



Revilla, A.J., Pérez-Luño, A. and Nieto, M.J. (2016) 'Does family involvement in management reduce the risk of business failure? The moderating role of entrepreneurial orientation.' *Family Business Review*, 29 (4): 365-379.

Official URL: <http://dx.doi.org/10.1177/0894486516671075>

ResearchSPAce

<http://researchspace.bathspa.ac.uk/>

This pre-published accepted version is made available in accordance with publisher policies.

Please cite only the published version using the reference above.

Your access and use of this document is based on your acceptance of the ResearchSPAce Metadata and Data Policies, as well as applicable law:-

<https://researchspace.bathspa.ac.uk/policies.html>

Unless you accept the terms of these Policies in full, you do not have permission to download this document.

This cover sheet may not be removed from the document.

Please scroll down to view the document.

Does Family Involvement in Management Reduce the Risk of Business Failure? The Moderating Role of Entrepreneurial Orientation

Abstract

This study explores the question of whether—and under which circumstances—family involvement helps avoid business failure. We hypothesize that it is family involvement in management, rather than ownership, which reduces the risk of failure during economic downturns; however, this effect is negatively affected by the firm's entrepreneurial orientation (EO). We argue that EO hinders reaching consensus on and commitment to family-centered goals, which are focused on long-term survival. We analyze 369 manufacturing firms in Spain from 2007 to 2013, and find that family involvement in management reduces the risk of business failure, but this effect decreases as EO increases.

Keywords: family business, family involvement in management, entrepreneurial orientation, business failure, survival analysis.

Introduction

A vast majority of family firms aim to endure since many family owners intend to pass the firm's ownership and management to the next generation (Miller, Steier, & Le Breton-Miller, 2003). Anecdotal evidence shows that some prominent family firms survive and thrive over very long periods of time (Bertrand & Schoar, 2006), which suggests that at least some family businesses are especially resilient (Chrisman, Chua, & Steier, 2011). There is limited evidence, however, reflecting the ability of family businesses to cope with events, such as economic crises, which generate disruptions and require firms to be resilient (Acquaah, Amoako-Gyampah, & Jayaram, 2011; Amann & Jausaud, 2012). Non-economic outcomes such as the sustainability, survival, and longevity of family firms deserve more attention (Yu, Lumpkin, Sorenson, & Brigham, 2012). However, published literature has typically overlooked the effects of family participation on the risks of bankruptcy and business failure (Astrachan, 2010; Colli, 2012). This study seeks to contribute in this direction by analyzing the effects of family involvement on business failure against a backdrop of economic crisis.

Failure entails unique costs for the controlling family in terms of both financial and socioemotional wealth (Gómez-Mejía, Takács, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). Due to their distinct features in terms of ownership, structure, governance and succession in management, family firms are likely to respond differently than nonfamily ones to the disruptions that threaten their survival (Acquaah et al., 2011). Family businesses are, however, remarkably heterogeneous (Chua, Chrisman, & Sharma, 1999; Chrisman & Patel, 2012; Chua, Chrisman, Steier, & Rau, 2012). They differ, among other factors, in terms of how the family participates in the business. We distinguish between family ownership and family involvement in management, as both dimensions define family firms and influence their performance (Sciascia & Mazzola, 2008). We argue that participation in management, in particular, involves a distinct set of family-centered goals and increases the cost of failure on the controlling family. Accordingly, in this study we claim that it is family involvement in

management, rather than merely in ownership, that reduces the risk of failure.

Even when families show similar levels of involvement in the firm's management—who thusly enjoy similar power and legitimacy for imposing their own agenda (Chrisman, Chua, Pearson, & Barnett, 2012), they differ in their willingness to do so (De Massis, Kotlar, Chua, & Chrisman, 2014). Entrepreneurial strategies are likely to modify the organizational status quo, as well as to challenge established values and rules within the organization. This may erode collective commitment to family-centered goals (Kotlar & De Massis, 2013; Zellweger, Nason, Nordqvist, & Brush, 2013), and inhibit the mobilization of the firm's survivability capital (Sirmon & Hitt, 2003). Thus, we also suggest herein that a firm's strategic posture, in terms of its entrepreneurial orientation (EO), tempers the effects of family involvement by introducing an additional source of heterogeneity among family businesses. Therefore, we pose a dual research question: Does family involvement in management reduce a firm's likelihood of failure? And is this relationship affected by the firm's EO?

We tested our theoretical arguments on a sample of 369 Spanish manufacturing firms operating in medium- and high-tech industries. We surveyed the firms in November 2006 and subsequently tracked their survival or failure status through December 2013 in order to identify any events considered indicative of business failure. Our dataset spans a full recessive phase of the economic cycle: the Spanish economy accumulated sixteen quarters of GDP decrement between Q3 2008 and Q2 2013, having severe adverse effects on businesses. The number of companies filing for bankruptcy increased nearly ninefold between 2008 and 2013 (Spanish National Statistics Bureau, 2014), and the average ordinary return of assets of Spanish firms dropped 40% (from 8.9% to 5.3%) between 2007 and 2012 (Bank of Spain, 2013).

This article contributes to the family business literature in two main ways. First of all, it draws on the behavioral theory of the firm in order to explore the question of whether—and under which circumstances—family involvement helps avoid business failure. Specifically,

we develop and test a theoretical explanation for the influence of family managers on failure risks and the negative impact of EO on this relationship. This study contributes to previous literature on the resilience of family businesses, which has explored the behavior and performance of family-controlled firms in adverse situations (e.g., Block, 2010). Moreover, we introduce arguments and valuable evidence on the causal relationships between family involvement and the risk of failure in order to better understand the sparsely studied phenomenon of business failure in family firms. Previous papers have analyzed failure in family businesses, but without specifying the nature of family involvement in the company. For example, File and Prince (1996) examine succession and estate planning in their study of family business discontinuance, and Wilson, Wright, and Scholes (2013) analyze the role of the composition of boards of directors in family versus non-family firms. Although a binary distinction between family and nonfamily companies may be informative, it is likely to oversimplify the role of the controlling family in shaping the firm's behavior, performance and, ultimately, survival. We delve deeper into degree and nature of family participation, which allows us to provide different findings depending on whether the family merely owns the business or is actively involved in management. Secondly, we contribute to the literature on corporate entrepreneurship in family businesses, focusing on the effects of EO on the organizational commitment to family-centered goals, and hence its survival. In so doing, we develop our understanding of the implications of entrepreneurial behavior within family businesses (McKelvie, McKenny, Lumpkin, & Short, 2014). A limited but significant body of literature has explored the effects of EO on business performance in the context of family firms, and has found that such effects are far from straightforward (Chirico, Sirmon, Sciascia, & Mazzola, 2011; Cruz & Nordqvist, 2012; Lumpkin, Brigham, & Moss, 2010). We extend such literature by analyzing the joint effects of family management and EO on failure rates, an outcome with important implications on the balance between business-centered and family-centered goals of family firms.

Background: Business Failure And Family Firms

Business failure typically involves shutdown or bankruptcy—that is, a cease in business operations, either voluntary in nature or forced by creditors. Although literature indicates that discontinuance is a reflection that a business is underperforming (Watson & Everett, 1996), failure is not just an outcome but also a business decision. Gimeno, Folta, Cooper, and Woo (1997) note that some firms survive while others with equal economic performance do not. They explain this observation by introducing the notion of firm-specific “performance thresholds”—the level of performance below which controlling organizational constituents will act to dissolve the firm—which depend on the characteristics of the organization and its controlling stakeholders.. Failure involves social and psychological or emotional costs, as well as financial ones (Ucbasaran, Shepherd, Lockett, & Lyon, 2013; Shepherd, Wiklund, & Haynie, 2009), so that the decision largely depends on the motivations of owners and managers (DeTienne, Shepherd, & De Castro, 2008; De Jong & Marsili, 2015). The above arguments draw on the behavioral theory of the firm, which suggests that companies pursue a diversity of goals, both economic and non-economic, which reflect those of the different coalitions of individuals that are part of the organization (Cyert & March, 1963).

In the case of family firms, the interests and values of the controlling family are intertwined with the objectives of the business (Chua et al., 1999), and managerial decisions—eventually including business dissolution, need to take both into account (Chrisman et al., 2012). Therefore, insofar as the costs of failure are different for the controlling family than for stakeholders in nonfamily firms, we can expect family firms to show a dissimilar behavior when confronted with the risk of failure. In line with these a statements, Sirmon and Hitt (2003) argue, first, that due to their strong bonds with the organization, family members provide it with the needed resources when business survival is

at stake. Second, stockholders have strong incentives to can act as “patient capital” and trade short-term profitability for long-term sustainability when the business survival is at stake, undertaking further investments pursuing the turnaround of the business rather than its dissolution (Amman & Jaussaud, 2012; Chrisman & Patel, 2012). Also, the controlling family may even be willing to contribute personal resources—free labor, equity investments, loans, social relationships, and the like—to the business where necessary (Sirmon & Hitt, 2003). This pool of assets can act as a safety net that sustains the firm through troubled times.

Hypothesis Development

Family involvement in management and business failure

Family involvement may exert a significant influence on the decision-making processes and performance of family businesses, as the interests and values of the family are, to one extent or another, intertwined with the objectives of the firm. Nonetheless, families participate in businesses in different ways, likely resulting in equally different outcomes. Previous studies have analyzed the effects of family management separately from those of ownership or other sorts of family involvement (e.g., Sciascia & Mazzola, 2008; Block, 2010).

Family management reinforces the position of the controlling family as the dominant coalition within the organization, increasing its power and legitimacy (Chrisman et al., 2012). Additionally, the presence of family managers, in particular, gives rise to a distinct set of family-centered goals and increases the overlap between the family and the firm, thereby upping the chances that firm behavior will gravitate around nonmonetary objectives (Sciascia & Mazzola, 2008). As the number of family executives increases, so does the embeddedness of the business within the family (Le Breton-Miller, Miller, & Lester, 2011), and the probability that managers will pursue family-centered goals. This may have important implications for the likelihood of failure of troubled businesses.

Family managers usually share a long common history with the firm, in which they have spent a substantial part of their careers; comparatively, nonfamily managers tend to have more varied organizational and occupational experiences (Block, 2010). The knowledge and experience of family managers are more industry- and firm-specific, hindering their career potential outside the business. Therefore, failure abruptly cuts career opportunities for family members involved in management, affecting the family-centered goals of the firm (Handler, 1989; Kellermanns, Eddleston, Barnett, & Pearson, 2008). This may be exacerbated by losses in managerial reputation since the causes of failure are often attributed to poor management (Miller, 1977; Turner, 1994). The stigma of failure has been shown to involve negative discrimination with respect to future employment opportunities and access to resources (Ucbasaran et al., 2013). Therefore, the effects of failure on the financial wealth of the family are greater when its members participate in management.

Family managers also feel strong emotional and social bonds with the firm, developing a strong psychological connection with it (Pierce, Kostova, & Dirks, 2001). This attachment increases grief and other negative emotional consequences associated with failure (Shepherd, 2003; Shepherd et al., 2009). Additionally, as managers are personally involved in the business, their long-standing social and professional networks are tied to the fate of the firm to a greater extent with regard to stockholders. Overall, the socioemotional or non-financial costs of failure for the controlling family may be substantial when it participates in management (DeTienne & Chirico, 2013).

Research shows that entrepreneurs are more likely to accept lower performance thresholds in order to avoid or postpone failure when they have invested significant personal resources in the venture (DeTienne et al., 2008). Similarly, we can establish that the family, as the dominant coalition in the business, will also be willing to replicate this behavior when family members actively participate in management. As a result, despite a certain level of financial distress, they will feel more compelled to avoid or postpone business failure, even if

this entails higher financial costs or calls for them to contribute their own personal resources (Shepherd et al., 2009).

In summary, the stakes are higher for family managers than those of nonfamily managers or managers in nonfamily firms, and the higher costs of failure for the controlling family's financial and socioemotional wealth may lead to greater persistence of underperforming businesses. Thus, we hypothesize:

Hypothesis 1: Family involvement in management decreases the probability of business failure.

The moderating role of EO on the family involvement in management and business failure relationship

Strategic management literature has highlighted the key role of entrepreneurial orientation in achieving higher firm performance (e.g., Pérez-Luño, Wiklund, & Valle Cabrera, 2011; Wiklund & Shepherd, 2003). However, its effects on family businesses are not always straightforward (Chirico et al., 2011; Cruz & Nordqvist, 2012; Lumpkin et al., 2010). Below we focus on its implications for the achievement of family-centered goals, such as those related to avoidance of failure.

The relationship between family involvement and the company goals is complex (Chrisman et al., 2005; Chrisman et al., 2012). The interplay of the family and business subsystems gives rise to a large diversity of organizational goals (Habbershon, Williams, & MacMillan, 2003; Kotlar & De Massis, 2013), and family members may have differing views of the objectives and strategic priorities of the organization. In order to create organizational commitment to family-centered goals, managers need to reduce this diversity to reach a basic consensus around goals to pursue and how to achieve them, thereby fostering the identification of family members with the business (Kotlar & De Massis, 2013) and strengthening the bonds between familial and business subsystems (Zellweger et al., 2013). This identification is enhanced by a positive family climate in terms of cohesion, open

communication, and intergenerational attention (Cabrera-Suárez, Déniz-Déniz, & Martín-Santana, 2014).

Corporate entrepreneurship usually calls for renewal of organizational structures and processes as the firm seeks and pursues new business opportunities (Davis & Stern, 1988). It entails the exploration of new activities that are distant from the firm's prior strategies, knowledge, and competences (Burgelman, 1991), leading to uncertainty and wide variability in outcomes (Wiklund & Shepherd, 2011). This may erode collective identification with company policies (Dess et al., 2003). In family firms, in particular, this need for change and exploration is often met with reluctance by some family members, as they are wary to let go of the past and break away from traditional business practices (Beckhard & Dyer, 1983; Vago, 2004). The distribution of attention in organizations is conditioned and regulated by embedded rules, resources, and social relationships (Ocasio, 1997). As family influence—and particularly family involvement in management—increases, mental models within the organization are likely to become more rigid (Köning, Kammerlander, & Enders, 2013). These factors tend to induce a “tunnel view” and reinforce commitment to the status quo (Gómez-Mejía, Núñez-Nickel, & Gutiérrez, 2001). Consequently, it may be difficult to build collective commitment around entrepreneurial strategies, despite their potential performance benefits, as they often differ from the established normative family identity of the firm (McKelvie et al., 2014).

Corporate entrepreneurship may also dilute family control of management and ownership since it often requires gathering external managerial capabilities and financial resources (Salvato, 2004), which may compromise the family's socioemotional wealth (Gómez-Mejía, Cruz, Berrone, & De Castro, 2011). Thus, entrepreneurially-oriented family managers must achieve a delicate balance—and one that often entails making significant tradeoffs—between business performance and family goals (McKelvie et al., 2014). This can trigger resistance from members of the controlling family who see their socioemotional

wealth compromised. Perhaps not surprisingly, entrepreneurial orientation often induces conflict, as family members—or at least some of them—see it as a threat (Kellermanns & Eddleston, 2006). Within the family firm, such conflict may easily expand from professional to personal and familial relationships (Kellermanns & Eddleston, 2004; Chirico et al., 2011), giving rise to animosity and personal antipathies (Jehn, 1995), and obstructing debate and collaborative exchanges of divergent points of view (Sciascia et al., 2013). This, in turn, will harm family climate and inhibit the familial social interactions that are needed to build commitment to family-centered goals (Kotlar & De Massis, 2013; Cabrera-Suárez et al., 2014).

In summary, highly entrepreneurial strategies may reduce the collective identification of organization members with the firm. It can also induce debate and generate relational conflict within the controlling family, thus interfering with consensuses around family-centered goals. As a result, EO reduces the likelihood that family members will agree on prioritizing the survival of the family-managed business, especially if it means they must sacrifice other personal goals. Thus, we hypothesize:

Hypothesis 2: EO negatively moderates the relationship between family involvement in management and the risk of business failure, so that family involvement reduces failure rates to a greater extent for firms with lower levels of EO.

Research Methods

Data collection

Our study targeted Spanish firms in five medium- and high-technology manufacturing industries (NACE Rev. 1 codes 24, 32, 33, 34, 35¹). We limited our sampling frame to firms

¹ The National Statistical Institute (INE) of Spain identifies five medium- and high-technology manufacturing industries: NACE 24, Chemical companies; NACE 32, Radio, TV, and communication equipment; NACE 33, Medical, precision, and optical instruments; NACE 34, Manufacture of motor vehicles, trailers, and semitrailers; and NACE 35, Manufacture of other transport equipment.

with at least 10 employees, in order to ensure minimum organizational structure and the potential for significant decision-making and distinct family involvement in ownership and management (Chrisman, Chua, Kellermanns, & Chang, 2007; Chrisman et al., 2012). This is common practice in family business research; for example, Gulbrandsen (2005), Chrisman et al. (2007) and Wiklund, Nordqvist, Hellerstedt, and Bird (2013) all chose firms with at least ten employees.

We used the SABI/Amadeus database—the most comprehensive database of company information in Spain—to identify all companies in these industries, resulting in a total of 2,942 records, from which we collected data between March and November of 2006. First, we contacted the firms by phone and screened them in order to check that they belonged to our target population. We excluded companies that had fewer than 10 employees, did not belong to our target industries, were duplicated, or without activity. We subsequently collected information on the remaining 1,764 firms via email questionnaires aimed at the managers directly responsible for innovation activities—typically the CEO or the chief innovation and technology officer. We received 402 responses, 381 of which were complete and valid (response rate 21.6%). In order to check for non-response bias, we compared mean differences between respondents and non-respondents based on industry membership, the number of employees, and revenue. No significant differences were found, suggesting that non-response bias was not present. In December 2013, we scanned again the SABI/Amadeus database in order to track the status of the 381 firms in the sample—whether they were still active or had experienced some event. We were able to retrieve full information on 369 such firms, which constitute our final sample.

Dependent variable

In order to observe business failure, we analyzed the status of all the firms in December 2013 in the SABI/Amadeus database, which feeds from official information in the

Spanish Central Corporate Register. We classified those firms that showed an “active” status, indicating no events as non-failure, and identified 76 records reflecting a different status (inactive, dissolved, extinct, or in bankruptcy proceedings). We analyzed the official records of those 76 firms in order to identify the date of the first event that indicated a likely failure—typically the dissolution, extinction, change of status, or commencement of bankruptcy, which in most cases preceded dissolution. We used November 2006—when we collected our questionnaire data—as our starting point, and recorded the number of months following as survival time. We classified seven firms that disappeared as a result of a merger or acquisition and did not reflect any other relevant events as “non-failure” since succession in corporate control or ownership does not imply business failure (DeTienne & Chirico, 2013). Our analysis allowed us to identify 69 failed firms.

Independent variables

Family involvement in management: Following previous research, we operationalized this variable as the ratio of family members to the total numbers of managers in the TMT (e.g. Chua et al., 1999; Sciascia & Mazzola, 2008). This variable is directly related to the power and legitimacy of the controlling family to impose its own agenda (Chrisman et al., 2012), as well as to the unique family-centered goals associated with participation in management. More concretely, we asked firms how many managers formed the top management team (TMT)—we did not impose any working definition of TMT, which was freely determined by the surveyees—and how many of them belonged to the controlling family.

Entrepreneurial orientation: We relied on the widely used scale developed by Covin and Slevin (1989). This scale includes nine items (measured on 7-point Likert scales) and accounts for innovativeness, risk taking, and proactiveness. Not only is this scale broadly accepted in the literature, but it also showed high reliability for our dataset ($\alpha = 0.85$).

Control variables: In establishing our control variables, we considered four main dimensions which previous literature has identified as relevant to the study of business

failure: organizational characteristics, business performance, financial risk, and environmental conditions.

Given the focus of this study on family involvement, we first assessed *family ownership* (i.e. % of equity owned by the controlling family). We then controlled for *firm age* in 2006 (years since formation) and *size* (logarithm of the number of employees). Firm age is an important determinant of survival (Thornhill & Amit, 2003), with literature arguing that younger firms suffer from liabilities of newness and adolescence (Brüderl & Schüssler, 1990) which increase their risk of failure. Analogously, small firms suffer from “liability of smallness,” with size an important indicator of survival (Thornhill & Amit, 2003; Mellahi & Wilkinson, 2004). We also controlled for a binary variable, taking value 1 if the firm declared to belong to a *corporate group*—either as a subsidiary or as the parent company—and 0 if it was an independent business; within groups, risks and resources are reallocated across entities, so that stronger businesses often subsidize weaker firms (Scharfstein & Stein, 2000; Buysschaert, Deloof, Jegers, & Rommens, 2008). Thus, group membership may potentially reduce failure risk compared to independent companies (Dewaelheyns & Van Hulle, 2006).

Beyond organizational characteristics, previous research has identified high debt levels (Altman, 1968; Charitou, Neophytou, & Charalambous, 2004) and poor performance (Shepherd, 2003; Ooghe & De Prijcker, 2008) as two major factors triggering business failure. We thus controlled for financial leverage using a *debt ratio* (total liabilities/total assets) tested in standard failure prediction models (Charitou et al., 2004). We used a scale based on four subjective measures to determine *perceived business performance*. Specifically, in 2006 we asked respondents to rate the position of the firm relative to its competitors in terms of profitability, market share, size, and sales growth on a 7-point Likert scale; we then added up the item values ($\alpha = 0.83$). Subjective measures of performance have been widely used in research and have been shown to have strong convergent, discriminant, and construct validities (Wall et al., 2004). A distinct advantage of this measurement tool is that it reflects

the long-term competitive position of a business more comprehensively and robustly than year-specific financial indicators.

Finally, as industrial-organization literature has emphasized, external factors may also play an important role in business failure (Mellahi & Wilkinson, 2004). We carried out controls on the effects of environmental characteristics, such as dynamism and munificence, which are likely to affect failure risks (Thornhill & Amit, 2003). Previous literature has traditionally distinguished two dynamism dimensions: market instability and technological dynamism (Tosi, Aldag, & Storey, 1973). The former captures unexpected shifts in demand conditions, whereas the latter refers to the rate of change in the base of technological knowledge. We employed the conventional approach first introduced by Dess and Beard (1984), in order to measure *market dynamism*. We obtained three-digit industry aggregates on sales, employment, and added value from 2006 to 2013 from the SABI/Amadeus database. For each of the 21 three-digit industries, we separately regressed the three variables over time as a sole covariate. We then operationalized the relative volatility by taking the standard deviation of the slope divided by the mean value of the variables, then adding the values on a single scale, which we then standardized. In order to operationalize *technological dynamism*, we took the average ratio of R&D intensity over sales between 2006 and 2013 as a proxy for the rate of technological change; to do so, we relied on data from the Survey on Technological Innovation in Businesses, conducted by the Spanish National Statistics Institute. *Munificence*, meanwhile, refers to the availability of resources to support growth; as Dess and Beard (1984) suggested, industry sales (or market growth) is the primary factor in environmental munificence. Therefore, we operationalized this variable using sales growth for each of the 21 three-digit industries between 2006 and 2013.

In order to provide a complete set of controls for unobserved industry-related characteristics, we also included dummy variables for each of the two-digit *NACE codes* in our sample. Moreover, the fact that observations are nested in industries may violate the

assumption of independence of residuals—as the error terms of companies operating in the same industry are likely to be correlated. We thus specified the model to be robust to intra-industry correlation.

Econometric model

We tested our research hypotheses using a Cox proportional hazards model, which describes how the risk of business failure in any given period varies in response to the covariates of interest. Hazard models have a long trajectory in analyzing firm survival and failure (e.g., Delios & Beamish, 2001; Cefis & Marsili, 2005). The model estimates the risk at time t of an event (in our case, business failure) occurring in $t+1$, as a function of a nonparametric baseline hazard function and a number of control and explanatory variables. The model does not impose any restrictions on the shape of the hazard function, nor does it estimate the baseline hazard. The effects of the independent variables can be presented and interpreted as multiplicative terms of the baseline hazard (i.e. hazard ratios). Survival analysis models the incidence of the event per unit or time, and estimates the survival curves over time for all the period under analysis. This allowed us to account for the fact that our dataset was right-censored, the final date for the analysis being somewhat arbitrarily determined. This is a distinctive advantage over logistic regression, which considers the cumulative the odds of failure over the whole period under analysis.

Results

We report descriptive statistics of the variables in our study in Table 1. The average age and size were 33 years and 299 employees, respectively. Therefore, our sample comprised mostly rather large and consolidated companies. The mean values for family ownership and family involvement in management were 55.1%, and 47.8%, respectively, and the average number of family members in management positions was 2.29. A majority (57%) of firms showing above-average levels of family involvement in management had at least two

generations involved in the business.

 Insert Table 1 about here

Table 2 presents the results from the Cox proportional hazard models. The first column in each model reports the coefficients for the independent variables; coefficients greater than 0 indicate that the variable increases the risks of business failure—that is, reduces the chances of survival—and vice versa. In order to enhance interpretation, in parentheses we also report hazard ratios (H.R.), which are obtained as the exponential of the coefficients, and represent the incremental effect of a one-unit increase in the independent variables on failure hazards in multiplicative terms. For illustrative purposes, we considered the H.R. for EO in model 2 (0.973), which indicated that the risks of business failure decreased 2.7% with every point of increase in the entrepreneurial orientation scale. Given the multiplicative nature of H.R., this implies that, if we compared two businesses whose levels of EO were ten points apart, the risk of failure of the more entrepreneurial firm would be just 76.1% of those of the less entrepreneurial one (or, in other terms, 23.9% lower), since $0.973^{10}=0.761$.

 Insert Table 2 about here

Results confirmed that the control variables we included in the analysis were significant and exerted the expected effects on business failure rates. Consistent with the idea of a liability of newness, failure risks decreased as age increased. High debt ratios were associated with increased failure rates, which in turn decreased with better competitive business performance. Results for the two dimensions of environmental dynamism were contrary: while market instability increased the risk of failing, technological dynamism had the opposite effect. We found large and significant industry effects, with firms operating in

the “other transport material” industry experiencing much higher failure rates than those in other sectors. We did not find any significant effects for the size, corporate group, family ownership or environmental munificence variables.

We found strong evidence supporting Hypothesis 1. The coefficient for family involvement in management was not only negative and significant but also relevant in terms of size; for example, *ceteris paribus*, a firm with 75% of its managers belonging to the controlling family would have 22% lower failure risks than a similar firm with just 25% of the management team being members of the family (since $0.75 - 0.25 = 0.5$ and $0.608^{0.5} = 0.78$). These results show that it is family participation in management, rather than merely ownership, which makes a difference in terms of the survival of the family business.

We also found that EO moderated the effects of family involvement in management on failure risks. Thus, we confirmed Hypothesis 2, as the coefficient for the interaction term in model 3, significantly greater than 0, evidences. Indeed, EO was found to be quite a determining factor in assessing the effects of family management on failure rates. As figure 1 shows, when the level of EO was low, firms with an important presence of members of the controlling family in the management team tended to show substantially lower failure rates. Such differences narrowed progressively as we considered more entrepreneurial firms, until family management had negligible effects, or eventually increased failure risks in highly entrepreneurial firms. As a matter of illustration, a business in which 75% of managers were members of the controlling family and reflecting a low level of EO (one standard deviation under the sample mean) would experience 31.8% lower failure risks than a similar firm in which the share of family managers was just 25%. Meanwhile, if the same two business showed EO equal to one standard deviation over the sample mean, the failure risks for the family-managed firm would be 3.8% higher than those of the one with a majority of external managers.

Insert Figure 1 about here

A fundamental assumption of the Cox survival model is that of proportional hazards. We used two different procedures to test this assumption. First, we tested for a non-zero slope in a generalized linear regression on the Schoenfeld residuals on a function of time, such that non-zero slope would evidence non-proportionality. Results showed that no slopes were significantly different from 0 (see Table 3). Second, we re-fitted our empirical model, adding interactions between the control and explanatory variables and a time variable; the non-significant coefficients and likelihood ratio test comparing the original and augmented models confirmed that there was no evidence of the proportionality assumption being violated.

Insert Table 3 about here

In order to ensure the robustness of the results, we checked for a number of changes in the specification of the model. First, we tried a different measure of entrepreneurial orientation, employing the 19 items and five dimensions—including aggressiveness and autonomy—suggested by Lumpkin and Dess (1996). The results held, and the coefficients for family management and the interaction term were equally positive, significant, and similarly sized in standardized terms. Second, we combined ownership and management in a single measure of family involvement and determined its coefficient was still significant at 95%, although smaller than for family management exclusively. The coefficient for the interaction term remained significantly greater than 0. Third, we also augmented model 3 in Table 2 including an interaction term between family ownership and EO. In this case, the sign and significance of the original coefficients remained unchanged, while the additional term was non-significant ($p\text{-value} = 0.377$), confirming that EO modulates the effects of family

management, but not ownership. Fourth, we tested the robustness of the results by modifying the set of control variables in the model—e.g. we tried replacing our measures of environmental dimensions by subjective variables based on our questionnaire. The results for the interaction term with EO remained stable across the different models. Overall, these analyses strongly supported the robustness of the findings with respect to changes in methodological choices.

Discussion and Conclusions

Although long-term survival is a primary goal for most family businesses, it is unclear whether—and under which circumstances—family involvement prevents business failure and enhances survival. In this study, we shed some light on the under-researched topic of business failure in family firms (Astrachan, 2010; Wilson et al., 2013), analyzing how family involvement and entrepreneurial orientation influence failure risks within a context of economic crisis. We provide theoretical arguments rooted in the behavioral theory of the firm to suggest that failure involves substantial costs for the controlling family in terms of its economic and noneconomic goals. We also postulate that the goals of the family, and consequently its willingness to exert a particular influence in the business, depend on the nature of its participation in the firm. We argue that it is family involvement in management rather than ownership that reduces failure risks. Our empirical findings support this hypothesis, showing that a higher share of family managers in the management team is negatively associated with the probability of business failure in a context of economic crisis.

The results we obtained may be explained by the fact that failure entails higher socioemotional and financial costs for family members when they actively participate in management, and that the family, as the dominant coalition, prioritizes family-centered goals when the firm's survival is at risk. These findings are consistent with previous literature arguing that family members have strong incentives to focus on the long-term interests of the

firm (Ward, 1997; Miller & Le Breton-Miller, 2005), and that they are willing to contribute their personal and financial resources when the business is in trouble, providing the firm with “survivability capital” (Sirmon & Hitt, 2003). We also concur with prior research showing that family involvement in ownership and management are two separate dimensions with potentially different implications for firm’s behavior and performance, so that they should not be treated indistinctly (Sciascia & Mazzola, 2008).

This study had a second research objective: to conduct a theoretical and empirical analysis of how entrepreneurial orientation influences the relationship between family involvement in management and business failure. We considered that EO may influence failure of family firms because of its effects on the establishment and pursuit of family-centered goals. Our empirical findings support this hypothesis, indicating that EO negatively moderates the relationship between family involvement in management and firm survival. These results are novel and extend the debate on the effects of corporate entrepreneurship, particularly within family businesses. We have found that, whereas EO has a negative direct effect on failure risks (which would be consistent with a view of entrepreneurship as a performance-enhancing strategic goal), it also shapes the effects of other variables. Our findings are thus in line with recent works that have highlighted the ambivalent effects of EO on failure rates (Wiklund & Shepherd, 2011), and we concur with the idea that corporate entrepreneurship has distinct consequences on family businesses (McKelvie et al., 2014).

Contributions, limitations, and avenues for further research

The above arguments and results may serve as a relevant contribution to the literature on family firms, in that they provide a theoretical rationale to explain under what conditions family involvement reduces the likelihood of business failure, thereby gaining an understanding of the different factors behind the sustainability and resilience of family firms. Building on previous research on business failure and the goals of family firms, we consider that failure entails unique costs for the controlling family, and discuss the implications of such

costs for firm survival. In so doing, we explicitly acknowledge that family members may participate in the business in different ways, thereby shaping family-centered goals and company behavior. Financial and socioemotional losses associated with failure increase when families are closely involved in management, so that ensuring the continuity of the firm becomes a priority for both the firm and the controlling family. Our study complements previous research, such as that conducted by Wilson et al. (2013), which did not consider the effects of family ownership and management on business survival. Moreover, by untangling these two dimensions of family involvement, we contribute evidence on the sources of heterogeneity within family firms. Altogether, our results highlight the need to consider the different ways in which families may participate in businesses in order to understand their behavior and performance.

We also contribute to previous work on the implications of the entrepreneurial behavior of family firms by exploring the effects of EO on firm survival. We shed light on the complex interplay between the strategic orientation of the business and the role of the family in shaping the firm's behavior and outcomes. Previous research has explored the effects of corporate entrepreneurship on family business performance (for a review, see McKelvie et al., 2014), and has suggested that the family agenda may affect the implementation of innovative strategies (Nieto, Santamaría, & Fernández, 2015) and the entrepreneurial posture of the firm (Short, Payne, Brigham, Lumpkin, & Broberg, 2009; Zahra, Hayton, & Salvato, 2004). We adopt a different perspective, claiming that an entrepreneurial focus may also hinder commitment to family-centered goals, which has implications for the effect of family involvement on business failure.

This study has practical implications for managers and owners of family companies seeking to gain a better understanding of how to improve the chances of business survival against a backdrop of economic crisis. We show that the presence of family members in management teams reduces the risks of failure of businesses with low EO. We attribute this

effect to the preponderance of family-centered goals. However, practitioners should take into consideration that survival often requires significant trade-offs which may come at a considerable financial cost (Shepherd et al., 2009), especially since EO is often a performance-enhancing strategy for family businesses (McKelvie et al., 2014). When EO is high, however, families have to deal with potential conflicts which might negate the survival advantages of involvement in management; therefore, opening the company to the inclusion of external managers seems a reasonable option. This, however, may collide with the socioemotional wealth of some family members. The firm—and the family—should be prepared to manage the challenges and conflicts that EO often entails.

As is the case of any other study, ours has certain limitations providing opportunities for future research. First, due to the limited information available, our study does not include variables found in previous literature which explains family business failure, such as the composition of boards of directors (Wilson et al., 2013) or estate and succession planning (File and Prince, 1996). Second, we relied on cross-sectional data obtained in 2006 for our independent variables, subsequently analyzing survival from 2007 and 2013. Therefore, we were unable to determine changes in family involvement and EO throughout the time span covered in our analysis. Although family involvement is a structural variable that is likely to be relatively stable over moderate periods of time, there is greater controversy with regard to EO. Some research suggests that firms may modify their entrepreneurial behavior in an attempt to adapt to environmental conditions, and particularly the risk of failure may exert a substantial influence on the propensity of companies to engage in entrepreneurial ventures (Miller & Chen, 2004). Since the financial crisis hitting in 2008 introduced dramatic changes in business environments, had we been able to observe the coevolution of family involvement, EO and failure risks during this period, we would likely have obtained additional insights. Recent research, however (e.g., Covin & Lumpkin, 2011), claims that EO should be understood as a disposition and a dominant business logic, which is therefore rather

stable and difficult to change—reducing the threat of this limitation. Third, based on previous literature, we have considered EO as a univocal construct comprised of three dimensions: innovativeness, proactiveness, and risk-taking (Covin & Slevin, 1989; Covin & Lumpkin, 2011). Some authors consider two additional dimensions, namely autonomy and aggressiveness (Lumpkin & Dess, 1996) and, more importantly, treat all five dimensions separately due to their potentially different implications (Covin & Lumpkin, 2011). For example, innovativeness and proactiveness and autonomy focus on long-term profitability, whereas risk-taking and aggressiveness are associated with an immediate desire for profitability (Lumpkin et al., 2010). Further research may build on this evidence in order to obtain a finer-grained vision of the consequences of EO for the relationship between family involvement and business failure. Fourth, our sample size was limited by the population of firms in our target industries as well as the response rate. Moreover, even though we analyzed nearly 400 firms, we could only observe 69 events (failures). As a result, statistical power of our empirical model is limited with probabilities of type-1 error in the range of 40-50% for the variables of interest (Hsieh & Lavori, 2000). However, although a larger sample size would be desirable, it is remarkable that limited statistical power did not prevent us from finding highly significant effects and confirming our research hypotheses, which strongly speaks for the validity of our conclusions.

Conclusions

Research on family business has repeatedly shown that many such organizations place an important focus on long-term continuity. This paper sheds light on the question of whether family involvement influences business failure risks. We hypothesize that family management, in particular, prevents business failure and enhances firm survival, although the entrepreneurial orientation of the firm negatively moderates this relationship. We find empirical support for our hypotheses by analyzing failures in a sample of Spanish firms between 2007 and 2013. Our results evidence that different types of family involvement and

the strategic posture—such as EO—influence failure risks. We find that companies with a large share of family members in the management team are, on average, more likely avoid business failure, but that such relationship only holds in firms showing relatively low levels of EO. Therefore, corporate entrepreneurship seems to interfere with the role of the family as an organizational coalition promoting the continuity of the business. The arguments and evidence in this study, therefore, join the scholarly debate on the effects of family involvement on business outcomes, as well as advancing our understanding of the consequences of corporate entrepreneurship on family businesses.

References

- Acquaah, M., Amoako-Gyampah, K., & Jayaram, J. (2011). Resilience in family and nonfamily firms: an examination of the relationships between manufacturing strategy, competitive strategy and firm performance. *International Journal of Production Research*, 49(18), 5527-5544.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589-609.
- Amann, B., & Jaussaud, J. (2012). Family & non-family business resilience in an economic downturn. *Asia Pacific Business Review*, 18(2), 203-223.
- Astrachan, J.H. (2010). Strategy in family business: Towards a multidimensional research agenda. *Journal of Family Business Strategy*, 1(1), 6-14.
- Beckhard, R., & Dyer, W. G. (1983). Managing change in the family firm-Issues and strategies. *Sloan Management Review*, 24(3), 59.
- Bertrand, M., & Schoar, A. (2006). The role of family in family firms. *The Journal of Economic Perspectives*, 20(2), 73-96.
- Block, J. (2010). Family management, family ownership, and downsizing: Evidence from

- S&P 500 firms. *Family Business Review*, 23(2), 109-130.
- Burgelman, R. A. (1991). Intraorganizational ecology of strategy making and organizational adaptation: Theory and field research. *Organization Science*, 2(3), 239-262.
- Buysschaert, A., Deloof, M., Jegers, M., & Rommens, A. (2008). Is group affiliation profitable in developed countries? Belgian evidence. *Corporate Governance: An International Review*, 16(6), 504-518.
- Cabrera-Suárez, M. K., Déniz-Déniz, M. D. L. C., & Martín-Santana, J. D. (2014). The setting of non-financial goals in the family firm: The influence of family climate and identification. *Journal of Family Business Strategy*, 5(3), 289-299.
- Cefis, E., & Marsili, O. (2005). A matter of life and death: innovation and firm survival. *Industrial and Corporate Change*, 14(6), 1167-1192.
- Charitou, A., Neophytou, E., & Charalambous, C. (2004). Predicting corporate failure: empirical evidence for the UK. *European Accounting Review*, 13(3), 465-497.
- Chirico, F., Sirmon, D. G., Sciascia, S., & Mazzola, P. (2011). Resource orchestration in family firms: investigating how entrepreneurial orientation, generational involvement, and participative strategy affect performance. *Strategic Entrepreneurship Journal*, 5(4), 307-326.
- Chrisman, J. J., Chua, J. H., Kellermanns, F. W., & Chang, E. P. (2007). Are family managers agents or stewards? An exploratory study in privately held family firms. *Journal of Business research*, 60(10), 1030-1038.
- Chrisman, J. J., Chua, J. H., Pearson, A. W., & Barnett, T. (2012). Family Involvement, Family Influence, and Family Centered Non Economic Goals in Small Firms. *Entrepreneurship Theory and Practice*, 36(2), 267-293.
- Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship theory and practice*, 29(5), 555-576.

- Chrisman, J. J., Chua, J. H., & Steier, L. P. (2011). Resilience of family firms: An introduction. *Entrepreneurship Theory and Practice*, 35(6), 1107-1119.
- Chrisman, J.J. & Patel, P.C. (2012). Variations in R&D investments of family and non-family firms: Behavioral agency and myopic loss aversion perspectives. *Academy of Management Journal*, 55, 976-997.
- Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behavior. *Entrepreneurship Theory and Practice*, 23(4), 19-39.
- Chua, J. H., Chrisman, J. J., Steier, L.P., & Rau, S.B. (2012). Sources of heterogeneity in family firms: An introduction. *Entrepreneurship Theory and Practice*, 36(6), 1103-1113.
- Colli, A. (2012). Contextualizing performances of family firms: The perspective of business history. *Family Business Review*, 25(3), 243-257.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice*, 35(5), 855-872.
- Covin, J.G., & Slevin, D.P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75-87.
- Cruz, C., & Nordqvist, M. (2012). Entrepreneurial orientation in family firms: a generational perspective. *Small Business Economics*, 38(1), 33-49.
- Cyert, R. M., & March, J. G. (1963). A Behavioral Theory of the Firm. *Prentice-Hall, Englewood Cliffs, NJ*,
- Davis, P., & Stern, D. (1988). Adaptation, survival and growth of the family business: An integrated systems perspective. *Family Business Review*, 1(1), 69-84.
- De Jong, J. P., & Marsili, O. (2015). Founding a business inspired by close entrepreneurial ties: does it matter for survival?. *Entrepreneurship Theory and Practice*, 39(5), 1005-1025.
- De Massis, A., Kotlar, J., Chua, J. H., & Chrisman, J. J. 2014. Ability and Willingness as

- Sufficiency Conditions for Family-Oriented Particularistic Behavior: Implications for Theory and Empirical Studies. *Journal of Small Business Management*, 52(2), 344–364
- Delios, A., & Beamish, P. (2001). Survival and profitability: the roles of experience and intangible assets in foreign subsidiary performance. *Academy of Management Journal*, 44(5), 1028-1038.
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52-73.
- Dess, G. G., Ireland, R. D., Zahra, S. A., Floyd, S. W., Janney, J. J., & Lane, P. J. (2003). Emerging issues in corporate entrepreneurship. *Journal of management*, 29(3), 351-378.
- DeTienne, D.R., & Chirico, F. (2013). Exit strategies in family firms: How socioemotional wealth drives the threshold of performance. *Family Business Review*, 37(6), 1297-1318.
- DeTienne, D.R., Shepherd, D.A. & De Castro, J.O. (2008). The fallacy of “only the strong survive”: The effects of extrinsic motivation on the persistence decisions for underperforming firms. *Journal of Business Venturing*, 23(5), 528-546.
- Dewaelheyns, N., & Van Hulle, C. (2006). Corporate failure prediction modeling: Distorted by business groups' internal capital markets?. *Journal of Business Finance & Accounting*, 33(5-6), 909-931.
- File, K. M., & Prince, R. A. (1996). Attributions for family business failure: The heir's perspective. *Family Business Review*, 9(2), 171-184.
- Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. (1997). Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. *Administrative Science Quarterly*, 42(4), 750-783.
- Gómez-Mejía, L. R., Cruz, C., Berrone, P., & De Castro, J. (2011). The bind that ties: Socioemotional wealth preservation in family firms. *The Academy of Management Annals*, 5(1), 653-707.

- Gómez -Mejia, L. R., Núñez -Nickel, M., & Gutiérrez, I. (2001). The role of family ties in agency contracts. *Academy of Management Journal*, 44(1), 81-95.
- Gómez -Mejia, L.R., Takács, K.T., Núñez-Nickel, M., Jacobson, K.J.L., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly*, 52(1), 106-137.
- Gulbrandsen, T. (2005). Flexibility in Norwegian family-owned enterprises. *Family Business Review*, 18(1), 57-76.
- Habbershon, T. G., Williams, M., & MacMillan, I. C. (2003). A unified systems perspective of family firm performance. *Journal of Business Venturing*, 18(4), 451-465.
- Handler, W.C. (1989). Methodological issues and considerations in studying family businesses. *Family Business Review*, 2(3), pp. 257-276.
- Hsieh, F. Y., & Lavori, P.W. (2000). Sample-size calculations for the Cox proportional hazards regression model with nonbinary covariates. *Controlled Clinical Trials* 21(6), pp. 552-560.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, 40(2), 256-282.
- Kellermanns, F. W., & Eddleston, K. A. (2004). Feuding families: When conflict does a family firm good. *Entrepreneurship theory and Practice*, 28(3), 209-228.
- Kellermanns, F. W., & Eddleston, K. A. (2006). Corporate entrepreneurship in family firms: A family perspective. *Entrepreneurship theory and practice*, 30(6), 809-830.
- Kellermanns, F.W., Eddleston, K.A. Barnett, T. & Pearson, A. (2008). An exploratory study of family member characteristics and involvement : Effects on entrepreneurial behavior in the family firm. *Family Business Review*, 21(1), 1-14.
- König, A., Kammerlander, N., & Enders, A. (2013). The family innovator's dilemma: How family influence affects the adoption of discontinuous technologies by incumbent firms.

Academy of Management Review, 38(3), 418-441.

- Kotlar, J., & De Massis, A. 2013. Goal setting in family firms: Goal diversity, social interactions, and collective commitment to family-centered goals. *Entrepreneurship Theory and Practice*, 37(6), 1263–1288.
- Le Breton-Miller, I., Miller, D., & Lester, R. H. (2011). Stewardship or agency? A social embeddedness reconciliation of conduct and performance in public family businesses. *Organization Science*, 22(3), 704-721.
- Lumpkin, G. T., Brigham, K. H., & Moss, T. W. (2010). Long-term orientation: Implications for the entrepreneurial orientation and performance of family businesses. *Entrepreneurship and Regional Development*, 22(3-4), 241-264.
- Lumpkin, G.T., & Dess, G.G. (1996). Clarifying the Entrepreneurial Orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.
- McKelvie, A., McKenny, A., Lumpkin, G., & Short, J. C. (2014). Corporate entrepreneurship in family businesses: Past contributions and future opportunities. In Melin, L., Nordqvist, M., & Sharma, P. (Eds.). *SAGE handbook of family business*, SAGE, London, 340-363.
- Mellahi, K., & Wilkinson, A. (2004). Organizational failure: a critique of recent research and a proposed integrative framework. *International Journal of Management Reviews*, 5(1), 21-41.
- Miller, D. (1977). Common syndromes of business failure. *Business Horizons*, 20(6), 43-53.
- Miller, K.D., & Chen, W.R. (2004). Variable organizational risk preferences: Tests of the March-Saphira model. *Academy of Management Journal*, 47, 105-115.
- Miller D., & Le Breton-Miller I. (2005). *Managing for the Long Run*. Harvard Business School Press: Boston, MA.
- Miller, D., Steier, L., & Le Breton-Miller, I. (2003). Lost in time: Intergenerational succession, change, and failure in family business. *Journal of Business Venturing*, 18(4), 513-531.

- Nieto, M. J., Santamaría, L., & Fernández, Z. (2015). Understanding the innovation behavior of family firms. *Journal of Small Business Management*, 53(2), 382-399.
- Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal*, 18, 187-206.
- Ooghe, H., & De Prijcker, S. (2008). Failure processes and causes of company bankruptcy: a typology. *Management Decision*, 46(2), 223-242.
- Pérez-Luño, A., Wiklund, J., & Valle Cabrera, R. (2011). The dual nature of innovative activity: How Entrepreneurial Orientation influences innovation generation and adoption. *Journal of Business Venturing*, 26(5), 555-571.
- Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review*, 26(2), 298-310.
- Salvato, C. (2004). Predictors of entrepreneurship in family firms. *The Journal of Private Equity*, 7(3), 68-76.
- Scharfstein, D. S., & Stein, J. C. (2000). The dark side of internal capital markets: Divisional rent-seeking and inefficient investment. *The Journal of Finance*, 55(6), 2537-2564.
- Sciascia, S., & Mazzola, P. (2008). Family involvement in ownership and management: Exploring nonlinear effects on performance. *Family Business Review*, 21(4), 331-345.
- Sciascia, S., Mazzola, P., & Chirico, F. (2013). Generational involvement in the top management team of family firms: Exploring nonlinear effects on entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 37(1), 69-85.
- Shepherd, D. A. (2003). Learning from business failure: Propositions of grief recovery for the self-employed. *Academy of Management Review*, 28(2), 318-328.
- Shepherd, D. A., Wiklund, J., & Haynie, J. M. (2009). Moving forward: Balancing the financial and emotional costs of business failure. *Journal of Business Venturing*, 24(2), 134-148.

- Short, J. C., Payne, G. T., Brigham, K. H., Lumpkin, G. T., & Broberg, J. C. (2009). Family firms and entrepreneurial orientation in publicly traded firms. A comparative analysis of the S&P 500. *Family Business Review*, 22(1), 9-24.
- Sirmon, D.G., & Hitt, M.A. (2003). Managing resources: Linking unique resources, management, and wealth creation in family firms. *Entrepreneurship Theory and Practice*, 27(4), 339-358.
- Spanish National Statistics Bureau (2014). *Estadística de Procedimiento Concursal* [dataset]. Retrieved from <http://www.ine.es/dynt3/inebase/index.htm?padre=570anddh=1>
- Thornhill, S., & Amit, R. (2003). Learning about failure: Bankruptcy, firm age, and the resource-based view. *Organization Science*, 14(5), 497-509.
- Tosi, H., Aldag, R., & Storey, R. (1973). On the measurement of the environment: An assessment of the Lawrence and Lorsch environmental uncertainty subscale. *Administrative Science Quarterly*, 18(1), 27-36.
- Turner, B. A. (1994). Causes of disaster: sloppy management. *British Journal of Management*, 5(3), 215-219.
- Ucbasaran, D., Shepherd, D. A., Lockett, A., & Lyon, S. J. (2013). Life after business failure: the process and consequences of business failure for entrepreneurs. *Journal of Management*, 39(1), 163-202.
- Vago, M. (2004). Integrating change management: Challenges for family business clients and consultants. *Family Business Review*, 17(1), 71-80.
- Wall, T. D., Michie, J., Patterson, M., Wood, S. J., Sheehan, M., Clegg, C. W., & West, M. (2004). On the validity of subjective measures of company performance. *Personnel psychology*, 57(1), 95-118.
- Ward, J.L., 1997. *Keeping the Family Business Healthy: How to Plan for Continuing Growth, Profitability and Family Leadership*. Jossey-Bass, San Francisco.
- Watson, J., & Everett, J. (1996). Small business failure rates: Choice of definition and the size

- effect. *The Journal of Entrepreneurial Finance*, 5(3), 271-285.
- Wiklund, J., Nordqvist, M., Hellerstedt, K., & Bird, M. (2013). Internal versus external ownership transition in family firms: an embeddedness perspective. *Entrepreneurship Theory and Practice*, 37(6), 1319-1340.
- Wiklund, J., & Shepherd, D.A. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13) 1307.1314.
- Wiklund, J., & Shepherd, D.A. (2011). Where to from here? EO-as-experimentation, failure, and distribution of outcomes. *Entrepreneurship, Theory and Practice*, 35(5), 925-946.
- Wilson, N., Wright, M. & Scholes, L. (2013). Family business survival and the role of boards. *Entrepreneurship Theory and Practice*, 37(6), 1369-1389.
- Yu, A., Lumpkin, G.T., Sorenson, R.L., & Brigham, K.H. (2012). The landscape of family business outcomes: A summary and numerical taxonomy of dependent variables. *Family Business Review*, 25(1), 33–57.
- Zahra, S. A., Hayton, J. C., & Salvato, C. (2004). Entrepreneurship in family vs. Non-Family firms: A Resource-Based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice*, 28(4), 363-381.
- Zellweger, T.M., Nason, R.S., Nordqvist, M. & Brush, C.G. (2013). Why do family firms strive for non-financial goals? An organizational identity perspective. *Entrepreneurship Theory and Practice*, 37(2), 229-248.

Table 1. Descriptive statistics and correlation matrix

	Bivariate Pearson correlations														
	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Failure (dummy)	0.187	0.390	1.000												
(2) Survival (months)	78.200	15.150	-0.798	1.000											
(3) Age (years)	33.120	22.720	-0.091	0.023	1.000										
(4) Size (ln employees)	4.010	1.390	-0.034	-0.023	0.354	1.000									
(5) Group	0.333	0.472	-0.001	-0.054	0.114	0.460	1.000								
(6) Family ownership	0.554	0.422	-0.078	0.116	0.083	-0.207	-0.178	1.000							
(7) Performance_06	15.410	4.490	-0.118	0.111	0.052	0.271	0.228	0.037	1.000						
(8) Debt_06	63.790	38.366	0.257	-0.292	-0.087	0.007	0.058	-0.113	0.004	1.000					
(9) Market dynamism	0.000	1.000	0.161	-0.082	-0.066	-0.029	0.049	-0.096	0.044	0.040	1.000				
(10) Tech. dynamism	2.437	1.942	0.051	0.011	-0.173	0.073	0.020	-0.143	0.050	0.024	0.194	1.000			
(11) Mumifience	-0.081	0.421	-0.110	0.082	0.142	0.106	0.154	0.069	0.060	-0.072	0.002	-0.088	1.000		
(12) EO	37.596	8.328	-0.080	0.093	0.018	0.162	0.144	-0.041	0.325	0.055	0.011	0.123	-0.055	1.000	
(13) Family management	0.475	0.437	-0.034	0.072	-0.099	-0.420	-0.336	0.564	-0.127	-0.017	0.021	-0.046	-0.122	-0.117	1.000

NOTE: Correlations significant at 95% confidence level in bold

N = 369

Table 2. Results from Cox proportional hazard models

Number of subjects = 369		Time at risk = 33,285		
Number of failures = 69				
Covariates	Model 1	Model 2	Model 3	
	Coef. (H.R.)	Coef. (H.R.)	Coef. (H.R.)	
Age (years)	-0.010 (0.990) **	-0.010 (0.990) **	-0.010 (0.990) **	
Size (ln employees)	0.092 (1.096)	0.084 (1.088)	0.103 (1.108)	
Group	-0.042 (0.959)	-0.038 (0.963)	-0.009 (0.991)	
Family ownership	-0.248 (0.780)	0.060 (1.062)	0.081 (1.084)	
Performance_06	-0.069 (0.934) *	-0.058 (0.944) *	-0.057 (0.945) *	
Debt_06	0.007 (1.007) ***	0.008 (1.008) ***	0.007 (1.007) ***	
Market dynamism	0.298 (1.347) ***	0.312 (1.366) ***	0.298 (1.347) ***	
Technological dynamism	-0.146 (0.864) *	-0.147 (0.863) *	-0.157 (0.854) *	
Environmental munificence	-0.055 (0.946)	-0.097 (0.908)	-0.073 (0.929)	
NACE_24	-1.222 (0.295) *	-1.172 (0.310) *	-1.219 (0.295) **	
NACE_32	-0.693 (0.500)	-0.562 (0.570)	-0.531 (0.588)	
NACE_33	-0.467 (0.627) ***	-0.435 (0.647) ***	-0.383 (0.682) ***	
NACE_34	-0.665 (0.514) ***	-0.689 (0.502) ***	-0.707 (0.493) ***	
Family invol. management		-0.498 (0.608) **	-0.346 (0.708)	
Entrepreneurial orientation (EO)		-0.027 (0.973) ***	-0.049 (0.952) ***	
EO x Family invol. management			0.050 (1.052) ***	
Log pseudolikelihood	-379.73	-377.58	-376.51	
Wald chi-sq.	191.50 ***	358.91 ***	391.24	

p-values: + < 0.1 * < 0.05 ** < 0.01 *** < 0.001

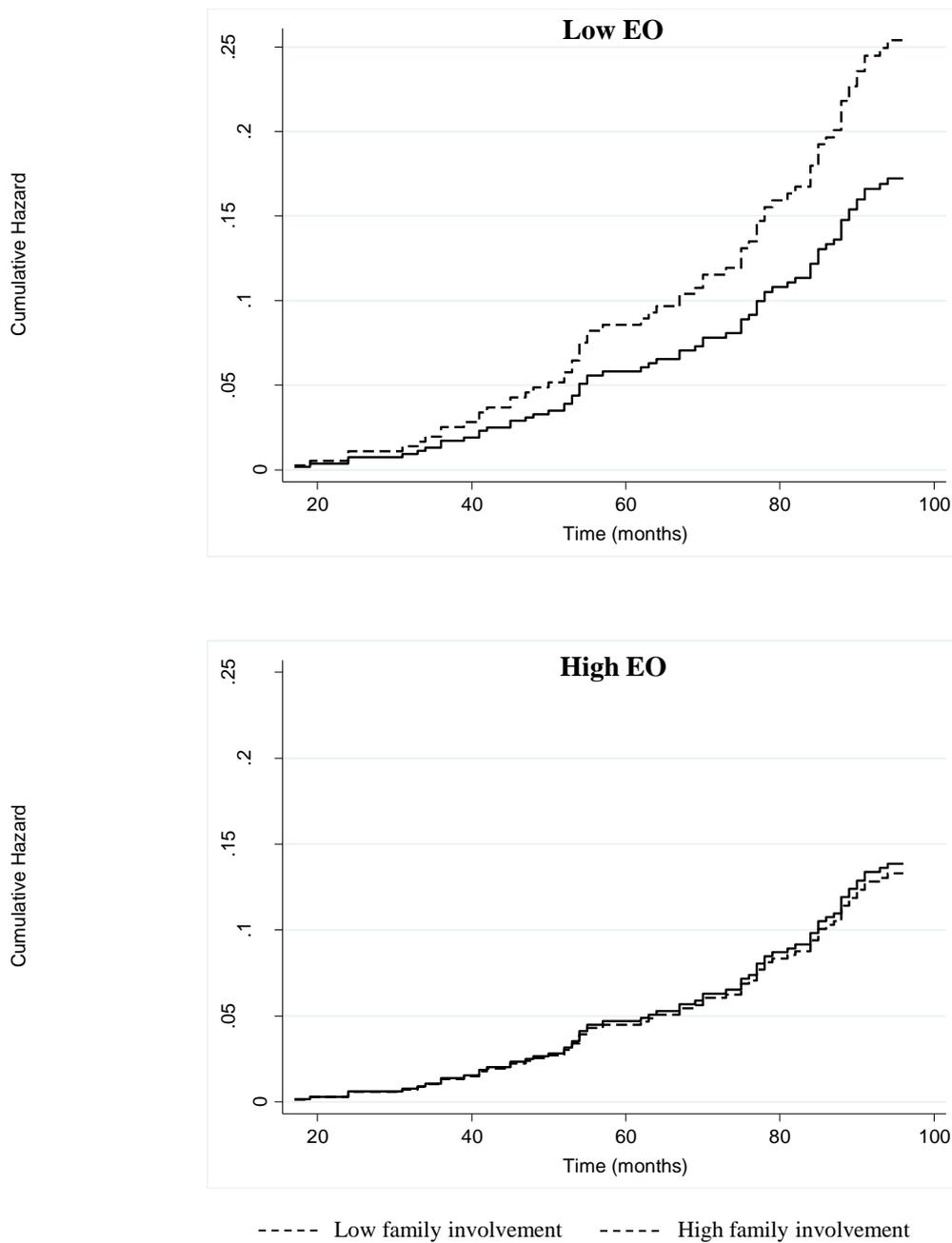
Note: EO and family management variables in model 3 are mean-centered

H.R.: Hazard Ratios

Table 3. Test of proportionality assumption

	Rho	chi-sq.	df	Prob>chi-sq.
Age (years)	0.064	0.40	1	0.526
Size (log. employees)	-0.009	0.01	1	0.934
Group	-0.093	2.26	1	0.133
Family ownership	0.026	0.14	1	0.713
Performance_06	0.058	0.75	1	0.386
Debt_06	0.010	0.02	1	0.898
Market dynamism	0.008	0.01	1	0.908
Tech. Dynamism	-0.050	0.64	1	0.425
Munificence	0.020	0.11	1	0.739
NACE 24	-0.030	0.26	1	0.612
NACE 32	0.001	0.00	1	0.989
NACE 33	-0.103	1.38	1	0.241
NACE 34	-0.023	0.08	1	0.780
EO	0.043	0.21	1	0.646
Family management	0.066	0.63	1	0.429
EO x Family management	0.168	2.49	1	0.114
Global test		4.91	4	0.296

Figure 1. Effects of family involvement in management expected cumulative failure hazards: the moderating role of EO



Note: High and low family involvement in management are defined as shares of family managers 25 percentage points above and below the sample mean, respectively. High and low EO are set as +1 s.d. and -1 s.d., respectively.