industry relatedness	0.52	0.40	.	0.06												
(4) Geographic distance	2,291.45	3,339.21	.	0.25	0.08											
(5) Cultural distance	6.17	6.02	.	0.30	0.15	0.54										
(6) Charitable foundation	0.52	0.50	0.19	0.39	0.09	0.18	0.15									
(7) Firm age	7.58	0.02	-0.08	-0.03	0.04	-0.03	0.10	-0.10								
(8) Firm size	6.52	1.66	0.39	0.50	0.03	0.21	0.35	0.20	-0.11							
(9) Firm growth	0.04	0.73	-0.00	-0.01	0.04	-0.19	0.01	-0.01	0.02	0.23						
(10) Firm performance	4.82	5.16	0.14	0.26	-0.02	0.09	0.18	-0.10	0.02	0.14	0.08					
(11) Debt ratio	54.71	19.31	0.05	0.15	0.02	0.01	0.12	-0.06	0.06	0.20	0.05	-0.34				
(12) Cash holdings	12.85	12.20	-0.09	0.04	-0.11	-0.14	-0.11	-0.07	0.05	-0.25	-0.07	0.18	-0.32			
(13) Foundation ownership	53.29	41.70	-0.02	0.11	0.00	0.04	-0.00	-0.01	0.02	-0.13	0.04	0.04	-0.15	0.03		
(14) Family involvement	0.67	0.47	-0.04	-0.02	-0.06	0.06	0.12	-0.32	-0.12	0.12	-0.00	0.13	-0.07	-0.05	-0.16	
(15) Listed	0.17	0.37	0.42	0.42	0.14	0.28	0.36	0.16	-0.05	0.40	-0.01	0.06	0.13	0.16	-0.18	0.00

Note(s): Correlations with values of |0.13| or greater are significant at $p<0.05$.

Table 16: Descriptive statistics for acquisition behavior investigations of FOFs

	A. FOF owned by charitable foundation		B. FOF owned by family foundation		Differences in means (B – A)
Variables	**N**	**Mean**	**N**	**Mean**	**T-test results**
Firm-level					
Employees	698	8,330.60	571	4 173.40	-4,157.20***
Revenue (€ million)	706	2,313.90	621	902.60	-1,411.30***
Total assets (€ million)	782	2,305.70	719	804.80	-1,500.90***
Debt ratio (%)	704	53.10	640	55.90	2.90**
ROA (%)	678	4.20	610	5.20	1.00***
ROE (%)	677	9.40	608	12.30	2.90***
Cash holdings (%)	770	12.00	718	12.80	0.80
Foundation ownership (%)	833	52.50	766	54.20	1.70
Deal-level					
Deal period (days)	166	28.60	69	9.20	-19.40**
Deal value (€ million)	51	577.70	10	38.40	-539.30
Target revenue (€ million)	77	40.80	32	25.70	-15.10
Target total assets (€ million)	112	42.10	47	14.90	-27.20*
Target debt ratio (%)	112	57.00	47	68.30	11.30
Industry diversification	235	0.54	81	0.45	-0.10
Cultural distance	233	6.70	80	4.70	-2.00**
Geographic distance	235	2,448.30	81	1,165.40	-1,282.80***

Note(s): The firm-level variables refer to the acquiror. Deal period in days is calculated as announcement date – completed date.
+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001.

Table 17: Acquisition probability regressions (firm-level)

Regression Model	**Logit**		**Negative Binomial**	
Dependent Variables	**Acquistion (dummy)**		**Acquisitions (continuous)**	
	Model 1	Model 2	Model 3	Model4
Firm age	-0.30	-0.15	-0.64	-0.35
	(0.39)	(0.49)	(0.66)	(0.66)
Firm size	0.04***	0.04**	0.09***	0.08***
	(0.01)	(0.01)	(0.02)	(0.02)
Firm growth	-0.02	-0.02+	-0.05	-0.04
	(0.02)	(0.01)	(0.05)	(0.04)
Firm performance	0.01*	0.01**	0.01*	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Debt ratio	0.00	0.00	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Cash holdings	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Foundation ownership (%)	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Family involvement	-0.06*	-0.04	-0.09*	-0.06
	(0.00)	(0.03)	(0.04)	(0.04)
Listed	0.16***	0.15***	0.27***	0.27***
	(0.02)	(0.03)	(0.05)	(0.05)
Charitable foundation (H1)		0.06**		0.12***
		(0.03)		(0.03)
Industry dummies	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES
Wald chi2	159.89	143.05	205.08	215.37
Prob > chi2	0.00	0.00	0.00	0.00
N observations	1,113	1,113	1,113	1,113

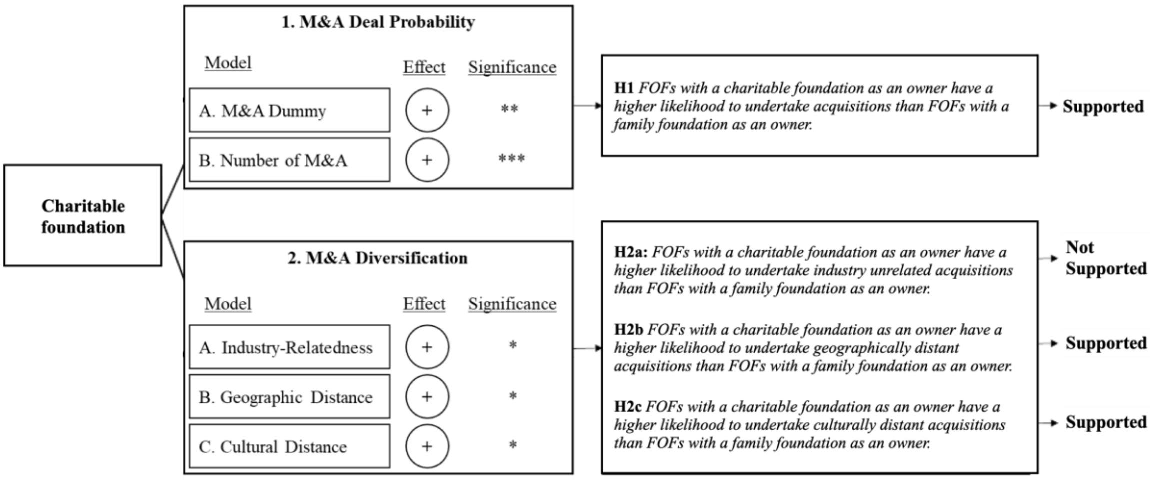
Note(s): Coefficients reported. Standard errors are in parentheses. Industry and year dummies are included but not reported due to space limitations.
+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001.

Table 18: Acquisition diversification regressions (deal-level)

Regression Model	**Tobit**		**Negative Binomial**		**OLS**	
Dependent Variables	**Industry Relatedness**		**Geographic Distance**		**Cultural Distance**	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Firm age	1.15	1.44	29 131.70	30 422.90	51.04***	55.84***
	(1.03)	(1.03)	(22 607.20)	(23 052.30)	(14.70)	(14.73)
Firm size	-0.00	-0.01	390.00	365.90	0.84**	0.65*
	(0.02)	(0.02)	(306.30)	(325.50)	(0.29)	(0.30)
Firm growth	0.02	0.02	-347.20	-348.00	-0.40	-0.30
	(0.02)	(0.02)	(223.80)	(246.00)	(0.31)	(0.31)
Firm performance	-0.00	-0.00	-101.50	-130.60	0.08	0.09
	(0.01)	(0.01)	(143.30)	(146.20)	(0.08)	(0.08)
Debt ratio	-0.00	-0.00	-55.32	-51.10	-0.00	0.01
	(0.00)	(0.00)	(44.15)	(43.86)	(0.03)	(0.03)
Cash holdings	-0.01+	-0.00+	-71.08	-62.21	-0.02	-0.02
	(0.00)	(0.00)	(78.79)	(82.44)	(0.05)	(0.05)
Foundation ownership (%)	0.00	0.00	-5.38	-2.06	0.00	0.00
	(0.00)	(0.00)	(17.75)	(17.01)	(0.01)	(0.01)
Family involvement	-0.02	0.02	46.84	999.20	1.88*	2.49**
	(0.06)	(0.07)	(1 279.10)	(1 448.50)	(0.92)	(0.95)
Listed	0.14*	0.13*	2 432.10	2 327.10	3.17***	3.09***
	(0.06)	(0.06)	(1 346.30)	(1 328.80)	(0.85)	(0.84)
Charitable foundation (H2a-H2c)		0.13*		1 442.20*		2.14*
		(0.07)		(857.30)		(0.94)
Industry dummies	YES	YES	YES	YES	YES	YES
Year dummies	YES	YES	YES	YES	YES	YES
LR chi2/Wald chi2	23.38	27.35	13,463.27	5,920.14		
Prob > chi2/Prob > F	0.32	0.20	0.00	0.00	0.00	0.00
R^2					0.29	0.30
Adj. R^2					0.23	0.24
N observations	264	264	264	264	264	264

Note(s): Coefficients reported. Standard errors are in parentheses. Industry and year dummies are included but not reported due to space limitations.
+ p<0.1; * p<0.05; ** p<0.01; *** p<0.001.

Figure 6: Summary of main findings for acquisition behavior investigations of FOFs



Effect = Observed relationship: + for positive effect or – for negative effect or | for no effect.

* p<0.05; ** p<0.01; *** p<0.001.

5.6 Discussion and outlook

5.6.1 Summary and interpretation of main results

Charitable foundations have been recognized as being different from family foundations, also in their characteristic as firm owners (Block et al., 2020a). So far, it has been overlooked how these differences influence the behavior of FOFs. Our results indicate that FOFs with a charitable foundation as an owner are more likely to make acquisitions. We explain this phenomenon with the agency theory. The lack of a residual claimant and the limited monitoring capabilities of charitable foundations create a power void. The latter gives the managers of FOFs latitude for moral hazard and self-centred behavior. Our study shows that this leads to more risky acquisitions (regarding geographical and cultural relatedness).

Contrary to the logic of agency theory, however, we do not find that charitable foundation ownership increases the likelihood of industry-unrelated acquisitions. Our results show the opposite. FOFs with charitable foundations as owners have a higher probability of acquiring firms within the same industry. How can this counterintuitive result be explained? We argue that charitable foundations interpret the will of the foundation's founder in a narrower sense than family foundations do. The founder of the foundation typically wants to preserve his or her lifework, which is closely connected to the firm that he or she has created and, consequently also the industry. We argue that charitable foundations as owners stay very close to the charter of the foundation and do not try to re-interpret the will of the founder of the foundation and the contents of the charter. This may be different in the case of family foundations whose beneficiaries and board members are often relatives of the founder of the foundation and who are often still emotionally connected to the FOF. In FOFs with charitable foundations, the will of the founder of the foundation has a strong imprinting effect on the managers. Imprinting is defined as the "Process through which a focal entity develops characteristics that reflect prominent features of the environment, and such characteristics persist despite significant environmental changes in subsequent periods" (Erdogan et al., 2020; Marquis & Tilcsik, 2013; Stinchcombe, 1965). More specifically, the founder of the foundation imprints the "organizational tradition" at the formation stage that survives and persists over time (Erdogan et al., 2020; Marquis & Tilcsik, 2013). The tradition is handed down from generation to generation, e.g., through storytelling (Kammerlander et al., 2015; Erdogan et al., 2020) or through the foundation charter.

Our study also relates to the literature on the behavior of agents working for principals donating profits to charity instead of consuming them (Dijk & Holmen, 2017; Reichert & Sohn, 2022). It is suggested that a firm with a charitable purpose or a high level of CSR makes it psychologically harder for managers and employees to engage in moral hazard and shirk due to reciprocity and guilt aversion (Dijk & Holmen, 2017). Our study does not support this argument as we find that ownership by charitable enterprise foundations does in fact increase the agency behavior of managers in FOFs. It seems that the charitable activities of the enterprise foundation are not strong enough to catch the attention of the management of FOFs.

5.6.2 Practical implications

Our findings have practical implications, especially for the founders and/or founding families of foundations (Uhl, 2022; Zeiter, 2004). When a foundation is established as a firm succession vehicle, the founders of the foundation need to think carefully about the type of the foundation that best suits their goals. It seems that in charitable foundations, the goal is to preserve the founder's heritage and stay in the original industry of the FOF, decreasing the flexibility of the firm regarding changes in its markets and business model. This inflexibility could lead to several problems, particularly stagnation or declining industries. Today, markets and industries are changing rapidly. Therefore, a flexible and dynamic approach regarding industry scope may be necessary to ensure the long-term survival of the FOF. Our results indicate that FOFs owned by family foundations are "better" examples in this regard.

For policymakers, our results show that not all FOFs are alike and that the type of foundation (charitable or family) seems to have an influence on the strategy and behavior of

FOFs. This heterogeneity within the group of FOFs should be considered and accounted for in the discussion about the legal form and status of FOFs, which is a current debate in Germany and other EU countries (Sanders, 2022; Sanders et al., 2021). In these discussions, the Danish model of an enterprise foundation is often used as an inspiration or benchmark for a new legal form that makes establishing FOFs easier and more flexible. Enterprise foundations in Denmark are relatively close to the model of German charitable foundations owning firms such as Bosch, Mahle or ZF.

5.6.3 Limitations and avenues for future research

Our results should be treated with caution because of the limitations of the study. Some of these limitations suggest interesting new directions for future research. First, our study analyses only one dimension of the heterogeneous nature of foundations and FOFs, namely the purpose of the foundation. Future research may investigate further differences within the group of FOF, such as the governance structure: Who sits on the board of the foundation and how does this influence the strategy, evolution, and performance of FOFs? How are the board members of the foundation appointed, and what is the board tenure and overlap with the board of the FOF? Second, our sample only contains firms with headquarters in the DACH region. Future research could investigate the effects of the purpose of charitable foundations on FOFs using a sample of FOFs from Northern Europe. The Danish model of the enterprise foundation, for example, allows the board of the foundation to be more flexible in the interpretation of the foundation charter or even permits it to change the purpose of the foundation over time (Ørberg, 2022), which is difficult to do in Germany. Hence, the influence of the foundation on the behavior and strategy of FOFs may also differ. Third, our study and analysis could be extended to other important, long-term managerial decisions such as investments in R&D or sustainability. Applying our agency arguments to these important outcome variables would suggest that charitable and family foundation differ in these aspects of firm strategy as well.

CHAPTER 6

Capital structure of SFO-owned firms

Single family offices (SFOs) manage trillions of dollars worldwide. The enormous value of assets under management highlights their key role as a cohesive wealth management tool globally. Despite the increasing relevance of SFOs, research on SFOs is still in its early stages. Particularly little is known about the capital structure of the firms owned by SFOs. By drawing on a hand-collected sample of 173 SFO-owned firms in the DACH (Germany, Austria, Switzerland) region, we compare the capital structure of SFO-owned firms with the capital structure of family-owned firms. Our empirical results show that SFO-owned firms display a higher long-term debt ratio than family-owned firms, indicating that SFO-owned firms follow trade-off theory, similar to private equity-owned firms. Additionally, we show that this effect is stronger for SFOs that sold their original family firm. In contrast, family-owned firms tend to be more conservative in their financial decision-making and seem to follow the logic of the pecking order theory.

This chapter is based on

Block, H. J., Fathollahi, R., Eroglu, O. (2023). Capital structure of single family office-owned firms. *Accepted in Journal of Family Business Strategy.*

6.1 Introduction

A single family office (SFO) is a legal and organizational entity owned by a single owner family that manages, among other things, the wealth of one family on a long-term basis (Zellweger & Kammerlander, 2015). In addition to wealth management, SFOs can provide tax and legal advisory, family counselling or support in the pursuit of philanthropic goals. To date, SFOs are managing trillions of dollars worldwide (Beech, 2019), with an increasing relevance as the number and size of high-net-worth families is expected to rise (Hagan, 2021). Although SFOs are becoming more relevant, research on SFOs is still in its infancy (Welsh et al., 2013; Schickinger et al., 2022).

The identity of large firm owners, such as institutional investors (Wright et al., 1996; Crane et al., 2016), (family) foundations (Draheim & Franke, 2018; Block & Fathollahi, 2022), or owner families (Poutziouris, 2001), has been shown to impact firm-level outcomes. Past studies have focused, amongst others, on capital structure decisions, which is important for firm survival (Koropp et al., 2014; Jansen et al., 2023), as capital structure directly influences a firms´ financial stability (e.g., Gertler & Hubbard, 1990), growth potential (e.g., Hackbarth & Mauer, 2012; Billett et al., 2007), bankruptcy risk (e.g., Castanias, 1983; Ayres & Dolvin, 2019), and cost of capital (e.g., Molly et al., 2012; Chua et al., 2011).

Prior research has examined the capital structure choices of private equity-owned (Brown et al., 2021) and family-owned firms (for a meta-analysis, see Hansen & Block, 2021), highlighting the contrasting factors that guide their decisions. Although prior studies have shown that owner families may differ in their willingness to use debt, there is generally a preference for internal over external financing options and a hierarchical approach in line with the pecking order theory (Jansen et al., 2023; Schickinger et al., 2022). The desire to retain corporate control as well as the fear of bankruptcy are explanations for this phenomenon (Gallo & Vilaseca, 1996; Mishra & McConaughy, 1999). In contrast, prior studies show that private equity firms mostly follow the trade-off theory with their portfolio firms and raise as much debt as they can (Gompers et al., 2016), in order to take advantage of the leverage effect and boost their investors` return. While these studies have provided valuable insights into capital structure choices of these two owners, a critical gap remains in our understanding of the determinants and decision-making processes in SFO-owned firms which represent a unique ownership structure that combines elements of both private equity-owned and family-owned firms. In our study, a firm is identified as "SFO-owned" when a SFO holds an equity stake of at least 25% in the firm.

Although both family-owned and SFO-owned firms are connected to owner families, the two firm types or owners have been argued to differ from each other in important ways, e.g., with regard to their investment portfolios (Bierl & Kammerlander, 2019), governance structures (Zellweger & Kammerlander, 2015), entrepreneurial behavior across generations (Schickinger et al., 2021), and preferences related to financing (Schickinger et al., 2022). We shall argue that SFOs as owners no longer have such a strong emotional and social bond to their portfolio firms as compared to entrepreneurial families owning a family firm, which shall have an impact on the capital structure and financing decisions of SFO-owned firms versus family-owned firms. We pose the following research questions: "How do SFO-owned and family-owned firms differ in terms of capital structure, particularly debt financing? To what extent does the maturity of debt matter (long-term versus short-term debt)? Is there a difference between SFOs who sold their original family firm and those that still own them?"

To investigate our research questions, we analyse a manually collected panel data set of 173 SFO-owned and 684 matched family-owned firms[19] in the DACH region. Our results indicate that SFO-owned firms have a higher long-term debt ratio than family-owned firms. Additionally, further analyses show that this effect is stronger for SFOs that sold their original family firm.

Our study contributes to two literature streams. The first stream is the literature on family offices (Block et al., 2019; Decker & Lange, 2013; Schickinger et al., 2021, 2022; Welsh et al., 2013; Wessel et al., 2014; Zellweger & Kammerlander, 2015). Our study shows that SFOs as owners have a distinct impact on their portfolio firms and therefore should be considered as a separate owner category next to other types of firm owners such as private equity firms or owner families with direct ownership. Our study also shows that SFOs are a heterogeneous group (Schickinger et al., 2021). The second literature stream is research on the capital structure and financing (decisions) of family-owned firms (Bacci et al., 2018; Gottardo & Moisello, 2014; Koropp et al., 2013; Molly et al., 2012, 2019; Pacheco, 2022; for a meta-analysis see Hansen & Block, 2021). We provide empirical evidence that SFO-owned firms differ from family-owned firms regarding (long-term) debt. Further, we show that short- and long-term debt should be considered as distinct categories when evaluating the capital structure of family firms. On a more general level, our study contributes to the corporate finance literature about the relationship between firm ownership and capital structure (e.g., Brailsford et al., 2002; Chaganti & Damanpour, 1991; Ampenberger et al., 2013; Schmid, 2013).

[19] We consider a firm as a family-owned firm when the founding family holds of direct equity take of at least 25%.

An investigation of how SFOs affect the capital structure of their portfolio firms is not only important for research but also matters for practice as some of the largest public and private companies in the DACH region are (partly) owned by SFOs, including BMW, BionTech SE, Knorr-Bremse AG. Through transferring their ownership into an SFO, owner families can avoid family conflicts and transfer their wealth into the next generation. Our analysis shows that this transfer of ownership is associated with a higher long-term debt ratio. The results of our study are also of interest for banks and other debt providers, which have to continuously evaluate their relationships with SFOs and SFO-owned firms.

6.2 Theoretical framework

6.2.1 The concept of SFOs: growth and development, definition, and attributes

SFOs have emerged as an attractive establishment for ultra-high-net-worth individuals seeking to provide transgenerational investment and advisory solutions to owner families, ensuring the enduring prosperity and harmonious management of wealth across successive generations (Schickinger et al., 2021; Wessel et al., 2014). This strategic pursuit is driven by the imperative of managing assets across generations, aiming to mitigate potential conflicts of interest that may arise among different generational cohorts within the family (Liechtenstein et al., 2008; Rivo-López et al., 2017). SFOs have gained prominence as a favoured mechanism for consolidating assets, particularly in the aftermath of family business divestments or the accumulation of substantial cash reserves (Bierl et al., 2018; Schickinger et al., 2022).

The concept of SFOs was relatively unfamiliar among owner families in German-speaking regions until the second half of the 20th century. By 1985, only about 25 SFOs existed in the region (Jandt et al., 2021). However, since then, there has been a significant increase in the number of SFOs. Estimates are that there are now around 350 to 450 SFOs in Germany alone (Jandt et al., 2021). Interestingly, the majority of these SFOs, approximately 70%, were established after 2000, indicating a growing interest among owner families in utilizing SFOs as an investment and/or succession vehicle (Bierl et al., 2018) for their wealth and family firms. While SFOs serve a singular family, MFOs operate as firms offering financial and advisory services to multiple families. Typically, MFOs are run by banks and/or asset management companies (Decker & Lange, 2013).

Definitions of family offices vary among authors in the literature. Rivo-López et al. (2017) define a family office as follows: A family office, rooted in tradition, represents a business meticulously managed by and for a specific family. Its principal objective revolves around centralizing the oversight of the family’s assets, with financial resources typically originating from the family's own capital, which often accumulates across generations. Decker and Lange (2013) portray a family office as an administrative entity entrusted with the management of intricate financial and personal affairs for one or more families spanning multiple generations. The primary role of the family office is to provide these families with invaluable advice and guidance. While definitions of family offices may vary, they all agree on the common understanding that these establishments are created to effectively handle the complex business affairs of entrepreneurial families. In our research, we follow the definition of a family office proposed by Zellweger and Kammerlander (2015), wherein they characterize it as “a separate legal entity placed between the family and its assets that is solely devoted to the management of the affairs of a single family” (p. 1290).

6.2.2 Comprehensive services provided by SFOs

SFOs provide a unique wealth management approach that caters specifically to the individual requirements and objectives of a single family (Kenyon-Rouvinez & Park, 2020). This personalized strategy in delivering financial and non-financial services distinguishes SFOs from other forms of wealth management. In the realm of financial services, SFOs play a crucial role in assisting families with asset allocation across a diverse range of investment classes, including equities, fixed income securities, real estate, and direct investments (Decker & Lange, 2013; Liechtenstein et al., 2008). This process involves a comprehensive analysis of families' financial goals, risk tolerance, and investment time horizon, resulting in the creation of a bespoke portfolio tailored to their specific needs. Moreover, SFOs prioritize generating consistent income and safeguarding wealth for their clients, facilitating long-term financial stability (Schickinger et al., 2022).

Beyond portfolio management, SFOs provide families with regular performance reports, equipping them with the necessary information to make well-informed decisions about their investments. These reports encompass performance data, updates on market conditions, and other pertinent information. SFOs also extend their expertise to tax planning and compliance, ensuring families' adherence to applicable laws and regulations (Rivo-López et al., 2017; Wessel et al., 2014).

In addition to their core financial services, SFOs encompass a diverse spectrum of non-financial offerings tailored to the needs of multi-generational families. These specialized services play a pivotal role in assisting families in the management of personal affairs, facilitation of philanthropic endeavours, transitioning of wealth, and fostering connections among affluent families and organizations (Rivo-López et al., 2017). Moreover, SFOs extend their expertise to encompass educational guidance, offering valuable insights and support in matters pertaining to the educational development of future generations. Additionally, SFOs may provide concierge services to address the practical day-to-day needs of their clients, including travel arrangements and event coordination. In essence, SFOs deliver a comprehensive suite of both financial and non-financial services meticulously crafted to empower families in realizing their long-term financial objectives while safeguarding and perpetuating their wealth for future generations (Liechtenstein et al., 2008).

6.2.3 Entrepreneurial mindset in SFOs

Unlike traditional firms, which primarily focus on maximizing shareholders' value, SFOs have a distinct objective of ensuring the long-term well-being and success of a single family over generations (Liechtenstein et al., 2008). An essential aspect of SFOs is their commitment to nurturing future generations and equipping them with the necessary skills and knowledge to effectively manage and sustain their inherited wealth. This becomes crucial considering the varying goals and motivations among different generations of inheritors. Research indicates that successor generations tend to exhibit a higher degree of risk aversion compared to the entrepreneurial mindset of the founding generation (Welsh et al., 2013). Furthermore, Schickinger et al. (2022) found that SFOs established in the first generation often prioritize entrepreneurial activities over asset preservation, while subsequent generations tend to emphasize wealth preservation and exhibit more risk-averse behavior. Consequently, successors may lean towards investing in established and profitable companies rather than in ventures with uncertain revenue streams (Block et al., 2019; Schickinger et al., 2022). The preservation of inherited wealth becomes a central concern for later generations, influenced by a fear of losing the accumulated assets created by their predecessors. Family offices typically place greater emphasis on the current profitability of portfolio companies rather than the potential for future revenue growth.

While previous studies on SFOs have primarily focused on their characteristics and investment patterns (e.g., Decker & Lange, 2013; Liechtenstein et al., 2008; Welsh et al., 2013; Schickinger et al., 2021, 2022; Zellweger & Kammerlander, 2015), little is known about their portfolio firms, in particular regarding capital structure.

6.2.4 Capital structure theories (in family business research)

Researchers have been extensively studying the capital structure of different firm types, investigating, amongst others, the factors that underly the respective decision-making process (Gompers et al., 2016; Schickinger et al., 2022). With regard to family firms, Hansen and Block (2021) show in a meta-analysis that family firms have slightly lower debt ratios than non-family firms. Yet, they also show that a large heterogeneity exists within the group of family firms. Before we develop our hypotheses about the differences between family-owned and SFO-owned firms regarding capital structure, we briefly review relevant theories that have been used in prior research on (family) firm's capital structures.

<u>Pecking order theory</u>

One of the traditional finance theories to understand financial decisions is the pecking order theory (Myers, 1984). This theory concentrates on a hierarchical order in which financing sources are chosen to finance investments. This theory suggests that companies prefer to finance their operations internally rather than through external sources. In case internal funds are not sufficient, the firm will utilize (bank) debt before considering equity funding as a last resort. Therefore, the theory posits that there is no optimal capital structure or target debt level (Degryse et al., 2012; Jansen et al., 2023). The pecking order theory is rooted in the issues that arise from the existence of asymmetric information (Myers, 1984). Generally, managers have more information about the firms´ prospects, risks and value than external investors. This asymmetric information may favour the issue of debt over equity, as the issuance of debt indicates the board´s belief that an investment will be profitable (Brealy et al., 2008). Empirical research has yielded mixed results regarding the existence of a pecking order. While some family firm scholars find that families follow a pecking order hierarchy and prefer external debt over external equity when additional financing is needed (Blanco-Mazagatos et al., 2007; Poutziouris, 2001; Schickinger et al., 2022), others have found a negative relation between family ownership and debt financing in both private and public family firms (Gallo & Vilaseca, 1996; Mishra & McConaughy, 1999). The desire to retain corporate control, as well as the fear of bankruptcy, can explain the latter (Gallo & Vilaseca, 1996; Mishra & McConaughy, 1999). Although research has shown that owner families may have varying levels of willingness to use debt, there is generally a preference for internal over external financing options and a hierarchical approach in line with pecking order theory (Schickinger et al., 2022).

Trade-off theory

Trade-off theory is an alternative theory that can explain financial decisions. In contrast to pecking order theory, it assumes that an optimal capital structure exists. According to this model, the optimal capital structure arises from the ideal balance between the costs and benefits of using debt (Harris & Raviv, 1991; Myers, 1977). One of the most important benefits of using debt is the tax-deductibility of interest payments (also called “tax shield”, Kemsley & Nissim, 2002). Another benefit is the leverage effect where the returns for equity holders are increased by the utilization of (cheap) debt. Achleitner et al. (2010) estimate the leverage effect to account for one third of value creation in private equity buyouts. Nevertheless, a high debt level also increases the costs of financial distress, the bankruptcy risk (Kraus & Litzenberger, 1973), and the costs of information asymmetry between equity and debt holders (Jensen & Meckling, 1976). Therefore, the optimal capital structure varies among companies, depending on the firms’ business model or characteristics (Myers, 1984). Empirical evidence shows, for example, that private equity firms mostly follow the trade-off theory and raise as much debt as possible (Gompers et al., 2016).

Family firm pecking order

Jansen et al. (2023) combine the SEW perspective with the pecking order theory to develop a family firm pecking order. They show that family-owned firms first prefer internal financing, next debt financing, followed by family capital, and last external capital. The argue that financing choices in family firms can also be influenced by managers´ preferences and non-rational elements (Romano et al., 2021; Koropp et al., 2014). The financing decisions are impacted by non-economic considerations such as emotions, family goals and risk-taking propensity (Romano et al., 2001). While family-owned firms may be aware of the economic impacts (e.g., lower firm growth) of their financing decisions, the owners may prioritize non-economic over economic goals (Motylska-Kuzma, 2017; Jansen et al., 2023). Particularly loss aversion and family control are vital in understanding financing decisions made by family firms (Burgstaller & Wagner, 2015; Schickinger et al., 2022). It has been noted that family firms often face a trade-off between maintaining control (preference for debt) and risk aversion (preference for equity) (Burgstaller & Wagner, 2015; Jansen et al., 2023). On the one hand, family owners may be reluctant to use financing sources that could dilute their control over the firm (Jansen et al., 2023). However, on the other hand, using more debt can increase the risk of default, thus requiring a more cautious approach to debt financing (Jansen et al., 2023). This highlights the complexity of financing decisions within family firms. These two components, loss aversion and family control, are central concepts of the SEW perspective (Gómez-Mejía et al., 2007).

While previous research has examined the capital structure of family-owned firms (for a summary, see Hansen & Block, 2021), we know little about the capital structure of SFO-owned firms. Although both family-owned and SFO-owned firms are connected to owner families, the two firm types or owners have been argued to differ from each other in important ways, e.g., with regard to their investment portfolios (Bierl & Kammerlander, 2019), governance structures (Zellweger & Kammerlander, 2015), entrepreneurial behavior across generations (Schickinger et al., 2021), and preferences related to financing (Schickinger et al., 2022). We shall argue that SFOs as owners no longer have such a strong emotional and social bond to their portfolio firms as compared to entrepreneurial families owning a family firm, which shall have an impact on the capital structure and financing decisions of SFO-owned firms versus family-owned firms.

6.3 Hypotheses

Our first argument concerns the relationship between the firm owner and the firm, respectively the management of the firm. Typically, after establishing an SFO, the founding families exhibit a tendency to disengage from the business, resulting in reduced participation in day-to-day operations. Moreover, the emotional and social connection to the original family business ID is reduced. From a principal-agent perspective this could lead to an increase in information asymmetries between the (management of the) firm and its owners. In line with the pecking order theory, higher information asymmetries prompt managers to rely more on debt financing. This is because the increased debt serves as a signal to the SFO that the managers of the SFO-owned firm are convinced of the profitability of their firm. Indeed, taking up (risky) debt can serve as a credible signal to the SFO owner (Flannery, 1986).

Additionally, SFOs are described as professional institutional investors that prioritize wealth management for the SFO owner (Hagan, 2021). This wealth management includes risk diversification achieved through investments in various asset classes (e.g., real estate, bonds, art) and through direct entrepreneurial investments in other firms (Rivo-López et al., 2017). In order to fully benefit from the leverage effect as a professional investor, a significant portion of debt is used to finance such investments. The leverage effect describes the situation that under certain circumstances equity returns can be increased by the utilization of (cheap) debt. Based on these two lines of arguments, we formulate the following hypothesis:

H1: SFO-owned firms have a higher debt ratio than family-owned firms.

Debt can be divided into short-term and long-term debt (e.g., Croci et al., 2011; Haider et al., 2021). Whereas short-term debt includes a debt maturity of up to a year, long-term debt comprises debt positions with a maturity of more than a year (Hall et al., 2000). Prior empirical evidence shows that particularly short-term debt may increase the bankruptcy risk of a firm (e.g., Della Seta et al., 2020; Stohs & Mauer, 1996). This is because short-term debt requires refinancing due to their relatively quick maturity and variable interest rates. A significant rise in interest rates can escalate the costs associated with servicing short-term debts, further straining a company's financial position (Garcia-Teruel & Martinez-Solano, 2007). Firms that are unable to refinance their short-term debt or manage the increased interest expenses resulting from deteriorating financial conditions face liquidity problems that could lead to financial distress and bankruptcy (Garcia-Teruel & Martinez-Solano, 2007). Compared to short-term debt, long-term debt requires less frequent refinancing, thereby reducing the risk of unexpected changes in credit conditions (Stohs & Mauer, 1996). In addition, long-term debt exploits tax benefits to a better extent than short-term debt (Leland & Toft, 1996). Since SFOs are long-term investors that engage in strategic capital allocation and asset management (Schickinger et al., 2022; Bierl et al., 2018), but still avoid significant (bankruptcy) risks, we posit the following hypothesis:

H2: The effect of a higher debt ratio for SFO-owned versus family-owned firms is particularly strong for long-term debt.

Moreover, we expect that the higher (long-term) debt ratio in SFO-owned firms is stronger for SFOs that sold their original family firm. Such SFOs have a lower emotional and social connection to their portfolio firms and therefore care less about losing control resulting from increased debt levels. Such SFOs act more like private equity rather than like family investors aiming to find the optimal capital structure based on trade-off theory. In turn, SFOs that are invested in their original family firm share many similarities with owner families that are direct owners of their family firms. The emotional and social connection is still present and the SFOs (and the owner families behind them) may regard their investments not only from a financial perspective. Loss aversion and a fear of losing control (Gómez-Mejía et al., 2007) due to high debt levels may impact capital structure decisions avoiding overly high debt levels. The following hypothesis should hold:

> *H3: The effect of a higher debt ratio for SFO-owned versus family-owned firms is particularly strong for SFOs that sold their original family firm.*

6.4 Methodology

6.4.1 Sample and data

We investigate our research question with a sample of SFO-owned and family-owned firms that are located in German speaking countries where entrepreneurial families and Mittelstand firms represent the backbone of the economy (Pahnke & Welter, 2019) and have a long-standing tradition (De Massis et al., 2018). We performed a multi-step manual approach to identify SFOs and their portfolio firms given the lack of transparency and difficulty in obtaining reliable information on SFOs from established databases (Liechtenstein et al., 2008; Cumming & Groh, 2018; Schickinger et al., 2022). Generally, SFOs are privately held, have no legal constraint to disclose information, and often minimize public presence to maintain their confidential nature (Decker & Lange, 2013; Schickinger et al., 2022).

Our data collection approach includes browsing through various web sources such as Google, Linkedin, Xing and databases such as Preqin, Pitchbook and the Private Banking Magazine. The latter served as one of the most important data sources, as this magazine mainly centres on family office-related topics. Since our study analyses the phenomenon of SFOs on portfolio firm-level, we only consider SFOs that make DEIs[20]. In total, we identified 93 German speaking SFOs and 173 SFO-owned firms. A firm is identified as "SFO-owned" when a SFO holds an equity stake (of at least 25%) in the firm. For these companies, we retrieved accounting and ownership data from the Amadeus database provided by Bureau Van Dijk for the period 2011 to 2020. Moreover, supplementary accounting data were collected from the German Federal Gazette (Bundesanzeiger).

Our control group comprises of 684 family-owned firms. To identify comparable family firms, we follow a five-to-one matching approach (the nearest neighbor) based on industry and firm size (Rosenbaum, 2010). For industry classification, we used the two-digit SIC codes and

[20]DEIs are acquisitions (majority or minority) of mature firms with a proven business model; these acquisitions are executed in a "direct" manner (i.e. not via funds) (Schickinger et al., 2022).

for firm size we used the total revenues in 2011 (or total assets if total revenue was not available). It should be noted that not for every single SFO-owned firm five comparable family firms were found. Therefore, the actual number of 684 comparable firms is lower than the maximum of 865 comparable firms (173 SFO-owned firms multiplied by 5). To categorize a firm as a family-owned firm, the founding family had to own at least 25% of the equity.

43% of the firms in our dataset operate in the manufacturing sector, followed by services (28%), retail (21%), and other industries (8%). Since only 19% of the firms are listed on a stock exchange, we do not include stock market data.

6.4.2 Variables

Dependent variables: debt ratio and long-term debt ratio

In line with Burgstaller & Wagner (2015), Fernando et al. (2013), and Ampenberger et al. (2013), we measure this variable as the ratio of total debt to total assets. In order to consider the debt maturity, we also calculated the long-term debt ratio which is defined as total debt minus current liabilities divided by total assets (Ampenberger et al., 2013).

Independent variables: SFO-owned firm (all SFOs) and SFO-owned firm (only SFOs that sold their original family firm)

We measured the independent binary variable SFO-owned firm (all SFOs) by assessing whether an SFO holds an equity stake of at least 25% (coded as “1”) or whether the family holds a direct equity stake of 25% (coded as “0”). This threshold is important in the German legal context (and also in many other countries especially in the EU) because it determines the minimum equity share (with voting rights) required to prevent decisions from being taken by a qualified majority (§ 179 (2) 1, AktG). It should be noted that despite the threshold is set at 25%, the SFOs in our sample hold on average 51% of the equity of the respective portfolio company. To differentiate between SFOs that still own their original family firm and those that have sold it, we also calculated the variable SFO-owned firm (only SFOs that sold their original family firm). A firm that is owned by an SFO that sold its original family firm is coded as “1”, otherwise as “0”.

Control variables

We included several variables as controls in the regressions. Firm size is measured as the natural logarithm of the year-end number of employees (Block & Fathollahi, 2022). Firm age was calculated as the natural logarithm of the number of years that passed since the firm's incorporation. Listed is a dummy variable that indicates whether the firm is listed on a stock exchange. To distinguish firms facing financial difficulties from better performing firms, we also controlled for firm performance, which was measured as ROA. This is the ratio between net income and total assets (Andres, 2008; Block et al., 2020). We measure firm growth through sales growth, which is the most common indicator of firm growth in literature (Delmar, 1997). Sales growth is a better measure to compare growth across industries because it is not influenced by differences in employee intensity across industries (Weinzimmer et al., 1998; Block & Fathollahi, 2022). It is calculated as the yearly percentage increase/decrease of net sales between time t and t-1. Cash holdings was calculated as the ratio of cash and cash equivalents to total assets. Board involvement is a dummy variable that indicates whether a SFO or family member is in the supervisory or management board of the firm (coded as "1") or not (coded as "0"). In addition, to address potential alternative reasons for capital structure decisions, we control for alternative ownership structures that might influence the firm´s capital structure decisions, such as the percentage of ownership controlled by the SFO or the presence of family owners. To determine bankruptcy risk, we calculated Altman-Z (Altman, 1983). This model represents one of the most widespread models in literature and it is calculated as the following function of $\mathrm{Z}' = 0.7177 * \mathrm{x}_1 + 0.847 * \mathrm{x}_2 + 3.107 * \mathrm{x}_3 + 0.42 * \mathrm{x}_4 + 0.998 * \mathrm{x}_5$, where $\mathrm{x}_1 = \frac{\text{current assets} - \text{current liabilities}}{\text{total capital}}$; $\mathrm{x}_2 = \frac{\text{retained earnings}}{\text{total capital}}$; $\mathrm{x}_3 = \frac{\text{EBIT}}{\text{total capital}}$; $\mathrm{x}_4 = \frac{\text{equity}}{\text{debt capital}}$; $\mathrm{x}_5 = \frac{\text{sales}}{\text{total capital}}$. A lower Altman-Z indicates a higher probability of insolvency. Furthermore, by considering the generation of the firm (Comino-Jurado et al., 2021), we control for a further family related factor. We use firm age as proxy for the family generation, where each 20-year period represents a new generation. Finally, given that industry-specific factors may impact the financial strategy of a company, we also controlled for industry effects by differentiating between (1) manufacturing, (2) retail, (3) services and (4) other (Block et al., 2020). In addition, to control for time dependency, time dummies were also incorporated into the analyses. Table 19 summarizes our variables.

Table 19: Variable definitions for capital structure investigations of SFOs

Variables	Definition
Dependent Variables	
Debt ratio	(Total debt/total assets) * 100
Long-term debt ratio	((Total debt – current liabilities)/total assets) * 100
Independent Variables	
SFO-owned firm (all SFOs)	Indicates whether a firm is owned by a SFO (1) or by a family (0)
SFO-owned firm (only SFOs that sold their original family firm)	Indicates whether a firm is owned by a SFO that sold its original family firm (1) or by a family (0)
Control Variables	
Ownership in %	Ownership of SFO or family in the firm in percent
Listed	Dummy whether firm is listed (1) or not (0)
ROA	(Net income/total assets) * 100
Firm size	Natural logarithm of the year-end number of employees
Firm age	Natural logarithm of the firm age
Firm growth	Yearly percentage increase/decrease of net sales (total assets) between t and t-1
Cash holdings	Cash and cash equivalents/total assets
Board involvement	Indicates whether a SFO or family member is in the supervisory or management board of the firm (1) or not (0)
Family generation	Firm age as a proxy for generation, where each 20-year period represents a new family generation
Altman-Z	$Z' = 0.7177 * x_1 + 0.847 * x_2 + 3.107 * x_3 + 0.42 * x_4 + 0.998 * x_5$ where $x_1 = \frac{current\ assets - current\ liabilities}{total\ capital}$; $x_2 = \frac{retained\ earnings}{total\ capital}$; $x_3 = \frac{EBIT}{total\ capital}$; $x_4 = \frac{equity}{debt\ capital}$; $x_5 = \frac{sales}{total\ capital}$
Year (2011-2020)	Year-dummy (fixed effects included) (are not reported)
Industry (1-4)*	Industry-dummy (fixed effects included) (are not reported)

Note(s): * Industry categories includes (1) Retail, (2) Manufacturing, (3) Services and (4) Other

6.5 Analyses and results

6.5.1 Descriptive statistics and correlations

Table 20 reports the descriptive statistics for our sample. Panel A provides the main summary statistics (mean, median, first and third quartiles) for the sample of SFO-owned firms. Panel B shows the statistics for the sample of family-owned firms.

Table 20: Descriptive statistics for capital structure investigations of SFOs

Variable	N	Mean	P25	P50	P75
Panel A: SFO-owned firms					
Sales (€ million)	948	1,699.57	40.29	142.12	666.77
Number of employees (#)	948	4,316.10	125.50	718.00	2,406.50
Debt ratio (%)	948	59.11	39.83	57.90	72.13
Long-term debt ratio (%)	948	32.67	14.62	27.35	42.53
Cash holdings	948	0.15	0.04	0.10	0.20
ROA (%)	948	1.45	0.49	4.11	8.57
Firm age (years)	948	35.55	12.00	21.00	40.00
Firm growth (%)	948	5.25	-3.32	3.89	11.89
Altman-Z	948	2.51	1.49	2.10	2.80
Family generation	948	2.24	1.00	2.00	2.00
Panel B: Family-owned firms					
Sales (€ million)	3,439	1,090.47	214.01	391.26	749.86
Number of employees (#)	3,439	5,211.03	653.00	1,515.00	3,328.00
Debt ratio (%)	3,439	58.26	45.05	59.04	72.71
Long-term debt ratio (%)	3,439	27.32	15.49	25.59	36.82
Cash holdings	3,439	0.12	0.03	0.08	0.17
ROA (%)	3,439	7.93	3.66	7.04	11.17
Firm age (years)	3,439	56.33	22.00	40.00	80.00
Firm growth (%)	3,439	4.10	-0.84	3.87	8.93
Altman-Z	3,439	3.63	2.06	2.75	3.96
Family generation	3,439	3.27	2.00	2.00	4.00

Note(s): Mean, median, 25% quartile and 50% quartile of selected variables of the study.

Not surprisingly and supporting the quality of our matching approach, the SFO-owned and the family-owned firms are similar regarding basic firm characteristics (e.g., firm size, firm age and (analogously) family generation). Concerning the dependent variable of this study, SFO-owned firms have a debt ratio of 59.11%, which is similar to family-owned firms. The long-term debt ratio, however, shows that SFO-owned firms are financed with significantly more long-term debt. Regarding firm growth, the results show that, on average, SFO-owned firms grow substantially more in terms of sales. Cash holdings are in SFO-owned firms higher than in the control group (15% versus 12%). These percentages are on the same level with a set of European listed firms (Mortal et al., 2020) and very similar to the 10% level for Italian private firms (Bigelli & Sanchez-Vidal, 2012). Concerning firm performance, the results show that family-owned firms generate a 6.5 percentage points higher ROA than SFO-owned firms.

Furthermore, the lower Altman-Z score of SFO-owned firms versus family-owned firms indicates that the bankruptcy risk is higher for SFO-owned firms.

As shown in Table 21, the correlations of debt ratio and long-term debt ratio with ROA, firm size, firm age, and cash holdings are negative and significant. Firm growth is positively correlated with SFO-owned firms and cash holdings. SFO-owned firm is negatively correlated with firm size, board involvement, ownership in %, family generation, and Altman-Z. We do not detect any strong correlations among variables that could cause multicollinearity concerns except for the variables family generation and firm age which are by their construction strongly related (Kutner et al., 2004). All VIFs range between 1.06 and 1.85 except for family generation (VIF = 27.4) and firm age (VIF = 27.3). We also calculated the main regressions once without considering firm age. The results remained stable.

Table 21: Correlation matrix for capital structure investigations of SFOs

Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**VIF**
(1) Debt ratio													
(2) Long-term debt ratio	*0.67*												1.06
(3) SFO-owned firm (all SFOs)	0.01	*0.10*											1.85
(4) Firm growth	-0.01	-0.01	*0.12*										1.03
(5) ROA	*-0.08*	*-0.04*	*-0.21*	0.01									1.09
(6) Listed	*-0.08*	-0.02	*0.22*	*0.04*	*-0.07*								1.22
(7) Fim size	*-0.08*	0.03	*-0.22*	*-0.06*	*0.09*	*0.18*							1.19
(8) Firm age	0.03	-0.02	*0.20*	*0.08*	*-0.04*	*-0.05*	*-0.18*						27.30
(9) Board involvement	*-0.03*	*-0.05*	*-0.39*	*-0.08*	*0.11*	0.02	*0.15*	*-0.13*					1.20
(10) Ownership in %	-0.02	*-0.06*	*-0.57*	*-0.06*	*0.12*	*-0.33*	*0.12*	*-0.12*	*0.18*				1.59
(11) Cash holdings	*-0.23*	*-0.12*	*0.11*	*0.09*	*0.11*	0.02	*-0.09*	0.02	*-0.07*	*-0.09*			1.06
(12) Family generation	-0.03	0.01	*-0.21*	*-0.08*	*0.03*	*0.05*	*0.18*	*-0.98*	*0.14*	*0.13*	-0.02		27.40
(13) Altman-Z	-0.03	*-0.16*	*-0.13*	-0.00	*0.14*	*-0.13*	*-0.19*	*0.08*	*0.04*	*0.09*	*0.03*	*-0.08*	1.12
Note(s): Statistically significant coefficients (p<0.1) are marked in italics.													Ø 5.59

6.5.2 Regression results

We calculated OLS linear regressions with clustered standard errors to test the effect of the two binary SFO-variables on the capital structure of the firms they own. Table 22 presents the results of the analyses. Hypothesis 1 posits that SFO-owned firms display an overall higher debt ratio than family-owned firms. By using overall debt ratio as the dependent variable in Model 1, we show that the coefficient is positive but not statistically significant (coeff. = 1.15; $p>0.1$), not supporting our first hypothesis.

Hypothesis 2 suggests that the effect of a higher debt ratio for SFO-owned firms versus family-owned firms is particularly present for long-term debt. The results of Model 3 demonstrate that the coefficient is positive and statistically significant (coeff. = 6.85; $p<0.05$), showing that SFO-owned firms indeed display a 6.85 percentage points higher long-term debt ratio compared to family-owned firms, supporting our second hypothesis. At the same time, Model 5 reveals that SFO-owned firms have a significant lower short-term debt ratio.

Finally, hypothesis 3 states that the higher (long-term) debt ratio in SFO-owned firms is stronger for SFO-owned firms that sold their original family firm. To explore this hypothesis, we run the same regressions in Model 2, 4 and 6 with SFO-owned firm (only SFOs that sold their original family firm) as independent variable. The results show that the direction of the effects remains the same, but the effect sizes are stronger. The coefficient of the long-term debt ratio (coeff. = 8.55; $p<0.05$) is again positive and significant. Therefore, we find supportive evidence for hypothesis 3.

Table 22: Capital structure investigations of SFOs

Variables	Model 1 Linear regression DV Debt ratio	Model 2 Linear regression DV Debt ratio	Model 3 Linear regression DV Long-term Debt ratio	Model 4 Linear regression DV Long-term Debt ratio	Model 5 Linear regression DV Short-term Debt ratio	Model 6 Linear regression DV Short-term Debt ratio
SFO-owned firm (all SFOs)	1.15		6.85**		-5.70***	
	(3.21)		(2.77)		(1.94)	
SFO-owned firms (only SFOs that sold their original family firm)		3.77		8.26**		-4.49**
		(4.10)		(3.68)		(2.20)
Ownership in %	-0.05	-0.03	-0.03	-0.04	-0.01	0.00
	(0.05)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)
Firm age	57.88	51.30	-57.02	-69.50	114.9	120.80
	(168.70)	(167.10)	(135.10)	(133.20)	(91.10)	(90.56)
Firm size	-1.22	-1.07	0.17	0.35	-1.39***	-1.43***
	(0.88)	(0.81)	(0.79)	(0.74)	(0.47)	(0.48)
Firm growth	-0.00	-0.00	-0.00	0.00	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Listed	-5.65**	-6.10**	-3.94	-4.48**	-1.71	-1.62
	(2.45)	(2.57)	(2.15)	(2.22)	(1.84)	(1.88)
ROA	0.18	0.18	0.19	0.19	-0.01	-0.01
	(0.40)	(0.40)	(0.37)	(0.37)	(0.06)	(0.06)
Board involvement	-2.11	-1.51	-0.89	-0.59	-1.22	-0.92
	(2.00)	(1.87)	(1.66)	(1.55)	(1.42)	(1.47)
Cash holdings	-44.53***	-44.92***	-22.08***	-22.51***	-22.45***	-22.41***
	(7.79)	(7.91)	(6.55)	(6.69)	(4.92)	(4.94)
Generation	0.82	0.77	-0.21	-0.36	1.02	1.14
	(1.80)	(1.78)	(1.46)	(1.44)	(1.02)	(1.01)
Altman-Z	-0.06	-0.05	0.04	0.05	-0.10	-0.10
	(0.09)	(0.09)	(0.11)	(0.11)	(0.05)	(0.05)
N	4,498	4,498	4,498	4,498	4,498	4,498
Controls	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note(s): * indicates p<0.1, ** indicates p<0.05, *** indicates p<0.01.

6.6 Discussion

6.6.1 Summary and interpretation of main results

Prior research suggests that SFOs (being intermediaries) differ from owner families being direct owners of their family firm (Schickinger et al., 2022; Zellweger & Kammerlander, 2015; Bierl & Kammerlander, 2019). So far, however, we know little about the impact that SFOs have on their portfolio firms. Our study reduces this gap and looks at the capital structure of SFO-owned firms. Our empirical results show that SFO-owned firms have a higher long-term debt ratio compared to 'traditional' family-owned firms. In addition, we show that this effect is higher for those SFOs that sold their original family firm.

To explain our findings, we use pecking order (Myers, 1984) and trade-off theory (Harris & Raviv 1991; Myers, 1977). We argue that trade-off theory (pecking-order theory) can be used to describe the financing and capital structure decisions of SFO-owned firms (family-owned firms). SFOs (being intermediaries) are less emotionally and socially connected to their portfolio firms as compared to owner families that are direct owners of their family firms. Having private equity like goals and involving investment professionals lead them to optimize the capital structure of their portfolio. They aim to take advantage of the leverage effect, that is, they aim to increase the returns for equity holders through (cheap) debt.

Our results also show that SFO ownership increases the long-term debt of their portfolio firms (and not the short-term debt). How can this finding be explained? We argue that although SFOs act like professional institutional investors and resemble private equity firms in many aspects, they are still afraid of the risks associated with short-term debt. Hence, they particularly avoid short-term debt, which is shown to increase the bankruptcy risk of a firm (e.g., Della Seta et al., 2020; Stohs & Mauer, 1996) (e.g., through refinancing or interest rate risks). In addition, short-term debt does not fully exploit the tax benefits associated with debt (tax shield) (Leland & Toft, 1996), reducing the attractiveness of high levels of short-term debt. Overall, our results suggest that regarding capital structure decisions, SFOs are somewhere in between private equity investors and entrepreneurial families that are direct owners of their firms. This conclusion is in line with the study of Schickinger et al. (2022), who study debt financing choices on the SFO-level and compare them to those of private equity firms. Their main findings are that SFOs are less likely than private equity firms to use debt and that this effect becomes stronger with older SFOs and increased owner involvement in the management of the SFO. Our result that SFOs tend to avoid short-term debt is in line with their finding as it shows that SFOs do not pursue a short-term leveraged private equity investment approach.

How can our results be interpreted from an SEW perspective? Our first main finding that SFO-owned firms have higher levels of long-term debt compared to family-owned firms is a sign that SEW plays a less important role for SFOs as compared to entrepreneurial families with direct equity ownership. Still, the fact that they seem to avoid short-term debt is a sign that SEW considerations still play a role. Unlike private equity investors, SFOs seem to avoid situations where high levels of short-term increase the insolvency risks of their portfolio firms. In this regard, SFOs as firm owners resemble entrepreneurial families that are directly invested in their family firms. Recent research by Bertschi-Michel et al. (2023) show that in a situation of a survival-threatening crisis, family owners are more likely to “sacrifice normative SEW dimensions and to protect instrumental SEW dimensions” (Bertschi-Michel et al., 2023, p. 1132) reducing the odds of insolvency. Avoiding short-term debt can certainly be considered as instrumental for avoiding a situation of insolvency. Our second main finding that SFOs which sold their original family firm differ from SFOs which still own their original family firm can also be interpreted from an SEW perspective. While the former group has little emotional and social connection to their portfolio firms, the latter group has an emotional and (most likely also) social connection to their portfolio firms. Prior family business research shows that such emotional and social bonds created through tradition and legacy (Erdogan et al., 2020; Sharma & Manikutty, 2005) influence strategic decision making. Our results suggest that this argument (to some extent) can also be applied to SFOs which still own their original family firms. Our findings are therefore in line with Schickinger et al. (2021) who develop a two-dimensional taxonomy of SFOs and suggest that SFOs differ according to whether the family still owns the original family or not.

Next to this SEW interpretation, our results can also be interpreted from a wealth diversification and portfolio theory perspective (Markowitz, 1952). SFOs and the entrepreneurial families behind them typically have their wealth well diversified over different investments and asset classes. Most likely, the level of diversification is higher than with entrepreneurial families that are directly invested in their family firms. For the latter group, the family firm and its assets constitute their main financial asset, which they aim to preserve and do not want to put into danger by overly high levels of debt. The utilization of external debt financing can potentially jeopardize their control over the firm. Banks frequently impose specific obligations, including the provision of information, collateral, and adherence to fixed interest payments, in the context of debt financing (Boot & Thakor, 2000), thereby augmenting the risk of insolvency. In countries such as Germany, creditor-friendly bankruptcy laws increase this threat to the control of the firm in the event of financial distress (Davydenko & Franks, 2008). The situation is different for SFOs and the entrepreneurial families behind them. Being more diversified in their wealth and asset allocation, they can accept higher levels of debt in their portfolio firms and benefit from the leverage effect associated with higher debt usage.

Finally, our results can also be interpreted from an agency and signalling perspective. The relationship between SFOs and their portfolio firms can be considered a principal-agent relationship, where the level of information asymmetry varies depending on the type of SFO. Prior research suggests that managers may use (risky) debt as a signal to their shareholders to signal high quality and profitability of their firms (Flannery, 1986). Yet, the value and need of this signal is reduced with lower information asymmetries. Our result that the debt levels are particularly high with SFOs that have sold the original family business is in line with this agency logic. Such SFOs know their portfolio firms less than SFOs that are invested in their former family business.

6.7.2 Implications for theory

Our study contributes to the small but growing literature on SFOs (e.g., Decker & Lange, 2013; Liechtenstein et al., 2008; Welsh et al., 2013; Wessel et al., 2014; Schickinger et al., 2021, 2022; Zellweger & Kammerlander, 2015), which is part of family business research. By showing that SFO ownership has an impact on the capital structure of firms, we extend the research by Schickinger et al. (2022) looking at the capital structure decisions of the SFOs themselves. We show that by increasing (long-term) debt SFOs are willing to accept a loss of control with their portfolio firms for an increased ROE, but they seem to do avoid increasing the company's bankruptcy risk.

Our study also contributes to broader corporate governance research on the firm-level effects of blockholder ownership (Edmans & Holderness, 2017). It appears that SFOs constitute a separate owner category somewhere in between private equity firms and business families as direct owners. So far, SFOs as firm owners have been overlooked in research on the consequences of firm and blockholder ownership. Our research also highlights the heterogeneity that exists within the group of SFOs (Schickinger et al., 2021) by showing that SFOs which sold their original family firm differ from SFOs which still own their original family firm. The latter type of SFO may have similarities with family foundations as intermediaries, which have recently gained visibility in family business research and practice (Block et al., 2020; Uhl, 2022).

Next to these contributions to family business and corporate governance research, our study also contributes to corporate finance and family business research on capital structure decisions. The results of our study show that capital structure and firm ownership interrelate with each other (e.g., Brailsford et al., 2002; Chaganti & Damanpour, 1991; Ampenberger et al., 2013; Schmid, 2013) and that trade-off theory (pecking-order theory) can explain the capital structure decisions of SFO-owned firms (family-owned firms). This way, our study also connects to prior research on the debt financing and capital structure decisions in family firms (Bacci et al., 2018; Koropp et al., 2013; Hansen & Block, 2021; Pacheco, 2022), where pecking order theory combined with an SEW perspective has become the prevailing explanation. Furthermore, our study shows that debt maturity matters in the relationship between family/SFO ownership and capital structure, and that family business research needs to distinguish between short- and long-term debt.

6.7.3 Implications for practice

The findings of our study have practical implications for a range of internal and external stakeholders, including owners, CFOs/managers as well as external debt and service providers. Our findings provide insights into the debt ratios of SFO-owned versus family-owned firms and reveal how capital structure (decisions) may change when family-owned firms turn into an SFO-owned firms. Banks and other debt providers need to consider this in their relationship with the firm and the evaluation of their creditworthiness. Employees may not like the fact that SFOs as firm owners seem to prefer higher (long-term) debt levels than owner families that have direct ownership in the firm. Higher debt levels make firms more vulnerable and likely to become bankrupt in (unforeseen) crisis situations. The good news in this regard is that SFOs seem to avoid high-risk short-term debt. On another side, a more positive attitude towards debt that comes along with SFOs as firm owners allows firms to undertake important investments into the transformation of their business processes and business models. Prior research shows that family-owned firms (for reasons of not losing control) are often hesitant to use external debt to finance such investments and pursue a zero-leverage policy (Fardnia et al., 2023). Yet, such investments may, in fact, be necessary to stay competitive when new technologies become available or regulatory changes occur. Only relying on internal financing can be a dangerous strategy in such a situation.

6.7.4 Limitations and future research

Our study has limitations that serve as a basis for future research. For example, the geographical focus of our study is limited to the DACH region. The findings of our study may not be generalizable to other regions, such as the United States, Asia, or other European countries. The phenomenon of SFOs may not be so relevant in countries such as China where family firms are young and are currently experiencing the transition from first to second generation. Future research using samples from countries outside the DACH region is needed to explore the institutional, historical, and cultural boundary conditions of our findings. Another limitation is the overall small sample size of firms owned by SFOs. This is due to the recency of the SFO-phenomenon but also due to the hidden nature of SFOs. Joint efforts of the family business (research) community are needed to construct a database of SFOs and their portfolio firms. Another direction of future research concerns a longitudinal research design. One could, for example, focus on firms acquired by an SFO and compare the capital structure before and after the acquisition. This would allow for a more precise evaluation of the impact of SFO ownership on capital structure. Additionally, a comparative analysis of the capital structure decisions of SFOs and other types of firm owners (e.g., PE, VC and/or government funds) could yield valuable insights helping to put the results of our study into a broader perspective. Finally, future research endeavours may also delve deeper into the impact of SFO ownership on other firm-level outcome variables, e.g., financial performance, innovation, and (social and/or environmental) sustainability. To conclude, research on SFOs is in its infancy and there is much to learn about SFOs as firm owners. Our study provides a first step in this direction and explores the phenomenon of SFO ownership on the portfolio firm level.

CHAPTER 7

Conclusion

The final chapter of this dissertation proceed as follows: Section 7.1 and 7.2 provides brief answer to the research questions by summarizing the main findings of each chapter. Chapter 7.3 describes implications for theory and practice of this thesis. Finally, Section 7.4 discusses the limitations and provides some avenues for future research.

7.1 Findings per chapter

7.1.1 Chapter 3: The heterogeneity of FOFs in Germany

RQ 1: *How is the heterogeneity of FOFs in Germany?*

Based on the various setup options in the establishment process of foundations as firm owners, substantial heterogeneity exists between FOFs. In order to answer RQ 1 and to provide a holistic view on the different types of foundations, chapter three investigates the heterogeneity within the group of FOFs in Germany. The descriptive analysis of 169 FOFs in Germany shows significant divergence in the governance, performance, and growth among FOFs. The results indicate that family as a central principal in a family foundation allows a governance that promotes a higher performance and firm growth. More specifically, firms with a family, family foundation or dual foundation as major shareholder show a significant higher ROE, ROA, sales growth, and employee growth than firms with a charitable foundation as major shareholder.

7.1.2 Chapter 4: Foundation ownership and firm growth

RQ 2: *How does foundation ownership influence firm growth?*

Foundations are often perceived as risk-averse, conservative, and long-term oriented firm owners. This may affect the firm growth of the FOF, which is an important determinant for long-term success. Therefore, chapter four investigates the effect of foundation ownership on firm growth. Firm growth is measured through sales and employee growth, which are the two most common indicators of firm growth in the literature. Based on a matched sample of 204 FOFs and 204 nFOFs from the DACH region, the results demonstrate that FOFs grow significantly less than the control group in terms of sales but not related to employees. In addition, quantile regressions show that this negative effect is stronger for the upper than for the middle or lower quantiles of the growth distribution.

7.1.3 Chapter 5: Charitable and family enterprise foundations as firm owners: influence on acquisition behavior

RQ 3: *How does foundation ownership impact the M&A behavior of the firms they own?*

Charitable foundations and family foundations have distinct characteristics and purposes, creating substantial heterogeneity within FOFs which strongly affects the strategy and behavior of the firms they own. This chapter investigates this by taking a managerial M&A behavior as a context, since acquisitions perfectly reflects the business strategy and risk tolerance of a firm. In total, the analyses include 164 FOFs, consisting of 85 firms which are owned by a charitable foundation, while 79 are owned by a family foundation. These FOFs conducted 316 acquisitions. The data includes all completed acquisitions between 2010 and 2019, where the FOF acted as acquirer. Only transactions that involve a change in corporate control are included.

The chapter addresses RQ 3 in three ways. First, the results show that firms with charitable foundations as owners are more likely to undertake acquisitions than firms owned by family foundations. In doing so, two acquisition measures were computed, including a dummy variable that takes the value 1 when the FOF has completed at least an acquisition in the respective year and a further nonnegative count variable, considering the number of conducted acquisitions per year. Second, the results demonstrate that the former prefers targets that are geographically and culturally more distant. Geographical distance is measured as the log-transformed distance in kilometres between the capital cities of the acquirer and target company. Cultural distance is calculated adopting the seven value dimensions by Schwartz (1994, 1999, 2006) by constructing a Mahalanobis distance measure. Surprisingly, the results show that charitable foundation ownership leads firms to acquire targets from the same or a related industry. This dissertation considered industry relatedness by constructing a measure based on the respective NACE code of the firm.

7.1.4 Chapter 6: Capital structure of SFO-owned firms

RQ 4: *How do SFO-owned and family-owned firms differ in terms of debt financing?*

Chapter 6 investigates divergences in capital structures of SFO-owned and family-owned firms. To date, prior research on this is scarce. To fill this gap, this chapter examines capital structure decisions of 173 SFO-owned firms with matched 684 family-owned firms. The results reveal that SFO-owned firms display a higher (long-term) debt ratio than family-owned firms, suggesting that SFO-owned firms follow trade-off theory, similar to PE firms. Moreover, this chapter show that this effect is higher if the SFO sold its original family business(es).

7.2 Summary of key findings

Family firms are representing the most widespread firm type worldwide. In recent years, more and more families are separating family shareholders from their business assets by establishing intermediary structures in order to overcome family-related issues such as the growing complexity within a group of family blockholders and the increasing difficulty in identifying a suitable firm successor. Two widespread intermediaries are foundations and family offices. The relevance of both intermediaries for the economy in the German speaking countries is not based on the absolute number of companies, but from their significant size. Some of the largest firms in the DACH region are (partially) owned by a foundation and/or a family office. Despite the growing importance, prior research neglected to analyze the impact of these intermediaries on the firms they own. This dissertation closes this research gap by providing a deeper understanding about the heterogeneity, firm growth and M&A behavior of FOFs. In addition, this dissertation analyzes capital structure decisions of SFO-owned firms. The following table summarizes all main research questions and key results of this dissertation:

Table 23: Summary of key findings

Research question	Summarized findings	Region	Time period
RQ 1: How is the heterogeneity of FOFs in Germany?	• Firms with a family, family foundation or dual foundation as major shareholder show a significant higher performance and sales growth than firms with a charitable foundation as major shareholder	Germany	2010 – 2019
RQ 2: How does foundation ownership influence firm growth?	• FOFs grow significantly less than the control group in terms of sales but not with regard to employees • This negative effect is stronger for the upper than for the middle or lower quantiles of the growth distribution	DACH	2010 – 2019
RQ 3: How does foundation ownership impact the M&A behavior of the firms they own?	• Firms with charitable foundations as owners are more likely to undertake acquisitions than firms with a family foundation as shareholder • The former prefers targets that are geographically and culturally more distant • In addition, they favour targets from the same or a related industry	DACH	2010 – 2019
RQ 4: How do SFO-owned and family-owned firms differ in terms of debt financing?	• SFO-owned firms display a higher long-term and at the same time a lower short-term debt ratio than family-owned firms • Furthermore, these effects are stronger if the SFO sold its initial family business(es)	DACH	2011 – 2020

Note(s): This table summarizes the main research questions and key findings of this dissertation.

7.3 Implications

7.3.1 Implications for theory

The results of this thesis primarily contribute to different literature streams of family firms, the emerging field of FOF research and to the SFO literature.

Family firm literature: Given the increasing relevance of SFOs and foundations as intermediaries for family firms, studying the impact of these shareholder types on the firms they own is crucial to fully understand family businesses and founding families. Therefore, this dissertation discusses these two widespread governance forms, which differ in the level of separation between the family and its assets. This thesis elaborates on the motives for their establishment, their benefits and the differences and similarities between foundations and SFOs. In particular, this dissertation examines how foundation ownership influence the growth and M&A behavior of the firms they own, as well as capital structure divergences between SFO-owned and family-owned firms. Therefore, this thesis contributes to the literature related to intermediaries in family firms (Zellweger & Kammerlander, 2015; Ward & Aronoff, 2010). Since these intermediaries can also serve as successor vehicles, the studies also contribute to the family succession literature (Handler, 1994; Shepherd & Zacharakis, 2000; Chua et al., 2003; Daspit et al., 2016).

FOFs literature: The papers extent prior research on the small but growing FOFs literature (e.g., Achleitner et al., 2018; Block et al., 2020a; Børsting & Thomsen, 2017; Draheim & Franke, 2018). Prior research has shown that heterogeneity exists within the group of FOFs, based on the substantially differences in the main characteristics and purposes of family and charitable foundations (Block et al., 2020a; Thomsen et al., 2018; Thomsen & Kavadis, 2022). This dissertation complements this by showing that the family as a central stakeholder in a family foundation allows a governance that promotes performance and growth relative to charitable foundations as firm owners.

In addition, the results demonstrate that this heterogeneity also strongly impacts the strategy and behavior of the FOF. While most studies, so far, indicate that FOFs are generally risk-averse, conservative, and long-term oriented firm owners (Thomsen et al., 2018; Draheim & Franke, 2018; Børsting & Thomsen, 2017), this thesis show that this behavior is different for each foundation type. According to this, charitable foundations as shareholder are more likely to undertake M&A transactions and more geographically and cultural distant deals, which denotes an increased willingness to take risks. However, the results further show that charitable foundation ownership leads firms to acquire targets from the same or a related industry, contradicting the previous statement to some extent. This dissertation explained this phenomenon by an imprinting effect of the will of the foundation´s founder on the managers of the FOF. This will is laid down in the foundation charter and typically includes provisions regarding operating industries. While previous scholars have already demonstrated how the foundations charter is typically characterized (Sasse, 2009; Kronke, 1988) and how important it is for the foundation and FOF (Heinzelmann, 2002; Herrmann & Franke, 2002), the studies further contribute to the FOF literature by showing that the relevance of the foundation charter may likely vary for different foundation types.

Finally, prior research has also investigated the firm growth of FOFs (Hansmann & Thomsen, 2013; Draheim & Franke, 2018; Besecke, 2015). While previous studies measured firm growth by just one dimension, this dissertation adds to this research stream by differentiating between two growth dimensions such as sales and employee growth (Delmar, 1997; Delmar et al., 2003; Davidsson et al., 2010; Weinzimmer et al., 1998) and by considering the quantiles (Block, 2010; Koenker & Bassett, 1978; Koenker & Hallock, 2001) of the growth distribution. The usage of different firm growth measures is vital because it will likely provide a more complete picture of any empirical relationships as well as provide a way to test the robustness of any theoretical model to misspecifications in the dependent variable (Delmar et al., 2003). The results show that FOFs grow less in terms of sales but not with regard to employees. Furthermore, the negative effect is stronger for the upper than for the middle or lower quantiles of the growth distribution.

SFO literature: This dissertation also contributes to the literature on SFOs and the capital structure decisions of the firms they own by investigating debt preferences in comparison with family-owned firms. Previous research has largely concentrated on capital structure decisions in the SFOs itself (Schickinger et al., 2022) or in family firms (e.g., Bacci et al., 2018; Koropp et al., 2013; Gottardo & Moisello, 2014), this dissertation expands this body of research by providing empirical evidence on the capital structure decisions within the firms which are owned by SFOs. It is shown that SFO-owned firms, similar to PE firms, follow the trade-off approach (Harris & Raviv, 1991; Myers, 1977), while family-owned firms, follow pecking-order theory (Myers, 1984). Thus, SFO-owned firms significantly differ in terms of capital structure decisions from family-owned firms.

7.3.2 Implications for practice

This dissertation does not only provide an important foundation for scientific research on intermediaries in family firms, but also presents practical guidelines for entrepreneurial families and policymakers.

Entrepreneurial families: Entrepreneurial families should carefully select foundations or SFOs as an intermediary or succession construct because the results show that both substantially differ in their benefits and risks. These divergences have a significant impact on the long-term development of the family business. The choose process of the optimal intermediary should consider the exact purpose of the family. While in SFOs the primarily focus is on wealth management and wealth growth, foundations mainly concentrate on asset preservation. Based on this ultimate goal of asset preservation, foundations are generally considered as a more conservative and risk-averse owner with lower and more stable growth pattern. Furthermore, the families should note that SFOs are generally more multi-faceted than foundations because beside to wealth management, they also provide solutions to family concerns such as education, consulting services, tax services or relationship management. In addition, entrepreneurial families should be aware of the flexibility of each construct. Basically, SFOs are the much more flexible firm owner since there is no control mechanism expect family members. In contrast, foundations are less flexible due to the existence of a foundation purpose which is written down in the charter. This purpose is strictly regulated and controlled by the board of trustees and state foundation supervision.

Likewise, not only the question of whether a SFO or foundation is a suitable succession construct, but also which type of family office or foundation would be appropriate. This question is also important because this dissertation has shown that there is also great heterogeneity within the foundations as firm owners. For example, the results show that family as a central principal in a family foundation allows a governance that promotes a higher performance and firm growth. However, this would lead to a loss of charitable status and the associated tax benefits. Therefore, the right choice of foundation type should be determined precisely based on the objectives of the respective entrepreneurial family.

Policy-maker: For policy-makers, a better understanding of the FOF and SFO phenomenon is beneficial as due to lack of transparency, both concepts are widely mistrust and unknown in many other countries. This could strain international relations with such countries in the long term. Therefore, politics should strive to create more transparency e.g., through adaptions of the disclosure requirements. With the establishment of a nationwide foundation register, implemented by the reform in Germany as of 2021, policy-maker has already taken an important step in order to justice to this topic.

Finally, this dissertation highlighted the ongoing debates about the introduction of a new company legal form "Responsible Ownership Enterprises" (Unternehmen in Verantwortungsbewusstsein) in Germany (Handelsblatt, 2022). This new legal form is based on the following idea: a company is not a speculative object. The owners have full creative power but are only trustees. There is no unrestricted personal access to the company's assets. Inheritability and free opportunity to sale the equity stakes are excluded. In this way, the independence of the company can be permanently preserved. Control remains with persons who have long-term ties to the company. Therefore, policy-maker should be aware of the significant increase in demand for introducing this new legal form. This dissertation has shown that intermediaries are becoming increasingly important and that they would complement current legal forms perfectly due to their unique characteristics.

7.4 Limitations and avenues for future research

As with any empirical research, this dissertation has several limitations. Some of these limitations suggest interesting new directions for future research. Intermediaries other than the two types presented exists in practice, such as MFOs, asset managers, advisors (Zellweger & Kammerlander, 2015). In this dissertation, the two constellations are treated as mutually exclusive choices. For future research it will be interesting to examine combinations of these structures.

The field of FOFs and SFOs is undergoing significant changes, similar to other emerging phenomena such as e.g., FinTechs. This makes it difficult to make long-term generalizations about the field and highlights the need for future replication studies. For example, the before-mentioned Responsible Ownership Enterprises in Germany which are currently under debates, could lead to organizational changes in future. Nonetheless, the ongoing changes within this research stream present a plethora of possibilities for future investigation.

Next limitation of this dissertation is methodological and arise from the study design. All conducted quantitative empirical studies are based on cross-sectional analyses. Prior research shows that foundations and SFOs are also mostly used as succession vehicles particularly for family firms (Block et al., 2020a; Uhl, 2022; Hagan, 2021). Therefore, in order to assess the effect of each succession model on the firms they own, considering a longitudinal study which allows a before-after comparison (Hilton & Patrick, 1970) could provide interesting insights for the succession literature (e.g., Handler, 1994; Shepherd & Zacharakis, 2000; Chua et al., 2003; Daspit et al., 2016). In addition, future studies may also implement new empirical methods. For example, qualitative, interview-based research may also help to understand better the motives for the installing of the presented intermediaries.

Another methodological limitation is that this dissertation is unable to rule out survivorship bias; it only analyzes the effect of those intermediaries who have survived. This is the case because no information on failed FOFs or SFOs are available during the observed period, leading to a possible misinterpretation of the results (Brown et al., 1992). Future studies could therefore expand the literature on FOF or SFO survival and examine whether the installing of these intermediaries also reduces the likelihood of failure.

Beside possible methodological limitations, the presented studies in this dissertation may also be constrained by context-specific limitations. The major limitation arises from the geographical context, since all the studies focus on Germany or the DACH region, respectively. The phenomenon of the presented intermediaries is also widespread in other countries. Since substantial differences exist in the legal and institutional context for different countries, it is unclear whether similar results would be obtained. For example, there are also special cases such as the US where private foundations and trusts are not allowed to own more than 20% of the equity of a firm (Fleishman, 2003). Therefore, it is necessary that future research focuses on these intermediaries using samples from a variety of legal, cultural, and institutional contexts.

To conclude, this dissertation is aimed to start a new dialogue about intermediaries in business-owning families. An examination of this subject not only yields extensive practical understanding, but also enhances the conceptual framework of this dissertation regarding the evolution of familial wealth throughout history. I hope that the reflections of this thesis will serve as a catalyst for further research toward addressing some of these important research lacunas.

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Appendix

Table 24: List of all identified FOFs in DACH

Company	Country	Foundation	Type
A.S. Création Tapeten AG	Germany	A.S. Création Tapetenstiftung	Charitable
Adolf Würth GmbH & Co. KG	Germany	Würth-Familienstiftung	Private
Aldi Nord GmbH & Co. KG (several firms)	Germany	Markus-Stiftung and further private foundations	Private
Aldi Süd GmbH & Co. KG (several firms)	Germany	Siepmann-Stiftung and further private foundations	Private
Alexianer Gmbh	Germany	Stiftung der Alexianerbrüder	Charitable
Alnatura Beteiligungs GmbH	Germany	Götz E. Rehn Stiftung, Alnatura Stiftung	Dual
Alpen-Maykestag GmbH	Austria	Reischl Privatstiftung	Private
Anton Paar GmbH	Austria	Santner Privatstiftung	Private
APL Automobil-Prüftechnik Landau GmbH	Germany	K-I-M-F Stiftung	Private
Arcus Elektrotechnik Alois Schiffmann GmbH	Germany	Alois Schiffmann Stiftung	Charitable
Arko GmbH	Germany	ARKO Stiftung Wahlstedt	Charitable
ATH Altonaer-Technologie-Holding GmbH	Germany	Burkhard Meyer Stiftung, Burkhard Meyer Familienstiftung	Dual
Atlas Weyhausen GmbH (Weyhausen-Gruppe)	Germany	Dr. Friedrich Weyhausen-Stiftung	Private
August Mink GmbH & Co. KG	Germany	Peter Zimmermann Stiftung	Private
Augustinum Gemeinnützige GmbH	Germany	Augustinum Stiftung	Charitable
austrian capital management GmbH	Austria	SOCRATES Privatstiftung	Private
Austro Holding GmbH	Austria	MF Privatstiftung	Private
AUTANIA Aktiengesellschaft für Industriebeteiligungen	Germany	Dr. Helmut Rothenberger-Privatstiftung	Private
AVL List GmbH	Austria	List Privatstiftung	Private
B&C-Gruppe (Lenzing AG, Semperit AG, AMAG Austria Metall AG)	Austria	B&C Privatstiftung	Private
Badische neueste Nachrichten Badendruck GmbH	Germany	Wilhelm Baur Stiftung	Charitable
Barry Callebaut AG	Switzerland	Jacobs Stiftung	Charitable
basis d GmbH	Germany	Joseph-Stiftung Kirchliches Wohnungsunternehmen	Private

Baur Versand (GmbH & Co KG)	Germany	Friedrich-Baur-Stiftung, Michael Otto Stiftung für Umweltschutz	Charitable
Bauwerk Parkett AG	Switzerland	Ernst Göhner Stiftung	Private
Bayerische Hausbau GmbH & Co. KG	Germany	Schörghuber Stiftung & Co. Holding KG	Private
Bayerische Löwenbrauerei Franz Stockbauer AG	Germany	Franz und Maria Stockbauer´sche Stiftung	Charitable
BBS + Dach GmbH	Germany	Joseph-Stiftung Kirchliches Wohnungsunternehmen	Private
Becker & Kries Holding GmbH & Co. KG	Germany	Familienstiftung Becker & Kries	Private
Bekaert GmbH	Germany	Stichting Administratiekantoor Bekaert	Private
Bertelsmann SE & Co. KGaA	Germany	Bertelsmann Stiftung	Charitable
Betten Rid GmbH	Germany	Günther Rid-Stiftung für den bayerischen Einzelhandel	Charitable
Big Bau Investitionsgesellschaft mbH	Germany	Herbert-Gierisch-Stiftung	Charitable
Binder+Co AG	Austria	Albona Privatstiftung and further private foundations	Private
Blumenbecker GmbH & Co. KG	Germany	Marianne Blumenbecker Stiftung GmbH	Charitable
bofrost* Dienstleistungs GmbH & Co. KG	Germany	bofrost* - Stiftung	Private
Bohnenkamp-Verwaltungs-GmbH	Germany	Bohnenkamp Stiftung Familie und Management, Friedel & Gisela Bohnenkamp-Stiftung	Dual
Boll & Kirch Filterbau GmbH	Germany	Marga und Walter Boll-Stiftung, Karen und Elisa Kirch-Stiftung	Dual
Borbet Gmbh	Germany	Borbet-Stiftung	Private
Bremer Fahrzeughaus Schmidt + Koch AG	Germany	Waldemar Koch Stiftung	Charitable
Bremer Lagerhaus Gesellschaft -AG von 1877-	Germany	Waldemar Koch Stiftung	Charitable
Buck-Chemie GmbH	Germany	Karl und Anna Buck Stiftung	Charitable
Bürkert Stiftungsbeteiligung GmbH	Germany	Christian Bürkert Stiftung gGmbH	Charitable

BV Beteiligung Gmbh & Co. KG	Germany	Rainer Blickle Stiftung, Edeltraut Blickle Stiftung	Charitable
BWE-Bau Fertigteilwerk GmbH	Germany	Gustav Zech Stiftung	Private
C.D. Wälzholz GmbH & Co. KG	Germany	Hans Marting Wälzholz-Junius Familienstiftung and further private foundations	Private
Carl Zeiss AG	Germany	Carl-Zeiss-Stiftung	Charitable
Carlsberg Deutschland Holding GmbH	Germany	Carlsbergfondet	Private
Carthago Reisemobilbau GmbH	Germany	Karl-Heinz Schuler Familienstiftung	Private
CEWE Stiftung & Co. KGaA	Germany	Neumüller Cewe Color Stiftung	Private
Chemieanlagenbau Chemnitz GmbH	Germany	Joachim Engelmann Stiftung	Private
Chr. Hansen GmbH	Germany	Stichting Pensioenfonds ABP	Charitable
Colosseum Dental Deutschland GmbH	Germany	Jacobs Stiftung	Charitable
Contilia Gmbh	Germany	St. Elisabeth-Stiftung Essen, Stiftung St. Marien-Hospital zu Mülheim an der Ruhr	Charitable
Controlware Holding GmbH	Germany	Controlware Stiftung, Wörner Familienstiftung	Dual
DAA Deutsche Angestellten-Akademie GmbH	Germany	DAA-Stiftung Bildung und Beruf	Charitable
Danfoss GmbH	Germany	Bitten & Mads Clausen´s Foundation	Private
Dassbach Küchen Werksverkauf GmbH & Co. KG	Germany	Günter Bauknecht-Stiftung and further private foundations	Private
Deichmann SE	Germany	Deichmann Familienstiftung	Private
Detlef Hegemann AG (Hegemann-Gruppe)	Germany	Detlef Hegemann Stiftung, Ursula Hegemann Stiftung	Charitable
Deutsche Sport Marketing GmbH	Germany	Stiftung Deutscher Sport, Stiftung Deutsche Sporthilfe	Charitable
DF World of Spices GmbH	Germany	Dieter Fuchs Stiftung	Charitable
Diehl Stiftung & Co Kg (Diehl-Gruppe)	Germany	Diehl Verwaltungs-Stiftung	Private
DM-Drogerie Markt GmbH + Co. KG	Germany	dm-Werner Stiftung	Charitable
Doppelmayr Holding SE	Austria	AMD Privatstiftung	Private

Dorst Technologies GmbH & Co. KG	Germany	Dorst-Löcherer-Stiftung	Private
Dr. Alexander Wacker Familiengesellschaft mbH	Germany	Curt-Wills-Stiftung	Charitable
Dr. Johannes Heidenhain GmbH	Germany	Dr. Johannes Heidenhain-Stiftung GmbH	Charitable
Dr. Pfleger Arzneimittel GmbH	Germany	Doktor Robert Pfleger-Stiftung	Charitable
Dr. Theodor Stiebel Werke GmbH & Co. KG	Germany	Stiebel Familienstiftung	Private
Drägerwerk AG & Co. KGaA	Germany	Dräger-Stiftung	Charitable
DS Smith Packaging Deutschland Stiftung & Co. KG	Germany	DS Smith Packaging Deutschland Stiftung	Private
Dürr AG	Germany	Duerr Familienstiftung, Heinz und Heide Dürr Stiftung GmbH	Dual
Dussmann Stiftung & Co. Kommanditgesellschaft auf Aktien	Germany	Peter Dussmann-Stiftung	Private
EBS Universität für Wirtschaft und Recht gGmbH	Germany	SRH- Holding Stiftung	Charitable
Eckes AG	Germany	Peter Eckes Familienstiftung, Ludwig Eckes-Familienstiftung	Private
Ecosia GmbH	Germany	Purpose Stiftung Gemeinnützige GmbH	Charitable
Egmont Ehapa Media GmbH	Germany	Egmont Fonden	Charitable
EGT AG	Germany	Singewald/Wurster-Gemälde-Familienstiftung	Private
EHG Service GmbH	Germany	Familienstiftung Ernsting	Private
EIBACH Industries GmbH	Germany	EIBACH-Stiftung	Charitable
Einkaufsbüro Deutscher Eisenhändler GmbH	Germany	E/D/E-Stiftung	Charitable
ELBE-Werkstätten GmbH	Germany	Hamburger Stiftung Rehabilitation und Integration	Charitable
Elektror airsystems GmbH	Germany	Margarete Müller-Bull-Stiftung	Charitable
Elringklinger AG	Germany	Lechler Stiftung, H.K.L. Holding Stiftung	Dual
EMCO GmbH	Austria	Günter Kuhn-Privatstiftung	Private
Endress+Hauser AG	Switzerland	Georg H. Endress Stiftung	Charitable
ensian group GmbH	Germany	elobau-Stiftung, Hetzer Familienstiftung	Dual
Erhardt + Leimer GmbH	Germany	Albert Leimer Stiftung	Charitable

Erlenbach GmbH	Germany	Dr. Rolf M. Schwiete Stiftung	Charitable
Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft	Germany	Ernst & Young Stiftung e.V.	Charitable
Ernstmeier GmbH & Co. Verwaltungs KG	Germany	Dieter Ernstmeier Stiftung, Peter Ernstmeier Stiftung	Charitable
Erwin Junker Maschinenfabrik GmbH	Germany	Otto Junker Stiftung	Charitable
ETN Vermögensverwaltung GmbH	Austria	ES-Privatstiftung	Private
Eugen und Irmgard Hahn Stiftung Verwaltungs-GmbH (Index-Werke GmbH & Co. KG)	Germany	Eugen und Irmgard Hahn-Stiftung	Charitable
Europa-Park GmbH & Co Mack KG	Germany	Franz-Mack-Stiftung	Private
Evonik Industries AG	Germany	RAG-Stiftung	Private
Fabasoft AG	Austria	Fallmann & Bauernfeind Privatstiftung	Private
Farbglashütte Lauscha GmbH	Germany	Gerhard Bürger Stiftung	Charitable
Ferring Holding S.A.	Switzerland	Dr. Frederik Paulsen Foundation	Charitable
Fichtner Interiéur GmbH	Germany	Fichtner Familienstiftung	Private
FIDENTIA Wärmemessdienst & Kabelservice GmbH	Germany	Joseph-Stiftung Kirchliches Wohnungsunternehmen	Private
Fiege Logistik Holding Stiftung & Co. KG	Germany	Fiege Logistik Stiftung	Private
Fielmann AG	Germany	Fielmann-Familienstiftung	Private
Filderklinik gemeinnützige GmbH	Germany	MAHLE-Stiftung GmbH	Charitable
Finanztip Verbraucherinformation GmbH	Germany	Finanztip Stiftung	Charitable
Flottweg SE	Germany	Flottweg-Stiftung, Bruckmayer Stiftung, Pia Stiftung	Dual
Frankfurter Allgemeine Zeitung GmbH	Germany	FAZIT-Stiftung	Charitable
Franz Cornelsen Bildungsholding GmbH & Co. KG	Germany	Franz Cornelsen Stiftung	Private
Franz Haniel & Cie. GmbH	Germany	Franz Haniel Stiftung	Charitable
Franz Kessler Verwaltungsgesellschaft mbH	Germany	Franz Kessler gemeinnützige Stiftungsgesellschaft	Charitable
Fresenius SE & Co. KGaA	Germany	Else Kröner Fresenius – Stiftung	Charitable
Freudenberg & Co. KG	Germany	Freudenberg Stiftung GmbH	Charitable

Friedhelm Loh Stiftung & Co. KG	Germany	Friedhelm Loh Familienstiftung, Gemeinnützige Stiftung Friedhelm Loh	Dual
Friedhelm Schaffrath GmbH & Co. KG	Germany	Friedhelm Schaffrath-Stiftung	Charitable
Friedrich Boysen Holding GmbH	Germany	Friedrich und Elisabeth Boysen-Stiftung, Friedrich Boysen-Unternehmensstiftung	Dual
Galeria Karstadt Kaufhof GmbH	Germany	Familie Benko Privatstiftung	Private
Gauselmann AG	Germany	Gauselmann-Familienstiftung	Private
GAW Technologies GmbH	Austria	RAG-Stiftung	Private
Georg Jordan GmbH	Germany	Helmut und Gisela Bertram-Stiftung	Charitable
Gerhard Geiger GmbH & Co. KG	Germany	Gerhard Geiger Stiftung	Private
GFM GmbH	Austria	Petrus Privatstiftung	Private
GKS – Inklusive Dienste gGmbH	Germany	Gold-Kraemer-Stiftung	Charitable
Glasmanufaktur Harzkristall GmbH	Germany	Gerhard Bürger Stiftung	Charitable
Global Hydro Energy GmbH	Austria	Tabor Privatstiftung	Private
Global Welding Technologies AG	Austria	VOK Privatstiftung	Private
Globus Holding GmbH & Co. KG	Germany	Globus-Stiftung	Charitable
Glock Gesellschaft m.b.H	Austria	Glock Privatstiftung	Private
Goldhofer AG	Germany	Alois Goldhofer Stiftung	Charitable
Greiner AG	Austria	Privatstiftung Hermann Greiner	Private
GRENKE AG	Germany	GRENKE-Stiftung	Charitable
GRIESSON de Beukelaer GmbH & Co. KG	Germany	Gottlieb Anton Stiftung	Private
Grünbeck Wasseraufbereitung GmbH	Germany	Loni und Josef Grünbeck – Stiftung	Charitable
Grundfos Water Treatment GmbH	Germany	Poul Due Jensens Fond	Charitable
Gutmann AG	Germany	Hermann Gutmann-Stiftung	Charitable
Hager SE (Hager Group)	Germany	Peter und Luise Hager-Stiftung	Charitable
HAHN Group GmbH	Germany	RAG-Stiftung	Private
Hama Hamaphot Hanke & Thomas GmbH & Co. KG	Germany	Adolf und Christoph Thomas Stiftung, Martin und Rudolph Hanke Stiftung	Private
Handtmann Beteiligungen GmbH	Germany	Arthur Handtmann Familienstiftung	Private
Hansa-Heemann AG	Germany	Ursula-Lange-Stiftung	Private
Haribo Holding GmbH & Co. KG	Germany	Gemeinnützige Dr. Hans Riegel-Stiftung	Charitable

HARTING Stiftung & Co. KG	Germany	Maresa Hartin-Hertz Familienstiftung, Philip Harting Familienstiftung	Private
Haus am Burgberg Wohn- u. Förderstätte für geistig u. körperlich Behinderte	Germany	Cornelius-Helferich-Stiftung Gemeinnützige Stiftung	Charitable
Havemann & Söhne Automobilhandelsgesellschaft mbH	Germany	Silke u. Georg Havemann Stiftung	Charitable
Heine + Beisswenger Stiftung + Co. KG	Germany	Ferdinand Heine-Stiftung	Private
Heinrichs-Verlag gGmbH	Germany	Joseph-Stiftung Kirchliches Wohnungsunternehmen	Private
Hemeyer Holding GmbH	Germany	Karl-Heinz und Annemarie Hemeyer -Stiftung	Charitable
Henkel AG & Co. KGaA	Germany	Gerda-Henkel-Stiftung and Family Henkel	Charitable
HERAEUS Holding GmbH	Germany	Wilhelm und Else Heraeus-Stiftung and further charitable foundations	Charitable
Herbert Kannegiesser GmbH	Germany	Martin Kannegießer Familienstiftung	Private
Hermsen Holding GmbH	Germany	Manfred-Hermsen-Stiftung	Charitable
Herrenknecht AG	Germany	Dr. Martin Herrenknecht Stiftung	Private
Herrmann Holding GmbH	Germany	Herrmann-Familienstiftung, Walter und Ingeborg Herrmann Stiftung	Dual
HGM Verwaltungs Gmbh & Co. Kommanditgesellschaft	Germany	Ingo Vollkammer Stiftung	Private
Highlight Event and Entertainment AG	Switzerland	Victorinox-Stiftung	Private
Hilfswerk-Siedlung GmbH Evangelisches Wohnungsbauunternehmen in Berlin	Germany	Stiftung Kronenkreuz	Charitable
Hirschmann Automotive GmbH	Austria	Rätikon Privatstiftung, R&R Privatstiftung	Private
Hoerbiger Deutschland Holding GmbH	Germany	Hoerbiger-Stiftung	Private
Hohenhonnef GmbH	Germany	Cornelius-Helferich-Stiftung Gemeinnützige Stiftung	Charitable
Horst Brandstätter Holding GmbH	Germany	Stiftung Kinderförderung von Playmobil, Brandstätter Unternehmensstiftung	Dual

Hübner Holding GmbH	Germany	Stiftung Hübner und Kennedy gemeinnützige GmbH	Charitable
ifm Stiftung & Co. KG	Germany	ifm Holding Stiftung	Private
Interbauhaus AG	Switzerland	Heinz Baus Privatstiftung	Private
internetstores Holding GmbH	Germany	Familie Benko Privatstiftung	Private
Ist Metz GmbH	Germany	Gerhard und Renate Metz Stiftung	Charitable
J. Wagner GmbH	Germany	Josef Wagner-Stiftung	Charitable
Johannes und Jacob Klein GmbH	Germany	KSB Stiftung	Charitable
Jungheinrich Aktiengesellschaft	Germany	Dr. Friedrich Jungheinrich-Stiftung	Charitable
K.D. Feddersen Holding GmbH	Germany	K.D. Feddersen-Stiftung	Charitable
Karg Vermögensmanagement GmbH	Germany	Karg´sche Familienstiftung	Private
Katharina Kasper Holding Gmbh	Germany	Stiftung Dernbacher Schwestern e. V.	Charitable
Kaufland Stiftung & Co. KG	Germany	Dieter Schwarz Stiftung gGmbH	Charitable
Kesla Pharma Wolfen GmbH	Germany	Schreiner-Stiftung für Forschung und Bildung, Schreiner-Familienstiftung	Dual
Kissel GmbH (Unternehmensgruppe Frey & Kissel)	Germany	Dieter Kißel Stiftung	Charitable
Klaus Faber AG	Germany	Klaus Faber Stiftung	Charitable
Klaus Roth Stiftung & Co. KG	Germany	Klaus-Roth-Stiftung	Private
Klinger Holding GmbH	Austria	H.K.L. Holding Stiftung	Private
Kliniken Schmieder (Stiftung & Co.) KG	Germany	Familienstiftung Schmieder - Stiftung bürgerlichen Rechts	Private
KML GmbH	Germany	Dr. Martin Herrenknecht Stiftung	Charitable
Konradin Mediengruppe GmbH	Germany	Konrad-Kolhammer-Stiftung	Charitable
Körber AG	Germany	Körber-Stiftung	Charitable
Kordel Holding GmbH	Germany	Christel Kordel Stiftung and further private foundations	Private
Kraft Baustoffe GmbH	Germany	Josef und Luise Kraft-Stiftung	Charitable
L. Possehl & Co. mbH	Germany	Possehl-Stiftung	Charitable
Landwirtschaftsverlag GmbH	Germany	Stiftung Westfälische Landschaft	Charitable
Laur-Stiftung Vermögensverwaltungs-GmbH	Germany	Christa und Hermann Laur-Stiftung	Charitable
Lechler GmbH	Germany	Lechler Stiftung	Charitable

Leinemann GmbH & Co. KG	Germany	Matthias Leinemann Stiftung, Hubert Leinemann Stiftung	Charitable
Leistritz AG	Germany	Dr. Helmut Rothenberger-Privatstiftung	Private
Leonhard Kurz Stiftung & Co. KG	Germany	Leonhard Kurz Familienstiftung	Private
Lidl Stiftung & Co. KG	Germany	Dieter Schwarz Stiftung gGmbH	Charitable
Liebenau Lebenswert Alter gGmbH	Germany	Stiftung Liebenau Kirchliche Stiftung	Charitable
Lindenhofgruppe AG	Switzerland	Stiftung Lindenhof Bern	Charitable
Luftschiffbau Zeppelin GmbH	Germany	Zeppelin-Stiftung, Dr. Jürgen und Irmgard Ulderup Stiftung	Charitable
Mack Rides GmbH & Co. KG	Germany	Franz-Mack-Stiftung	Private
MAHA Group GmbH	Germany	Gemeinnützige Stiftung Familie Rauch, Familienstiftung Familie Rauch	Dual
MAHLE GmbH	Germany	MAHLE-Stiftung GmbH	Charitable
Mainau Gmbh	Germany	Lennart-Bernadotte Stiftung	Charitable
Maplan GmbH	Austria	IPSO Privatstiftung	Private
Marc Cain Holding GmbH	Germany	Helmut Schlotterer Stiftung	Charitable
Marienhaus Holding Gmbh	Germany	Marienhaus Stiftung and further charitable foundations	Charitable
Märker Beteiligungs GmbH (Märker Gruppe)	Germany	August Märker-Stiftung, Ellen Märker Sozialstiftung	Private
Markgraf Familien Gmbh	Germany	Rainer Markgraf Stiftung	Charitable
MARO Stiftung & Co. KG	Germany	Manfred Roth Stiftung	Charitable
Maschinenfabrik Niehoff GmbH & Co. KG	Germany	Walter und Elfriede Niedhoff Stiftung	Charitable
Matth. Hohner GmbH	Germany	Share Value Stiftung	Charitable
Max Aicher GmbH & Co.KG	Germany	Max Aicher Stiftung	Private
Max Bögl Stiftung & Co. KG	Germany	Max Bögl Verwaltungs Stiftung	Private
Maxingvest AG	Germany	Joachim Herz Stiftung, Max und Ingeburg Herz Stiftung	Charitable
MEIKO Verwaltungs GmbH	Germany	Oskar und Rosel Meier-Stiftung	Private

Mendritzki Holding GmbH & Co. KG	Germany	Reinhold Mendritzki Stiftung	Charitable
Merkur Thorhauer GmbH & Co. KG	Germany	Thorhauer Familienstiftung	Private
Messer Industrie GmbH	Germany	Dr. Hans Messer Stiftung - Stiftung für Bildung, Wissenschaft und Forschung	Charitable
METRO AG	Germany	Meridian Stiftung	Charitable
Metrohm AG	Switzerland	Metrohm Stiftung	Charitable
MEWA Textil-Service Aktiengesellschaft	Germany	GG Familienstiftung	Charitable
MHK Group AG	Germany	MHK Stiftung	Charitable
MIG Holding GmbH	Germany	Dr. Hans Messer Stiftung - Stiftung für Bildung, Wissenschaft und Forschung	Charitable
Müller Holding GmbH & Co. KG	Germany	Erwin Müller Privatstiftung	Private
Naber GmbH + Co. KG	Germany	Conrad Naber Stiftung, Nabertherm Stiftung	Private
NBW Nordberliner Werkgemeinschaft gGmbH	Germany	Heidehof Stiftung GmbH	Charitable
Neuson Hydrotec GmbH	Austria	PIN Privatstiftung	Private
Nölle Pepin GmbH & Co. KG	Germany	Nölle-Pepin-Stiftung	Private
NORDWEST Handel AG	Germany	Dr. Helmut Rothenberger-Privatstiftung	Private
Oktan Mineraloel-Vertrieb Gmbh	Germany	Bodo Röhr Stiftung	Charitable
OMICRON electronics GmbH	Austria	OMICRON Privatstiftung	Private
OTTO Aktiengesellschaft für Beteiligungen	Germany	Michael Otto Stiftung für Umweltschutz	Charitable
Otto Junker GmbH	Germany	Otto Junker Stiftung	Charitable
Panther Packaging GmbH & Co. KG	Germany	Fritz Landmann-Stiftung	Charitable
Papier- u. Kartonfabrik Varel GmbH	Germany	Gertrud und Helmut Barthel-Stiftung	Charitable
Paulaner Brauerei GmbH & Co. KG	Germany	Schörghuber Stiftung & Co. Holding KG	Private
Peter Dornier Holding GmbH	Germany	Peter Dornier Stiftung	Charitable
Plansee Holding AG	Austria	Flatlake Privatstiftung	Private
POCO Einrichtungsmärkte GmbH	Germany	Peter-Pohlmann-Stiftung and one private foundation	Dual
PreZero Wertstoffmanagement GmbH & Co. KG	Germany	Dieter Schwarz Stiftung gGmbH	Charitable
RAG Aktiengesellschaft	Germany	RAG-Stiftung	Private
RAS Beteiligungs GmbH	Austria	WSF Privatstiftung, LSW Privatstiftung	Private

Rauch Furnace Technology GmbH	Austria	Ing. Erich Rauch Privatstiftung	Private
Refratechnik Holding GmbH	Germany	Alexander Tutsek-Stiftung, Alexander Tutsek u. Eva-Maria Farhner-Tutsek Familienstiftung	Dual
Reintjes GmbH	Germany	Eugen-Reintjes-Stiftung-Gemeinnützige Stiftung zur Förderung des Gesundheits	Charitable
Renke Brandschutz GmbH	Germany	Gustav Zech Stiftung	Private
Richard Gramling GmbH & Co. KG	Germany	Günter Graf von Hardenberg-Stiftung	Private
Richard Wolf GmbH	Germany	Richard und Annemarie Wolf-Stiftung	Charitable
Ritz Verwaltungsgesellschaft mbH	Germany	Dr. Hans Ritz und Lieselotte Ritz Stiftung	Charitable
Robert Bosch GmbH (Bosch-Gruppe)	Germany	Robert Bosch Stiftung GmbH	Charitable
Roche Holding AG	Switzerland	Stiftung Wolf	Charitable
Röhm Tool GmbH	Germany	Dr. Helmut Rothenberger-Privatstiftung	Private
Rothenberger AG	Germany	Dr. Helmut Rothenberger-Privatstiftung	Private
Rud. Otto Meyer Technik GmbH & Co. KG	Germany	Gustav Zech Stiftung	Private
RWTÜV GmbH	Germany	RWTÜV Stiftung	Charitable
SAP SE	Germany	Dietmar Hopp Stiftung GmbH	Charitable
SBH Nord GmbH	Germany	Stiftung Bildung & Handwerk	Charitable
SBH Süd GmbH	Germany	Stiftung Bildung & Handwerk	Charitable
Schauenburg International GmbH	Germany	Schauenburg Stiftung "Hasenberg"	Private
Schmidt-Gevelsberg GmbH	Germany	Hans-Grünewald-Stiftung	Charitable
Schoeller-Bleckmann Oilfield Equipment AG	Austria	IST Investmentstiftung	Private
Schörghuber Stiftung & Co. Holding KG	Germany	Josef Schörghuber Stiftung	Charitable
Schunk GmbH	Germany	Ludwig-Schunk-Stiftung e.V.	Charitable
Schütz-Werke Gmbh & Co. KG	Germany	Else Schütz Stiftung gGmbH	Charitable
Sedus Stoll AG	Germany	Stoll VITA Stiftung, Karl Bröcker Stiftung	Charitable

SHS - Stahl - Holding-Saar GmbH & Co. KGaA	Germany	Montan-Stiftung-Saar	Charitable
Siemag Weiss GmbH & Co. KG	Germany	Familie Weiß Stiftung	Private
Sievert AG	Germany	Sievert Stiftung für Wissenschaft und Kultur	Charitable
Simona AG	Germany	Dr. Wolfgang und Anita Bürkle Stiftung	Charitable
Sky Plastic Group AG	Austria	Dieter Schwarz Stiftung gGmbH	Charitable
SMA Solar Technology AG	Germany	Bitten & Mads Clausen´s Foundation	Private
SML Maschinengesellschaft mbH	Austria	Jacobi Privatstiftung	Private
SOCRATES Holding GmbH	Austria	SOCRATES Privatstiftung	Private
Software AG	Germany	Software AG - Stiftung	Charitable
SPN Schwaben Präzision Fritz Hopf GmbH	Germany	Fritz und Lieselotte Hopf-Stiftung	Charitable
SRH Holding	Germany	SRH Holding Stiftung	Charitable
Staatliche Majolika Manufaktur Karlsruhe GmbH	Germany	Majolika Stiftung für Kunst- und Kulturförderung Karlsruhe Stadtkämmerei Rathaus	Charitable
Staedtler Noris GmbH	Germany	Städler-Stiftung	Charitable
Stahl Beteiligungs- Gmbh	Germany	Christoph Stahl Familienstiftung and further private foundations	Private
Starlinger & Co. Gesellschaft m.b.H.	Austria	Fepia Privatstiftung	Private
Steinbeis GmbH & Co. KG für Technologietransfer	Germany	Steinbeis-Stiftung für Wirtschaftsförderung	Charitable
Storch-Ciret Holding GmbH	Germany	MWZ Stiftung Storch-Ciret, Horst-Rogusch-Stiftung	Dual
Südbayerische Wohn- u. Werkstätten für Blinde u. Sehbeinderte gemeinnützige	Germany	Blindeninstitutsstiftung	Charitable
Swarco AG	Austria	Manfred Swarovski Privatstiftung	Private
TechniSat Digital GmbH	Germany	LEPPER Stiftung	Charitable
Teknoholt GmbH	Germany	Kjellberg-Stiftung	Private
TGW Logistics Group GmbH	Austria	TGW-Future Privatstiftung	Private
Th. Simon Verwaltungs GmbH	Germany	Dr.-Hanns-Simon-Stiftung	Charitable
Thyssenkrupp AG	Germany	Alfried Krupp von Bohlen und Halbach-Stiftung	Charitable

TM Beteiligungs-GmbH	Germany	Thomas Meyer-Stiftung, Thomas Meyer Familienstiftung	Dual
TroGroup GmbH	Austria	Müller-Just Familien Privatstiftung	Private
Trox GmbH	Germany	Heinz Trox-Stiftung	Charitable
Trumpf GmbH + Co. KG	Germany	Berthold Leibinger Stiftung GmbH	Charitable
TÜV Nord AG	Germany	RWTÜV Stiftung	Charitable
UEE Holding GmbH	Germany	Aloys Wobben Stiftung	Charitable
Vector Informatik GmbH	Germany	Vector Stiftung, Vector Familienstiftung	Dual
Veka Aktiengesellschaft	Germany	Laumann Stiftung & Co. KG	Private
Verbundbau Mitterfelden GmbH	Germany	Max Aicher Stiftung	Private
Vermögensträger Beitlich gGmbh	Germany	Reinhold Beitlich Stiftung, BEITLICH-Familienstiftung Tübingen	Dual
Victorinox AG	Switzerland	Victroinox-Stiftung, Carl und Elise Elsener-Gut Stiftung	Dual
Voelkel GmbH Fruchtsäfte Gemüsesäfte	Germany	Völkel-Stiftung, Gemeinnütziger Völkel-Stiftung - Verantwortung für Mensch u. Natur	Dual
Voestalpine AG	Austria	voestalpine Mitarbeiterbeteiligung Privatstiftung	Private
Vollmer Werke Maschinenfabrik GmbH	Germany	Sieglinde Vollmer Stiftung	Charitable
Von Rantzau & Co. Handels- und Beteiligungsgesellschaft GmbH & Co. KG	Germany	Familienstiftung von Rantzau-Essberger	Private
Voss Holding GmbH + Co. KG	Germany	Hans Hermann Voss-Stiftung	Charitable
VTG Aktiengesellschaft	Germany	Joachim Herz Stiftung	Charitable
Wala Agrikultur GmbH	Germany	Wala-Stiftung	Private
Wala Heilmittel GmbH	Germany	Wala-Stiftung	Private
Walter Bösch GmbH & Co. KG	Austria	Walter Bösch Privatstiftung	Private
Walter Rau Neusser Öl und Fett AG	Germany	Walter Rau Wohlfahrtsstiftung	Private
Walter Werkzeuge Salzburg GmbH	Austria	Dr. Helmut Rothenberger-Privatstiftung	Private
WASGAU Produktions & Handels AG	Germany	Adrienne und Otmar Hornbach-Stiftung	Charitable
Wefers Technik GmbH	Germany	Gustav Zech Stiftung	Private

W-E-G GmbH & Co. KG	Germany	Wolfgang Gutberlet Stiftung	Private
Westfalen Aktiengesellschaft	Germany	Fritsch-Albert Stiftung	Private
WIFAG-Polytype Holding AG	Switzerland	Ursula Wirz-Stiftung	Charitable
Wilhelm Nusser GmbH Systembau	Germany	Gretel-Nusser-Stiftung	Private
Wilhelm Vom Hofe Drahtwerke GmbH	Germany	Erwin-Reinecke-Stiftung	Private
WILO SE	Germany	Wilo Foundation	Private
Witron Logistik + Informatik Gmbh	Germany	Stiftung Winkler	Private
Wohnbau GmbH	Germany	Stiftung Wohnhilfe	Charitable
Woll Maschinenbau Gmbh	Germany	Familie Woll Stiftung	Private
Wrede Industrieholding GmbH & Co KG	Germany	Wrede Stiftung	Private
Wüstenrot Haus- und Städtebau GmbH	Germany	Wüstenrot Stiftung Gemeinschaft der Freunde Deutscher Eigenheimverein	Charitable
ZF Friedrichshafen AG	Germany	Zeppelin-Stiftung, Dr. Jürgen und Irmgard Ulderup Stiftung	Charitable
Zuckerraffinerie Tangermünde Fr. Meyers Sohn Holding GmbH	Germany	Hugo Meyer Nachfahren-Stiftung	Private