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## Article

# Private equity in family firms: Drivers of the willingness to cede control

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## Private Equity in Family Firms: Drivers of the Willingness to Cede Control

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# Private Equity in Family Firms: Drivers of the Willingness to Cede Control

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## ABSTRACT

Our aim is to empirically examine how reasons for using private equity (PE) and prior experience with PE affect the willingness of privately held firms to cede company control. Based on a questionnaire entailing 75 privately held firms backed by PE, we show that family firms cede less control than non-family firms when entering a PE transaction. However, if firms seek funds due to challenges related to ownership changes, the difference between family firms and non-family firms decreases. Moreover, we find that family firms sell more company shares if they are run by a PE-experienced manager.

Keywords: Private Equity, Family Firms, Socioemotional Wealth, Finance, Control

JEL Codes: G34

## I. Introduction

For entrepreneurial firms, gaining access to financial resources is one of the key challenges they face to survive or successfully grow (Dawson, 2011; Scholes, Wright, Westhead, Bruining, & Kloeckner, 2009). In particular, for many small privately held firms, of which family firms are the predominant form, it is difficult to access external debt resources due to the high level of information asymmetries between external capital providers and privately held firms (Cole, Goldberg, & White, 2004). Information asymmetries result in a higher perceived default risk for financial investors, since assessing and forecasting the state of financial status of small privately held firms is problematic (Ang, 1992; Cole et al., 2004). Additionally, turbulence in capital markets in recent years has led to the more restrictive financing policies of banks (Ivashina & Scharfstein, 2010). Therefore, it has become

increasingly difficult to access debt. Besides debt financing strategies, one possible way for companies to solve financing problems is to open up the company's capital to private equity (PE) investors. PE firms allocate finance for firms in return for equity shares (Landström, 2007; Mason & Harrison, 1999). Since one of their objectives is to obtain high returns at the end of their investment, PE firms typically intervene in the firm's decision making by implementing control levers such as board or veto rights (Lerner & Schoar, 2005).

Loss of company control has a greater impact on family firms than for non-family firms, since their wealth includes not only financial but also socioemotional wealth, which largely depends on controlling the firm (Berrone, Cruz, & Gomez-Mejia, 2012; Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007). Hence, family firms favor minority investments, since they are able to benefit from the managerial experience of PE firms while maintaining company control (Tappeiner, Howorth, Achleitner, & Schraml, 2012). However, in certain situations, family firms may be willing to accept a relatively large loss of company control. Especially in times of crisis, family firms may be forced to cede more company control to PE firms. We therefore aim to examine different financing reasons for seeking PE, such as to solve challenges related to ownership, to foster growth, or to overcome a company crisis (Tappeiner et al., 2012). Moreover, we aim to examine how prior experience with PE affects the willingness to give up company control in both family and non-family firms. While inexperienced chief executive officers (CEOs) may consider PE a threat to socioemotional wealth, leading to the limited willingness of family firms to cede company control to PE firms, CEOs having experienced PE may be open to PE financing and, thus, may be willing to sell more company shares to PE firms.

Our study is built on data gathered from a questionnaire of privately held German firms backed by PE. We received 90 questionnaires, an overall response rate of 14.7%. Through exclusion due to missing data and the fact that some firms were never PE backed, our final analysis consists of 75 companies. We define a firm as a family firm if the family holds 50% or more of voting shares prior to the PE investment.

Our analysis outlines three main results. First, family firms sell fewer company shares to PE firms than non-family firms do. We therefore find evidence that the pursuit of company control plays a bigger role in PE investments for family firms than for non-family firms. Second, we find that the difference in the proportion of shares family and non-family firms are willing to sell to PE firms depends on the reasons for seeking PE. If PE is to be employed for reasons related to ownership, the difference between family and non-family firms is less pronounced. Third, we show

that family firms are willing to give up the same proportion of company control as non-family firms if their CEO is familiar with PE transactions.

The paper contributes toward a better understanding of differences in PE investments with regard to the allocation of company shares in privately held firms in three main ways. First, we refer to the theory of socioemotional wealth to extend the family firm literature (Berrone et al., 2012; Gomez-Mejia et al., 2007). So far, there is no empirical evidence that family and non-family firms differ in willingness to cede company control to PE firms. We contribute to this research gap by revealing that retaining control when seeking PE is of higher importance for family firms than for non-family firms. Thus, family firms sell fewer company shares to PE firms than non-family firms do. We add to the literature by showing that, in financing decisions as well, the family firm's preliminary goal is to retain control over the firm to avoid the loss of socioemotional wealth. Second, this study broadens our knowledge by showing that financing reasons have an impact on the proportion of transferred control. Family firms seeking PE for reasons related to ownership changes are willing to sell more company shares to PE firms than family firms using PE for other financing reasons. We therefore contribute to the ongoing heterogeneity debate (Chua, Chrisman, Steier, & Rau, 2012; Pazzaglia, Mengoli, & Sapienza, 2013) by revealing that family firms differ in willingness to cede company control depending on the financing reason. Third, we contribute to the research on intuitive decision making, since we find that prior experience in PE plays a crucial role when investigating the proportion of shares sold to PE firms. In particular, experienced CEOs express less prejudice and negative stereotyping toward PE and are willing to cede more company control to PE firms than inexperienced CEOs are.

## **II. Background Literature and Hypothesis Development**

### *A. Family Firms and PE*

The construct of socioemotional wealth that was developed from behavioral agency theory defines and separates family firms from non-family firms (Gomez-Mejia, Welbourne, & Wiseman, 2000; Wiseman & Gomez-Mejia, 1998). According to behavioral agency theory, companies make decisions that preserve their accumulated endowment. The accumulated endowment of a family firm is its socioemotional wealth. Socioemotional wealth arises from the specific characteristic of family firms that strongly consider both financial and nonfinancial goals (Berrone et al., 2012; Gomez-Mejia et al., 2007). It consists of five dimensions (Berrone et al., 2012). The first dimension refers to family control and its influence on the firm. Other

dimensions outline the emotional attachment of family members, their identification with their firms, as well as strong commitments between the family itself and its business partners. Moreover, the renewal of the firm's family bonds through dynastic succession plays a major role for family members (Berrone et al., 2012).

Retaining control over the family firm to pursue the family's interests and therefore to create, preserve, and increase socioemotional wealth is highly desired by family members (Berrone et al., 2012; Gomez-Mejia et al., 2007; Gomez-Mejia, Larraza-Kintana, & Makri, 2003; Gomez-Mejia, Makri, & Kintana, 2010). Otherwise, the family might not be able to continue to manage the firm according to its expectations of socioemotional wealth (Zellweger, Kellermanns, Chrisman, & Chua, 2012). The higher the concentration of firm ownership in the family hands, the stronger the family's influence on the firm's strategic decisions (R. C. Anderson & Reeb, 2003; Miller, Breton-Miller, & Lester, 2013). In other words, socioemotional wealth is stronger with increasing control through ownership (Gomez-Mejia et al., 2007).

While families try to strengthen their influence over their firms, they are confronted with loss of control when entering a PE transaction. Additionally, goals between PE firms and family firms often differ significantly. Capital investment firms are mainly interested in high returns when exiting investments through an initial public offering, a trade sale, or a secondary sale and therefore stick to financial goals, whereas family firms also follow nonfinancial goals. Moreover, one aim of family owners who pursue and build socioemotional wealth is to hand over the firm to the next generation (Berrone et al., 2012). This implies that, in contrast to PE firms, which invest for a limited time horizon, mostly about five to 10 years, family firms pursue a long-term view and are interested in long-lasting relationships (Berrone et al., 2012; Dawson, 2011).

However, PE offers certain advantages besides financial resources. Family firms can benefit from PE investors' extensive knowledge and experience (smart money). Nevertheless, the retention of control plays a major role for family firms in PE investments (Tappeiner et al., 2012). Minority investments of PE firms therefore prove to be particularly attractive for family firms, since they have to cede fewer control rights to PE firms while still gaining access to their managerial expertise (Tappeiner et al., 2012). Socioemotional wealth can therefore be preserved. The higher the proportion of shares sold to PE firms, the greater the loss of control over the firm and, thus, the greater the threat of not being able to preserve socioemotional wealth.

We therefore believe that the loss of control over a company has a greater effect on family firms than on non-family firms, since their wealth includes financial and socioemotional wealth (Berrone et al., 2012; Gomez-Mejia et al., 2007; Gomez-

Mejia et al., 2003). Decision making in family firms is mainly affected by socioemotional wealth and, thus, family firms prioritize their goals differently than non-family firms do (Gomez-Mejia et al., 2007). In particular, the avoidance of loss of socioemotional wealth takes precedence over other goals and, hence, family firms are averse to risking their nonfinancial wealth (Sirmon & Hitt, 2003). Therefore, socioemotional wealth is the accumulated endowment of family firms and the employment of PE results in a loss of company control, thus jeopardizing socioemotional wealth. We therefore propose the following hypothesis.

*Hypothesis 1: Family firms sell fewer company shares to PE firms than non-family firms do.*

*B. Impact of Financing Reasons on the Willingness of Family Firms to Cede Control*

When investing in privately held family firms, PE firms encounter principal problems, such as high information asymmetry, due to the organizational nature of privately held firms (Shanker & Astrachan, 1996; Wright & Robbie, 1998). Shareholders of privately held firms have insider information about the company, the capability of its managers, and forthcoming challenges. In addition, shareholders may further hide business information and act opportunistically. Therefore, capital investment firms screen potential portfolio firms by conducting a due diligence investigation to evaluate the potential investment target (Dawson, 2011; Franke, Gruber, Harhoff, & Henkel, 2006; Muzyka, Birley, & Leleux, 1996; Riquelme & Rickards, 1992; Shepherd, 1999; Shepherd & Zacharakis, 1999; Zacharakis & Meyer, 2000). By gaining company control, PE firms attempt to reduce information asymmetries and to increase the likelihood of the portfolio firm's future success, thus increasing the likelihood of receiving high returns at the end of their investment. In addition, PE firms typically intervene in the firm's decision making by implementing control levers such as board rights or veto rights (Kaplan & Strömberg, 2003).

Consequently, the shareholders of portfolio firms face loss of control over their firm as PE is acquired. According to agency theory, initially established by Jensen and Meckling (1976), portfolio firms also encounter principal problems. As PE firms gain control over a firm, they gain the opportunity of intervening in the business decision making. In this context, PE firms could exploit such possibilities and misuse their power by not sticking to commonly fixed strategic firm goals. These practices could harm the portfolio firm and, further, result in damages to the company's image.

PE firms and family firms pursue different aims when entering a PE transaction. Generally, family firms need financial means but are not willing to give

up control over their company (Tappeiner et al., 2012). For family firms, retaining control over the firm to pursue the family's interests therein and therefore create, preserve, and increase socioemotional wealth is highly desired (Berrone et al., 2012; Gomez-Mejia et al., 2007; Gomez-Mejia et al., 2003; Gomez-Mejia et al., 2010). Thus, they aim to sell only a small proportion of shares to PE firms. In contrast, investment firms pursue high returns at the end of their investment (Mason & Harrison, 1999). PE firms aim to gain control over firms to intervene in the strategic decision making. Hence, PE firms aim to buy high proportion of shares from family firms. Therefore, a main issue during the negotiation process pertains to the distribution of company shares between the PE firm and the family firm. Which of the two parties is best able to pursue its interests depends mainly on the allocation of power and enforcement. Family firms mainly employ PE to solve problems related to ownership changes, to foster growth, or to manage a company crisis (Fenn, Liang, & Prowse, 1995; Tappeiner et al., 2012). These reasons largely determine the negotiation power of PE firms and family firms.

#### *Seeking PE to Solve Problems Related to Ownership Changes*

Preferences and beliefs among shareholders differ, which can lead to disagreement about firm policies (Bagwell, 1991). Conflicts between shareholders can arise due to personal or interest differences, including divergent opinions in the context of strategic decision making. Hence, privately held firms may encounter problems related to ownership, including conflicts between shareholders (Fenn et al., 1995; Tappeiner et al., 2012). Conflicts between shareholders threaten a company's wealth, since strategic decisions can be blocked by shareholders of the conflicting party. Therefore, privately held firms rely on PE financing to buy out the shareholders of the conflicting party and thereby solve the conflict.

Family firms seek PE particularly to resolve challenges related to ownership changes. Conflicts between family members and the exit wishes of family shareholders greatly affect the socioemotional wealth of the family firm (Tappeiner et al., 2012). A conflict between family shareholders implies a disagreement between shareholders. In contrast to non-family firms, family firm shareholders are personally interconnected with each other, since they belong to the same family. We believe that emotional bonds are weaker between the family members of family firms facing conflicts than between the family members of family firms without conflicts. Hence, there is relatively little socioemotional wealth due to the fact that one of its dimension refers to the emotional attachment of family members (Berrone et al., 2012). Family members may accept greater loss of company control, since they have less to lose due to their lower levels of company wealth.



However, ownership changes are not always rooted in disagreements between shareholders but can also arise when shareholders leave the family firm due to old age. Family firms pursue socioemotional wealth by continuing the tradition of the firm through dynastic succession (Berrone et al., 2012; Zellweger et al., 2012). In recent years, successor problems in family firms have increased due to the non-availability of family successors (Schlömer & Kay, 2008). In such cases, family members will be forced to sell their company shares to external investors. Hence, the level of socioemotional wealth is low, since one of its dimensions refers to the dynastic succession to renew family bonds (Berrone et al., 2012).

If the level of socioemotional wealth is low, the decision making of family firms converges toward that of non-family firms, since company wealth mainly consists of only financial and not socioemotional wealth.

We therefore argue that family firms seeking PE to solve problems related to ownership changes sell more company shares than family firms using PE under other financing reasons (Berrone et al., 2012). Hence, we hypothesize the following.

*Hypothesis 2a: Financing for ownership reasons negatively moderates the relation between family firms and the proportion of total shares sold: The difference in the proportion of shares sold to PE firms between family and non-family firms becomes less pronounced if firms use PE to resolve challenges related to ownership changes.*

#### *Seeking PE to Realize Growth Strategies*

PE is one source of funding to realize growth strategies. PE firms prefer investing in firms that need to finance growth strategies, since growth could result in a sustainable increase in enterprise value over time. The greater the enhancement of enterprise value, the higher the return on investment for PE firms when exiting the firm. Thus, PE firms are willing to accept fewer shares than for other financing reasons, since the investment is less risky and there is the prospect of a high return on investment. Companies generating profits and intending to grow may also have the opportunity to obtain alternative forms of financing and therefore are not dependent on PE financing. Hence, firms that use PE for growth strategies have an advantage in negotiations.

It is especially important for family firms to retain company control to preserve socioemotional wealth (Berrone et al., 2012). If family firms seek PE to realize growth plans, we believe that their socioemotional wealth is great and therefore needs particular protection through family control and ownership. Due to high levels of socioemotional wealth and a good negotiation position, family members will be even more unwilling to cede company control to PE firms when

realizing growth strategies. Therefore, the difference in the proportion of shares sold to PE firms between family firms and non-family firms is pronounced when family firms seek PE to realize growth strategies. We suggest the following hypothesis.

*Hypothesis 2b: Financing for growth reasons positively moderates the relation between family firms and the proportion of total shares sold: The difference in the proportion of shares sold to PE firms between family and non-family firms becomes more pronounced if firms use PE to realize growth strategies.*

#### *Seeking PE to Overcome a Company Crisis*

PE is often used to resolve financial distress (Hotchkiss, Strömberg, & Smith, 2014; Tappeiner et al., 2012). A company crisis is an acute risk for the firm that could end in insolvency. Most often, not only financing but also external strategic support is needed to prevent the company from failing (Berger & Udell, 1998). Firms with financial constraints are usually fraught with severe difficulties when entering external debt financing. Most often, PE is the last opportunity to obtain any financing at all and, thus, avoid insolvency. Therefore, distressed firms have rather little negotiation power in contrast to PE firms. Moreover, PE firms investing in distressed companies enter a high-risk relationship leading to claiming major control over the firm in order to intervene in its strategic decision making.

Family members of family firms are even more strongly affected by a company crisis than the shareholders of non-family firms, since they could lose not only their financial but also socioemotional wealth. A company crisis threatens socioemotional wealth because a crisis could end in bankruptcy, which would destroy the firm's financial and socioemotional wealth. Moreover, through close ties between the family and the firm, family members may blame themselves for the company's failure (Berrone et al., 2012; Sharma & Manikutty, 2005; Shepherd, Wiklund, & Haynie, 2009). We therefore argue that family firms are willing to give up more control under crisis circumstances than for other financing reasons, since they want to circumvent bankruptcy under all costs. PE as a last resort could give them the opportunity to avoid the loss of at least part of their socioemotional wealth compared to company failure. We therefore hypothesize the following.

*Hypothesis 2c: Financing for crisis reasons negatively moderates the relation between family firms and the proportion of total shares sold: The difference in the proportion of shares sold to PE firms between family and non-family firms becomes less pronounced if firms use PE to overcome a company crisis.*

### C. *Impact of Prior Experience with PE on the Willingness of Family Firms to Cede Control*

Prior experience plays an important role when investigating strategic decision making (Park & Banaji, 2000; Wegener & Petty, 1994; Worth & Mackie, 1987). We believe that experience with PE has an effect on the willingness to cede company control to PE firms. In 2005, a public debate on PE caused serious damage to the image of PE firms. The so-called locust debate was initiated by Franz Müntefering, a Social Democrat of Germany, when he compared PE firms with swarms of locusts feeding on portfolio firms (Lutz & Achleitner, 2009). Since the debate, PE firms have been stereotyped as acting ruthlessly to achieve high rates of returns without considering the needs and goals of business owners and their employees (Davis, Haltiwanger, Jarmin, Lerner, & Miranda, 2011). Such prejudice against PE firms is even stronger among family firms, since they consider this reputed behavior of PE firms a threat to socioemotional wealth, leading to limited willingness to cede company control to PE firms. Therefore, non-experienced CEOs regard PE as a financing method of last resort and are therefore only willing to sell a small proportion of company shares to PE firms. Prior experience with PE could help overcome prejudice against PE investments. In particular, the CEOs of family firms who are experienced with PE may consider PE investments a chance to professionalize the firm to increase both financial and socioemotional wealth. Thus, experienced CEOs are willing to give up more company control to PE firms than inexperienced CEOs are.

In addition, decision making in family firms is more irrational and therefore less intuitive than in non-family firms, since it is often based on emotions and sentiment (Berrone et al., 2012). We therefore believe that prior experience has a greater impact on decision making in family firms than in non-family firms. We hypothesize the following.

*Hypothesis 3: Prior experience with PE negatively moderates the relation between family firms and the proportion of total shares sold: The difference in the proportion of shares sold to PE firms between family and non-family firms becomes less pronounced if the decision makers of privately held firms are experienced with PE.*

## III. Sample and Research Design

### A. *Sample*

This study is built on data gathered from a questionnaire of privately held German firms backed by PE. All the firms were privately held before employing PE. Using the Amadeus database, we obtained data on 614 privately held firms that, according to the database, had used PE. We sent standardized questionnaires to the managing

directors of these firms, since they are responsible for key strategic and financial decision making. If multiple managing directors ran the company, we prioritized CEOs. We received 90 questionnaires, an overall response rate of 14.7%. Through exclusion due to missing data and the fact that some firms were never PE backed, our final analysis consists of 75 companies (19 family firms and 56 non-family firms). Following Armstrong and Overton (1977), we controlled our data for nonresponse by comparing early and late respondents in terms of our selected dependent and independent variables. The results outline no significant differences. Hence, we assume that the nonresponse bias is not a major issue in our analysis.

### B. Measurements

*Shares sold to PE firm.* To measure the loss of company control, we use the proportion of shares sold to PE firms as the dependent variable. To obtain information about ownership, we asked in the questionnaire about the proportion of shares sold to PE firms. This measurement is based on studies showing that ownership reflects control and influence over a firm (R. C. Anderson & Reeb, 2003; Miller et al., 2013).

*Family Firm.* The main independent variable of interest indicates whether a firm is a family firm or not. Consistent with the study of Stockmans, Lybaert, and Voordeckers (2010), a company is perceived as a family firm if one family owns at least 50% of company shares prior to the PE investment. The variable is measured dichotomously, since we distinguish between family firms (coded one) and non-family firms (coded zero).

*Reason for Seeking PE.* To determine the reason for seeking PE, we included a question in the questionnaire asking participants to give their reason for employing PE: i) ownership changes, ii) financing growth, iii) financial crisis, or iv) others. For each financing reason, we created a dummy variable equal to one if that reason for seeking PE was selected.

*Prior Experience with PE.* Prior experience with PE indicates whether participants already had experience with PE. The variable takes the value one if the participants were experienced in PE and zero otherwise.

*Control Variables.* Consistent with the work of Wilson, Wright, Siegel, and Scholes (2012), we control for the industry (*Dummy industry*), firm size (*Dummy firm size*), and firm age (*firm age*) of the portfolio firms. In terms of industry, we distinguish between companies that belong to either the service or the manufacturing industry. In doing so, we build a dummy variable that is coded one if the company belongs to the service sector and zero if the company is associated with the manufacturing industry. We thus differentiate industries whose companies have high investment costs, with high amounts of capital tied up, and that are consequently

under liquidity greater pressure (i.e., manufacturing firms) compared to companies in other industries (e.g., in the service industry).

Moreover, we control for firm size and firm age to test effects related to the size and lifecycle, respectively, of the company. In doing so, we included a question in the questionnaire asking participants about the firm's age. We measured firm age as the number of years since the firm was founded. To gain information about firm size, we asked participants about the firm's total assets in 2014. To classify firms according to size, we used the provisions of the German Commercial Code (HGB) as guidelines. The HGB categorizes firms as small, medium, and large according to total assets, the number of employees, and the amount of sales. We used the HGB classification categories for total firm assets and asked participants to fit the company into one of these categories. In doing so, we define *firm size* = 1 if total assets were equal or higher than 19.250 k€ and zero if lower. We control for firm size, since small firms have higher agency costs compared to large firms due to the higher risk for company failure.

We construct a dummy variable *Legalform* used for the legal form of the portfolio firms, coded zero if the shareholders enjoy unlimited liability for their business and personal assets and one if the liabilities are limited to the company's assets. Shareholders who enjoy unlimited liability for their business and personal assets may sell fewer shares to PE firms, since they fear loss of the company's assets as well as the loss of their personal assets. In addition, we control for the year of investment of the PE deal. In times of financial crisis, portfolio firms may sell more shares to PE firms, since they need additional financial support.

### C. Common Method Bias (CMB)

Since we obtained data from each respondent using a single methodology (questionnaire), we must consider CMB (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003). Chang, van Witteloostuijn, and Eden (2010) outline several strategies that we used to minimize and control for CMB. First, we avoid utilizing the subjective evaluations of managing directors. Asking for the total proportion of sold shares to PE firms leads to an objectively measured dependent variable. Moreover, our independent variables can be considered objective, since we asked the participants about the reason for using PE and their prior experience with PE. Second, we used Harman's one-factor test to analyze the extent of CMB (Podsakoff et al., 2003). In doing so, we included every variable into a non-rotated principal component analysis (PCA). If only one factor is derived from the PCA, it would account for CMB. Within our analysis, 10 factors were extracted from the PCA, the largest of

which explained only 22.4% of the given variance. Hence, we conclude that CMB is not a major concern in our research.

#### IV. Empirical Results

Table 1 provides an overview of key descriptive statistics. The means and medians of the characteristics of PE investments with regard to family and non-family firms are reported. The statistics indicate that family firms sell fewer shares to PE firms than non-family firms do. We also report the means and medians of variables relevant to our research model.

**Table 1: Descriptive Statistics of PE Investments**

	Total			Family firms			Non-family firms			P-values of the difference	
	N	Mean	Median	N	Mean	Median	N	Mean	Median	Mean	Median
Shares_sold	75	70.093	80	19	53.895	60	56	75.589	82.5	0.002	0.006
Dummy re_ownership	75	0.387	0	19	0.421	0	56	0.375	0	0.637	0.724
Dummy re_growth	75	0.533	1	19	0.632	1	56	0.500	0.5	0.836	0.324
Dummy re_crisis	75	0.133	0	19	0.105	0	56	0.143	0	0.341	0.679
Dummy prior_exp_pe	75	0.547	1	19	0.474	0	56	0.571	1	0.233	0.426
Investment_year	75	2007.987	2008	19	2005.737	2006	56	2008.8	2009	0.011	0.014

Notes: This table provides descriptive statistics of the relevant variables in our econometric models. Our sample consists of 75 privately held firms backed by PE. The last two columns report the two-sided P-values for the difference between family and non-family firms in means and median, respectively. The results show that family firms sell fewer shares to PE firms than non-family firms do. We use T-tests (Wilcoxon rank tests) to test the difference in means (medians).

To test our research design we run several ordinary least squares (OLS) and Tobit regressions. Table 2 outlines the OLS regressions and Table 3 the Tobit regressions.

Table 2: Results of OLS Regressions

Variables	Model 1 OLS	Model 2 OLS	Model 3 OLS	Model 4 OLS	Model 5 OLS	Model 6 OLS
Dummy ff		-20.12*** (7.183)	-29.82*** (7.774)	-19.40* (10.63)	-22.00*** (7.664)	-36.92*** (9.220)
Dummy re_ownership			19.45*** (6.274)			
Dummy re_ownershipxdummy ff			20.40* (12.05)			
Dummy re_growth				-18.90*** (6.765)		
Dummy re_growthxdummy ff				4.072 (13.61)		
Dummy re_crisis					-1.982 (9.832)	
Dummy re_crisisxdummy ff					17.66 (21.39)	
Dummy prior_exp_pe						5.228 (6.328)
Dummy prior_exp_pexdummy ff						36.60*** (12.64)
Firm_age	-0.0330 (0.0736)	-0.00643 (0.0709)	0.0196 (0.0620)	-0.0490 (0.0694)	-0.00981 (0.0720)	-0.0182 (0.0648)
Dummy industry	-4.367 (6.606)	-6.809 (6.361)	-8.562 (5.553)	-5.664 (6.056)	-6.553 (6.452)	-4.777 (5.835)
Dummy firm_size	25.66*** (6.886)	21.52*** (6.732)	18.22*** (6.021)	19.57*** (6.449)	21.76*** (6.802)	24.00*** (6.206)
Investment_year	-0.218 (0.685)	-0.579 (0.666)	-0.422 (0.580)	-0.546 (0.632)	-0.601 (0.673)	-0.793 (0.613)
Dummy legalform	44.86** (19.57)	40.74** (18.73)	56.73*** (16.63)	39.20** (18.25)	40.26** (18.95)	34.18* (17.26)
Constant	452.0 (1,372)	1,188 (1,335)	850.9 (1,163)	1,135 (1,268)	1,232 (1,350)	1,618 (1,231)
Observations	75	75	75	75	75	75
R-Squared	0.221	0.302	0.487	0.389	0.310	0.436

Notes: This table presents the results of the OLS regression models. Model 1 outlines the impact of the control variables. Model 2 includes the main variable of interest, *family firm*. Models 3 to 5 exhibit the results of the interaction terms of each reason for seeking PE (Model 3, ownership; Model 4, growth; Model 5, crisis) on the relation between family firms and the proportion of shares sold to PE firms separately. In Model 6, we show the results of the interaction term of prior experience with PE on the relation between family firms and the proportion of shares sold to PE firms. Standard errors are reported in parentheses. The superscripts \*, \*\* and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.

**Table 3: Results of Tobit Regressions**

Variables	Model 1 Tobit	Model 2 Tobit	Model 3 Tobit	Model 4 Tobit	Model 5 Tobit	Model 6 Tobit
Dummy ff		-20.12*** (6.839)	-29.82*** (7.293)	-19.40* (9.972)	-22.00*** (7.190)	-36.92*** (8.650)
Dummy re_ownership			19.45*** (5.886)			
Dummy re_ownershipxdummy ff			20.40* (11.30)			
Dummy re_growth				-18.90*** (6.345)		
Dummy re_growthxdummy ff				4.072 (12.77)		
Dummy re_crisis					-1.982 (9.224)	
Dummy re_crisisxdummy ff					17.66 (20.06)	
Dummy prior_exp_pe						5.228 (5.936)
Dummy prior_exp_pexdummy ff						36.60*** (11.86)
Firm_age	-0.0330 (0.0706)	-0.00643 (0.0675)	0.0196 (0.0582)	-0.0490 (0.0651)	-0.00981 (0.0675)	-0.0182 (0.0608)
Dummy industry	-4.367 (6.337)	-6.809 (6.057)	-8.562 (5.209)	-5.664 (5.681)	-6.553 (6.052)	-4.777 (5.474)
Dummy firm_size	25.66*** (6.605)	21.52*** (6.410)	18.22*** (5.648)	19.57*** (6.050)	21.76*** (6.381)	24.00*** (5.822)
Investment_year	-0.218 (0.657)	-0.579 (0.634)	-0.422 (0.544)	-0.546 (0.593)	-0.601 (0.631)	-0.793 (0.575)
Dummy legalform	44.86** (18.77)	40.74** (17.83)	56.73*** (15.60)	39.20** (17.12)	40.26** (17.77)	34.18** (16.19)
Constant	452.0 (1,316)	1,188 (1,271)	850.9 (1,091)	1,135 (1,190)	1,232 (1,266)	1,618 (1,155)
Observations	75	75	75	75	75	75

Notes: This table presents the results of the Tobit regression models. Model 1 outlines the impact of the control variables. Model 2 includes the main variable of interest, family firm. Model 3 present the results for the interaction terms of each reason for seeking PE (Model 3, ownership; Model 4, growth; Model 5, crisis) on the relation between family firms and the proportion of shares sold to PE firms separately. In Model 6, we show the results for the interaction term of experience with PE on the relation between family firms and the proportion of shares sold to PE firms. Standard errors are reported in parentheses. The superscripts \*, \*\* and \*\*\* denote statistical significance at the 10%, 5%, and 1% levels, respectively.



Following a hierarchical approach, we first conduct an OLS and a Tobit regression including only control variables (Model 1). The control variables *Dummy firm\_size* (25.66,  $p \leq 0.001$ ) and *Dummy legalform* (44.86,  $p \leq 0.05$ ) are significant and positively influence the proportion of shares sold to PE firms. The regression coefficient of Model 2 outlines that, if the company is a family firm, the proportion of shares sold to PE firms decreases by 20.12 percentage points ( $p \leq 0.001$ ), revealing an economically relevant effect of family firms on the proportion of shares sold. Family firms sell significantly fewer shares to PE firms than non-family firms do. This finding supports Hypothesis 1 and prior literature indicating that family firms differ from non-family firms (Berrone et al., 2012; Berrone, Cruz, Gomez-Mejia, & Larraza-Kintana, 2010; Cennamo, Berrone, Cruz, & Gomez-Mejia, 2012; Chen, Chen, Cheng, & Shevlin, 2010; Deephouse & Jaskiewicz, 2013; Gomez-Mejia et al., 2007). We find evidence that the pursuit of company control plays a bigger role in PE investments for family firms than for non-family firms. Thus, our findings are consistent with prior studies indicating that the family firm's preliminary goal is to retain control over the firm and, hence, the loss of company control could threaten the socioemotional wealth of the family firm (Berrone et al., 2012; Gomez-Mejia et al., 2014; Gomez-Mejia et al., 2007). We argue that the prevention of the loss of socioemotional wealth leads to the outlined differences in the extent of company control family and non-family firms are willing to transfer to PE firms.

Models 3 to 5 outline the interaction effects of our independent variable, for family firms, with each reason for seeking PE (ownership, growth, and crisis) to test Hypotheses 2a, 2b, and 2c. To illustrate the impact of financing reasons on the willingness of family firms to cede control, we outline three regression models illustrating the effect of i) ownership (Model 3), ii) growth (Model 4), and iii) crisis (Model 5) financing reasons, respectively, on the relation between family firms and the proportion of shares sold to PE firms.

Model 3 outlines the effect of the ownership financing reason on the relation between family firms and the proportion of shares sold to PE firms. This interaction is significant at the 10% level. The regression coefficients of the interaction terms indicate that the ownership financing reason has a positive impact on the relation between family firms and the proportion of shares sold to PE firms.

Figure 1 plots the interaction term of the ownership financing reason against the relation between family firms and the proportion of shares sold to PE firms in.

**Figure 1: Interaction effect of the ownership financing reason on the relation between family firms and the proportion of sold shares**

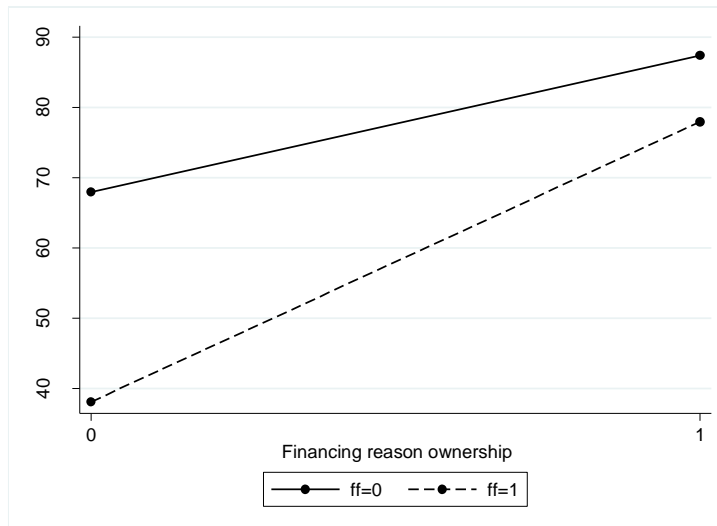


Figure 1 illustrates that the gap between family and non-family firms decreases when PE is sought to resolve challenges related to ownership. The gradient of the slope for family firms is therefore higher (+39.86) in contrast to the gradient of the slope for non-family firms (+19.45). The results outlined therefore support Hypothesis 2a. If family firms employ PE for reasons related to ownership, they sell more shares to PE firms than do family firms seeking PE for other financing reasons. With regard to the proportion of shares non-family firms sell to PE firms, family firms come close to the proportion of shares non-family firms sell to PE firms. Thus, family firms seeking PE for reasons related to ownership accept greater loss of control than family firms employing PE for other financing reasons. We suggest that our result derives from the weaker emotional bonds between the family members of family firms facing conflicts than the family members of family firms without conflicts. Hence, the level of socioemotional wealth is lower due to the fact that one of its dimension refers to the emotional attachment of family members (Berrone et al., 2012). With regard to our argumentation, we conclude that family firms facing ownership challenges possess less socioemotional wealth and therefore behave more similarly to non-family firms employing PE.

We were unable to estimate the influence of the growth and crisis financing reasons on the relation between family firms and the proportion of shares sold to PE firms because the interaction terms are not significant in Models 4 and 5. In addition, the independent variable *Dummy re\_crisis* is not significant in Model 5. Therefore, the results for the growth and crisis financing reasons seem to be inconsistent.

However, we plot the effects of the growth and crisis financing reasons separately against the relation between family firms and the proportion of shares sold to PE firms to display tendencies with regard to Hypotheses 2b and 2c.

**Figure 2: Interaction effect of the growth financing reason on the relation between family firms and the proportion of sold shares**

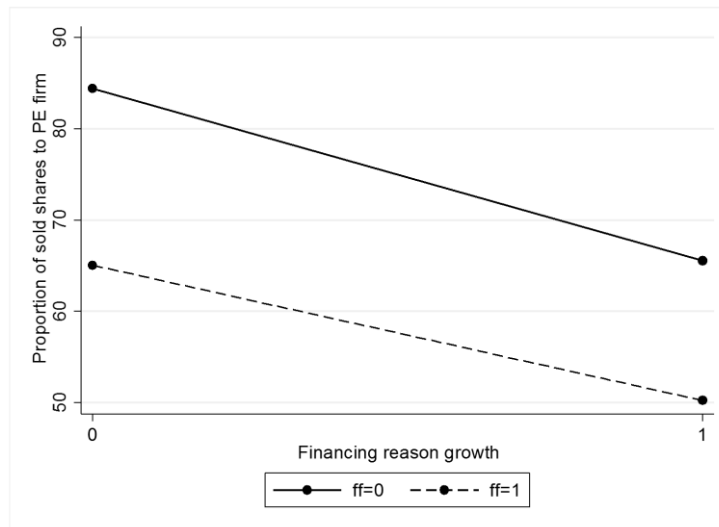


Figure 2 shows that the gap between family and non-family firms remains nearly the same when firms seek PE for reasons related to growth. Moreover, both family and non-family firms are willing to sell fewer company shares to PE firms when seeking PE to realize company growth. However, the interaction term is not significant and we therefore cannot support Hypothesis 2b.

**Figure 3: Interaction effect of the crisis financing reason on the relation between family firms and the proportion of sold shares**

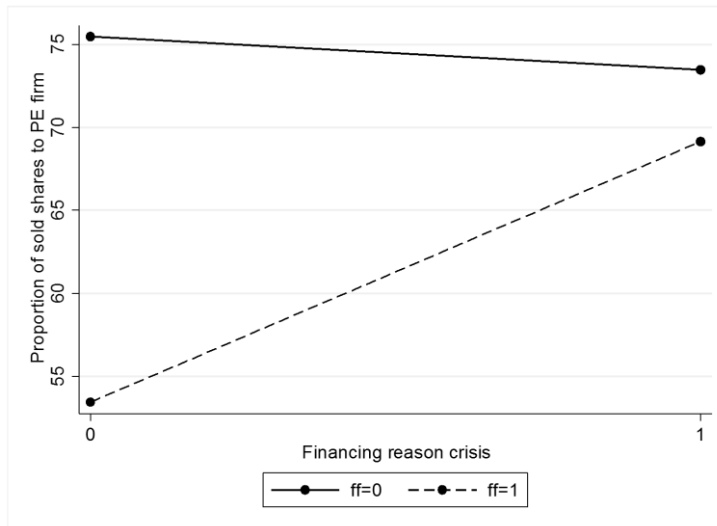
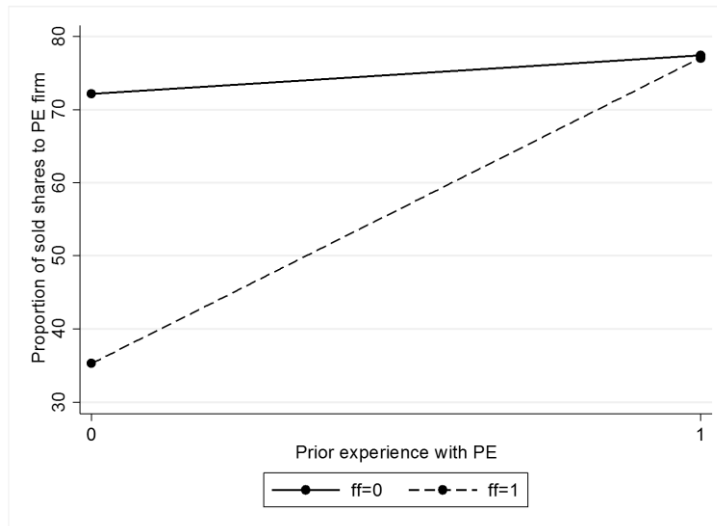


Figure 3 exhibits the interaction term between the crisis financing reason and family firms. The results show that the difference between family and non-family firms regarding willingness to give up company control tends to decrease. In other words, family firms accept greater loss of company control when they seek PE to overcome a company crisis. However, the interaction term is not significant and we therefore cannot support Hypothesis 2c.

Within Model 6, we test Hypothesis 3, since we estimate the influence of PE experience on the relation between family firms and the proportion of shares sold to PE firms. This interaction is significant at the 1% level and has a positive sign, indicating that personal experience with PE has a positive impact on the relation between family firms and the proportion of shares sold to PE firms.

Figure 4 plots the significant interaction term of personal experience on the relation between family firms and the proportion of shares sold to PE firms to analyze and interpret results.

**Figure 4: Interaction effect of prior experience with PE on the relation between family firms and the proportion of sold shares**



If the CEOs of family firms do not have PE experience, family firms sell fewer shares to PE firms than non-family firms do. In contrast, the gap between the proportion of shares family and non-family firms are willing to sell to PE firms closes if the CEO is experienced with PE. The gradient of the slope for family firms is therefore higher (+41.83) in contrast to that for non-family firms (+5.23). The result is significant at the 1% level and has a positive sign; we therefore confirm Hypothesis 3. If CEOs of family firms are already familiar with PE, these family firms will sell more shares to PE firms than family firms with CEOs with no PE experience. With regard to the proportion of shares sold to PE firms, family and non-family firms sell the same proportion of company shares to PE firms. Thus, experienced CEOs of family firms accept greater loss of control than family firms run by inexperienced CEOs do. One possible explanation is that experienced managers of family firms do not consider PE a threat to socioemotional wealth but, rather, emphasize the smart money of PE, for example, to benefit from PE investors' extensive knowledge and experience to professionalize the firm and increase both financial and socioemotional wealth.

Table 4 presents the results of our multicollinearity analysis. The dependent variable for the proportion of sold shares to PE firms is negatively correlated with the independent variable for family firms. All the values of the correlations are under the critical threshold of 0.7, indicating that multicollinearity is not an issue (D. Anderson, Sweeney, Williams, Camm, & Cochran, 2014). Additionally, we examined the variance inflation factors to test multicollinearity (Kroll, Walters, & Wright, 2008).

All their values stayed below the critical threshold of 10 (Chatterjee & Hadi, 2015). We therefore conclude that multicollinearity is not an issue in our research.

**Table 4: Mean Values, Median, Standard Deviations, and Correlations**

	Mean	Median	SD	VIF	1	2	3	4	5	6	7
1 Sold_shares	70.093	80	28.878	-	1						
2 Dummyff	0.253	0	0.438	1.16	-0.3289*	1					
3 Firm_age	50.387	32	49.529	1.44	0.1218	0.1736	1				
4 Dummyindustry	0.333	0	0.475	1.06	-0.1216	-0.1517	-0.1872	1			
5 Dummyfirm_size	0.627	1	0.487	1.26	0.3908*	0.1208	0.3871*	-0.0975	1		
6 Investment_year	2007.987	2008	5.012	1.30	-0.0258	-0.2632*	-0.4040*	0.0928	-0.1350	1	
7 Dummylegalform	0.973	1	0.162	1.08	0.1967	-0.0939	-0.0710	-0.0585	-0.1278	0.2157	1

We assume that our results are robust, since we find no major changes in our control variables between our models in terms of significance or direction. In addition, we apply propensity matching to identify a suitably matched sample of family firms for comparison with non-family firms. In doing so, we first conduct a probit regression to determine the likelihood of being a family firm, dependent on the matching variables. Second, the propensity score is used to match family firms to their nearest non-family firm neighbors. Matching pairs with a difference in propensity score greater than 0.1 are dropped. Third, we run T-tests to estimate mean differences. The results of the matching model are shown in Table 5.

**Table 5: Propensity Score Matching**

Variables	N	mean delta	result of T-test on mean difference
Sold shares	17	23.5882	Significance of level 1%
<b>Matching variables</b>			
Firm_age		-9.1767	Not significant
Dummy industry		-0.1176	Not significant
Dummy firm_size		0.1764	Not significant
Investment_year		-1.7647	Not significant
Dummy legalform		Not reported	

The outcomes of the propensity score matching are in line with our regression results. A difference of 23.59 percentage points between family and non-family firms with regard to the proportion of shares sold to PE firms is estimated at the 1% significance level. Additionally, the robustness of our results is confirmed by the non-significance of the T-tests of our matching variables.

## V. Conclusion

Our study empirically examines PE investments in privately held firms. In particular, we shed light on differences in the distribution of company shares between family and non-family firms after PE was employed. In doing so, we investigate if family firms differ from non-family firms in willingness to cede company control to PE firms. Moreover, we empirically study the influence of financing reasons and prior experience with PE on the relation between family firms and the willingness to cede company control to PE firms. Our study uses a unique dataset of 75 privately held firms that used PE. We constructed our dataset with the data from standardized questionnaires sent to the directors of German privately held and PE-backed firms.

Our analysis outlines three main results. First, we find evidence that family firms sell fewer company shares to PE firms than non-family firms do. This finding reinforces the great importance of control through ownership in family firms and therefore confirms the theory of socioemotional wealth (Berrone et al., 2012; Gómez-Mejía et al., 2007). Second, we show that family firms behave differently depending

on the reason for seeking PE. Family firms are willing to cede more company control to PE firms if they seek PE for reasons related to ownership changes. The difference in the proportion of shares sold between family and non-family firms becomes less pronounced when firms seek PE to solve problems related to ownership. Third, we find that, in family firms, prior experience with PE leads to greater willingness to cede company control to PE firms. In particular, PE-experienced CEOs of family and non-family firms sell the same proportion of company shares to PE firms when entering a PE transaction if at least one CEO of the firm is familiar with PE. Our findings reinforce those of Chua et al. (2012), who argue that family firms are heterogeneous. Willingness to cede company control to PE firms differs within the group of family firms depending on financing reasons and PE experience.

This study aims to contribute to the family firm literature on differences between family and non-family firms by elaborating on socioemotional wealth theory (Berrone et al., 2012; Gómez-Mejía et al., 2007), on family firm literature dealing with heterogeneity, and on the intuitive decision making literature, since we are able to show that prior experience in PE also influences the willingness to cede company control to PE firms.

Our results have some limitations due to our small sample. Therefore, the results are not necessarily representative of PE investments in general. However, the availability of data is limited, since the overall population of German privately held and PE-backed firms is small. Moreover, since we chose German privately held firms for our analysis, we have to acknowledge that the family firms of other countries may behave differently when using PE. In contrast to Continental European countries, public equity is of greater importance in Anglo-Saxon countries (Mayer, 1990; Pagano, Panetta, & Zingales, 1996; Rajan & Zingales, 1995). Hence, Anglo-Saxon firms go public earlier in their lifecycle (Pagano et al., 1996). In addition, the stock exchange is accessible to everyone, whereas in Continental European countries the public equity market mainly consists of old, established, large firms (Pagano et al., 1996). It is easier for Anglo-Saxon family firms to use public equity to finance growth strategies than for Continental European firms. Anglo-Saxon firms might therefore prefer public equity to realize growth strategies and therefore use less PE in contrast to German firms.

Our study could serve as a starting point for future analysis. Additional research could shed light on different levels of socioemotional wealth in PE-backed family firms. Prior literature shows heterogeneity to be of great interest in family firm research (Chua et al., 2012; Pazzaglia et al., 2013). Hence, it would be interesting to examine the relation between the willingness to give up company control to PE firms and different levels of socioemotional wealth in family firms. We therefore encourage



future quantitative and qualitative studies in these directions to gain a better understanding of differences in PE investments in family firms.

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