The dynamics of voting ownership in lone-founder, family-founder, and heir firms

Ann-Kristin Achleitner, Christoph Kaserer, Tobias Kauf *

Center for Entrepreneurial and Financial Studies (CEFS), Technische Universität München, TUM School of Management, Arcisstr. 21, 80333 Munich, Germany

A B S T R A C T

We examine ownership dynamics in listed founding family firms over the period 1996 2008. In order to enlarge the understanding of persistence of ownership influence, we analyze determinants of change in the light of family firm heterogeneity. We detect ownership decreases and increases, alike. A *Large Drop* of ownership (at least −2.5%) occurs 4 times as often as a *Large Increase*. The mean negative change is −3.1% (median 0.0%), positive changes average 0.6% (median 0.0%). Foremost, *owner identity* characteristics and management board participation of individual blockholders explain the likelihood of ownership dynamics. Specifically, *Lone Founder Firms* show the most dynamical ownership structures in all regression scenarios. *Heir Firms* have the most robust ownership structure and are on average majority controlled by a family. They are less likely to reduce their ownership influence. *Family Founder Firms* are only changing ownership when the family forgoes to comply with the blocking minority of 25% plus one share further. We interpret all results in the light of identity, agency, stewardship, and financial theory. Thereby, an unbalanced panel (2529 firm years) of founding family firms listed in the German CDAX market index at Frankfurt Stock Exchange (FSE) represents the empirical foundation.

1. Introduction

In a listed family firm, voting ownership represents an essential governance mechanism next to active board participation. For this reason, ownership is the lever of influence that most founders, heirs, and respective families employ wisely to protect their interests (Anderson & Reeb, 2003; Andres, 2008; Villalonga & Amit, 2009). In this way, owners try to accomplish their objectives and balance control as well as risk considerations. Yet, this construct of family influence might vary fundamentally due to the heteroge neous character of listed founding family firms (Villalonga & Amit, 2006, 2009). Moreover, the question arises how dynamic this influence is.

In order to grasp a better understanding of the persistence of owner influence in public founding family firms, we diligently address their heterogeneous characteristics. Specifically, we examine potential patterns and identify likely reasons of owner ship dynamics. *First*, this marks a rich, almost untapped field in family firm research. Insights into the dynamics of family influence should improve the understanding on longevity and family firm heterogeneity in general. *Second*, ownership charac teristics are at the heart of definitions and ultimately influence the way we consider the strength of family influence. *Third*, prior research of listed founding family firms focuses extensively on non family and family firm comparison (Wright & Kellermanns, 2011). We exploit this space for new research and address the heterogeneous peculiarities of listed founding family firms.

Overall, we detect a surprisingly low coverage of ownership dynamics in existing research given the significant impact that this topic has to offer for a deeper understanding of family firms. Nevertheless, scholars such as Klasa (2007), Franks, Mayer, Volpin, and Wagner (2009), Benson and Davidson III (2009), Fahlenbrach and Stulz (2009), Helwege, Pirinsky, and Stulz (2007) have presented related papers on ownership dynamics in public firms. Yet, the in depth consideration of owner identity characteristics of the individual blockholder types remains unexplored in this context. This is striking, as owner identity characteristics prove to be important determining factors of firm behavior (Le Breton Miller & Miller, 2008; Miller, Le Breton Miller, & Lester, 2011).

Therefore, our paper focuses exactly upon this research gap and addresses the following three questions to increase the under standing of individual blockholder firms' ownership dynamics:

(i) What are the *frequency*, *direction*, and *level* of ownership changes?
(ii) Do *individual blockholder types* contribute to the explanation of changes? Which further *determinants* contribute to the explanation of dynamics?
(iii) How *persistent* is individual blockholder influence?

Answers to these questions are beneficial not only to a largely under researched scholarly field, but to family firms, regulators,

* Corresponding author. Tel: +49 89 289 25489; fax: +49 89 289 25488.
E-mail address: tobias.kauf@cefs.de (T. Kauf).

politicians, and outside investors alike. Our key contribution stems from the in depth analysis of those dynamics for three types of founding family firms. We differentiate (a) *Lone Founder Firms*, (b) *Family Founder Firms*, and (c) *Heir Firms* to take account of family firms' heterogeneity (see Anderson, Duru, & Reeb, 2009; Miller et al., 2011; Miller, Le Breton Miller, Lester, & Cannella Jr., 2007). We label these firms as individual blockholder firms, sensu str*icto*, to emphasize the narrow individual blockholder definition that comprises solely these three firm types.[1] Our more thorough individual distinctions reflect their potential differences, varying motives and goal structures that might explain varying ownership dynamics.

Throughout the paper, we interpret our results in the light of *owner identity theory*, *agency theory*, *stewardship theory*, and *financial theory*. These theories constitute the cornerstones of our hypotheses and guarantee a more complete discussion of potential determinants of ownership dynamics.

We base our empirical analysis on the broadest German stock index, the CDAX market index. The total unbalanced panel consists of 2529 firm years, differentiated in *Lone Founder*, *Family Founder*, and *Heir Firms*, throughout the years 1996 2008. The consider ation of a whole representative market index composed of small, medium, and large cap companies, the long time period we investigate, and the special case of two tier board systems distinguish this paper further from prior work.

Our descriptive results reveal decreases and increases in ownership. A *Large Drop* in ownership (a delta of at least -2.5%)[2] occurs approximately 4 times as often as a *Large Increase* (20.5% and 5.3%). The mean negative change amounts to -3.1%, whereas the mean positive change is 0.6% over the period 1996 2008. We can summarize the multivariate results as follows: especially high managerial board influence decreases the likeli hood of a *Large Drop* significantly and increases the likelihood of *Large Increases*. This holds true for several specification models, i.e. probit as well as firm fixed effects regressions. Similarly, a *Complete Exit* of ownership is less likely when stewardship and agency indicators are high (e.g. management board involvement).

However, differences in ownership change that trace back to individual blockholder characteristics are the most substantial evidence of this paper. Throughout our regression models, owner identity plays a crucial role for ownership dynamics. Particularly, *Lone Founder Firms* differ considerably from *Family Founder Firms* and *Heir Firms*. *Lone Founder Firms* are the only individual blockholder firm type that show significant coefficients in all regression scenarios. Thus, the likelihood is significantly higher that they experience larger changes in their ownership structures, whereas *Family Founder Firms* and *Heir Firms* possess a rather robust ownership structure.

We structure the reminder of the paper as follows: Section 2 reviews related literature and develops a framework of hypothe ses. Section 3 introduces our data set and methodology. Section 4 presents our empirical results, implications, and several robust ness checks. Section 5 offers a results discussion and Section 6 concludes and suggests further research opportunities.

2. Hypotheses on ownership dynamics

The widespread assumption that listed firms show predomi nantly dispersed ownership structures and only rarely blockhold ing is not appropriate. Amongst others, Anderson and Reeb (2003), Heiss and Köke (2004), Villalonga and Amit (2006), Klasa (2007), Bennedsen, Nielsen, Pérez González, and Wolfenzon (2007), Franks et al. (2009), Fahlenbrach and Stulz (2009), Benson and Davidson III (2009), and Holderness (2009) show the substantial influence of blockholders in public equity markets.[3] The general extent of blockholding and rate of dispersion might vary from economy to economy, i.e. with respect to institutional frameworks on investor protection as Foley and Greenwood (2009) illustrate. Yet, the substantial influence of blockholders is observable even in the most developed capital markets (cf. Holderness, 2009). Founding families represent a considerable fraction of those influential blockholders in public companies (Anderson & Reeb, 2003; Andres, 2008; Barontini & Caprio, 2006; Faccio & Lang, 2002; Porta, Lopez De Silanes, & Shleifer, 1999).

2.1. Ownership dynamics

This paper investigates the influential role of founding families as individual blockholders. Particularly, it spans the heterogeneous character of founding family influence by founders, heirs, and their respective families and its effect on ownership dynamics.[4]

Surprisingly, research rarely covers the dynamic character of individual blockholdings in listed family firms. This fact is even more striking, when we recall the fundamental impact of ownership characteristics on the way that we define family firms, consider their heterogeneity, and assess their longevity. Moreover, ownership changes of individual blockholders are not a daily phenomenon. Zhou (2001) and Andres (2008) even describe ownership as sticky over time. Thus, the research gap might have arisen partly from the lack of appropriate panel data that ensures observations and ultimately variation over longer periods.

Apart from this non trivial empirical challenge, the likely reasons that induce change in ownership structures remain a puzzle. Several scholars, i.e. Helwege et al. (2007), Foley and Greenwood (2009) and Franks et al. (2009) suggest that distinct institutional settings, valuation, and investor protection are potential drivers of ownership transformation. Helwege et al. (2007) identify ownership, stock market characteristics, and valuation as core drivers in the transformation process, from insider ownership towards ownership dispersion post IPO. Fahlenbrach and Stulz (2009) analyze managerial ownership changes and potential effects on valuation. They identify on average a negative change in managerial ownership and only positive valuation effects after substantial increases in managerial ownership.

Further research stems from Heiss and Köke (2004) who analyze ownership and survival characteristics of German companies. They find that high financial pressure, poor firm performance, and small firm size are key drivers of ownership dynamics (cf. Heiss & Köke, 2004).

What these mentioned studies have in common is, that they focus either on insider ownership of management and directors or on blockholding in general. As far as we know, there is no empirical study on ownership dynamics with such a distinct focus on listed

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[1] The term sensu stricto expresses the narrow definition of an individual blockholder firm—a definition in a strict sense. We do not use this rather technical term, but interchangeably argue of an individual blockholder firm, a founding-family firm, and founding-family blockholding. We introduce this term in order to explain the rationale of the differentiation of Lone Founder Firms, Family Founder Firms, and Heir Firms. An explicit key differentiator of Lone Founder Firms is their lack of family ties between the founders or the lack of any kinship of them and other firm owners. Thus, familyness does not apply to those firms (or at least not in the same way), irrespective of the fact that they fulfill a founding-family-definition. As this question is partly the subject of this paper, we need a neutral term like 'individual blockholder firm' to describe the firms.

[2] We use alternatives such as a delta of at least 5%.

[3] For an excellent empirical analysis of blockholder effects and corporate policy– not including, however, the effects of individual blockholders – consider Cronqvist and Fahlenbrach (2009).

[4] Related research includes aspects of the identity of owners, such as families and other individuals, blockholder effects or managerial ownership (Fahlenbrach & Stulz, 2009; Morck, Shleifer, & Vishny, 1988).

Table 1
Summary of hypotheses.

#	Hypotheses	Large drop		CE	Large increase		Variables
		H	R	R	H	R	
	OWNER IDENTITY PERSPECTIVE The likelihood of a ...						
H1.1.a	... negative ownership change is positively associated with *Lone Founder* owner identity characteristics.	+	+	+			*LONE FOUNDER FIRM (D), LONE FF*VR*
H1.1.b	... positive ownership change is not associated with *Lone Founder* owner identity characteristics.				o	+	*See H1.1.a*
H1.2.a	... negative ownership change is negatively associated with *Family Founder* owner identity characteristics.	–	o	o			*FAMILY FOUNDER FIRM (D), FAMILY FF*VR*
H1.2.b	... positive ownership change is not associated with *Family Founder* owner identity characteristics.				o	o	*See H1.2.a*
H1.3.a	... negative ownership change is negatively associated with *Heir Firm* owner identity characteristics.	–	o	o			*HEIR FIRM (D), HEIR FF*VR*
H1.3.b	... positive ownership change is not associated with *Heir Firm* owner identity characteristics.				o	o	*See H1.3.a*
	AGENCY PERSPECTIVE The likelihood of a ...						
H2.1.a	... negative ownership change is negatively associated with *board representation* of individual blockholders.	–	–	–			*FF BOARD REPRES., SFI MB, SFI SB*
H2.1.b	... positive ownership change is positively associated with *board representation* of individual blockholders.				+	+	*See H2.1.a*
H2.2.a	... negative ownership change is negatively associated with *high private benefits of control.*	–	–	–/o			*PYRAMID, WEDGE*
H2.2.b	... positive ownership change is negatively associated with *high private benefits of control.*				–	–	*See H2.2.a*
H2.3.a	... negative ownership change is negatively associated with *strong external governance.*	–	–	o			*OUTSIDER BLOCK VR*
H2.3.b	... positive ownership change is negatively associated with *strong external governance.*				–	–	*See H2.3.a*
	STEWARDSHIP PERSPECTIVE The likelihood of a ...						
H3.1.a	... negative ownership change is negatively associated with *high management board representation.*	–	–	–			*SFI MB*
H3.1.b	... positive ownership change is positively associated with *high management board representation.*				+	+	*See H3.1.a*
H3.2.a	... negative ownership change is negatively associated with *a strong linkage between firm and family.*	–	o	–			*FIRM FOUNDER NAME*
H3.2.b	... positive ownership change is positively associated with *a strong linkage between firm and family.*				+	o	*See H3.2.a*
H3.3.a	... negative ownership change is positively associated with *the number of different (individual) blockholders.*	+	+	+			*NUMBERBLOCKHOLDERS*
H3.3.b	... positive ownership change is negatively associated with *the number of different (individual) blockholders.*				–	–	*See H3.2.a*
	FINANCIAL PERSPECTIVE The likelihood of a ...						
H4.1.a	... negative ownership change is positively associated with *high stock valuation.*	+	+	o			*Ln TQ*
H4.1.b	... positive ownership change is positively associated with *low stock valuation.*				+	+	*See H4.1.b*

This table presents an overview of hypotheses associated with *Large Drop, Complete Exit (CE)*, and *Large Increase*. The signs "+", "–" and "o" indicate a *positive*, a *negative*, and a *neutral* association. "H" and "R" indicate *Hypothesis* and *Result*, respectively. We consider *Complete Exit* as extreme scenario of a *Large Drop*, thus, we apply the same hypotheses. The last column indicates the operationalization (measure) of our hypotheses.

founding family firms. The closest to our study is the paper of Klasa (2007) that takes a deep look at the final exit of family shareholders in listed family firms. Yet, a broader framework that incorporates alternative explanations for ownership dynamics seems suitable in a family firm and founder context.[5] The following hypotheses address the potential determinants of ownership change in more detail. Table 1 provides an extensive summary of all hypotheses.

2.2. The owner identity perspective

In the context of listed founding family firms, prior research predominantly emphasized differences between family and non family firms (Anderson & Reeb, 2003; Andres, 2008; Barontini & Caprio, 2006). Only a few studies consider extensively the

substantial heterogeneity amongst family firms (Anderson et al., 2009; Block, Jaskiewicz, & Miller, 2011; McConaughy & Phillips, 1999; Villalonga & Amit, 2006).

Yet, varying types of founder or family influence (Le Breton Miller & Miller, 2008; McConaughy & Phillips, 1999; Miller et al., 2011, 2007) and owner generation (Anderson et al., 2009; Bennedsen et al., 2007; Pérez González, 2006; Sonfield & Lussier, 2004) prove to be necessary to understand family firm specifics. In particular, a differentiation of founding family firms between lone founders, family founders, and heir firms is expected to be valuable to gain more detailed insights on family firms in general and on ownership dynamics in particular. All three firm types share common governance characteristics. Yet, they may not follow the same strategic rationale, the same motives, and values. As prior research has revealed distinct effects of (owner) identity characteristics (Ashforth & Mael, 1989; Burke & Reitzes, 1981; Hogg, Terry, & White, 1995) on firm strategy and behavior (Miller

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[5] See Mazzi (2011) for a more general discussion and assessment of suitable theory frameworks in a family firm context.

et al., 2011), it is a reasonable assumption to expect influence on ownership dynamics as well.

Explicit consideration of lone founder, family founder, and heir firms is able to reflect underlying owner identity characteristics and the prevailing level of family influence. Specifically, lone founders have no family ties within the organization, or, with respect to further owners, any kinship relations (Miller et al., 2011). Yet, family ties, heritage, and resulting familyness can be valuable assets, as well as a source of complex problems (Habbershon & Williams, 1999; Habbershon, Williams, & Mac Millan, 2003; Irava & Moores, 2010; Villalonga & Amit, 2006). The respective strategies, family goals, and motives might therefore differ in heir firms and family founder firms. Especially heir firms that by definition experienced at least one succession and involved at least two generations seem to stick to their business (Gersick, 1997; Ward, 1987). Preserving control and wealth within a family might have a significantly higher priority than in a lone founder setting (see Ward, 1997). Lone founders might pursue a more focused growth strategy and accept a higher dilution of their voting stock. Thus, we argue that typically associated family features might not apply to those firms in the same way or to the same extent. This is irrespective of the fact that they fulfill a founding family definition (Anderson & Reeb, 2003; Villalonga & Amit 2006) and show significant individual blockholding in their ownership structure.

Therefore, we hypothesize that lone founders show stronger willingness to reduce their voting ownership, which should be in line with a growth strategy approach. Presumably, the nurturer and longterm characteristics associated with familyness are more typical for family firms, especially heir firms. Family founder influenced firms might represent blended characteristics of both 'worlds'.

Hypothesis 1.1.a. The likelihood of a negative ownership change is positively associated with **Lone Founder** owner identity charac teristics.

Hypothesis 1.1.b. The likelihood of a positive ownership change is not associated with **Lone Founder** owner identity characteristics.

Hypothesis 1.2.a. The likelihood of a negative ownership change is negatively associated with **Family Founder** owner identity char acteristics.

Hypothesis 1.2.b. The likelihood of a positive ownership change is not associated with **Family Founder** owner identity characteris tics.

Hypothesis 1.3.a. The likelihood of a negative ownership change is negatively associated with **Heir Firm** owner identity characteris tics.

Hypothesis 1.3.b. The likelihood of a positive ownership change is not associated with **Heir Firm** owner identity characteristics.

2.3. The agency perspective

Founding family firms represent distinct forms of agency settings and governance structures. An essential governance feature of founding family firms is substantial and mostly concurrent influence on board(s) and ownership. Sharma (2004) emphasizes this "interchangeable and additive influence of family power through ownership, management, and/or governance."[6] Empirical

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[6] See Sharma (2004), p. 4. Compare the SFI concept as described in Klein (2000) and the F-PEC scale as proposed by Astrachan, Klein, and Smyrnios (2002) to incorporate several dimensions of family influence.

evidence supports this view of combined board and ownership influence in founding family settings, but not without pointing out the benefits as well as the shortcomings of certain settings (Villalonga & Amit, 2006). An agency theoretical perspective (Eisenhardt, 1989; Jensen & Meckling, 1976; Ross, 1973) supports an understanding of the advantages as well as non trivial problems (Villalonga & Amit, 2006).

In general, beneficial governance settings reduce agency costs that arise due to the separation of ownership and control in listed firms (Jensen & Meckling, 1976). One beneficial governance mechanism could be the aligned interest scenario in case of managerial ownership of the individual blockholder (lone founders, family founders, and heirs). Therefore, we suggest that a change in ownership is less likely as long as the individual blockholder holds a management board position. This scenario should apply predominantly to founder controlled firms. Quite similarly, we assume that control via supervisory board participa tion should indicate a more stable family influence. Thus, an ownership change should be less likely as well. Nevertheless, a family could reduce their stock ownership while potentially balancing their influence with board representation at least as long as they still meet important control thresholds.

Shleifer and Vishny (1986) and Claessens, Djankov, Fan, and Lang (2002) describe the specific implications of a large blockholder with voting control and distinct incentives to control external management. This setting of a founding family firm as a large blockholder might be a source of competitive advantage and has the potential to deliver cost advantages. Shleifer and Vishny (1986) emphasize the incentive of large shareholders to monitor management. With respect to this argument, a relatively undiversified family should have distinct motivation to apply reasonable monitoring efforts. On the other hand, less diversifi cation might imply higher risk aversion (Fama & Jensen, 1983) and a potential costly divergence of interest from the interest of minority shareholders as described by Shleifer and Vishny (1997). Thus, the substantial control of a large shareholder allows the enforceability of interest, the application of expropriation mechanisms, and the ability to protect from consequences of such action (i.e. entrenchment). Those mechanisms might yield to pecuniary and non pecuniary benefits for a founding family, i.e. private benefits of control. In a moral hazard situation the major conflict the individual blockholder can alleviate negative consequences of his action to the detriment of minority investors. A clearly disadvantageous situation for minority investors could arise when the individual blockholder exploits his voting power to enforce self interested decisions (Jensen & Meckling, 1976; McConaughy, Matthews, & Fialko, 2001; Villa longa & Amit, 2006).

With respect to ownership dynamics, we hypothesize that an individual blockholder is more likely to reduce his influence in the case of lower private benefits of control. As private benefits of control are hard to measure, we rely on approximations to operationalize them. An individual blockholder might apply a dual share class wedge (Villalonga & Amit, 2009) or deploy a pyramidal ownership structure to achieve voting rights that exceed cash flow rights. However, an even more obvious way to secure such private benefits of control is adherence to legal voting right thresholds such as 5%, 25% or 50% (according to the Stock Corporation Act or the Securities Acquisition and Takeover Act, cf. Goergen, Manjon, & Renneboog, 2008) that implicate distinct legal rights.

At the same time, listed founding family firms are subject to external scrutiny by various market participants and observers (Anderson et al., 2009). Information availability, disclosure quality or more generally the level of opaqueness might influence the extent of private benefits of control. Hence, we expect that the

substantial presence of external governance by outside blockholders affects the extent of private benefits of control due to distinct information policy enforcement. Ultimately, this could influence ownership dynamics of lone founder, family founder, and heir firms. Outside blockholders should perceive an incentive to control the family owner in order to reduce the entrenchment potential (Shleifer & Vishny, 1986). Thus, we would argue that such a setting could be robust and lasting. Even minority investors could benefit. On the other hand, the existence of external blockholders could indicate acquisition scenarios and thus a voluntary or forced exit route for individual blockholders. The latter case would indicate an increase in ownership dynamics.

Hypothesis 2.1.a. The likelihood of a negative ownership change is negatively associated with **board representation** of individual blockholders.

Hypothesis 2.1.b. The likelihood of a positive ownership change is positively associated with **board representation** of individual blockholders.

Hypothesis 2.2.a. The likelihood of a negative ownership change is negatively associated with **high private benefits of control** (i.e. wedges, pyramids).

Hypothesis 2.2.b. The likelihood of a positive ownership change is negatively associated with **high private benefits of control** (i.e. wedges, pyramids).

Hypothesis 2.2.a. The likelihood of a negative ownership change is negatively associated with **strong external governance** (i.e. external blockholders).

Hypothesis 2.3.b. The likelihood of a positive ownership change is negatively associated with **strong external governance** (i.e. external blockholders).

2.4. The stewardship perspective

The stewardship perspective is the third strand of theory from which we derive hypotheses on ownership dynamics. Stewardship theory (Caers et al., 2006; Davis, Schoorman, & Donaldson, 1997; Eddleston & Kellermanns, 2007; Muth & Donaldson, 1998) goes beyond classical principal agent theoretical argumentation and focuses on intrinsic motivational aspects, such as trust, firm identification and goal alignment that are likely to prevail in founding family firms (Miller & Le Breton Miller, 2006; Miller et al., 2011). This exact requirement, to discuss governance characteristics and implications in a broader theoretical frame work is supported by Daily, Dalton, and Cannella Jr. (2003).

Depending on the existence of strong or weak stewardship scenarios, ownership changes may be more or less likely (Corbetta & Salvato, 2004; Miller & Le Breton Miller, 2006; Miller et al., 2011). We expect significant (management) board influence of an individual blockholder to be a strong identification and alignment indicator. A further measure of a strong identification between the founding family and the firm could be a direct link between the family and the firm name as argued by Adams, Almeida, and Ferreira (2009), for instance.

Contrarily, a larger number of (individual) blockholder parties involved in a company might indicate a lower firm identification attributable to each individual blockholder, which could imply less stewardship behavior and ultimately a higher likelihood of ownership change dynamics.

Hypothesis 3.1.a. The likelihood of a negative ownership change is negatively associated with **high management board representation**.

Hypothesis 3.1.b. The likelihood of a positive ownership change is positively associated with **high management board representation**.

Hypothesis 3.2.a. The likelihood of a negative ownership change is negatively associated with a **strong linkage between firm and family**.

Hypothesis 3.2.b. The likelihood of a positive ownership change is positively associated with a **strong linkage between firm and family**.

Hypothesis 3.3.a. The likelihood of a negative ownership change is positively associated with the **number of different (individual) blockholders**.

Hypothesis 3.3.b. The likelihood of a positive ownership change is negatively associated with the **number of different (individual) blockholders**.

2.5. The financial theory perspective (risk and valuation)

Financial theory might deliver further arguments that can explain ownership dynamics. At an early stage of a firm's existence, equity ownership is a feasible way to substitute for potentially lower cash income for the entrepreneur(s). Nevertheless, the entrepreneur or individual blockholder in our study has to bear certain risk: foremost is the problem of a strong wealth concentration. This diversification problem also exists in a similar flavor on a corporate level as Schmid, Ampenberger, Kaserer, and Achleitner (2008) demonstrate. Founding family firms are less diversified in terms of business segments and thus are probably more exposed to distinct industry shocks.

We hypothesize that due to these characteristics, individual blockholder firms might consider a negative adaptation of their blockholdings (assuming that they consider the current share price favorable). In addition, we explore arguments related to potential ownership change that stem from opportunistic behavior. Potential knowledge advantages of a founding family might lead to the exploitation of windows of good stock market performance or excellent operating performance. Thus, a major individual blockholder, an insider, might take advantage of good market timing. This could apply to decisions to sell stock in the case of a perceived overvaluation, as well as to decisions to buy stock in the case of a perceived undervaluation (Helwege et al., 2007; Klasa, 2007). At the same time, other investors could interpret trading of such insiders as signals.

Hypothesis 4.1.a. The likelihood of a negative ownership change is positively associated with **high stock valuation**.

Hypothesis 4.1.b. The likelihood of a positive ownership change is positively associated with **low stock valuation**.

3. Data set and definition of variables

3.1. Data set

The empirical analysis investigates listed *CDAX* (the *Composite German Stock Index*) companies during the years 1996 2008. The *CDAX* is an all share index composed of all German stocks listed on the *Frankfurt Stock Exchange (FSE)* that fulfill the distinct transparency requirements of the *Prime Standard* or *General Standard*. Therefore, investors consider the *CDAX* to be the German market index. The benefit of this approach is that we do not only include the largest companies in terms of revenue or market

capitalization, or the most transparent companies, but the full spectrum of German listed firms (*CDAX*). Prior analysis has shown that the above mentioned aspects can influence empirical results anywhere from a statistically highly significant way down to no effect at all (c.f. Anderson et al., 2009; Miller et al., 2007. Thus, we expect that our results are robust against this kind of selection concerns.

Due to structural differences, we exclude financial companies from our sample, based on their respective SIC code (6000 6999). Similarly, we do not consider utility and further regulated companies (4900 4949 and 9111 9999) as their regulation characteristics hamper any comparison to non regulated firms. We enrich this data pool with hand collected ownership (voting rights) data and board structure information from *Hoppenstedt Aktienführer*, one of our primary data sources. Our founding family approach requires the identification of the company founder, the founding family, or the group of founders. Our primary source for this purpose is *Hoover's Company Profiles* from *Hoover's Online* database. To check overall ambiguous information we review two additional databases: *Commerzbank "Wer gehört zu wem?"* and *Bureau van Dijk's Amadeus* database. In a third step, we review official publications of the respective companies or of predecessor companies. This includes IPO prospects and company reports as well as public information sources investigated via *Factiva, LexisNexis* or further literature research. The final sample contains 2529 firm years. *Thomson Financial Datastream* and *Thomson One Banker* represent the primary sources for all stock market and accounting related information.

3.2. Individual blockholder type definitions

Owner identity characteristics of individual blockholders are at the core of this analysis. In order to allow a differentiated consideration of ownership dynamics we define individual blockholder types first: Particularly, we identify whether the firms' individual blockholders are *lone founders*, *family founders*, or *heirs*.[7] We choose this approach to consider explicitly the inherent heterogeneity of 'family firms' that follows the applied founding family definition. *Lone Founder Firms* and *Family Founder Firms* are both first generation firms. Lone founders have no family ties within the organization. That means no other family members are involved neither in boards nor as owners. In contrast, there is kinship amongst the founders, board members, or owners in a *Family Founder Firm*. *Heir firms* are founding family firms in second or later generations. In the case of a combined first and second generation being involved in ownership or boards we assume very conservatively that this is still a first generation family firm (*Family Founder Firm*) in a succession phase. That means that we assume the founder would still exert heavy influence in a succession phase. All three firm types are dummy variables that we prepared by careful review of ownership, board characteristics, and the sources mentioned above for every individual firm year.

In addition, we build an interaction variable of the individual blockholder types with an adjusted founding family definition. Our general approach follows papers such as Anderson and Reeb (2003) and Villalonga and Amit (2006) that require ownership or board membership of a founding family. While we largely agree with this approach, we still adjust our definition for some aspects of German capital market specifics. The rationale behind this is to ensure that a founder or a founding family could theoretically exercise substantial influence. Hence, we require a founding family firm to be influenced by its founders or its founding family

via a combination of board representation and an ownership stake that equals or exceeds the 5% threshold. Alternatively, in case of no board representation, the founding family shall control at least 25% of the voting stock plus one share.[8]

Those specific thresholds reflect relevant legislation in this context. The German Stock Corporation Act (AktG) defines the lowest considerable threshold to convoke a general shareholders' meeting to be 5%. Any group of shareholders that jointly control at least 5% of the company's voting rights can demand such a convocation of a general meeting (§122,1). The control of 25% of the votes cast plus one share ensures the so called blocking minority. It is not enshrined in law, but is more of a kind of reverse consequence out of the super majority requirement. A super majority the control over 75% of the votes cast plus one share in a general meeting allows the undisputed enforcement of resolu tions. A blocking minority can prevent such dominant influence. Furthermore, the AktG provides shareholders that control over 25% of the votes plus one share with the right to nominate supervisory board candidates that have been members of the management board in the two preceding years. This is an important and very realistic aspect, as for instance founders who resign from management board sometimes enter the supervisory board. In German law, these candidates are not allowed to become members of the supervisory board without the above described nomination (§100,2 AktG).

In the case(s) where we apply this altered founding family definition associated with an individual blockholder type, we indicate this in our empirical section with a 'D' for dummy in parentheses.[9]

3.3. Dependent variables

Our hypotheses aim at testing the likelihood of a substantial change in founding family ownership. Thus, the most important dependent variables of our analysis are dummy variables that indicate significant ownership change. They differ with respect to a positive or a negative direction, as well as in different magnitudes. A *Large Drop* represents a year on year negative change of at least 2.5%. In our robustness tests, we also apply a 5% threshold for a *Large Drop* that represents a negative change of a magnitude of at least 5%. The same thresholds apply to positive changes in individual blockholder voting rights. We call this variable a *Large Increase*. While both a *Large Drop* and a *Large Increase* scenario represent a year on year variation of ownership influence, they both imply that the individual blockholder influence remains with the company. Therefore, we additionally address the likelihood of a complete exit of the individual blockholder as a further aspect of interest. We capture this '*vanished influence*' angle in a dummy variable called *Complete Exit*.

Table 10 provides an overview on all independent variables.

3.4. Descriptive statistics

The descriptive analysis provides evidence of changes in ownership structures and gives an overview of further governance and firm specific variables that we apply in our multivariate regression scenarios. Table 2 shows the development of average ownership of a lone founder, family founder, and heir firm from 1996 to 2008. The respective firm years are pooled and presented in a per year fashion in panel A. The average ownership level across all individual blockholder firm types decreases from 56.7% in 1996 towards a minimum of 28.2% in 2007. The 2008 mean value is

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[7] See Miller et al. (2007, 2011), Le Breton-Miller and Miller (2008), and Anderson et al. (2009) that apply a similar approach with respect to Lone Founder Firms, Family Founder Firms, and Heir Firms.

[8] Compare this definition to the DAXplus Family index of Deutsche Börse Group.
[9] For example FAMILY FOUNDER FIRM (D).

Table 2
Ownership dynamics–summary statistics.

Year	Firm years	Ownership level	Negative change	Positive change	Large drop	Large increase
		Mean	Mean	Mean	% (of firms)	% (of firms)
Panel A						
1996	51	56.7%	−2.3%	0.4%	15.7%	7.8%
1997	52	53.3%	−2.8%	0.4%	21.2%	3.8%
1998	119	53.1%	−1.7%	0.4%	11.8%	4.2%
1999	183	47.0%	−1.8%	0.4%	11.4%	3.8%
2000	290	41.8%	−3.3%	0.6%	17.5%	4.8%
2001	284	40.3%	−2.9%	0.5%	20.1%	6.3%
2002	255	38.5%	−4.9%	1.1%	28.3%	7.0%
2003	236	38.7%	−2.4%	0.6%	16.4%	7.1%
2004	226	35.6%	−4.1%	0.5%	28.6%	4.0%
2005	218	33.1%	−4.0%	0.3%	25.7%	3.7%
2006	221	30.4%	−3.9%	0.4%	24.6%	4.5%
2007	200	28.2%	−2.3%	0.6%	19.4%	6.0%
2008	194	31.0%	−1.6%	0.8%	16.4%	5.1%
ALL	2529	38.3%	−3.1%	0.6%	20.5%	5.3%
Panel B						
Lone founder	1125	29.8%	−3.4%	0.5%	23.1%	4.9%
Family founder	668	39.3%	−2.9%	0.6%	21.8%	4.9%
Heir firm	736	50.2%	−2.9%	0.6%	15.3%	6.1%

This table presents ownership characteristics of individual blockholder firms, i.e. lone founder, family founder and heir firms. The individual blockholder sample comprises 2,529 firm years. Panel A includes changes in ownership variables per year. Negative and Positive Change represent a mean change in ownership. *Large Drop* and *Large Increase* represent an ownership change that is below −2.5% and above 2.5%, respectively. Panel B differentiates for lone founder, family founder and heir firms.

slightly up again with 31.0%. Overall, the pooled mean amounts to 38.3%.

We continue with a differentiation of *Large Drops* and *Large Increases* in ownership. Our sample shows an average negative year on year change of −3.1%. An amount that is somewhat higher than comparable results of Fahlenbrach and Stulz (2009) who find a mean negative change of −2.3%. Still, we have to recall that they review a managerial ownership sample with lower baseline values in the respective blockholding. Positive changes that represent an ownership increase are smaller. Our analysis indicates a mean of 0.6% year on year change whereas Fahlenbrach and Stulz (2009) detect a 1.4% increase, more than twice the value of our result. Yet, the median ownership change in our sample is 0.0%. First, this highlights the stickiness of ownership in general as argued by Zhou (2001) and second, this finding is almost identical with Fahlenbrach and Stulz (2009) who discover a median negative change of −0.1% and a median positive change of 0.0%.

In panel A, we further identify the share of companies that experience a *Large Drop*.[10] In 2002 and 2004, we observe the highest values: on average 28.3% and 28.6%, respectively. The pooled mean is 20.5%. For sensitivity purposes, we test the overall effect if we increase the required *Large Drop* threshold to 5.0%. This definition leads to a pooled mean of 13.7% of firms that experience such a *Large Drop* on average. We apply the altered threshold as a robustness check in our multivariate analysis in the course of this study. Still, we recognize the descriptive aspect that 13.7% of the *Large Drop* affected firms have in fact an ownership change that qualifies this change as a block transfer.[11] As opposed to this, *Large Increases* are less frequent. We detect a mean of 5.3% of firms per year that experience a positive ownership change of at least 2.5%.

Panel B pools firm years over the sample period and differentiates according to owner identity characteristics. Whereas only 15.3% of all heir firms experience a *Large Drop* (equal or exceeding −2.5%), the figure for lone founder firms is 23.1% and 21.3% for family founder firms, respectively. Thus, the ownership base of heir firms seems to be more robust against downward

change compared to the two founder type firms. The reverse result applies for *Large Increases*: Although the pooled mean over the sample period is slightly in line for all types of individual blockholder firms, about 6.1% of heir firms undergo a *Large Increase*. The reference value for lone founder firms and family founder firms is 4.9%, for both of them.

With respect to the mean ownership level, we identify substantial differences between the three firm types: Lone founder firms (29.8%) and family founder firms (39.3%) hit the 25% ownership threshold, the blocking minority, on average. Heir firms show a mean ownership level of 50.2%, which ensures majority ownership. The respective median values differ only marginally from the mean values for each of the three distinct firm categories and confirm the obvious relevance for those firms to comply with distinct ownership thresholds. In addition, the differences between *Lone Founder Firms*, *Family Founder Firms*, and *Heir Firms* highlight once again the heterogeneity of founding family firms.

A detailed comparison between the identified *No Change*, *Large Drop*, and *Large Increase* groups is presented in Table 3. This includes mean and median values of the respective governance, stewardship, and firm specific control variables. A Wilcoxon rank sum test provides evidence of statistically significant differences between the compared groups. Table 3 also contains the summary statistics for the complete sample.

4. Empirical analysis

Section 4 addresses ownership dynamics from a multivariate regression perspective. In particular, we aim to identify potential determinants of ownership dynamics, to clarify their distinct influence and to compare those results with our initial hypotheses.

4.1. Empirical approach

In the following analysis, we apply pooled probit regressions. The probit regressions for *Large Drop* and *Large Increase* include in their base model (indicated as *Model #.a*)[12] general ownership and

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[10] This scenario defines a negative change of −2.5% and more as a Large Drop.
[11] We assume here that a block represents at least 5.0%, which is in line with our initial definition and German law.

[12] The hash sign '#' indicates the respective model number.

Table 3
Summary statistics.

	All							No change		Large drop		Large increase		Wilcoxon (p-values)	
	Mean	Median	SD	p25	p75	Min	Max	Mean	Median	Mean	Median	Mean	Median	(NC)-(LD)	(NC)-(LI)
LONE FOUNDER FIRM (D)	0.330	0.000	0.470	0.000	1.000	0.000	1.000	0.299	0.000	0.357	0.000	0.410	0.000	0.014**	0.007***
LONE FOUNDER FIRM	0.446	0.000	0.497	0.000	1.000	0.000	1.000	0.436	0.000	0.503	1.000	0.418	0.000	0.008***	0.685
LONE FF*0510VR	0.037	0.000	0.188	0.000	0.000	0.000	1.000	0.029	0.000	0.056	0.000	0.000	0.000	0.005***	0.044**
LONE FF*1025VR	0.074	0.000	0.262	0.000	0.000	0.000	1.000	0.063	0.000	0.109	0.000	0.037	0.000	0.001***	0.227
LONE FF*2550VR	0.138	0.000	0.345	0.000	0.000	0.000	1.000	0.115	0.000	0.169	0.000	0.216	0.000	0.001***	0.001***
LONE FF*5075VR	0.091	0.000	0.288	0.000	0.000	0.000	1.000	0.093	0.000	0.064	0.000	0.157	0.000	0.042**	0.017**
FAMILY FOUNDER FIRM (D)	0.232	0.000	0.422	0.000	0.000	0.000	1.000	0.220	0.000	0.226	0.000	0.239	0.000	0.766	0.620
FAMILY FOUNDER FIRM	0.264	0.000	0.441	0.000	1.000	0.000	1.000	0.253	0.000	0.280	0.000	0.246	0.000	0.225	0.857
FAMILY FF*0510VR	0.009	0.000	0.095	0.000	0.000	0.000	1.000	0.007	0.000	0.019	0.000	0.000	0.000	0.015**	0.330
FAMILY FF*1025VR	0.045	0.000	0.208	0.000	0.000	0.000	1.000	0.038	0.000	0.068	0.000	0.037	0.000	0.004***	0.978
FAMILY FF*2550VR	0.085	0.000	0.279	0.000	0.000	0.000	1.000	0.069	0.000	0.101	0.000	0.067	0.000	0.017**	0.952
FAMILY FF*5075VR	0.086	0.000	0.280	0.000	0.000	0.000	1.000	0.093	0.000	0.060	0.000	0.112	0.000	0.020**	0.469
HEIR FIRM (D)	0.244	0.000	0.430	0.000	0.000	0.000	1.000	0.251	0.000	0.184	0.000	0.328	0.000	0.002***	0.051*
HEIR FIRM	0.290	0.000	0.454	0.000	1.000	0.000	1.000	0.311	0.000	0.217	0.000	0.336	0.000	0.000***	0.546
HEIR FF*0510VR	0.017	0.000	0.131	0.000	0.000	0.000	1.000	0.020	0.000	0.019	0.000	0.000	0.000	0.946	0.100
HEIR FF*1025VR	0.017	0.000	0.129	0.000	0.000	0.000	1.000	0.015	0.000	0.016	0.000	0.007	0.000	0.984	0.466
HEIR FF*2550VR	0.060	0.000	0.237	0.000	0.000	0.000	1.000	0.047	0.000	0.078	0.000	0.097	0.000	0.008***	0.011**
HEIR FF*5075VR	0.101	0.000	0.301	0.000	0.000	0.000	1.000	0.104	0.000	0.062	0.000	0.179	0.000	0.004***	0.008***
FF VR	0.383	0.383	0.276	0.136	0.574	0.000	1.000	0.393	0.401	0.296	0.283	0.504	0.508	0.000***	0.000***
FF BOARD REPRES.	0.180	0.167	0.131	0.100	0.250	0.000	1.000	0.180	0.167	0.177	0.167	0.182	0.167	0.429	0.981
SFI MB	0.302	0.250	0.298	0.000	0.500	0.000	1.000	0.299	0.333	0.293	0.250	0.321	0.250	0.491	0.610
SFI SB	0.100	0.000	0.148	0.000	0.167	0.000	1.000	0.102	0.000	0.096	0.000	0.092	0.000	0.283	0.206
FIRM FOUNDER NAME	0.364	0.000	0.481	0.000	1.000	0.000	1.000	0.380	0.000	0.321	0.000	0.351	0.000	0.015**	0.502
PYRAMID	0.187	0.000	0.390	0.000	0.000	0.000	1.000	0.184	0.000	0.175	0.000	0.261	0.000	0.621	0.030**
WEDGE	0.036	0.000	0.105	0.000	0.000	0.000	0.500	0.047	0.000	0.018	0.000	0.036	0.000	0.000***	0.917
50% OWNER	0.292	0.000	0.455	0.000	1.000	0.000	1.000	0.316	0.000	0.200	0.000	0.373	0.000	0.000***	0.176
NUMBER BLOCKHOLDERS	2.421	2.000	1.532	1.000	3.000	0.000	10.000	2.326	2.000	2.620	2.000	2.515	2.000	0.000***	0.170
OUTSIDER BLOCK VR	0.207	0.130	0.231	0.000	0.327	0.000	1.000	0.214	0.131	0.245	0.190	0.118	0.059	0.001***	0.000***
BETA	0.671	0.576	0.693	0.226	1.037	−7.427	4.342	0.637	0.520	0.721	0.634	0.657	0.611	0.006***	0.225
AGE	42.475	22.000	48.887	12.000	52.000	1.000	340.000	45.289	22.000	33.983	19.000	43.224	25.000	0.010**	0.138
TOTAL ASSETS (M)	1,155.589	83.878	6,637.512	35.440	270.156	0.557	93,366.000	1,314.663	83.359	470.053	73.164	1,152.092	99.623	0.010**	0.476
DEBT/MVEQUITY	0.650	0.168	1.695	0.012	0.632	0.000	41.725	0.646	0.148	0.644	0.189	0.621	0.293	0.077*	0.032**
PAYOUT	0.029	0.000	0.062	0.000	0.041	0.000	0.885	0.029	0.000	0.023	0.000	0.035	0.000	0.001***	0.299
CAPEX	0.060	0.039	0.073	0.017	0.072	0.000	0.756	0.063	0.041	0.052	0.033	0.063	0.039	0.000***	0.544
ROA	−0.021	0.049	0.255	−0.053	0.100	−1.699	1.090	−0.012	0.049	−0.065	0.040	0.003	0.058	0.012**	0.402
TQ	1.760	1.257	1.712	0.988	1.832	0.397	21.074	1.848	1.282	1.628	1.249	1.739	1.155	0.072*	0.010**
Ln TQ	0.351	0.229	0.575	−0.012	0.605	−0.924	3.048	0.386	0.248	0.310	0.223	0.273	0.144	0.072*	0.010**
INT ACCOUNTING	0.723	1.000	0.447	0.000	1.000	0.000	1.000	0.688	1.000	0.800	1.000	0.709	1.000	0.000***	0.615
NEUER MARKT MEMBER	0.243	0.000	0.429	0.000	0.000	0.000	1.000	0.257	0.000	0.238	0.000	0.216	0.000	0.399	0.306
ANALYST FOLLOWING	4.541	2.000	7.212	0.000	5.000	0.000	45.000	4.194	1.000	4.534	2.000	6.211	3.000	0.000***	0.000***