Family Management, Family Ownership, and Downsizing: Evidence From S&P 500 Firms

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Abstract

Little is known about the relationship between family firms and downsizing. This study aims to close this gap. The study distinguishes between family management and family ownership as two distinct dimensions of family firms and analyzes their respective influences on downsizing. The findings suggest that the extent of family ownership decreases the likelihood of deep job cuts, whereas family management has no impact. However, family management is found to moderate the relationship between firm profitability and the likelihood of downsizing. It is suggested that family owners care more about their reputation for social responsibility than do other owners, motivating them to avoid deep job cuts.

Keywords

family firms, family ownership, family management, downsizing, job cuts

When sales and profits fall, employment downsizing (hereafter downsizing) and cost cutting are usually among the first reactions of a firm's management. As an example, consider Xerox Corp. and Merck & Co., which announced job cuts of 5% and 12% of their respective workforces in the wake of the 2008-2009 financial crisis (Chernikoff & Howell, 2008; Pollack, 2008; Uchitelle, 2008). Both firms referred to a slowdown in profits and sales as the main reason for the job cuts. However, such job cuts may not constitute a good strategy. Empirical research suggests that large job cuts often do not lead to higher profits or higher stock prices (e.g., Capelle-Blanchard & Couderc, 2007; Gerpott, 2007; Raj & Forsyth, 1999; Ursel & Armstrong-Stassen, 1995; Worrel, Davidson, & Sharma, 1991). At the same time, empirical research has shown that downsizing can have strong negative effects on corporate reputation (Flanagan & O'Shaughnessy, 2005; Love & Kraatz, 2009; Zyglidopoulos, 2004), with a particular impact on firms' reputations for social responsibility (e.g., Karake, 1998).

This study analyzes downsizing in family firms versus nonfamily firms. Family firms differ from nonfamily firms, particularly in terms of the identification of ownership and management with the firm. Using social identity theory (Ashforth & Mael, 1989; Tajfel, 1974; Tajfel & Turner, 1985) and agency theory (Eisenhardt, 1989), this study argues that family owners and managers identify more strongly with the firm than do nonfamily owners and managers. This stronger degree of identification makes these individuals more concerned about corporate reputation. Family managers and owners aim to avoid actions that may damage the reputation of the firm and their own reputations as firm owners or managers. Downsizing, with its negative effects on corporate reputation, should thus be less prevalent among family firms than among nonfamily firms.

This study follows the consensus in the family business literature of distinguishing between different ways in which a family can influence a business (e.g., Astrachan, Klein, & Smyrnios, 2002; Villalonga & Amit, 2006).

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A distinction is made between family ownership and family management, two avenues of family influence. By distinguishing between the effects of family management and family ownership, this study goes beyond earlier research on downsizing in family firms (Stavrou, Kassinis, & Filotheou, 2007). The results of this study reveal significant differences in the effects of family management and family ownership regarding the likelihood of downsizing. Family ownership is found to decrease the likelihood of downsizing, whereas family management seems to have no effect. With this central finding, this study contributes both to the literature about the corporate social responsibility of family firms (Deniz & Suarez, 2005; Dyer & Whetten, 2006; Gallo, 2004; Uhlaner, Goor-Balk, & Masurel, 2004; Wiklund, 2006) and to the downsizing literature, which so far does not refer to firm ownership variables as predictors of downsizing (e.g., Cascio, Young, & Morris, 1997; Hallock, 1998; Morris, Cascio, & Young, 1999; Ofek, 1993).

The remainder of the study proceeds as follows. The next section summarizes the literature about downsizing and its effects on corporate reputation. After that, hypotheses are developed about the effects of family management and family ownership on downsizing. The empirical part of the article starts with a description of the sample and the measures used. I then present the results of univariate and multivariate analyses. Following that, the article goes on to discuss its contributions to theory and practice. The final section concludes and provides suggestions for further research.

Downsizing and Its Effects on Corporate Reputation

This section argues that downsizing can have strong negative effects on corporate reputation. Corporate reputation as a concept has been analyzed in various disciplines, including strategy, marketing, corporate communication, and public relations. Mahon (2002) combines these separate literature streams. Corporate reputation as a concept builds on the idea that an audience assigns a positive reputation to a firm that appears to have desirable characteristics (Davies, Chun, Da Silva, & Roper, 2003; Fombrun, 1996). Two key premises underlie this idea. First, people view firms as separate social entities rather than as a collectivity of individual actors (Hamilton & Sherman, 1996; Whetten & Mackey, 2002). Second, the audience is concerned about the firm's suitability as an exchange partner and puts a high value on characteristics such as trustworthiness and reliability (Fombrun, 1996; Freemann, 1984; Weigelt & Camerer, 1988). The question remains, however, of how a firm's reputation changes; here, a specific mechanism applies. An audience evaluates the actions of a firm and uses these actions to update its view about the firm and its character (Love & Kraatz, 2009). If a firm makes a critical decision that is inconsistent with its own communicated values and the historical commitments that it has made, this may be perceived as opportunistic behavior or unreliability, possibly changing the firm's reputation.

This study argues that downsizing has strong negative effects on corporate reputation. As described above, an audience evaluates a firm's actions and uses them to update its view about the underlying character of the firm. Large job cuts at a firm usually do not go unnoticed; indeed, they are often broadcast in the media (see Chernikoff & Howell, 2008; Pollack, 2008; Uchitelle, 2008). By engaging in downsizing, the firm sends a signal that it is not willing to honor its commitments and that it is not loyal to its employees (Brockner, Grover, Reed, & O'Malley, 1987; O'Neill & Lenn, 1995). The audience, which is not restricted to the employees who were made redundant but also includes customers and/or the general public, uses this signal to update its view of the firm and of the firm's underlying character. Most likely, the reputation of the firm will worsen. Of course, an alternative view is also possible. It may be that the audience views downsizing as a good management practice that is necessary to improve the firm's competitiveness or save it from bankruptcy. In this case, the firm is admired for taking action and implementing managerial concepts such as lean production or lean management (Nienstedt, 1989; Womack, Jones, & Ross, 1991), with possible results such as lower overhead, less bureaucracy, better productivity, and faster decision making (Bruton, Keels, & Shook, 1996). Nevertheless, although such a positive effect of downsizing on corporate reputation is theoretically possible, this idea is not supported by empirical findings. In a recent empirical study, Love and Kraatz (2009) show that through downsizing firms lose on average more than two thirds of their position in corporate reputation rankings (also see Flanagan & O'Shaughnessy, 2005; Zyglidopoulos, 2004). It is also shown in the marketing literature that a loss in corporate reputation can decrease

consumers' intention to buy a firm's products (e.g., Brown & Dacin, 1997; Klein & Dawar, 2004; Mohr, Webb, & Harris, 2001; Sen & Bhattacharya, 2001).

The type and degree of downsizing play important roles in the public's perceptions of downsizing. Downsizing techniques can range from across-the-board cuts and early retirement to offering part-time employment instead of full-time employment or outsourcing (Appelbaum, Close, & Klasa, 1999). Small job cuts can be achieved quietly without causing great damage to corporate reputation, whereas this is usually not possible with large job cuts. This distinction is important because it suggests that small job cuts do not cause significant damage to a firm's reputation. The downsizing literature generally views workforce decreases larger than 5% as deep job cuts (Cascio et al., 1997).

Development of Hypotheses

This study is about the influence of family firm characteristics on downsizing. The main argument is that the family, in its role as an owner or manager of the firm, identifies more strongly with the firm than do nonfamily owners or managers; family owners or managers are more likely than nonfamily owners or managers to feel uncomfortable when their firm garners negative public opinion. As a result, they should be more cautious about actions that have a strong negative effect on corporate reputation.

There is a consensus in the family business literature that a family can influence a firm in various ways (Astrachan et al., 2002; Villalonga & Amit, 2006). For example, Astrachan et al. (2002) suggest that a family can influence a business via the three dimensions of ownership, governance, and management. This study refers to the dimensions of ownership and management and analyzes their respective influences with regard to downsizing. Social identity theory (Ashforth & Mael, 1989; Tajfel, 1974; Tajfel & Turner, 1985) and agency theory (Eisenhardt, 1989) are used as theoretical lenses to derive the hypotheses. Hypotheses 1 and 2 address the impact of family management on downsizing; Hypothesis 3 concerns the impact of family ownership on downsizing.

Family Management and Its Influence on Downsizing

This section uses social identity theory (Ashforth & Mael, 1989; Tajfel, 1974; Tajfel & Turner, 1985) to develop a hypothesis about the impact of family management on the likelihood of deep job cuts. Social identity theory offers a sociopsychological perspective on an individual's alignment with social categories or groups. Social identification is the perception of oneself as belonging to a particular social group. Individuals classify themselves into these groups and can have several identities. For example, an executive at a family-owned firm can identify herself or himself with the employees of the firm and with the family who owns the business at the same time. Ashforth and Mael (1989) extend the social identity theory to explain the identification of an individual with an organization. They argue that an organization's distinctiveness, prestige, and salience are antecedents of identification with the organization. Moreover, they suggest that interpersonal interaction, similarity, shared goals, and a common history can also lead to organizational identification; for a meta-analysis about the determinants of organizational identification, see Riketta (2005). Family and nonfamily managers differ in particular with regard to these latter characteristics. Family managers often share a long common history with the family firm and its actors. In many cases they have grown up in the organization and learned skills and practices that are idiosyncratic to their organization. Kepner (1983) goes further, arguing that the family system and the business system in a family firm experience coevolution and cannot be disentangled without great damage to one or both systems. The case of nonfamily managers is different: They usually have more varied organizational and occupational experiences. In particular, they have more experience outside the firm and are socialized in a different way; after graduation, they often work in large firms, change jobs frequently, and gain a wide range of organizational experience. Most of them have completed formal and generic management education, during which time their peer group consists of their fellow students, who usually work in other (often large) organizations or in consultancy firms (Dyer, 1989; Schein, 1983). In summary, the above arguments suggest that family managers identify more strongly with the firm as a social entity than do nonfamily managers, which is why they are more likely to be concerned about corporate reputation. This more intense concern leads them to avoid downsizing, which is shown to have negative effects on corporate reputation (Flanagan & O'Shaughnessy, 2005; Love & Kraatz,

2009; Zyglidopoulos, 2004). The following hypothesis should hold:

Hypothesis 1: There is a negative relationship between family management and the likelihood of downsizing.

The extant literature has found low profitability to be a strong predictor of deep job cuts (e.g., Morris et al., 1999; Ofek, 1993). This study argues that the relationship between profitability and downsizing differs according to whether a particular manager is a member of the founding family or not. For the reasons leading to Hypothesis 1, a family manager should identify more strongly with the firm and should therefore care more about the firm's reputation than would a manager who is not a member of the founding family. Thus, as long as the firm does not run the immediate risk of bankruptcy, a family manager will try to avoid actions such as downsizing that damage the firm's reputation but may lead to improved financial performance. In other words, maintaining the firm's reputation for social responsibility is more important than financial performance. Family management is suggested to moderate the relationship between low profitability and the likelihood of downsizing.

Another argument can be used to derive this moderation effect. Because of their status as family members, family executives usually hold rather secure positions in the firm (Allen & Panian, 1982). They do not need to produce strong financial results to improve their personal reputation on the market for corporate executives; that is, they are not obliged to show regular increases in operating efficiency or profitability. This argument can be extended even further. The fact that family executives are related to the founding (and business-owning) family by kinship ties may even prevent them from moving to another (rival) company. Effectively, they do not regularly enter into the market for corporate executives. Unlike nonfamily managers, they do not have an incentive to demonstrate their managerial abilities and "act just for the sake of acting"—an agency problem that has been widely discussed in the economics literature (e.g., Campbell & Marino, 1994; Holmstrom, 1982; Laverty, 1996). The situation is different for nonfamily executives, who can be laid off more easily. They are concerned about the market for executives and their personal reputation on this particular market, which is why they have an incentive to show that they desire to avoid a decline in corporate performance. That is, they may engage in downsizing to show that they are acting in the interests of shareholders, regardless of whether downsizing is effective.

Based on the above two lines of argument, the following hypothesis regarding the relationship between firm profitability and likelihood of downsizing can be formulated:

Hypothesis 2: Family management moderates the relationship between firm profitability and the likelihood of downsizing.

Family Ownership and Its Influence on Downsizing

This section develops a hypothesis about the effect of family ownership on downsizing. It is argued that family owners identify more strongly with the firm than do nonfamily owners, such as institutional block holders. As with the effect of family management, social identity theory (Ashforth & Mael, 1989; Tajfel, 1974; Tajfel & Turner, 1985) is used to make this argument. Family business owners are found to value their firms for reasons that go beyond purely financial goals (Astrachan & Jaskiewicz, 2008; Block, 2009; Zellweger & Astrachan, 2008). This may include investments in brands or sectors that are connected to the history and the reputation of the family but that are not necessarily needed from the perspective of the firm. Family owners may also gain nonfinancial benefits from investments in projects that create opportunities for future family generations but that do not pay off in the immediate term (Casson, 1999; James, 1999; Tagiuri & Davis, 1992). Finally, nonfinancial goals may also refer to creating a positive firm culture as well as creating a strong sense of family within the owning family. This greater emphasis on nonfinancial goals makes these individuals more concerned about the business itself. Family owners may try to impose their family goals on their firm (Kepner, 1983; Lee & Rogoff, 1996; Tagiuri & Davis, 1992, 1996), which can lead to severe conflicts with other shareholders or stakeholders (Claessens, Djankov, Fan, & Lang, 2002; Claessens, Djankov, & Lang, 2000; Morck & Yeung, 2003, 2004). The shared goals of the owning family and the firm lead family business owners to identify more strongly with the firm

as a social entity than do other types of owners, who primarily emphasize financial goals. As a result, family owners should feel a greater degree of organizational identification (Ashforth & Mael, 1989; Riketta, 2005). They should be more concerned about the reputation of the firm and thus be more inclined than other owners to avoid reputation-damaging corporate actions such as downsizing.

A variant of agency theory (Eisenhardt, 1989) can be used to make another argument about the role of family ownership in downsizing. Generally, agency theory is concerned with resolving problems that arise in principal–agent relationships. Such an agency relationship is described as a situation in which one party (the principal) delegates work to another party (the agent). This principal–agent relationship exists between employers and employees, lawyers and clients, and buyers and suppliers. This study uses agency theory to consider the relationship between family owners and society. Family owners are the agents and are monitored and sanctioned by society (which is the principal). In line with Wiklund (2006), one can argue that family owners can be more easily monitored and sanctioned by society than can other types of owners. Possible sanctions may include an increase in an inheritance tax or the introduction of a wealth tax. Society is composed of groups such as nongovernmental organizations, trade unions, and the media. Unlike institutional investors such as large investment funds, family owners often have their wealth tied to a particular firm and are more easily identifiable, as they are often well known and often bear the same name as the firm (think of the luxury car manufacturer Porsche AG, which is inseparable from the Porsche family—or at least was until the firm merged with Volkswagen AG in 2009). Thus, compared to other types of owners, family owners should be more likely to care about their reputation for social responsibility in the community in which their firm is located. This greater concern for reputation makes them more fearful of the negative image associated with deep job cuts than are nonfamily owners. As argued above, large-scale job cuts usually have a strong negative effect on corporate reputation. Family owners aim to avoid such a negative image. Unlike other owners, they are often easily identifiable by society at large and by the local community in which their firm is located (e.g., Astrachan, 1988; Carrigan & Buckley, 2008; Uhlaner et al., 2004).

Based on the above arguments, the following hypothesis is proposed:

Hypothesis 3: There is a negative relationship between the extent of family ownership and the likelihood of downsizing.

Data

Sample

The Standard & Poor's 500 (S&P 500), as of July 31, 2003, was used as a starting point for constructing the sample. This particular date was chosen because an issue of *BusinessWeek* lists the family firms in the S&P 500 on this date ("Family Inc," 2003) and provides helpful qualitative information about the ownership structures and management compositions of the family firms covered. The S&P 500 is a stock market index that contains the 500 largest publicly listed firms in the United States. The S&P 500 and similar indices such as the *Fortune* 500 are used widely to compare family and nonfamily firms, for example, in terms of financial performance (e.g., Villalonga & Amit, 2006), entrepreneurial orientation (Short, Payne, Brigham, Lumpkin, & Broberg, 2009), or corporate social responsibility (Dyer & Whetten, 2006). Starting from this basis, I collected more detailed data about the ownership structures and management compositions of the companies from corporate proxy statements submitted to the U.S. Securities and Exchange Commission in the years 1994 to 2003.[1] The data were then checked and expanded with information from *Hoover's Handbook of American Business*, Gale Business Resources, the Twentieth Century American Business Leaders Database at Harvard Business School, Forbes's lists of the 400 richest Americans, Marquis Who's Who in America, and information available on the Web sites of the companies. The final data set includes 2,638 observations from 414 firms. More information about the construction of the data set can be found in Block (2009).

Measures

Dependent variables. The variable *percentage change in workforce* is a continuous measure that indicates the percentage by which the workforce changed in a particular period as compared to the previous period. The

variable *percentage decrease in workforce* indicates the percentage by which the workforce is decreased as compared to the previous period.[2] Observations in which the workforce is increased or remained stable are indicated as missing values. The variable *workforce decreased > 0.1%* is an indicator variable that takes the value of 1 if the firm's workforce decreased by more that 0.1% compared to the previous year and is otherwise 0. Similarly defined are the variables *workforce decreased > 4%, workforce decreased > 5%*, and so on. For the purpose of this article, I follow Cascio et al. (1997) and regard only workforce decreases > 5% as deep job cuts relating to downsizing; firms with job cuts of less than 5% are still seen as "stable employers."

Independent variables. The main interest in this article lies in determining the impact of family management and family ownership on the likelihood of downsizing. The variable *family management* is constructed as an indicator variable that equals 1 if a member of the founding family is either CEO or chairman. Because of the one-tier board structure of the U.S. governance system, it makes little sense to distinguish between a family member as CEO or chairman. The variable *ownership by family* gives the percentage of common stock owned by the founding family. This information was mostly found in the definitive proxy statement (DEF 14A). The Securities Exchange Act of 1934 requires officers, directors, and 5% owners to disclose their holdings. Proxy statements are seen as a very accurate source of information about ownership structures (Dlugosz, Fahlenbrach, Gompers, & Metrick, 2006).

Beside these two variables, a large number of controls are included. Most of these controls are widely used in the family business literature, in particular in those articles that analyze the performance of family versus nonfamily firms (e.g., Miller, Le Breton-Miller, Lester, & Cannella, 2007; Villalonga & Amit, 2006). To differ between family shareholders and institutional shareholders, the variable *ownership by institutional investors* is included. The variable measures the percentage of stock owned by institutional investors such as large banks, mutual funds, and insurance companies. Other firm-specific controls are the following: The variables *firm age* (number of years since the firm was founded) and *firm size* (value of assets) aim to control for effects related to the size or the life cycle of the firm. The variable *leverage* (value of debt divided by the book value of assets) is used to control for effects relating to the firm's capital structure. The variable *average sales growth in past 5 years* controls for firms that follow an aggressive growth strategy. The variable *personnel intensity* (number of employees divided by the book value of assets) measures to what degree the firm's business model is personnel intensive. For example, firms (in the same industry) can differ as to whether their products are standardized and allow the use of capital-intensive methods of mass production (which would imply a low personnel intensity). It may also be that some firms are particularly service oriented, which implies a high personnel intensity. To control for the impact of corporate restructuring activities such as divestitures or acquisitions, the variable *change in property, plant, and equipment* (PPE; $PPE_t - PPE_{t-1}$) is constructed (also see Morris et al., 1999).[3] Previous literature has shown that downsizing can be a response to a decrease in firm performance (e.g., Morris et al., 1999). The variables *return on assets* (ROA), *change in sales* (sales decrease or increase divided by sales in the previous period), and *market-to-book value* are thus included to account for differences in firm performance. Finally, it has been shown that CEO characteristics such as experience matter with regard to strategic decisions of long-term importance for the firm (e.g., Barker & Mueller, 2002; Baysinger, Kosnik, & Turk, 1991). To measure the impact of the CEO's experience and power, the variables *CEO tenure* (the number of years the individual is CEO) and *CEO duality* (an indicator variable that equals 1 if the CEO also serves as chairman of the board of directors) are included in the regressions. To measure the effect of the CEO's level of incentive compensation, the variables *share of option-based compensation* and *share of stock-based* compensation are calculated. Hallock (1998) analyzes the relation between top executive pay and layoffs. Both compensation variables are measured in percentage of total payment. Finally, two-digit Standard Industrial Classification (SIC) codes are used to construct indicator variables for the industries in the sample (53 categories), and time dummies for the years 1994 to 2003 are used to control for macroeconomic effects.

As the distributions of the firm size and firm age variables are highly skewed, logarithmic values are taken. Most of the independent variables are lagged by 1 year to facilitate causal statements. For more details regarding variable construction, see Table A1 in the appendix.

Results

Univariate Analysis

Downsizing firms are compared to firms with a stable workforce using descriptive statistics. The unit of analysis is observations. Downsizing observations are defined as those in which a firm's workforce has declined compared to the previous period by more than 5%. The threshold of 5% has been used in a number of studies analyzing downsizing (e.g., Cascio et al., 1997; Morris et al., 1999). In the multivariate analyses, 0.1%, 5%, 6%, 8%, and 10% are used as thresholds.

The total sample encompasses 2,638 observations (from 414 firms). The downsizing category contains 530 observations (from 262 firms). Note also that there is substantial variation in the size of the workforce change. The mean percentage change in workforce is about +8% (median is +3%); the standard deviation is 33% (Table 1).

Table 2 presents the means and medians of the independent variables grouped by downsizers and stable employers. Table 2 also reports the results of tests for equality of means or proportions and the results of Wilcoxon rank-sum tests. The proportion of family-led firms is found to be higher in the stable employers than in the downsizing group (38% vs. 28%, $p < .01$). In addition, the share of family ownership is higher in the group of stable employers ($M = 5.7\%$ vs. 4.0%, $p < .01$). Univariate results seem to indicate a negative impact of both family ownership and family management on the likelihood of downsizing. Surprisingly, the results of the univariate analysis do not indicate a significant relationship between ownership by institutional investors and the likelihood of belonging to either the downsizing or the stable employers group ($M = 13.9\%$ vs. 13.2%, $p = .17$). Concerning the remaining firm characteristics, it is found that larger, older, and faster growing firms, as well as firms with more debt, are more likely to belong to the downsizing group. Some interesting results emerge regarding individual CEO characteristics. The average tenure of a CEO is higher in the stable than in the downsizing group ($M = 7.0$ yrs. vs. 5.7, $p < .01$). Finally, both firm performance and investment opportunities are strong indicators of downsizing decisions. Market-to-book value, ROA, and change in sales are all significantly higher in the group of stable employers than in the group of downsizers.

Multivariate Analysis

Logit regressions. To analyze whether family-owned or family-led firms are more likely to downsize than other types of firms, several random-effects logit models have been estimated. The respective dependent variables are workforce decreased > 0.1%, workforce decreased > 4%, workforce decreased > 5%, and so on. Table 3 shows the results of these regressions.

Table 1 above gives summary statistics and correlations for the dependent and independent variables in the regressions. Multicollinearity seems to be of minor concern, as is indicated by the low variance inflation factors (the maximum is 2.56).[4] To account for unobserved heterogeneity (i.e., the fact that some unobserved [time invariant] variables influence both the dependent and the independent variables that are of interest), the following steps are undertaken. The individual level error component δ_i controls for the potential influence of unobserved individual characteristics on the likelihood of large job cuts. I model random individual effects and assume that δ_i is normally distributed with zero mean and that δ_i is independent from all observable characteristics. Conveniently, this allows me to measure the extent to which the unobserved individual characteristics influence the dependent variable. This is done calculating the proportion of the total unexplained variance that is contributed by individual-specific effects, denoted as ρ. The result is clear. Except in Model I (in which workforce decreased > 0.1% is used as the dependent variable), unobserved heterogeneity does not appear to be a problem (Wooldridge, 2002, pp. 477-478). This is indicated by ρ, which is not significantly different from zero. Note also that a Hausman test (Hausman, 1978) of a random- versus fixed-effects model is not necessary in such a case.

Hypothesis 1 is not supported. Controlled for firm age, firm size, the CEO's tenure, and other firm and CEO characteristics, it is found that *family-led* firms do not differ from firms that are led by nonfamily executives in regard to their propensity to downsize (Model III: $\beta = -0.15$, $p > .1$). This is true for all the models estimated. This is not the case with the ownership dimension of family firms (Hypothesis 3). The ownership by family variable exhibits a statistically significant negative influence on the likelihood of downsizing in all models except Model I (e.g., Table 3, Model III: $\beta = -1.36$, $p < .05$). Family ownership thus seems to reduce the likelihood of

Table 1. Summary Statistics and Correlations

Variable	*M*	*SD*	Min	Max	Correlation																VIF
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Percentage change in workforce	8.4	32.7	−94.9	6,727																	
2. Family management[a]	0.33		0	1	.13																1.82
3. Ownership by family[a]	0.05	0.13	0	0.89	.08	.37															1.54
4. Ownership by institutional investors[a]	0.13	0.12	0	0.86	.07	−.07	−.23														1.28
5. Personnel intensity[a]	6.3	13.6	0.04	292.7	−.03	.13	.06	.05													1.33
6. Change in PPE/1000	0.2	1.1	−11.9	19.2	.19	.01	.03	−.03	−.02												1.22
7. Firm size[a,b]	8.6	1.4	3.6	13.2	−.19	−.21	−.11	−.20	−.20	.15											2.56
8. Firm age[b]	4.0	0.9	0	5.4	−.24	−.39	−.10	−.12	−.01	−.01	.40										2.29
9. Sales growth in past 5 years (in %)	16.1	28.0	−23.8	491.7	.36	.24	.15	.02	−.03	.09	−.16	−.45									1.83
10. Leverage[a]	0.24	0.17	0	0.95	−.09	−.14	−.10	.02	−.08	.08	.34	.27	−.10								1.97
11. CEO duality[a]	0.8		0	1	−.03	−.20	−.10	.03	−.01	−.02	.08	.15	−.11	.05							1.27
12. CEO tenure[a]	6.7	7.1	0	42	.08	.32	.08	−.03	.05	.04	−.04	−.06	.04	−.09	.23						1.46
13. Share of stock-based payment[a]	0.07	0.15	0	0.94	−.04	−.12	−.10	−.01	.07	.04	.16	.16	−.06	.14	.04	−.10					1.25
14. Share of option-based payment[a]	0.43	0.30	0	1	.07	.04	−.07	.09	−.02	.00	−.05	−.23	.15	−.11	−.03	−.08	−.27				1.35
15. Market-to-book value[a]	2.2	2.9	0.1	77.5	.09	.02	.03	−.00	.08	.03	−.15	−.00	−.04	−.09	−.05	.06	−.01	−.07			1.72
16. ROA[a]	5.3	14.0	−458.3	54.8	.26	.18	.11	.01	.04	−.01	.34	−.35	.46	−.27	−.13	.03	−.07	.18	.21		1.21
17. Change in sales (in %)[a]	6.8	23.9	−483.5	89.0	.41	.09	.06	.04	.00	.25	.13	−.16	.30	−.03	−.06	.07	−.04	.01	.22	.19	1.38

Note: $N = 2,638$. VIF = variance inflation factor; PPE = property, plant, and equipment; ROA = return on assets. The variables are reported in the way they go into the multivariate analyses. The Pearson correlation coefficient is used for metric variables, the point-biserial correlation coefficient is used if one variable is dichotomous, and Cramer's V is used if both variables are dummy variables. Values greater than .04 refer to a p value smaller than 5%.

a. Variable is lagged by 1 year.

b. Variable is logarithmized.

Table 2. Univariate Analysis

Variable	Workforce downsized[a]		Stable workforce[b]		Workforce downsized vs. stable workforce	
					Test for equality of means/ proportions (p)	Wilcoxon rank-sum test (p)[c]
	M	*Mdn*	*M*	*Mdn*		
Family variables						
Family management$_{t-1}$ (yes–no)	0.28		0.35		.002	
Ownership by family$_{t-1}$ (in %)	4.0	0	5.7	0	.006	.140
Firm characteristics						
Ownership by institutional investors$_{t-1}$ (in %)	13.9	12.2	13.2	11.5	.170	.176
Personnel intensity$_{t-1}$	6.3	3.7	6.2	3.8	.905	.343
Change in PPE/1000	–0.04	–0.03	0.31	0.06	<.001	<.001
Firm size$_{t-1}$ (in bn $)	22.3	6.9	15.9	4.7	.004	<.001
Firm age (in yrs)	74.9	70	70.7	76	.063	.042
Sales growth in past 5 years (in %)	11.0	5.3	17.3	10.6	<.001	<.001
Leverage$_{t-1}$ (in %)	26.8	27.3	23.5	22.6	<.001	<.001
CEO characteristics						
CEO tenure$_{t-1}$ (in yrs)	5.7	4	7.0	5	<.001	<.001
CEO duality$_{t-1}$ (yes–no)	0.81		0.79		.524	
Share of option-based pay$_{t-1}$ (in %)	43.0	44.2	44.0	42.8	.471	.545
Share of stock-based pay$_{t-1}$ (in %)	7.1	0	6.6	0	.487	.133
Firm performance						
Market-to-book value$_{t-1}$	1.5	1.1	2.3	1.5	<.001	<.001
ROA$_{t-1}$ (in %)	0.8	3.0	6.4	5.9	<.001	<.001
Change in sales$_{t-1}$ (in %)	–9.0	–2.4	10.8	9.2	<.001	<.001
N obs.	530		2,108			

a. Workforce decreased by more than 5%.
b. Workforce increased or decreased by less than 5%.
c. The Wilcoxon rank-sum test analyzes whether the two samples are from different distributions (Sample 1: workforce downsized; Sample 2: workforce stable).

large job cuts. Note that the impact of family ownership applies only to really deep job cuts; the ownership by family variable is not found to have a statistically significant effect when it comes to job cuts of less than 5% (see Model I and the family ownership coefficients reported in the table's notes).[5]

Quantile regressions. Table 4 shows the estimates of quantile regressions on the 10th, 25th, 50th, 75th, and 90th quantiles of the percentage change in workforce variable (Models I-V). These regressions estimate conditional quantile functions, that is, models in which quantiles of the conditional distribution of the dependent variable are expressed as functions of several independent variables (Koenker & Bassett, 1978; Koenker & Hallock, 2001). Using these regressions, I am able to distinguish whether the coefficient of the respective predictor variable relates to workforce decrease or workforce increase. Such a statement would not be possible with a linear model estimating the mean of the dependent variable. As with the logit regressions above, the results show that the ownership by family variable has an impact in regard to the likelihood of deep job cuts. Ceteris paribus, a 10% increase in ownership by family leads to an increase of the 10th quantile by 0.7 percentage points (from –10.5% to –9.8%; Table 4, Model I). Note however that family ownership does not have a significant impact regarding the 25th, 50th, 75th, and 90th quantiles. Family ownership thus reduces the likelihood of deep job cuts but seems *not* to have an impact in regard to the occurrence of either small job cuts or workforce increase (Table 4, Models II-V).

Table 3. Random-Effects Logit Regressions on Workforce Decreased

Dependent variable	Model I, workforce decreased > 0.1%		Model II, workforce decreased > 5%		Model III, workforce decreased > 6%		Model IV, workforce decreased > 8%		Model V, workforce decreased > 10%	
Independent variable	β	*SE*	β	*SE*	β	*SE*	β	*SE*	β	*SE*
Family management[a]	−0.217	(0.154)	−0.168	(0.170)	−0.146	(0.175)	−0.155	(0.185)	−0.039	(0.203)
Ownership by family[a]	0.007	(0.533)	−1.020	(0.634)*	−1.356	(0.673)**	1.447	(0.724)**	−2.083	(0.856)**
Ownership by institutional investors[a]	−0.026	(0.509)	0.148	(0.563)	0.112	(0.586)	−0.613	(0.645)	−0.496	(0.857)
Personnel intensity[a]	0.010	(0.004)**	0.011	(0.004)***	0.011	(0.004)***	0.013	(0.004)***	0.011	(0.004)***
Change in PPE/1000	−0.396	(0.084)***	−0.315	(0.086)***	−0.257	(0.083)***	−0.229	(0.083)***	−0.240	(0.090)***
Firm size[a,b]	0.221	(0.065)***	0.144	(0.071)**	0.059	(0.073)	0.071	(0.077)	0.015	(0.086)
Firm age[b]	−0.049	(0.097)	−0.132	(0.105)	−0.084	(0.107)	−0.207	(0.113)*	−0.170	(0.122)
Sales growth in past 5 years	−0.003	(0.004)	0.003	(0.004)	0.004	(0.004)	0.001	(0.004)	0.000	(0.005)
Leverage[a]	0.675	(0.443)	0.755	(0.488)	0.850	(0.509)*	1.303	(0.540)**	0.557	(0.600)
CEO tenure[a]	−0.011	(0.009)	−0.013	(0.010)	−0.015	(0.011)	−0.010	(0.011)	−0.029	(0.014)**
CEO duality[a]	0.190	(0.145)	−0.124	(0.160)	−0.005	(0.170)	0.082	(0.187)	0.216	(0.211)
Share of option-based payment[a]	−0.273	(0.199)	−0.248	(0.221)	−0.315	(0.231)	−0.271	(0.250)	−0.014	(0.282)
Share of stock-based payment[a]	−0.429	(0.373)	−0.744	(0.435)*	−1.000	(0.466)**	−0.534	(0.494)	−0.076	(0.543)
Market-to-book value[a]	−0.083	(0.051)*	−0.077	(0.057)	−0.101	(0.063)	−0.053	(0.064)	−0.095	(0.073)
ROA[a]	−0.033	(0.009)***	−0.040	(0.009)***	−0.041	(0.009)***	−0.043	(0.009)***	−0.036	(0.009)***
Change in sales[a]	−0.060	(0.005)***	−0.046	(0.004)***	−0.048	(0.004)***	−0.046	(0.004)***	−0.046	(0.004)***
Industry dummies (52 categories; *p*)	.023		.113		.238		.406		.712	
Time dummies (9 categories; *p*)	<.001		<.001		<.001		.009		.002	
N obs. (groups)	2,638	(414)	2,638	(414)	2,638	(414)	2,638	(414)	2,638	(414)
N downsizing obs.	971		530		457		281		281	
Obs. per group: min./avg./max.	1/6.4/10		1/6.4/10		1/6.4/10		1/6.4/10		1/6.4/10	
Minus log likelihood	1,309.98		1036.50		947.96		682.24		682.24	
χ^2 test (*p*)	<.001		<.001		<.001		<.001		<.001	
ρ	.041		.028		.018		0		0	
LR test of ρ = 0 (*p*)	.035		.162		.276		.495		.495	

Note: PPE = property, plant, and equipment; ROA = return on assets. Using a dependent variable workforce decreased > 4% results in $\beta_{\text{family management}} = -0.126$ (*SE* = 0.160) and $\beta_{\text{ownership by family}} = -0.556$ (*SE* = 0.574). Using a dependent variable workforce decreased > 7% results in $\beta_{\text{family management}} = -0.149$ (*SE* = 0.179) and $\beta_{\text{ownership by family}} = -1.400$ (*SE* = 0.700)**. Using a dependent variable workforce decreased > 9% results in $\beta_{\text{family management}} = -0.047$ (*SE* = 0.193) and $\beta_{\text{ownership by family}} = -2.100$ (*SE* = 0.811)***.

a. Variable is lagged by 1 year.

b. Variable is logarithmized.

*$p \leq .1$, two-tailed. **$p \leq .05$, two-tailed. ***$p \leq .01$, two-tailed.

Table 4. Quantile Regressions on Percentage Change in Workforce

Model	Model I, 10th quantile regression		Model II, 25th quantile regression		Model III, 50th quantile regression		Model IV, 75th quantile regression		Model V, 90th quantile regression	
Independent variable	β	*SE*	β	*SE*	β	*SE*	β	*SE*	β	*SE*
Family management[a]	0.311	(0.930)	0.439	(0.753)	0.146	(0.650)	0.554	(1.020)	0.829	(2.128)
Ownership by family[a]	7.200	(3.495)**	3.394	(2.275)	0.004	(2.030)	−1.525	(3.323)	−4.219	(6.545)
Ownership by institutional investors[a]	−0.208	(3.557)	2.722	(2.190)	2.440	(2.292)	5.893	(3.173)*	8.472	(6.571)
Personnel intensity[a]	−0.152	(0.107)	−0.030	(0.036)	−0.049	(0.014)***	−0.083	(0.021)***	−0.100	(0.040)**
Change in PPE/1000	1.875	(0.692)***	1.632	(0.391)***	2.446	(0.679)***	3.993	(0.841)***	5.613	(2.003)***
Firm size[a,b]	−0.380	(0.393)	−0.792	(0.258)***	−1.200	(0.280)***	−1.714	(0.395)***	−3.113	(0.768)***
Firm age[b]	0.770	(0.747)	0.402	(0.387)	−0.226	(0.386)	−0.674	(0.734)	−1.618	(1.120)
Sales growth in past 5 years	−0.017	(0.040)	0.071	(0.023)***	0.133	(0.034)***	0.288	(0.047)***	0.440	(0.095)***
Leverage[a]	−2.607	(3.068)	−1.793	(2.264)	−1.300	(2.198)	−3.950	(3.191)	2.109	(5.830)
CEO tenure[a]	0.040	(0.055)	0.024	(0.043)	0.066	(0.038)*	0.098	(0.061)	0.124	(0.105)
CEO duality[a]	−0.404	(0.985)	−0.163	(0.658)	−0.022	(0.640)	0.476	(0.735)	2.613	(1.620)
Share of option-based payment[a]	−0.871	(1.452)	1.194	(0.921)	1.873	(1.010)*	1.843	(1.256)	2.680	(2.447)
Share of stock-based payment[a]	1.281	(2.400)	0.633	(1.680)	0.710	(1.665)	0.618	(2.261)	0.163	(5.007)
Market-to-book value[a]	0.721	(0.196)***	0.463	(0.254)*	0.799	(0.201)***	0.666	(0.299)***	1.141	(1.030)
ROA[a]	0.104	(0.055)*	0.123	(0.071)*	0.041	(0.041)	0.009	(0.060)	0.080	(0.118)
Change in sales[a]	0.491	(0.041)***	0.461	(0.033)***	0.421	(0.047)***	0.408	(0.071)***	0.373	(0.107)***
Industry dummies (52 categories; *p*)	<.001		<.001		<.001		<.001		<.001	
Time dummies (9 categories; *p*)	<.001		<.001		<.001		<.001		<.001	
10th, 25th, 50th, 75th, 90th quantile (%)	−10.5		−3.2		3.0		11.8		29.2	
N obs. (groups)	2,638	(414)	2,638	(414)	2,638	(414)	2,638	(414)	2,638	(414)
Obs. per group: min./avg./max.	1/6.4/10		1/6.4/10		1/6.4/10		1/6.4/10		1/6.4/10	
Pseudo R^2	.25		.22		.24		.29		.34	

Note: PPE = property, plant, and equipment; ROA = return on assets. Number of bootstraps = 100.
a. Variable is lagged by 1 year.
b. Variable is logarithmized.
*$p \leq .1$, two-tailed. **$p \leq .05$, two-tailed. ***$p \leq .01$, two-tailed.

Matched sample regressions. Matched samples are constructed via propensity score matching (Becker & Ichino, 2002; Rosenbaum & Rubin, 1983) and are then used to test Hypothesis 2 about the moderating effect of family management on the relationship between firm profitability and likelihood of downsizing. The use of a matched sample design makes it easier to precisely attribute the coefficient of the interaction term to the family management variable (ideally, the matched sample approach would lead to matched samples that differ in nothing but the family management variable). The result is interesting. There clearly seems to be a moderating effect of family management (Table 5, Model I: $\beta = -0.23$, $p < .05$). Family management reduces the influence of profitability as a predictor of downsizing. I also tested for a similar moderation effect with the family ownership variable but found no evidence supporting such an effect.

Robustness Checks

Stepwise regressions. A stepwise approach is used to learn about the interrelations among the different independent variables. Table 6 shows several differently specified regressions with workforce decrease > 10% as dependent variable. Model I includes only the family firm variables as well as industry and time dummies. Firm-specific variables are added in Model II; CEO-specific variables are added in Model III. Finally, Model IV also includes measures relating to firm performance. The coefficient of the ownership by family variable only slightly varies between the different models. Most importantly, the coefficient does not drop when the performance measures are added as controls, which indicates that the effect of the ownership by family variable cannot be explained by performance differences between firms that are family owned and those that are not. Note also that even in the reduced models the family management variable does not have a significant impact.

Selection model. Does a linear model produce similar results as the logit models shown above (Table 3)? As stated in the paragraph referring to the quantile regressions, it is difficult to compare the results of a linear model that includes both downsizing and upsizing observations to the results of a logit regression. It is impossible to distinguish between the effects of a particular variable on workforce increase or workforce decrease. A way out would be to include only observations from firms that have cut their workforce and estimate a linear model with these observations. However, this would introduce a great selection bias, which can lead to wrong conclusions. Heckman models are considered a way to deal with such problems related to sample selection (Heckman, LaLonde, & Smith, 1999). I estimated a two-step Heckman model (Heckman, 1979) with the percentage change in workforce as the dependent variable and a logistic regression model of workforce decrease > 0.1% as the selection equation. Table 7 shows this Heckman model. The selection equation differs from the estimation equation by the personnel intensity variable (number of employees divided by the book value of assets).[6] The results of the Heckman model show that selection bias is an issue. Rho (ρ), which measures the correlation between the error terms of the selection and the estimation equation, is significantly different from zero ($\rho = -.59$, $p < .01$). The results regarding the main effect of the ownership by family variable are confirmed. Family ownership is found to decrease the level of job cuts given that the firm has decided to engage in downsizing (estimation equation: $\beta = -5.5$, $p < .1$). That is, an increase of family ownership by 10% leads to a decrease in the extent of downsizing by 0.6 percentage points. The linear equation of the Heckman model thus confirms the direction of the effects of the logit and quantile regressions shown above.

Discussion

Contributions to the Family Business Literature

Family firms and downsizing. In an article similar in nature to this study, Stavrou et al. (2007) explore the relationship between family firms and the extent of downsizing. Using a sample of large firms, they found that the extent of layoffs is smaller in family-owned firms than in other firms. The present research substantiates their findings and is a more "conservative test": This study does not exclusively rely on family ownership as the defining characteristic of family firms but distinguishes between family ownership and family management, understanding them as two distinct dimensions of family firms. In addition, this study uses a large number of additional control variables, such as ownership by institutional investors, the structure of executive pay, and CEO characteristics. Finally, panel data are

Table 5. Quantile Regressions on Percentage Change in Workforce (Matched Samples)

Model	Model I, 10th quantile regression		Model II, 25th quantile regression		Model III, 50th quantile regression		Model IV, 75th quantile regression		Model V, 90th quantile regression	
Independent variable	β	*SE*	β	*SE*	β	*SE*	β	*SE*	β	*SE*
Family management[a]	1.361	(1.319)	1.486	(0.964)	0.253	(0.960)	0.627	(1.311)	−0.776	(2.571)
Family management[a] × ROA[a]	−0.225	(0.100)**	−0.165	(0.103)	0.021	(0.105)	−0.111	(0.104)	−0.010	(0.276)
Ownership by family[a]	6.757	(4.317)	3.362	(2.629)	0.202	(1.897)	−0.539	(3.137)	−4.228	(5.896)
Ownership by institutional investors[a]	6.773	(4.430)	4.423	(3.282)	2.534	(3.301)	6.298	(4.574)	−0.573	(9.371)
Personnel intensity[a]	−0.152	(0.215)	−0.030	(0.049)	−0.042	(0.021)**	−0.072	(0.018)***	−0.073	(0.025)***
Change in PPE/1000	2.054	(0.723)***	2.563	(0.736)***	3.247	(1.198)***	6.032	(2.107)***	10.09	(4.02)**
Firm size[a,b]	−0.789	(0.507)	−1.108	(0.466)**	−1.627	(0.399)***	−2.409	(0.567)***	−4.738	(1.167)***
Firm age[b]	1.716	(1.035)*	0.641	(0.622)	−0.154	(0.479)	−0.743	(0.761)	−2.884	(1.507)*
Sales growth in past 5 years	−0.013	(0.040)	0.062	(0.034)*	0.153	(0.043)***	0.283	(0.049)***	0.443	(0.100)***
Leverage[a]	−8.819	(4.301)**	−1.898	(3.065)	−2.127	(3.008)	−5.532	(3.995)	11.59	(8.89)
CEO tenure[a]	0.093	(0.084)	0.031	(0.055)	0.060	(0.043)	0.128	(0.069)*	0.208	(0.109)*
CEO duality[a]	−1.954	(1.197)	−0.794	(0.801)	0.006	(0.771)	0.317	(1.083)	−1.191	(1.855)
Share of option-based payment[a]	−0.122	(1.935)	−0.747	(1.335)	1.320	(1.128)	3.031	(1.451)**	3.462	(3.223)
Share of stock-based payment[a]	2.617	(3.412)	−0.823	(2.596)	0.168	(2.588)	2.733	(3.157)	0.262	(6.631)
Market-to-book value[a]	0.663	(0.243)***	0.354	(0.270)	0.650	(0.323)**	0.369	(0.291)	0.454	(1.120)
ROA[a]	0.193	(0.079)**	0.197	(0.098)**	0.019	(0.089)	0.078	(0.082)	0.057	(0.199)
Change in sales[a]	0.516	(0.062)***	0.508	(0.041)***	0.496	(0.051)***	0.510	(0.071)***	0.433	(0.100)***
Industry dummies (52 categories; *p*)	<.001		.021		.012		<.001		.001	
Time dummies (9 categories; *p*)	.001		.001		.001		.001		.034	
10th, 25th, 50th, 75th, 90th quantile (%)	−10.3		−2.7		4.9		15.4		35.1	
N obs. (groups)	1,698	(309)	1,698	(309)	1,698	(309)	1,698	(309)	1,698	(309)
Obs. per group: min./avg./max.	1/5.5/10		1/5.5/10		1/5.5/10		1/5.5/10		1/5.5/10	
Pseudo R^2	.27		.25		.27		.33		.38	

Note: PPE = property, plant, and equipment; ROA = return on assets. Sample 1 includes only family-managed firms; Sample 2 includes only non-family-managed firms. Number of bootstraps = 100.

a. Variable is lagged by 1 year.

b. Variable is logarithmized.

*$p \leq .1$, two-tailed. **$p \leq .05$, two-tailed. ***$p \leq .01$, two-tailed.

Table 6. Stepwise Random-Effects Logit Regressions on Workforce Decreased > 10%

Dependent variable	Model I, workforce decr. > 10%		Model II, workforce decr. > 10%		Model III, workforce decr. > 10%		Model IV, workforce decr. > 10%	
Independent variable	β	*SE*	β	*SE*	β	*SE*	β	*SE*
Family variables								
Family management[a]	–0.243	(0.172)	–0.207	(0.182)	0.013	(0.190)	–0.039	(0.203)
Ownership by family[a]	–1.852	(0.802)**	–1.565	(0.810)*	–1.710	(0.805)**	–2.083	(0.856)**
Firm characteristics								
Ownership by institutional investors[a]			–0.549	(0.673)	–0.502	(0.669)	–0.496	(0.857)
Personnel intensity[a]			0.011	(0.004)***	0.010	(0.004)***	0.011	(0.004)***
Change in PPE/1000			–0.459	(0.099)***	–0.455	(0.098)***	–0.240	(0.090)***
Firm size[a,b]			0.128	(0.079)	0.134	(0.079)*	0.015	(0.086)
Firm age[b]			–0.244	(0.113)**	–0.233	(0.113)**	–0.170	(0.122)
Sales growth in past 5 years			–0.014	(0.005)***	–0.013	(0.005)***	0.000	(0.005)
Leverage[a]			0.637	(0.548)	0.465	(0.545)	0.557	(0.600)
CEO characteristics								
CEO tenure[a]					–0.040	(0.013)***	–0.029	(0.014)**
CEO duality[a]					0.465	(0.198)**	0.216	(0.211)
Share of option-based payment[a]					–0.060	(0.260)	–0.014	(0.282)
Share of stock-based payment[a]					–0.075	(0.506)	–0.076	(0.543)
Firm performance								
Market-to-book value[a]							–0.095	(0.073)
ROA[a]							–0.036	(0.009)***
Change in sales[a]							–0.046	(0.004)***
Industry dummies (52 categories; *p*)	.128		.088		.058		.712	
Time dummies (9 categories; *p*)	<.001		<.001		<.001		.002	
N obs. (groups)	2,638	(414)	2,638	(414)	2,638	(414)	2,638	(414)
N downsizing obs.	281		281		281		281	
Obs. per group: min./avg./max.	1/6.4/10		1/6.4/10		1/6.4/10		1/6.4/10	
Minus log likelihood	814.19		786.39		780.24		682.24	
χ^2 test (*p*)	<.001		<.001		<.001		<.001	
ρ	.047		.033		.018		0	
LR test of $\rho = 0$ (*p*)	.098		.203		.325		.495	

Note: PPE = property, plant, and equipment; ROA = return on assets.
a. Variable is lagged by 1 year.
b. Variable is logarithmized.

Table 7. Heckman Selection Model

	Estimation equation (dep. variable: percentage decrease in workforce)		Selection equation (dep. variable: workforce decreased > 0.1%)	
Independent variable	β	*SE*	β	*SE*
Family management[a]	1.324	(1.002)	–0.141	(0.092)
Ownership by family[a]	–5.540	(3.074)*	–0.080	(0.311)
Ownership by institutional investors[a]	–0.355	(2.870)	0.001	(0.289)
Change in PPE/1000	0.752	(0.351)**	–0.160	(0.067)**
Firm size[a,b]	–0.950	(0.304)***	0.106	(0.043)**
Firm age[b]	–0.199	(0.514)	–0.021	(0.059)
Sales growth in past 5 years	0.059	(0.022)***	–0.001	(0.003)
Leverage[a]	–1.667	(2.474)	0.329	(0.264)
CEO tenure[a]	–0.087	(0.053)*	–0.006	(0.005)
CEO duality[a]	–0.092	(0.923)	0.119	(0.084)
Share of option-based payment[a]	–0.727	(1.281)	–0.107	(0.115)
Share of stock-based payment[a]	–0.447	(2.162)	–0.270	(0.234)
Market-to-book value[a]	0.130	(0.291)	–0.045	(0.028)
ROA[a]	–0.043	(0.011)***	–0.018	(0.006)***
Change in sales[a]	–0.089	(0.019)***	–0.032	(0.004)***
Personnel intensity[a]			0.006	(0.003)**
Industry dummies (52 categories; *p*)	<.001		<.001	
Time dummies (9 categories; *p*)	<.001		<.001	
N obs.	971		2,638	
ρ	–.584			
Wald test (ρ = 0; *p*)	<.001			
Minus log pseudo likelihood	4,782.76			
LR test (*p*)	<.001			

Note: PPE = property, plant, and equipment; ROA = return on assets. Standard errors are robust and clustered.
a. Variable is lagged by 1 year.
b. Variable is logarithmized.
*$p \leq .1$, two-tailed. **$p \leq .05$, two-tailed. ***$p \leq .01$, two-tailed.

used, which allows the inclusion of lagged values, therefore making the findings more robust in terms of issues of causality. The panel structure of the data also allows me to account for unobserved heterogeneity (i.e., the fact that the results are driven by some unobserved variables). In addition to distinguishing between family ownership and family management, this article also analyzes the moderating effect of family management on the relationship between low profitability and the likelihood of downsizing. The moderation effect can be seen as a test of the relative importance of profitability and reputation for social responsibility. A strong relationship between profitability and the likelihood of downsizing would indicate that the manager in question puts a high value on profitability.

It may be helpful to identify the contributions of this article beyond what is already known from Stavrou et al. (2007). This article shows that family firms are not a heterogeneous group and that it makes sense to compare different types of family firms with regard to downsizing. Family-managed firms differ from family-owned firms in that the latter are less likely to downsize than are other firms, but the former are not. Thus, it seems to be the ownership dimension of family firms that causes the difference between family and nonfamily firms with regard to downsizing. The differences between family shareholders and nonfamily shareholders seem to be larger than the differences between family managers and nonfamily managers. Second, this article shows the moderating effect of family management. Low firm profitability has a greater effect on downsizing in nonfamily managed firms than in family-managed firms. This finding indicates that the reasons for downsizing may be different for family managers than for nonfamily managers. I suggest

that nonfamily managers are more worried about their jobs and their reputations on the market for corporate executives than are family managers, which is why they react more sensitively to a decline in profitability.

Family firms and corporate social responsibility. This article's findings also contribute to the debate on whether family firms are more socially responsible toward their employees than are nonfamily firms (e.g., Deniz & Suarez, 2005; Dyer & Whetten, 2006; Gallo, 2004; Stavrou et al., 2007; Uhlaner et al., 2004; Wiklund, 2006). Large job cuts are widely regarded as socially irresponsible behavior. For example, the social performance rating service Kinder, Lydenberg, and Domini rates workforce reductions as an important social concern under the category "employee concerns."[7] Employees have often made substantial investments in their relationship with a firm, and an employee who loses her or his job will lose most of these firm-specific investments. Moreover, by becoming unemployed, she or he may run the risk of losing a certain amount of social status in her or his social environment. Empirical research has shown that unemployment has strong negative effects on life satisfaction (e.g., Block & Koellinger, 2009; Frey & Stutzer, 2002; Gerlach & Stephan, 1996). Nevertheless, from a firm's perspective, large job cuts may be necessary to save a firm from bankruptcy. To distinguish between job cuts that are necessary to save a firm from bankruptcy and other job cuts, a number of control variables have been included in the regressions (e.g., leverage, change in sales, ROA). A firm that wants to behave in a socially responsible manner toward its employees should aim to avoid large job cuts that are not necessary for the firm's survival and should keep the necessary job cuts to a minimum.

With regard to job cuts, it is found that *family-owned* firms behave more socially responsibly toward their employees than do firms without a family shareholder. Family management, however, does not seem to have an impact. These differences between family management and family ownership illustrate the difficulty of comparing family and nonfamily firms in terms of their corporate social responsibility (Dyer & Whetten, 2006). Any study that aims to analyze corporate social behavior in family and nonfamily firms will encounter difficulties in attempting to clearly define the concept of the family firm. A polarized approach that compares only family and nonfamily firms may unfortunately produce incomplete results. It seems more reasonable to take a closer look at the different dimensions that characterize family firms, such as family ownership and family management. This study also shows that family managers react differently than nonfamily managers to a decrease in profits. The relationship between profitability and the likelihood of downsizing is found to be weaker for family-managed firms than for non-family-managed firms. This can be interpreted as evidence that family managers aim to keep necessary job cuts to a minimum, irrespective of whether or not this is good for the firm.

Family firms, organizational identification, and corporate reputation. This study argues that family owners and family managers are more likely to avoid actions that have a negative impact on corporate reputation, such as downsizing. So far, little research exists on the reputations of family firms and their owners or managers. This article shows that family-owned firms differ from nonfamily-owned firms in terms of downsizing. The finding is explained using social identity theory (Ashforth & Mael, 1989; Tajfel, 1974; Tajfel & Turner, 1985) and agency theory (Eisenhardt, 1989). Based on both social identity theory and agency theory, it is argued that family shareholders care more about the reputation of their firm than do other shareholders, which is why they want to avoid reputation-damaging actions such as large job cuts. Social identity theory can be used to make the connections among corporate reputation, organizational identification, and the firm's owners and managers. This theory is widely used in the sociological literature but so far has only rarely been used in the context of family firms. This is surprising because the theory provides a good lens for understanding why members of business-owning families identify with their firms. This article shows how this theory can be used in this regard.

Contributions to the Downsizing Literature

So far, there has been little research about the relationship between the ownership structure of a firm and the extent of its downsizing. This article contributes to the downsizing literature by suggesting that the structure of ownership is an important determinant of downsizing decisions (e.g., Morris et al., 1999; O'Shaughnessy & Flanagan, 1998). Future research in this area should account for the firm's ownership structure as a control variable. It may also be interesting to look at other owners (e.g., pension funds, the state, or large industrial firms as strategic investors) and their effects on

downsizing decisions. The results of this study also suggest that family ownership can be an important moderator variable for the relationship between downsizing and firm performance (e.g., Raj & Forsyth, 1999; Ursel & Armstrong-Stassen, 1995; Worrel et al., 1991). So far, moderating effects have not been extensively tested in the downsizing literature. Finally, this study shows that it makes sense to distinguish between large and small job cuts. It is argued that only the latter have a negative impact on corporate social reputation, which is why family owners aim to avoid them (the empirical finding of this article). This contributes to the discussion about the negative effects of downsizing on corporate reputation (e.g., Flanagan & O'Shaughnessy, 2005; Love & Kraatz, 2009; Zyglidopoulos, 2004).

Implications for Practice: Family-Owned Firms as Attractive Employers

This article's findings directly relate to the attractiveness of family firms as employers. Concerning large job cuts, family-owned firms seem to be more stable employers than are other types of firms. In particular, employees who undertake significant relationship-specific investments (e.g., employees in an R&D or a specialized sales department) can benefit from this relatively greater degree of job stability. Family-owned firms may use this greater degree of job stability as an argument when recruiting (specialized) personnel. The findings relating to family management point in the same direction. Family managers are less likely to consider downsizing as a reaction to low profitability.

Limitations

A limitation of this study is that the sample is composed of only large publicly listed firms from the S&P 500 (to illustrate, the median firm in the data set has 17,911 employees). As a result, generalizations to the general population of family firms are difficult to make. Many family firms are small in size and privately held. It may very well be that family management shows an effect on small firms or privately held firms, where personal relationships are closer. Another limitation is the focus on U.S. firms. In Asia, for example, ownership structures are less transparent than in the United States (Claessens et al., 2002). The actions of family owners are thus more difficult to observe, which is why family owners may feel less inclined to avoid large job cuts. Finally, a more precise measure of family management, such as the percentage of family members in senior management positions, would be ideal.

Conclusions and Further Research

This article analyzes downsizing in family firms. In line with the literature, I define *downsizing* as job cuts above 5%. To measure job cuts, the number of employees reported by the company in a particular period is compared to the number of employees in the previous period. Using social identity theory and agency theory, it is argued that both family ownership and family management, two dimensions of family influence on firms, reduce the likelihood of deep job cuts. The study extends the literature on family firms and downsizing. Its findings relate to different types and dimensions of family firms. The main finding is that family management and family ownership have different effects. Family ownership is found to reduce the likelihood of downsizing, whereas family management does not. These results indicate large differences in social responsibility within the population of family firms, which should be accounted for in further studies. Another important finding is that family management seems to moderate the relationship between low profitability and the likelihood of downsizing; this finding contributes to the literature on the reasons for downsizing.

This work could be extended in various ways. A promising avenue to pursue would be the use of a more fine-grained approach, focusing on the individual employee level. The use of linked employer–employee data sets, which are already widely used in labor economics, could help to answer related questions, such as the following: (a) Are employees in family firms more satisfied with their jobs than are employees in nonfamily firms? (b) Do family firms invest more in their employees than do nonfamily firms? (c) What happens when the skills of workers and those that the firm requires no longer match? (d) Do family firms invest in training for their workers, or do they use other measures, such as outside recruiting or outsourcing? Finally, the 2008–2009 financial crisis and its negative effects on firms provide a unique opportunity to test whether family firms differ from nonfamily firms in terms of whether downsizing is used to cut employment costs and keep profits stable.

Appendix

Table A1. Description of Variables

Variable	Description
Dependent variables	
Percentage change in workforce	(Number of employees$_t$ – number of employees$_{t-1}$) divided by number of employees$_{t-1}$. The variable is calculated from the number of employees as reported by the firm to shareholders. It includes both part- and full-time employees (source: Compustat North America; data item: EMP).
Percentage decrease in workforce	Inverse of percentage change in workforce variable; observations in which the workforce is increased are indicated as missing values
Workforce decreased > 0.1% (4%, 5%, 6%, 7%, 8%, 9%, 10%)	Dummy = 1 if workforce decreased in current period compared to the previous period by more than 0.1% (4%, 5%, 6%, 7%, 8%, 9%, 10%) (source: Compustat North America; data item: EMP)
Independent variables	
Family management[a]	Dummy = 1 if CEO or chairman is from family (source: own construction)
Ownership by family[a]	Percentage of stock owned by family (source: own construction)
Ownership by institutional investors[a]	Percentage of stock owned by institutional investors (large banks, insurance companies, investment funds, etc.) (source: own construction)
Personal intensity[a]	Number of employees divided by total assets (source: ExecuComp database)
Change in property, plant, and equipment (PPE)	PPE$_t$ – PPE$_{t-1}$ (in mn $) (source: Compustat North America; data item: PPENT)
Firm size[a]	Log (total assets) (source: Compustat North America; data item: AT)
Firm age	Log (number of years since the firm was founded) (source: own construction)
Sales growth in past 5 years	5-year least squares annual growth rate of sales (source: ExecuComp)
Leverage[a]	Long-term debt divided by total assets (source: Compustat North America; data items: AT, DT)
CEO's tenure[a]	Number of years the individual has served as CEO (source: ExecuComp)
CEO duality[a]	Dummy = 1 if CEO is also chairman of the board of directors (source: own construction)
Share of option-based payment[a]	Value of option-based compensation divided by total compensation (source: ExecuComp)
Share of stock-based payment[a]	Value of stock-based compensation divided by total compensation (source: ExecuComp)
Market-to-book ratio[a]	Sum of market value of equity and book value of debt divided by book value of total assets (source: Compustat North America; data item: AT, DT, MKVALF)
ROA[a]	Return on assets (source: ExecuComp)
Change in sales[a]	(Sales$_t$ – sales$_{t-1}$) divided by sales$_{t-2}$ (source: Compustat North America; data item: SALE)
Industry dummies	2-digit Standard Industrial Classification (SIC) codes indicating industry membership (53 different industries) (source: ExecuComp). For example, SIC-code 23 refers to apparel and other textile products. An extensive list of SIC codes can be found at http://www.sec.gov/info/edgar/siccodes.htm (retrieved May 22, 2009).
Time dummies	10 dummy variables indicating year of observation (1994-2003) (source: own construction)

a. Variable is lagged by 1 year.

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Notes

1. The Securities Exchange Act of 1934 requires officers, directors, and 5% owners to disclose their holdings. This information was collected from the definitive proxy statements (DEF 14A).
2. Note that the variable has a positive sign. For example, if the variable has a value of 4, then this refers to a decrease of 4%.
3. A variance inflation factor of 2.56 corresponds to a tolerance level of 0.61. As a rule of thumb, a variance inflation factor of greater than 10 is regarded as a sign of severe multicollinearity. However, such a rule should be applied with great caution because the issue of multicollinearity also depends on other factors, such as the size of the sample (O'Brien, 2007).
4. I have also tested for an interaction effect between ownership by family and family management. The results are weak and inconsistent over the differently specified models. Therefore, they are not reported.
5. A one-sided *t* test is marginally significant ($p < .1$), whereas a Wilcoxon rank-sum test is not ($p > .1$).
6. This makes sense because the variable is found to have a significant impact on the likelihood of downsizing (see Table 3) but is not found to have an impact on the degree of downsizing ($\beta = .04$, $p > .1$).
7. See http://kld.com/research/ratings_indicators.html (retrieved October 13, 2009). Kinder, Lydenberg, and Domini data are widely used in research about corporate social responsibility.

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Bio

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