Lone founders, types of private family firms and firm performance

Julio Diéguez-Soto\textsuperscript{a} and Pilar López-Delgado\textsuperscript{b}

\textsuperscript{a}Finances and Accounting Department, Faculty of Economics and Business Sciences, University of Málaga, 29071 Málaga, Spain, email jdieguez@uma.es, tlf. (34) 952131286; \textsuperscript{b}Statistics and Econometrics, Faculty of Economics and Business Sciences, University of Málaga 29071 Málaga, Spain, email dlp@uma.es, tlf. (34) 952131202

The purpose of this article is to provide an explanation for the contradictory findings about the links between private family businesses (FBs) and organisational performance. The paper suggests that lone founder firms determine the results by explaining the comparative performance of different private FBs and NFBs. In addition, we develop a parsimonious typology of private FBs that exploits the interactions of the components of family involvement to show that firms that achieve to avoid or minimize traditional agency conflicts tend to outperform the firms that do not. It appears that the use of ownership dispersion as a governance mechanism shepherds and monitors performance progress, and among FBs the conflict between owners and managers seems to be more costly than the conflict between large and minority shareholders.

\textbf{Keywords:} family businesses; lone founder; performance; agency theory

\footnotesize{* Corresponding author. Email: jdieguez@uma.es}
Lone founders, types of private family firms and firm performance

1. Introduction

Family businesses (FBs) represent the majority of firms around the world, and the research focusing on the implications of family involvement in business ventures is growing exponentially (Bennedsen, 2007; Chrisman and Chua, 2004; Sirmon, 2008; Steier,.). On the other hand, performance is an essential indicator of the organisational success and competitive advantage of firms. If firms are able to identify the factors that determine improved performance, they could take advantage of their specific features. Thus, strategy scholars have considered financial performance to be an essential variable of interest (Nag, Hambrick and Chen, 2007). Consequently, the literature on business strategy and financial economics has paid more attention to the analysis of performance in FBs (Mazzi, 2011).

Many studies have attempted to analyse the relationship between family involvement and performance, comparing the performance of family and non-family businesses (NFBs) (among others Anderson and Reeb, 2003; Arosa, Iturralde and Maseda, 2010; Cucculelli and Miccuci, 2008; Villalonga and Amit, 2006). However, most of the previous research has shown conflicting results, which have been even more confused within FBs (Sharma and Carney, 2012). Several literature review papers about the financial performance of FBs have recently been published (Amit and Villalonga, in press; Bertrand and Schoar, 2006; Mazzi, 2011; Stewart and Hitt, 2012), considering that there are different factors (such as the different definitions of FBs) that can affect the findings that are obtained. There has been a question of whether to include founder-led firms in FB samples or simply that FBs cannot be viewed as homogeneous entities, which may have been the cause for the contradictory results. FBs have been considered to be “black boxes” (Creed, 2000), which
is a concept that fails to recognise which family factors lead to high performance. As the findings have been highly sensitive to the ways in which FBs are defined (Sacristán-Navarro, Gómez-Ansón and Cabeza-García, 2011), several researchers have suggested the need to create typologies to test them empirically (Chrisman, Chua and Kellermanns, 2009; Frank et al. 2010; Sharma and Nordqvist, 2008; Weshead and Howorth, 2006; Westhead and Howorth, 2007). Additionally, the conducted review reveals that most of the previous research on the performance of FBs focused on large listed firms (Mazzi, 2011; Zellweger, Nason and Nordqvist, 2012), and there is limited available evidence that pertains to the performance of privately held firms (Sharma and Carney, 2012). Thus, different empirical definitions of family involvement have led to contradictory results in the literature about the links between private FBs and organisational performance (James, 1999), and calls for additional studies have been made (Steier, Chrisman and Chua, 2004).

It appears obvious that there are agency problems in FBs and that traditional assumptions and governance mechanisms work differently whether firms are privately and family owned or family managed (Shulze et al., 2001). Consequently, we strive to answer the following research questions on how lone founder and family involvement impact agency costs in private firms and their consequences in performance.

The first question we raise is the following: Does the lone founder effect exist in private firms? The research question tests if lone founder firms outperform FBs because agency costs among lone founder firms are lower than between FBs. The second question analyses whether family involvement increase or decrease performance. The classic owner-manager conflict –agency problem I- (Jensen and Mecking, 1976) would predict a positive effect on performance of family management. On the other hand, FBs with concentrated ownership may extract benefits at the expense of small shareholders –agency problem II- (Villalonga
and Amid, 2006). We consider the former agency costs I and II as traditional ones. Besides, FBs deal with specific agency costs and benefits. FBs may benefit from long-term contracting, family expertise, commitment or altruism (Gomez-Mejia, Núñez-Nickel and Gutiérrez, 2001; James, 1999). On the other hand, FBs might have to cope with agency costs that stem from taking advantage of the firm’s assets, fewer skilled candidates, increasingly complex conflicts and asymmetrical altruism (Anderson and Reeb, 2003; Hendry, 2002). In this regard, if lone founders and different types of FBs are analysed as a uniform entity, the findings are likely to be inconclusive because firm performance may indeed be sensitive to how each type of firm tackles the pros and cons that have been identified above.

We try to answer the former research questions using a sample of 3,525 private firms in Spain. First, we assess the sensitivity of the performance results to remove lone founders from the FB category. We utilise two univariate techniques to determine if lone founders yield better or worse performances than private FBs; to the best of our knowledge, no study has investigated this question. Second, we illustrate 5 theoretical types of private FBs, depending on the presence or absence of the agency problem I and II and addressing a specific treatment for lone founders. Furthermore, we apply an exploratory factor analysis to empirically validate the expected behaviour of lone founders and the types of FBs that are under consideration. We show that whether FBs are better or worse performers depends on how the cope with traditional agency costs using ownership dipersion and family management.

In short, this paper identifies outperformer firms to maximise investment returns, and it encourages underperformers to move towards the particular governance structures of higher-performing private FBs. We demonstrate that the governance profiles of lone founders...
founders and each type of private FB may help academics and practitioners to better understand how each type of firm handles agency benefits and costs and, as a consequence, justifies the sensitivity of performance results to the natures of different firms.

The paper is organised as follows. In section 2, we summarise the empirical results about the lone founder effect and family involvement on performance. We devote section 3 to theory and hypotheses and section 4 to data and variables. The research method and our main results are addressed in section 5, and finally, our main conclusions are presented in section 6.

2. The lone founder effect and family involvement on performance

In line with Miller et al. (2007), we define an FB as one in which multiple members of the same family, who are related by blood or marriage, are involved as owners, managers or members of the board, either contemporaneously or over time. Similarly, we differentiate between lone founder firms, in which, beyond the founder, there are not other family relatives in the business, and FBs, in which there are multiple owners, managers or directors from the same family.

Many studies have considered FBs as firms that only involve a lone founder, with no involvement by any of the founder’s relatives serving as owners, managers or directors. Miller et al. (2007) summarises a catalogue of worthwhile papers that chose this option and that, consequently, could not demonstrate whether firm performance stemmed from a lone founder or family effects. Miller et al. (2007) were able to separate both types of performance effects in public firms and concluded that only businesses with a lone founder outperform the other types of firms.

On the other hand, FB scholars have attempted to classify different types of FBs using several criteria. One of the most used systems was developed by Sharma (2002), who
identified 72 categories of FBs, depending on the extent of family involvement in ownership and management. Handler (1989) added governance and plans for transgenerational continuity or succession as two other components of family involvement. Nevertheless, we will focus on two factors—ownership and management—to determine the influence of each factor on performance, both in isolation and conjointly. To that end, we measure family involvement as a typology (García-Castro and Sharma, 2011).

Most of the research on the relationship between family involvement in ownership and performance has been performed on listed companies. Some of the research has confirmed that FBs offer superior performance (Martínez, Stöhr and Quiroga, 2007; Maury 2006; Sraer and Thesmar, 2007). However, it seems that the relationship between performance and ownership is not linear. In particular, Anderson and Reeb (2003) and Le Breton-Miller, Miller and Lester (2011) suggest that family ownership positively affects firm performance, exhibiting an inverted U-shape relationship. However, while some scholars have found a negative influence of family ownership on performance (Morck, Strangeland and Yeung, 2000), others have found hardly any differences between FBs and NFBs (Chrisman, Chua and Litz, 2004); Sraer and Thesmar (2007) have even confirmed that NFBs performed better than family owned firms. With regard to the relationship between family involvement in management and performance in public firms, the results are also mixed. Whereas Anderson and Reeb (2003) and Maury (2006) suggest that family management has a positive effect on profitability, other authors such as Barth, Gulbrandsen and Schone (2005), Filatotchev, Zhang, and Piesse (2011), Morck, Strangeland, and Yeung (2000), Pérez-González (2006) and Villalonga and Amit (2006) found that firms with family members who serve as managers underperform firms that are managed by outside managers. To summarise, the previous research has focused on public firms, and it has
highlighted the concept that family involvement generally has a positive effect on performance, as has been tested by Steward and Hitt (2012) in a recent paper review analysis, in which two-thirds of the papers that were analysed found positive effects. However, the main limitation of the former studies is that they have focused on publicly traded firms, despite the fact that most firms are private firms.

Nevertheless, there are studies that have addressed private firms. Specifically, with respect to family involvement in ownership, Arosa, Iturralde, and Maseda (2010), Castillo and Wakefield (2006), Sciascia and Mazzola (2008) and Weshead and Howorth (2006) were not able to confirm a relationship between ownership concentration and firm profitability. However, Sirmon et al. (2008) found that family influenced firms maintain higher levels of R&D investments and internationalisation, and thus, they enjoy higher performance. However, this positive influence is lost when higher levels of ownership are held by family members. Regarding family involvement in management, Daily and Dollinger (1991), Weshead and Howorth (2006), Blanco-Mazagatos, de Quevedo-Puente, and Castrillo (2007) did not observe significant differences on financial performance measures between family and non-family managed firms, while Sciascia and Mazzola (2008) analysed whether there is an inverted U-shaped relationship between family management and performance. In summary, although the previous research that has focused on private firms reveals that family involvement generally has an insignificant or negative effect on performance, as the work of Steward and Hitt (2012) has confirmed, additional research is required on the effects of family on firm performance because they have not been tested based on a clearly defined relationship. This research line is especially needed within non-listed companies (Sciascia and Mazzola, 2008) in which the results are more unclear than in public firms.
3. Theoretical framework and hypotheses

These former non-homogeneous results lead us to apply agency theory, as a theoretical framework, to explain how lone founders and FBs may be different not only with respect to private non-family businesses but from each other. Specifically, we propose that the arguments that have been made to distinguish lone founders and different types of private FBs might be useful to explain the above-noted inconsistent results.

3.1. Lone founders’ involvement and performance

Several studies have suggested that lone founders achieve higher performance than the other FBs in public firms (Anderson and Reeb, 2003; Barontini and Caprio, 2006; Chu, 2011; Le Breton-Miller, Miller and Lester, 2011; Villalonga and Amit, 2006). Miller et al. (2007), removing lone founder firms from the FB classification, concluded that FBs did not outperform in their market valuations, but lone founder businesses outperformed in their market valuations. The previous results are usually explained by the fact that lone founders are entrepreneurial orientated, less risk-averse than successive generations and more inclined to develop strategies (Steward and Hitt, 2012). Values such as discipline, humility, piety and self-sacrifice have been demonstrated by the founders of long-term successful businesses (James, 2006). Their desire to pass the business on to future generations may also foster an attitude of stewardship towards a business and its stakeholders (Le Breton-Miller and Miller, 2009). From an agency perspective, as Ang, Cole and Lin (2000) proposed, a sole-owner managed firm is a zero-agency cost-base case. As we want a zero agency cost base case to serve as the reference point of comparison for all other cases of family ownership and management structures, we restrict our analysis to lone founder firms owned by a sole owner-manager. A firm that is solely owned by a single owner-manager by its definition has no traditional agency costs. A sole owner’s incentive to consume
perquisites is null, as his share of the firm’s profits is the maximum. It is an extreme case of ownership and management structures because the manager owns 100 per cent of the firm. Moreover, he is free from family succession issues and kinship squabbles (Miller et al., 2007).

The above literature overview of public firms shows that the inclusion of a lone founder firm in the definition of an FB determines the conclusions that are obtained when FBs and NFBs performance is compared. To the best of our knowledge and belief, no study has investigated whether lone founders would contribute to the improvement or diminishment of performance when private family and lone founder firms are included into a single category. We examine the impact of lone founder involvement on firm performance addressing a specific issue: does the lone founder effect also exist in private firms?

This discussion suggests the following hypotheses:

**H1. Lone founder firms outperform private family firms**

**3.2. The agency cost of family involvement in ownership and performance**

Although agency problems might arise between any two groups of stakeholders, the literature that has applied agency theory to the study of performance in FBs has concentrated on: agency costs that arise from the separation of ownership and management (agency problem I) and agency costs that arise from a conflict of interest between majority and minority shareholders (agency problem II). Family ownership might lead to a reduction of the effect of classic conflict as described by Villalonga and Amit (2006) as Agency problem I (Berle and Means 1932; Jensen and Meckling, 1976). Family businesses have more long-term vision, which allows them to focus on investment opportunities that contribute to maximising long-run returns (Bertrand, 2006) and to ensure the passing of the firm to familial descendants (James, 1999). This long-term perspective usually promotes
long-term contracting, which could alleviate moral hazard problems that stem from a divergence between the interest of principals and agents (Gomez-Mejia et al., 2001). Similarly, as a family’s wealth is closely linked to firm feasibility, majority family shareholders have strong incentives to reduce managerial expropriation (Demsetz and Lehn, 1985). Furthermore, a family’s reputation that has been built over a long period of time can bring positive economic consequences for the firm in comparison with non-FBs in which managers and directors frequently change (Anderson and Reeb, 2003). The loyalty and trust that is allegedly shared by owners, employees and customers also may improve the performance of FBs (James, 1999), and the cumbersome and costly monitoring of organisational mechanisms may be avoided. On the other hand, family members can take advantage of a firm's assets to meet their own needs (Haynes et al., 1999). In other words, families might expropriate firm wealth (Shleifer and Summers, 1988) at the expense of minority shareholders, which Villalonga and Amit (2006) refer to as Agency problem II. In this context of firms with a high ownership concentration, agency costs might take the form of dividends and extraordinary remuneration or the entrenchment of the family management team, which may reduce firm profitability (Ang, Cole and Lin, 2010). Additionally, Bertrand and Schoar (2006) observed that this sort of expropriation of resources can also be conducted by controlling owners at the expense of other family members within privately held FBs (Steward and Hitt, 2012). Moreover, Morck, Wolfenzon, and Yeung (2005) and Cronqvist and Nilsson (2003) suggest that high levels of ownership concentration may lead to inefficient investments. Le Breton Miller and Miller (2009, 1174) summarise the familial repercussions that are suggested by the owner-owner agency perspective as follows: “(1) underinvestment in the business and thus failure to develop or renew core competencies; (2) centralised, hierarchical organisations; (3)
cronyism or insularity in relating to external stakeholders; and (4) inferior growth, financial returns, and market valuations”.

3.3. The agency costs of family involvement in management and performance

Agency theory has often been used to argue that FB governance is more efficient than that of NFB because there are fewer agency costs due to the alignment of goals between agents and principals, particularly in widely held firms (Gomez-Mejia, Nunez-Nickel and Gutierrez, 2001). Otherwise, an FB that is run by non-family CEOs could create agency problems due to ownership and management being in different hands. Thus, an alignment between owners and managers ensures effective decision making that can maximise a family’s wealth (Zahra, 2005). In addition, a family CEO can bring expertise (Morck, Shleifer and Vishny, 1988), a superior commitment (Ward, 1988), identification with the firm (Davis, Schoorman and Donaldson, 1997), long-term focus and farsighted investments (Miller and Le Breton-Miller, 2006), lower executive compensation (Gomez-Mejia, Larraza-Kintana and Makri, 2003) and lower average wages (Sraer and Thesmar, 2007), among other benefits, which would trigger an even lower agency problem. Similarly, altruism could foster communication and cooperation within an FB, thereby decreasing the information asymmetries among family agents and increasing the use of informal agreements (Daily and Dollinger, 1992; Schulze, Lubatkin and Dino, 2001).

On the other hand, the election of a family member as a CEO might exclude more skilled candidates (Burkart, Panunzi and Shleifer, 2003) and cause resentment among non-family executives (Anderson and Reeb, 2003), which not only prevents a firm from proper growth but also creates negative incentives throughout the organisation (Bertrand, 2006). Hendry (2002) conceptualised these problems as being agency-related and arising from honest incompetence. In this case, adverse selection occurs if a principal contracts an agent who is
less able, committed, industrious, or ethical, or whose interests are less compatible than the principal expects (Chrisman, Chua and Litz, 2004). Moreover, family managers can cause conflicts that are more complex between those who lead a firm and other family owners. Moral hazards, as Chrisman, Chua and Litz (2004) describe, involve the commission or omission of family managements’ actions in the interest of the agent but which are also detrimental to the principal. A CEO’s ability to effectively monitor and discipline family agents is reduced (Schulze, Lubatkin and Dino, 2003). Inter-generational squabbles, conflicts and nepotism may detract from financial performance (Kaye 1991; Gomez-Mejia, Nunez-Nickel and Gutierrez, 2001).

3.4. The combined effects of family involvement in ownership and management on performance
As the definitions of an FB have varied widely across studies, the literature has presented mixed and contradictory results when it has compared the performance of family and non-FBs. Therefore, we firmly believe that it would be advisable to develop a typology of FBs to obtain more robust conclusions about FB performance. We suggest that not all FBs are alike because of the large diversity of effects on performance that are derived from the ways in which each type of FB addresses agency costs and benefits. We have determined that different FB types rely on the function of family involvement as an internal control mechanism in corporate governance. We consider the role of family involvement in ownership and management in mitigating owner-owner and owner-manager conflicts.

As represented in table 1, we assume that family ownership and management would have both positive and negative effects on performance that are related to traditional agency costs that are embedded in every type of firm. The traditional agency costs for firms could be controlled through mechanisms such as family dispersed ownership and family
management. However, we should also take into account other specific features of FBs, such as asymmetrical and symmetrical altruism, which might increase or decrease the effects of agency problem I. However, the net effect on performance of these types of FB characteristics cannot be determined conceptually in advance. The question of what type of FB will determine higher or lower total agency costs and how such costs rate in comparison with agency problems that are handled by NFBs can be empirically determined. Therefore, we will circumscribe our theoretical approach to the traditional versions of agency problems I and II that are present in FBs and NFBs. We can assume, as Villalonga and Amit (2006) do, that having a family CEO eliminates the conflict between owners and managers (traditional agency problem I) and that having a more dispersed family ownership reduces the possibility of expropriation by minority shareholders (traditional agency problem II).

**INSERT TABLE 1**

According to the presence or absence of the traditional agency problems I and II, and addressing a specific treatment for lone founders, given the absence of any family involvement, we yield a useful classification into seven types of firms (figure 1):

- **Lone founder.** These firms do not have agency problems. Agency problem I is avoided because the agent and the principal are the same person. Agency problem II is avoided because the possibility of expropriating minority shareholders does not exist.

- **Co-preneurial FB.** These firms might not have agency problem I. Agency problem II is depreciated because the possibility of expropriating minority shareholders is actually minimised. There might only be two shareholders.
• *Solely Family Run FB.* FBs with more concentrated family ownership and management. These firms might not have agency problem I, but they have an increased possibility of having agency problem II.

• *Dispersed Non-Professional FB.* FBs with more dispersed family ownership and family management. These firms might not have agency problem I, and they may reduce the possibility of having agency problem II.

• *Dispersed Professional FB.* FBs with more dispersed family ownership and non-family management. These firms might have agency problem I, but they have reduced the possibility of having agency problem II.

• *Concentrated Professional FB.* FBs with more concentrated family ownership and professional management. These firms have both agency problems.

• *Non-family business.* Overall, NFBs have to cope with higher monitoring costs because they usually use professional management. They may have agency problem I and agency problem II.

**INSERT FIGURE 1**

Figure 1 presents three groups that we can now analyse and compare as to their expected performance. *Lone founders, Co-preneurial FBs* and *Dispersed Non-Professional FBs* (Group I) would be expected to perform better than the other firm types because they have no agency costs to bear (*Lone founder*) or they sustain lower agency costs I and II (*Co-preneurial FB* and *Dispersed Non-Professional FBs*). On the other hand, *Concentrated Professional FBs* (Group III) will incur significant agency costs. They will experience a higher incidence of agency problems I and II. As a consequence, we could postulate that this type of FB will obtain the worst performance. Finally, *Solely Family Run FBs* and
Dispersed Professional FBs (Group II) only have to address one agency problem. The former may cope with the expropriation of wealth by fewer shareholders, and the latter might need to tackle costs that are associated with a professional manager’s rules. Therefore, they are expected to outperform Concentrated Professional FBs (Group III) and to perform more poorly than lone founders, Co-preneurials and Dispersed Non-Professional FBs (Group I). It is more difficult to predict whether Solely Family Run FBs has a performance advantage or disadvantage compared with Dispersed Professional FBs. The answer to this question is scant and inconclusive because we do not know a priori what type of agency problem is more detrimental to firm performance. Finally, NFBs are supposed to cope with agency problem I, and, depending on their level of ownership concentration, they will have to address a higher or lower incidence of agency problem II. Therefore, if the NFB sample contains a higher percentage of concentrated ownership firms, they will tend to be in the same group as Concentrated Professional FBs (Group III); however, if it contains a higher proportion of dispersed ownership firms, it would likely be in group III, next to Dispersed Professional FBs (Group II).

This discussion suggests the following hypotheses:

\textit{H2a. Group I (Lone founders, Co-preneurial FBs and Dispersed Non-Professional FB) will perform better than Group II (Solely Family run FB, Dispersed Professional FB and Dispersed NFBs) and Group III (Concentrated professional FBs and Concentrated NFBs)\}}

\textit{H2b. Solely Family run FB and Dispersed Professional FB (Group II) will perform better than Concentrated Professional FBs (Grupo III)\}}

4. Data and variables

4.1. The data and typology of FBs
The financial data have been selected from the 2009 Spanish database SABI (*Analysis System of Spanish Balance Sheets*). To calculate certain variables, we extended the information that we used to 2008. This database collects annual balance sheet records from official registers for Spanish firms. The data exclude companies that did not have available financial information for the period 2002-2007; firms that were affected by special situations, such as bankruptcy proceedings; firms that were closing down, in liquidation or inactive and financial and insurance firms. Micro-companies were also excluded because their financial information is often not reliable, and they are excessively dispersed, which makes them unsuitable for statistical methods. After this process of scrutiny, SABI included 115,695 firms that fulfilled the above-stated conditions. To reduce heterogeneity, we stratified the sample by size (small, medium and large) and by industry (construction, services and manufacturing). In total, we worked with 3,525 companies (we started with 500 firms by stratum and removed firms with atypical data). The data refer to the period from 2006 through 2007. Our sample consisted of businesses whose ownership structures were as concentrated in FBs as it was in NFBs (Blanco-Mazagatos, de Quevedo-Puente and Castrillo, 2007). This fact allowed us to distinguish between the effect of concentrated-dispersed ownership and the specific influence of family involvement.

The firms were classified according to family ties, the legal nature of the firm, ownership, control, direction, ownership concentration and professionalism (López-Gracia and Sánchez-Andújar, 2007). To look for family ties, we took advantage of the Spanish custom, whereby two surnames are given, one from each parent. Therefore surname coincidence in two internal stakeholders (shareholders, CEO and directors) who do not belong to the same family is unlikely. The surnames of all of the internal stakeholders or interest groups that were involved in the management and governance of a business were compared, along with
the shareholders, in a similar way to Arosa, Iturralde and Maseda (2010), Gomez-Mejia, Nunez-Nickel and Gutierrez (2001) and Pérez-González (2006). As with Castillo and Wakefield (2006), we used these data because no better data source of FBs was publicly available to identify lone founder firms and several different types of FBs. Specifically, there is no official database of FBs in Spain; therefore, this study is an important effort that sheds light on the particularly private Spanish firm landscape. In the end, seven different classes of firms were identified as being operative:

**Type 1. Lone founders.** As a proxy of a lone founder, we consider that a firm in which the same person holds the status of sole shareholder, director and CEO to be equivalent to a lone founder firm.

**Type 2. Co-entrepreneurial FBs.** Shareholders, directors and CEO are positions that are held by just two people of the opposite sex and with different surnames. They are most likely to have family ties by marriage because all married women keep their maiden name after marrying in Spain.

**Type 3. Solely Family Run FBs.** There is a coincidence of surnames among shareholders and CEO and/or directors, and some shareholders own more than 25% of the shares. In this case, someone in the family runs the company.

**Type 4. Dispersed Non-Professional FBs,** where there is a coincidence of surnames between interest groups, and no shareholder owns more than 25% of the shares.

**Type 5. Dispersed Professional FBs,** where there is a coincidence of surnames between the internal stakeholders, and no shareholder owns more than 25% of the shares. In addition, a non-family member is the CEO of the firm.

**Type 6. Concentrated Professional FBs.** The surnames of the shareholders and/or the directors are the same, but those surnames do not match those of the CEO, and some
shareholders own more than 25% of the shares. A non-family CEO runs the company.

Type -1. Non FBs. We include general and limited partnerships, firms whose last owner was a business, and those firms in which there is no coincidence of surnames among the last shareholders, directors or CEO (internal group).

INSERT TABLE 2

From table 2, our analysis suggests that lone founder firms and FBs represent 26.41% and 27.21% of the studied sample, respectively, while NFBs represent 46.38% of the whole sample. By types of FB, Solely Family Run FB firms are the most numerous group, representing 70.39% of FBs. Co-preneurial is the second largest type of FB (15.12%). Concentrated Professional FB is the third largest type of FB (11.26%). Dispersed Non-Professional FB is the smallest group, representing 3.02% of the whole sample of FBs. Finally, the number of members who are classified as Dispersed Professional FBs is insignificant.

4.2. Measuring financial performance

We use profitability as the main variable to examine the effect of family and lone founder involvement on firm performance. Accounting-based measures of performance were used in this study because they focus on private firms (thus, no market-based data were available). Five firm level indicators were applied for the financial year ending in 2007 and 2006. Return on assets (ROA) measures the ability of a firm’s assets to generate profit, and it is considered to be a firm profitability indicator. This is in line with the work of Pérez-González (2006), Arosa, Iturralde, and Maseda (2010) and Molly, Laveren, and Deloof (2010). ROA is calculated in three ways. In one approach, we use Operating Income plus Interest Expense divided by Total Assets (ROA1). In the second approach, we use
Operating Income scaled by Total Assets (ROA$_2$). In the third approach, we use Operating income plus depreciation scaled by Total Assets (ROA$_3$). We also determine Return on Equity (ROE) in line with Lindow, Stubner, and Wulf (2010), Blanco-Mazagatos, de Quevedo-Puente, and Castrillo (2007) and Maury (2006), which is calculated as Net Income divided by the book value of Equity (ROE$_1$). ROA and ROE are the most widely used financial performance measures for unlisted FBs (Zellweger and Nason, 2008).

Finally, we also measure cash-flow divided by the number of employees (CF EMPL) as a measure of productivity as performed by McConaughy, Matthews, and Fialko (2001). The other variables that were analysed were age, size and debt: Age as the record of the years since a firm’s inception; Size as the record of the book value of the total Assets of a firm; and Debt as the total Liabilities divided by the total Assets. Special comments are required about financial leverage and debt. First, Murphy (2005) determined that financial issues are deemed to be the most critical issues that are faced by private family firms. Specifically, raising capital was ranked as the most important financial issue. Second, this variable was analysed because family or lone founder involvement may influence a firm’s financial structure (López-Gracia and Sánchez-Andújar, 2007). Third, family members who are not actively involved in a firm might enforce the use of higher amounts of debt, as they can serve as a governance mechanism to prevent family managers from managerial opportunism, reducing agency costs (Blanco-Mazagatos, de Quevedo-Puente and Castrillo, 2007; Molly, Laveren and Deloof, 2010).

4.3. Descriptive Analysis

Table 3 presents descriptive statistics for our sample of firms. It provides the number of firms, minimum and maximum values, means, standard deviations and Pearson’s
coefficient of variation. In general, the dispersion of non-quoted firms data is much higher than the data of public firms. Despite this fact, we decided to analyse only those variables with an acceptable relative dispersion degree to obtain more robust conclusions. For example, we decided to drop the $CF\ EMPL$ variable because the Pearson’s CV is not around one, and with such dispersion statistical methods cannot detect significant differences.

5. Research method and main results

5.1. Univariate Analysis and the lone founder Effect

After the data processing, an analysis was run to test the hypothesis. A parametric test (Student t test) and a non-parametric test (Mann-Whitney test) were used. Despite the fact the sample is large, procedures that are based on the mean are often sensitive to the occurrence of extreme or outlying observations, which is why so-called distribution free or a non-parametric method was also considered (Andersen, Jensen, and Kousgaard 1987). Specifically, as a first step, we considered family and lone founder firms in a single category, that is, we included as FBs, firms in which there was only the involvement of a lone founder but no involvement by any relatives as owners, managers or directors, and we applied univariate techniques to determine the results of the differences of the means tests between the following:

- family owned firms and non-family owned firms to determine the relationship between family ownership and firm performance;
- more diluted private owned FBs and more concentrated private family owned firms to test the relationship between family ownership concentration and firm performance;
• FBs that were managed by a family CEO and non-family owned firms to find out the relationship between family management and firm performance;

• FBs that were managed by a family CEO and FBs that were managed by a non-family CEO to determine the relationship between family and professional management.

As a second step, we applied the difference of means tests to the same former samples, but we excluded *lone founder* firms from the analysis (table 4). The results changed sharply, and consequently, the conclusions that were obtained also vary. Therefore, *lone founder* firms determine the findings achieved and whether they were considered to be an FB is one of the likely reasons why the literature has obtained contradictory results when comparing FBs and NFBs in terms of performance.

**INSERT TABLE 4**

To confirm the above finding and to test H1, we compare *lone founder* firms with the whole group of private family firms. Table 5 shows the results of the difference of means tests between both groups:

**INSERT TABLE 5**

We found significant differences in every variable that was studied. *Lone founder* firms are younger, smaller and more indebted than the rest of family owned firms. Moreover, these firms perform much better than family owned firms. In fact, all of the ROA and ROE variables show this same conclusion. Therefore, we confirm *H1: lone founder firms outperform private family firms*. As a result, *lone founder* firms determined the results that
were obtained about performance when we compared FBs and NFBs if they were included in any of the former groups.

5.2 The interaction effects of family involvement in ownership and management on performance

We have developed a parsimonious typology of FBs based on three components of family involvement –family ownership, ownership concentration and management- and grounded on agency theory. Table 6 presents descriptive information for our typology of firms; we prefer to leave out Dispersed Professional FBs because their number is negligible. Lone founder and Co-preneurial FB firms are the youngest firms, while Concentrated Professional FBs and Dispersed Non-Professional FBs are the oldest. In general, the same results were obtained for size; lone founder and Co-preneurial FB firms are smaller than the rest of the firms and Dispersed Non-Professional FBs and NFBs are the largest businesses. Lone founders also appear to use debt differently than the rest of the firms; lone founders finance 71% of their assets through debt financing. Dispersed Non-Professional FBs are on the opposite side; they only use debt to finance 58% of their total assets. Finally, in terms of performance, Dispersed Non-Professional FBs and lone founder firms outperform the rest of the firms in terms of every profitability measure that was used: ROA\textsubscript{1}, ROA\textsubscript{2}, ROA\textsubscript{3} and ROE. The results were robust because they were similar for 2006 and 2007.

INSERT TABLE 6

Spanish firms have a higher percentage of ownership concentration as compared with other industrialised countries (La Porta et al., 1998). Our sample of private Spanish firms also demonstrates this concentration. In spite of working with the same number of private firms
for every industry (construction, services and manufacturing) and size (small, medium and large), just 2 and 29 firms of 1,890 (*lone founder* firms and FBs) could classify as *Dispersed Professional* and *Dispersed Non Professional* FBs, respectively. On the other hand, just 110 firms of 1,890 used professional services from an external CEO.

To confirm the results achieved with descriptive and univariate analysis and to address the challenge that was proposed by Dyer (2006) about what type of FB leads to high performance and why, we applied Factor Analysis.

### 5.3. Exploratory Factor Analysis

To simplify and summarise the financial information that was obtained for *lone founder* and different types of FBs, we applied Factor Analysis to create a new smaller set of standardised variables. Seven raw variables (log AGE, log Size, DEBT, ROA₁, ROA₂, ROA₃, ROE) were transformed and orthonormalised. Three components were identified and chosen, accounting for 79.50% of the total variance (Table 7).

**INSERT TABLE 7**

To label each component, we based them on the component loadings that were statistically more significant (table 8). The following descriptive labels were chosen: Profitability factor (FAC1); Size factor (FAC2); Debt factor (FAC3).

**INSERT TABLE 8**

Given that the number of firms that are classified as *Dispersed Professional FB* is negligible, we only worked with *lone founders*, four types of FBs and NFBs. When we compare the components that were identified through Factor Analysis, we obtained insight onto the features of *lone founders* and every type of FB (Figures 2 and 3).
**INSERT FIGURES 2 Y 3**

*Lone founders* and *Dispersed Professional FBs* are the two superior performing firms, but these enviable results can be associated with very different average sizes and debts. While *lone founder* firms are the smallest and more indebted firms, *Dispersed Professional FBs* are the largest and have the lowest level of debt financing.

*Co-preneurial* firms, *Solely Family Run FBs* and *NFBs* perform similarly, and they should be considered to be intermediate performing firms. Again, the strategy of growth and debt is completely dissimilar among them. As for size, *Co-preneurial* firms are smaller than *Solely Family Run FBs*, and the latter are smaller than *NFBs*. Regarding debt, *Co-preneurial* firms are more indebted than *NFBs*, and the latter are more indebted than *Solely Family Run FBs*.

Finally, the worst performing firms are *Concentrated Professional FBs*. Curiously, they have mid-range values, such as size and debt, with respect to superior and intermediate performing firms.

**5.4. Discussion**

The nature of an FB changes over time due to the development of the family and the firm. Therefore, to better understand the influence of family involvement in performance, we decided to analyse *lone founders* and every type of FB within their own contexts. After applying factorial analysis, we opted to analyse every type of FB using the ownership developmental dimension that was suggested by Gersick et al. (1997). We aimed to advance and highlight that *lone founders* and *Dispersed Non-professional* (Group I) FBs perform better than the rest of private FBs and NFBs (Groups II and III), but it is not the case with *Co-preneurial* firms (Group I). Therefore, H2a is nearly proved. On the other
hand, *Solely Family Run* FBs (Group II) outperformed *Concentrated Professional* FBs (Group III). Consequently, H2b is also confirmed.

The ownership development dimension distinguishes three different stages: Controlling Owner, Sibling Partnership and Cousin Consortium. The ownership development dimension begins when ownership is completely controlled by one owner or, less typically, a married couple, and the owner usually makes all of a firm’s decisions unilaterally. Thus, *lone founders* and *Co-preneural FBs* are immersed in the Controlling Owner Stage. We argue that *lone founder firms* become the first superior performing firms because they are business and entrepreneurial orientated, and therefore, they have a higher capacity for growth. *Lone founders* possess unique skills and features, and they sustain a full identification with the company’s goals, values and long-term focus. Furthermore, from an agency theory point of view, *lone founders* bear no agency costs, and they are able to use their high financial leverage to generate a higher return on equity. Their high indebtedness is explained because they are willing to apply growth strategies, they are likely to be less risk adverse and they may consider bank debt to be convenient because financial institutions rarely interfere in business operations after lending.

When two or more siblings enter a business with ownership control and they share decision making with a founder, the firms evolve to the Sibling Partnership stage. In general terms, we believe that *Solely Family Run FBs* may be functioning at this development stage. Regarding age, size and debt, *Co-preneural* firms obtained intermediate values between *lone founders* and *Solely Family Run* FBs. We interpret that *Co-preneural FBs* might represent a transitional situation between the Controlling Owner stage, in which a *lone founder* is the main character, and the Sibling Partnership stage, in which the family and the FB are growing and the family continues to occupy the main posts of the business (*Solely*
Family Run FBs). Solely Family Run FBs and Co-preneurial FBs obtain similar results regarding firm performance, but they are always lower than those that are obtained for lone founders and Dispersed Non-Professional FBs. It appears that the negative aspects of family ownership and management are initiated in the Co-preneurial stage, and they are also experienced by Solely Family Run firms. Both types of firms usually increase the number of family members that is involved in the business using informal or formal means. This increase might lead to conflicts (Davis and Harveston, 1999), shirking, free riding or the consumption of perks, an unwillingness to monitor family members, unskilled members of the family, or members who are less hard working and less able compared to the founder (Morck and Yeung, 2004). Furthermore, Solely Family Run FBs also have to cope with higher agency costs that arise from the expropriation of firm wealth at the expense of small shareholders (agency cost II).

The final phase that closes the family business lifecycle is the Cousin Consortium, in which more family members are directly or indirectly involved in a business and/or private individuals are taking part the ownership or management of a firm. Decision making becomes shared by different family generations and even by non-family members. Consequently, this stage requires that family governance issues be addressed. We interpret that Concentrated Professional FBs and Dispersed Non-Professional FBs are situated in the Cousin Consortium stage. At this stage, we argue that some FBs choose to reduce some specific agency problems that are associated with family management, contracting a non-family professional manager, despite coping with both traditional agency costs (Concentrated Professional FBs). Other firms also opt to prevent traditional agency problem number II (Dispersed Professional FBs). Lastly, other firms seek to minimise both types of traditional agency problems through non-professional management and ownership
dispersion (*Dispersed Non-Professional FBs*). In our sample, the *Professional FB with concentrated ownership* is the worst type of firm with respect to performance. It appears that negative effects from both traditional agency problems are stronger than the positive effects that can be gained by avoiding certain specific agency costs from family management. Given its poor performance, their lower debt may stem from an unwillingness by creditors to provide it. Some creditors may be not willing to provide debt to these new generations of FBs (Molly, 2010) because they pay less attention to reinvesting their retained earnings (Schwass, 2005).

Finally, our second superior performing firms are *Dispersed Non-Professional FBs*. Although they share their noticeable good results regarding performance measures with *lone founder* firms, they are characterised by opposite characteristics with regard to size, age and debt. They are the least indebted firms and the biggest and oldest ones. Our results seem to confirm the conclusions of Galve-Gorriz and Salas-Fumás (2011) because the greater degree of investment of these FBs does not suppose a higher level of debt. These FBs appear to tend to increase the level of self-financing to finance their growth strategies.

The results confirm the positive influence of not having considerable traditional agency costs, which is partially explained by the beneficial effect of having a more dispersed ownership, especially in Spain. Arosa, Iturralde, and Maseda (2010) suggested that minority shareholders enjoy weak investor protection in Spain and, therefore, the likelihood of expropriation is higher. Finally, it appears that the source of competitive advantage that is related to lower traditional agency costs actually overcomes the likely disadvantages from asymmetric altruism and more complex conflicts.
To summarise, given the special behaviour of *lone founders* and every type of FB, it seems essential to differentiate them when explaining the comparative performance between FBs and NFBs, and the different types of FBs.

### 6. Conclusions

This study separates the effect of family involvement per se from the idiosyncratic talent of the founder of a firm when explaining the comparative performance of private firms (Miller et al., 2007). Similarly, it explores certain types of private FB shape variations in firm economic performance (Westhead and Howorth, 2007) and how these variations are different from NFBs (Sharma, Chrisman and Gersick, 2012). A private firm taxonomy is elaborated, taking themes of family ownership and management structures and providing insights from how *lone founders* and each type of FB cope with their particular traditional agency costs. This theoretical firm classification was validated using a Spanish sample of private firms composed by 3,525 companies stratified by size and industry.

Our analysis makes two main contributions to the extant literature. First, our work concludes that *lone founder* firms without family involvement outperform private family firms, and given their unique nature, they should be analysed independently when explaining the comparative performance of family and non-family private firms. Second, we also develop a parsimonious typology of private firms taking into account the *lone founder* effect and three components of family involvement—family ownership, ownership concentration and management. This study exploits the differentiation between the *lone founder* and *family* effects and the combination of the components of family involvement to show that firms that achieve to avoid or minimize traditional agency conflicts tend to outperform the firms that do not. As a result, we identify two superior performing firms:
*lone founder* firms and *Dispersed Non-Professional* FBs. It appears that because minority shareholders enjoy weak investor protection in Spain, the use of ownership dispersion, as a governance mechanism, shepherds and monitors progress on performance. Among FBs, at least in the sample studied, the conflict between owners and managers seems to be more costly than the conflict between majority and minority shareholders. In addition, specific agency costs and benefits to FBs (e.g., symmetrical or asymmetrical altruism) do not succeed in changing the foreseeable effects that are caused by traditional agency costs. Finally, we conclude that the inclusion of founder-led firms in FB samples and the treatment of private FBs as homogeneous entities may have been the cause for the contradictory results when comparing FBs and NFBs with regard to performance. Furthermore, we suggest that not all private FBs are alike derived from the ways in which each type of FB addresses agency costs, and as a consequence, their expected performance might be different. Therefore, this paper sheds light on the former confused performance results within private FBs.

Our findings have several implications for practitioners. Our study may provide additional guidelines for consultants who are concerned with the survival and prosperity of their companies, as this paper identifies the types of superior performing private firms and their governance profiles. By identifying the higher-performing types of private firms, families may augment their investment returns. Furthermore, practitioners can encourage underperforming firms to progress toward incorporating the specific governance structures of higher-performing private FBs. Specifically, after the first stage in which the ownership and management is completely controlled by one owner (*lone founder*), true FBs should evolve into firms with a more dispersed ownership and family management (*Dispersed Non-Professional* FBs) to continue to obtain excellent business performance.
This study is not free from limitations, and future research implications may be proposed. Agency theory tends to ignore that FBs have non-economic goals that might lead to outcomes and decisions that are substantially different from NFBs, whereas the role of non-economic goals is less essential (Chrisman et al., 2012). As agency theory taken alone cannot completely explain performance differences, future research should combine the use of complementary theories. Because FBs have economic and non-economic goals, variables should not only refer to financial returns, but they should also consider the level of underlying vision, attitudes, and intentions of the controlling family (Gomez-Mejia et al., 2007). Finally, researchers should conduct similar investigations in other countries to increase the validity of the findings.

References


<table>
<thead>
<tr>
<th>Types of firms</th>
<th>Agency Problem I</th>
<th>Agency Problem II</th>
<th>Effect on performance(*)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lone founder</td>
<td>No</td>
<td>No</td>
<td>+</td>
</tr>
<tr>
<td>Co-preneurial FB</td>
<td>Low</td>
<td>Low</td>
<td>+</td>
</tr>
<tr>
<td>Dispersed Non-Professional FB</td>
<td>Low</td>
<td>Low</td>
<td>+</td>
</tr>
<tr>
<td><strong>Group II</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solely Family Run FB</td>
<td>Low</td>
<td>High</td>
<td>?</td>
</tr>
<tr>
<td>Dispersed Professional FB</td>
<td>High</td>
<td>Low</td>
<td>?</td>
</tr>
<tr>
<td>Dispersed Non-Family Business</td>
<td>High</td>
<td>Low</td>
<td>?</td>
</tr>
<tr>
<td><strong>Group III</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentrated Professional FBs</td>
<td>High</td>
<td>High</td>
<td>-</td>
</tr>
<tr>
<td>Concentrated Non-Family Business</td>
<td>High</td>
<td>High</td>
<td>-</td>
</tr>
</tbody>
</table>

(*) “+” is positive effect on performance because of no or lower both agency costs; “-” is negative effect on performance because of higher both agency costs; and “?” is unknown effect because it is not known a priori whether positive effect on performance of low agency problem I or agency problem II will be < or = or > that negative effect on performance of high agency cost I or agency problem I, respectively.

**Figure 1.** Typology of firms depending on traditional agency problem I and II and expected effect on performance
Figure 2. Interaction Profitability factor (FAC1) and Size factor (FAC2)
Figure 3. Interaction Profitability factor (FAC1) and Debt factor (FAC3)
<table>
<thead>
<tr>
<th>Family Ownership</th>
<th>Family management</th>
<th>Lone founder Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower agency costs due to long-term contracting, reduction of managerial expropriation and fewer monitoring system mechanism (specific lower agency cost I)</td>
<td>Lower agency costs due to goals alignment between agent and principal (lower traditional agency cost I)</td>
<td>No traditional agency costs I and II</td>
</tr>
<tr>
<td>Higher agency costs due to expropriation firm wealth at the expense of minority shareholders (higher traditional agency cost II)</td>
<td>Higher agency costs from asymmetric altruism (unskilled candidates, unwillingness to monitoring family members...) (specific higher agency cost I)</td>
<td>Unique skills and characteristics, commitment, long-term focus, strong values and trust, freedom from family succession issues and kinship squabbles, among others features, avoid specific agency problems</td>
</tr>
<tr>
<td>Lower agency costs due to superior expertise, commitment, long-term focus, lower executive compensation (specific lower agency cost I)</td>
<td>Higher agency costs due to more complex conflicts between those family members who lead the firm and other family owners - shirking, free riding, consumption of perks- (specific higher agency cost I)</td>
<td></td>
</tr>
<tr>
<td>Lower agency costs due to symmetrical altruism -better communication and cooperation- (specific lower agency cost I)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 Number and percentage of lone founders, FBs types and NFBs (n= 3525)

<table>
<thead>
<tr>
<th>Type/Industry</th>
<th>Total</th>
<th>% Total Firms</th>
<th>% Total Family Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone Founder</td>
<td>931</td>
<td>26.41%</td>
<td>15.12%</td>
</tr>
<tr>
<td>Co-preneurial FB</td>
<td>145</td>
<td>4.11%</td>
<td>15.12%</td>
</tr>
<tr>
<td>Solely Family Run FB</td>
<td>675</td>
<td>19.15%</td>
<td>70.39%</td>
</tr>
<tr>
<td>Dispersed non-professional FB</td>
<td>29</td>
<td>0.82%</td>
<td>3.02%</td>
</tr>
<tr>
<td>Concentrated Professional FB</td>
<td>108</td>
<td>3.06%</td>
<td>11.26%</td>
</tr>
<tr>
<td>Dispersed professional FB</td>
<td>2</td>
<td>0.06%</td>
<td>0.21%</td>
</tr>
<tr>
<td>Total Family firms</td>
<td>959</td>
<td>27.21%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Non family-firms</td>
<td>1,635</td>
<td>46.38%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3525</td>
<td>100.00%</td>
<td></td>
</tr>
</tbody>
</table>
Table 3 Summary Statistics for the Full Sample (2007)

<table>
<thead>
<tr>
<th></th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Pearson’s CV</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA1</td>
<td>- 0.21</td>
<td>0.31</td>
<td>0.05</td>
<td>0.06</td>
<td>1.18</td>
</tr>
<tr>
<td>ROA2</td>
<td>- 0.26</td>
<td>0.40</td>
<td>0.06</td>
<td>0.08</td>
<td>1.27</td>
</tr>
<tr>
<td>ROA3</td>
<td>- 0.32</td>
<td>0.52</td>
<td>0.10</td>
<td>0.09</td>
<td>0.91</td>
</tr>
<tr>
<td>ROE1</td>
<td>- 0.60</td>
<td>1.23</td>
<td>0.17</td>
<td>0.22</td>
<td>1.32</td>
</tr>
<tr>
<td>CF EMPL</td>
<td>- 183.90</td>
<td>362.19</td>
<td>16.20</td>
<td>30.31</td>
<td>1.87</td>
</tr>
<tr>
<td>Log AGE</td>
<td>- 4.67</td>
<td>2.68</td>
<td>0.75</td>
<td>0.28</td>
<td></td>
</tr>
<tr>
<td>Log SIZE</td>
<td>2.94</td>
<td>15.64</td>
<td>8.90</td>
<td>2.10</td>
<td>0.24</td>
</tr>
<tr>
<td>DEBT</td>
<td>- 1.89</td>
<td>0.70</td>
<td>0.23</td>
<td>0.33</td>
<td></td>
</tr>
</tbody>
</table>

(*) The summary statistics for year 2006 are not shown because they are very similar
### Table 4: Results of difference of Means Tests excluding lone founder from the analysis (2007)

<table>
<thead>
<tr>
<th>Variables/Tests</th>
<th>Family owned – non family owned firms</th>
<th>Concentrated-Dispersed FBs</th>
<th>Family CEO firms and non-family owned firms</th>
<th>Family and non-family CEO firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LF included</td>
<td>LF excluded</td>
<td>LF included</td>
<td>LF excluded</td>
</tr>
<tr>
<td>1 Log AGE</td>
<td>≠</td>
<td>=</td>
<td>≠</td>
<td>≠</td>
</tr>
<tr>
<td>2 Log SIZE</td>
<td>≠</td>
<td>≠</td>
<td>≠</td>
<td>≠</td>
</tr>
<tr>
<td>3 DEBT</td>
<td>≠</td>
<td>=</td>
<td>≠</td>
<td>≠</td>
</tr>
<tr>
<td>4 ROA₁</td>
<td>??</td>
<td>=</td>
<td>=</td>
<td>??</td>
</tr>
<tr>
<td>5 ROA₂</td>
<td>≠</td>
<td>=</td>
<td>=</td>
<td>??</td>
</tr>
<tr>
<td>6 ROA₃</td>
<td>≠</td>
<td>=</td>
<td>=</td>
<td>≠</td>
</tr>
<tr>
<td>7 ROE</td>
<td>≠</td>
<td>=</td>
<td>=</td>
<td>≠</td>
</tr>
</tbody>
</table>

(*) ≠ means significant differences at 1%***, 5%** or 10% * level; = means there are not significant differences; ?? means we have some doubts about whether exist or not differences because T-student test results ≠ Kruskal-Wallis test results; (*) The summary statistics for year 2006 are not shown because they are very similar.
Table 5 Difference of Means Tests between *lone founder* firms and Family owned firms (2007)

<table>
<thead>
<tr>
<th></th>
<th>Lone Founder firms (N=865)</th>
<th>Family owned Firms (N=923)</th>
<th>Sig (t student)</th>
<th>Sig (Mann-Whitney)</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Log AGE</td>
<td>2.49</td>
<td>2.85</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>2</td>
<td>Log SIZE</td>
<td>7.79</td>
<td>8.88</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>3</td>
<td>DEBT</td>
<td>0.70</td>
<td>0.65</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>4</td>
<td>ROA1</td>
<td>0.05</td>
<td>0.04</td>
<td>0.000</td>
<td>0.001</td>
</tr>
<tr>
<td>5</td>
<td>ROA2</td>
<td>0.07</td>
<td>0.06</td>
<td>0.002</td>
<td>0.004</td>
</tr>
<tr>
<td>6</td>
<td>ROA3</td>
<td>0.11</td>
<td>0.10</td>
<td>0.003</td>
<td>0.028</td>
</tr>
<tr>
<td>7</td>
<td>ROE</td>
<td>0.19</td>
<td>0.20</td>
<td>0.16</td>
<td>0.000</td>
</tr>
</tbody>
</table>

(*) ≠ means significant differences.

(*) The summary statistics for year 2006 are not shown because they are very similar.
### Table 6 Descriptive Statistics (2007)

<table>
<thead>
<tr>
<th>Type/Variables</th>
<th>Total</th>
<th>%</th>
<th>Log AGE</th>
<th>Log SIZE</th>
<th>DEBT</th>
<th>ROA1</th>
<th>ROA2</th>
<th>ROA3</th>
<th>ROE1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lone Founder</td>
<td>931</td>
<td>26.41</td>
<td>2.47</td>
<td>7.73</td>
<td>0.71</td>
<td>0.06</td>
<td>0.07</td>
<td>0.11</td>
<td>0.19</td>
</tr>
<tr>
<td>Co-preneurial FB</td>
<td>145</td>
<td>4.11</td>
<td>2.67</td>
<td>8.11</td>
<td>0.69</td>
<td>0.05</td>
<td>0.06</td>
<td>0.10</td>
<td>0.15</td>
</tr>
<tr>
<td>Solely Family Run FB</td>
<td>675</td>
<td>19.15</td>
<td>2.84</td>
<td>8.84</td>
<td>0.66</td>
<td>0.05</td>
<td>0.07</td>
<td>0.10</td>
<td>0.14</td>
</tr>
<tr>
<td>Dispersed non-professional FB</td>
<td>29</td>
<td>0.82</td>
<td>3.17</td>
<td>10.13</td>
<td>0.58</td>
<td>0.07</td>
<td>0.09</td>
<td>0.12</td>
<td>0.15</td>
</tr>
<tr>
<td>Concentrated Professional FB</td>
<td>108</td>
<td>3.06</td>
<td>2.96</td>
<td>9.57</td>
<td>0.66</td>
<td>0.04</td>
<td>0.05</td>
<td>0.08</td>
<td>0.10</td>
</tr>
<tr>
<td>Dispersed professional FB</td>
<td>2</td>
<td>0.06</td>
<td>2.90</td>
<td>9.70</td>
<td>0.59</td>
<td>0.07</td>
<td>0.08</td>
<td>0.20</td>
<td>0.17</td>
</tr>
<tr>
<td>Non family-firms</td>
<td>1,635</td>
<td>46.38</td>
<td>2.82</td>
<td>9.83</td>
<td>0.66</td>
<td>0.05</td>
<td>0.06</td>
<td>0.10</td>
<td>0.13</td>
</tr>
<tr>
<td>Total</td>
<td>3,525</td>
<td>100.00</td>
<td>2.73</td>
<td>9.01</td>
<td>0.68</td>
<td>0.05</td>
<td>0.06</td>
<td>0.10</td>
<td>0.15</td>
</tr>
</tbody>
</table>

(*) The summary statistics for year 2006 are not shown because they are very similar.
Table 7 Total Variance Explained

<table>
<thead>
<tr>
<th>Component</th>
<th>Eigenvalues</th>
<th>% total variance</th>
<th>% accumulated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.35</td>
<td>37.225</td>
<td>37.225</td>
</tr>
<tr>
<td>2</td>
<td>2.343</td>
<td>26.033</td>
<td>63.258</td>
</tr>
<tr>
<td>3</td>
<td>1.462</td>
<td>16.241</td>
<td><strong>79.5</strong></td>
</tr>
</tbody>
</table>

(*) The summary statistics for year 2006 are not shown because they are very similar.
Table 8: Performance and control variables: varimax rotated components Matrix (2006 and 2007)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Varimax rotated components 2007</th>
<th>Varimax rotated components 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>log AGE</td>
<td>-0.087</td>
<td>0.432</td>
</tr>
<tr>
<td>log SIZE</td>
<td>-0.059</td>
<td><strong>0.978</strong></td>
</tr>
<tr>
<td>DEBT</td>
<td>-0.171</td>
<td>-0.001</td>
</tr>
<tr>
<td>ROA1</td>
<td><strong>0.827</strong></td>
<td>-0.018</td>
</tr>
<tr>
<td>ROA3</td>
<td><strong>0.835</strong></td>
<td>-0.118</td>
</tr>
</tbody>
</table>