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INITIAL PUBLIC OFFERING: IS IT A FAMILY AFFAIR?

Theoretical issue and empirical evidences from the Italian market

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Introduction

This section is devoted to present the structure of thesis. First, we briefly review the existing literature on IPO and family business and derive our research questions. Second, we summarize each chapter with its framework, sample and main findings.

1.1 Research field and research questions

Over the past few decades, research on firms engaged in initial public offerings (IPO) has turned up as a prominent topic in entrepreneurship and management research (Certo *et al.*, 2009). IPOs take place when firms move from private to public ownership by issuing liquid shares that are subsequently traded on a stock market.

An ongoing debate in the family business field involves the extent to which the uniqueness of family firms hinder or promote performance (Pindado and Requejo, 2014) and entrepreneurial behaviour (Habbershon and Pistrui, 2002). By definition, the uniqueness of family firms relies on the interaction between the business entity, the family unit, and its individual members (Habbershon and Williams, 1999). Such interaction creates unique systemic conditions and constituencies that may affect firms' outcomes. Although, the above uniqueness catalysed scholars' attention over the last research decades, family business literature still calls new works to add new insights and better understand family firms behaviours. On one hand, academics have not reached consensus as to whether family uniqueness has a positive or negative effect on overall firm value. This lack of consensus is even more pronounced when it comes to assessing family impact in the context of IPO (Chahine, 2007). On the other hand, in the entrepreneurial setting of IPO (Certo *et al.*, 2009) the family role on strategic decision is an underdeveloped topic. Unsurprising, the effect of family uniqueness on IPO has thus far been rarely addressed since "the determination of family control in IPOs is difficult, time consuming and somewhat subjective" (Astrachan and McConaughy, 2001, p.310).

The relationship between family involvement and performance is one of the most controversial questions in the literature about family businesses. Within this research line, an ample body of literature recognizes that ownership structure influences IPO

value (e.g. Field and Sheehan, 2004; Chahine and Goergen, 2013). However, previous researches have mainly focused on the role of managerial ownership (e.g. Bonardo *et al.*, 2007; Chahine and Goergen, 2013) or on the role of ownership concentration (e.g. Rigamonti, 2008). As a result, a clear picture of how family and its uniqueness affect IPO performance is still lacking. A few studies have undertaken this challenge (Giovannini, 2010; Leitterstorf and Rau, 2014) but the results are far from univocal. Knowledge about how family owned or controlled firms shape IPO value remains embryonic (Leitterstorf and Rau, 2014).

Nordqvist and Melin (2010) argue that studies of entrepreneurship and family business developed independently in last decades, but there are some indications that they are now moving closer to each other (Anderson *et al.*,2005). That is, according to Habbershon and Pistrui (2002), much family business research has emphasized how families achieve continuity and ensure survival. IPO represents undoubtedly an entrepreneurial setting (Lester *et al.*, 2006) where studying the role of family may help to understand how its involvement affects entrepreneurship outcomes. On one hand, some studies claim that family firms tend to survive longer than their non-family counterparts (e.g. Wilson *et al.*, 2013), due to survivability capital (Sirmon and Hitt, 2003) (e.g. the pooled personal resources that family members are willing to loan, contribute, or share for the benefit of the family business). On the other hand, a conspicuous body of literature reveal that family firms are less incline to entrepreneurial behaviours and reluctant to changes (Naldi *et al.*, 2007) due to: risk-adverse (Hiebl, 2013) and Top Management Team (TMT) diversity (Auh and Menguc, 2005). The greater family involvement at upper echelon levels may yield more risk- adverse decisions: this attitude may undermine the survivability of the company (Zellweger *et al.*, 2013). As results, our understating of post-IPO survival of family firms is still incomplete.

Keeping in mind the scarcity of researches on the above-mentioned topics, literature on family business and IPO does not offer univocal findings. These contradictory evidences may not only be due to methodological issues such as the samples and definitions of family business (Miller *et al.*, 2007), but also the different empirical constructs of independent variables (Basco, 2013) and the different measures used to proxy for IPO value (Certo *et al.*, 2009) or IPO survival (Pour, 2015).

To address the aforementioned research gaps, this thesis aims to shed light on the relationship between family firms and IPO value as well as between such firms and post-IPO survival (defined as the condition of being still listed on equity market within three years after went public). We investigate the scope of our inquiry by investigating the population (170) of firms that went public on Milan Stock exchange. The Italian capital market represents an ideal setting to scrutiny the influence of family involvement in management and ownership for publicly listed firms because of its unique feature of a large number of listed family firms (Cascino *et al.*, 2010). For historical reasons, family firms represent a higher portion of companies traded on the Italian Stock Exchange. Similar to other countries with poor financial infrastructures, the control of a large fraction of the economy is delegated to wealthy and well-established families (Pagano *et al.*, 1998). Controlling families are usually very much involved in the activities of the firm as revealed by the regular appointment of family members in the governance positions (Prencipe *et al.*, 2008). Our analysis considers the period 2000-2011. The choice to start our analysis from 2000 was dictated by two main reasons. First, the introduction of the Code of Corporate Governance, issued by the Italian Stock Exchange in 1999. The logic behind this is straightforward: the recommendations of the Code profoundly influence board composition and manager nomination including family members. Moreover, we selected this observation period to avoid any potential bias due to the good stock market index trend and the increasing public incentives (e.g. tax benefit granted by the Tremonti law) in the period 1995-1999 (Bonardo *et al.*, 2007). We end our analysis in 2011 because we track the IPOs in the next triennium (until 31 December 2014) to determine whether they were delisted or not.

Going one-step further, we address three research questions. In chapter one, we study a particular aspect of family-run businesses, namely, the impact of family and its involvement on IPO value. The research question is the following: *does family involvement foster IPO value?* In chapter two, we shift our attention on individual leadership and we examine how and if powerful CEO affect IPO value in family firms. The research question associated with this chapter is: *does CEO power affects investor evaluations at IPO stage?* In the last chapter, we investigate the role of Top Management Team (TMT) on post-IPO survival. The associated research question is as follow: *is it detrimental the TMT diversity in family IPO after went public?*

Another fundamental issue that this thesis disentangle is the classification of family firms. Despite the various number of definitions stated in the literature, none is widely accepted (Klein *et al.*, 2005). Pindado and Requejo (2014) stress the paradox that when considering family impact on performance the great variation in results depends on the different definitions of family business used. That is, we adopt a multiple definition to assure the robustness of our results. We define as family firms those where two conditions exist simultaneously. First, one or more members of the family must control at last 30% of voting rights and second, one or more members of the family must be involved in the top management team. Not focusing only on ownership concentration allows us to examine family-owned and family-influenced firms (Cascino *et al.*, 2010). We rely upon this threshold because according to the Italian "Decreto Legislativo 58/1998", a level of 30% is required for a tender offer (Minichilli *et al.*, 2010). Rather, among the most recent contributions, Chrisman *et al.* (2005) claim that this operationalization, due to its dichotomous outcome, does not capture "family strength". In response to this issue, we adopt the F-PEC scale. Astrachan *et al.* (2002) introduced this definition of family firms and several studies applied, tested and validate this measure in the IPO context (e.g., Jaskiewicz *et al.* 2005; Leitterstorf and Rau, 2014). The F-PEC has the advantage of being constituted on a multidimensional scale. Indeed, the principal contribution is to not offer "a precise or all-encompassing definition of family business" (Astrachan *et al.* 2002, p. 51) but to concentrate it into a different index dimension (family ownership and family involvement into top management) as suggested in literature.

1.2 Chapter 1: IPO value and family involvement

The process of going public is characterized by a sense of uncertain, Certo (2003) refers to this as the liability of market newness. In the course of going public, several factors can influence investor's reaction such as ownership structure and corporate governance (Certo *et al.*, 2009). Baker and Gompers (2003) argue that the choice and effectiveness of governance mechanisms are key success factors in new environments such as equity markets. Different owners (e.g. family ownership), as well as different

management configuration (e.g. presence of family managers), may serve as protective shield for the firm during the IPO process.

The aforementioned reasoning broaden our thinking by allowing us to investigate the impact of family involvement on IPO value.

Based on a unique hand-collected dataset, we make inference on 113 IPOs of companies went public in the period 2000-2011 on the Milan Stock Exchange. We employ a set of variables, as suggested by the demographic approach (e.g. family ownership, family involvement and family generation), to take into account different levels of family governance. Due to the altruistic nature of family firms, we investigate this phenomenon in a stewardship framework. In line with prior literature on IPO performance (e.g. Chahine and Filatotchev, 2008), we estimate ordinary least-squares regressions to examine the relationship between IPO firm value and family demographic variables. As suggested by Leitterstorf and Rau (2014), we use a hierarchical approach (separately regressing each variable of interest) as our variables measure different aspects of the same phenomenon (being a family-owned IPO) and jointly disentangle family firm heterogeneity.

With these premises, we investigate two different issues. First, we address how and whether family-owned IPOs differ from their non-family counterparts. We find that family firm status (e.g. family ownership) positively affects how external investors evaluate the firm at listing. Second, we address family firm heterogeneity (e.g. family involvement in: board of directors, TMT and overall firm level) by showing the differences across family-owned IPOs. Our results show that family involvement is a positive factor for IPO value; however, as intergenerational control increases (e.g. multiple generation involved), the positive impact on value is attenuated.

1.3 Chapter 2: IPO value and personal leadership (CEO)

Prior literature has demonstrated the existence of a relationship between top executive characteristics and IPO value (e.g., Lester *et al.,* 2006; Zimmerman, 2008), yet scholars still debate the impact of CEO characteristics on investor evaluations at the IPO stage (Yang *et al.,* 2011). Literature has flourished on the topic of CEO founders and their impact on IPO value but rarely questions whether and how other CEO

characteristics affect investor valuations. Moreover, the lens of CEO power has rarely been used to assess IPO evaluations of family firms.

Whether or not a powerful CEO should lead a family firm through the IPO process is a relatively new issue in governance literature. There is still a gap in our understanding of how CEO leadership affects investor evaluations at a transitional stage such as going public. We bridge this gap by responding to the following research question: are powerful CEOs beneficial to investor evaluations of family IPOs?

In a stewardship framework, we argue that a powerful leader could foster trust among potential outside investors and reduce uncertainty. We use a sample of 77 family firms that went public on the Milan Stock Exchange between 2000 and 2011. In our study, CEO power refers to a multidimensional construct (Finkelstein *et al.*, 2009). Using an exploratory factor analysis, we consider three types of power: ownership, structural and expert. Since CEO power is not directly observable (Liu and Jiraporn, 2010), we employ structural equation modeling to infer our conclusions. Our results suggest that a powerful CEO fosters IPO value, that the positive effect is stronger when a family member manages the firm and when leadership is not shared (e.g., absence of co-leadership). Moreover, the presence of a family CEO without a co-CEO strengthens the positive relationship between CEO power and investor evaluations.

1.4 Chapter 3: IPO survival, the role of family managers and family generations

In entrepreneurial context, TMT provides valuable contribution to find new financial resources and sustain firm growth (Kamm *et al.* 1990). The composition of TMT may impact on firm outcomes. Finkelstein and Hambrick, (1996) define TMT diversity as a double-edged sword (involving in opposite forces that differently affect firm outcomes. Ling and Kellermanns (2010) argue that family firms are an ideal setting to study TMT diversity. Therefore, the integration of family and non-family members in the TMT creates additional challenges and a greater source of diversity. As Minichilli *et al.* (2010) state, TMT diversity in family firms is still an underdeveloped topic despite of its crucial importance in strategic process and choices (Kellermanns and Eddleston, 2007). Carpenter (2011) maintains that the principal task of TMT is the strategic management of organization in order to assure the survival of the firm. Additionally, management

literature stresses that TMT heterogeneity may affect entrepreneurial activities and, as reflection, survivability.

The existing literature fails to resolve how TMT demography influences the survival of firm in capital market (post-IPO success). In post-IPO phase, firms face transitional changes such as liability of adolescence. Within this line of research, scholars investigated several characteristics of apical key managers (Liu *et al.*, 2012) but to date, there is no study about TMT diversity and post-IPO survival in family firms.

This chapter aims to understand if and to what extent family TMT diversity affect post-IPO failure (e.g. the condition of being delisted). We employ a sample of 77 family owned firms that went public on Milano Stock Exchange in 2000-2011 timeframe. In line with Kraiczy *et al.*, (2014), we rely on two family firm-specific sources of TMT diversity: namely, the ratio of family members in the TMT and the number of generations involved in TMT. Previous literature on upper echelon theory and family business (e.g. Ling and Kellermans, 2010) claim that each source of family firm-specific TMT diversity may have a different impact and needs separate consideration. We embrace this suggestion and separately assess their impact on post-IPO survival. First, we look at the presence of both family and nonfamily members as a major source of family TMT diversity (Naldi *et al.*, 2007). In this light, we rely upon the ratio of family managers in TMT: the findings unequivocally suggest that this source of diversity is detrimental for post-IPO survival. Second, the vertical distance among family members can be a source of TMT diversity. That is, we consider the number of generations involved in TMT and verify that the higher the intergenerational involvement is, the lower likelihood of post-IPO survival would be. Moreover, we focus on the impact of single and multiple generations in charge: results reveals that having only one generation involved in TMT increases the likelihood of post-IPO survival. Empirically our results are robust to two different techniques: logistic regression and Cox hazard model.

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Chapter 1. Does family involvement foster IPO value? Empirical analysis on Italian Stock Market.[1]

Abstract

This paper aims to shed light on the relationship between family involvement and IPO value in the Italian context.

Based on a unique hand-collected dataset, we test our hypotheses on companies that went public between 2000 and 2011, making inference on 113 firms using OLS hierarchical regressions. We quantify the IPO value from an outside investors' perspective with two measures to proxy for IPO value in the short-term and apply robustness checks for long-run performance. In a stewardship framework, we examine demographic variables including family firm status, family involvement in managerial positions and family generations

Our results suggest that family firm status positively influences IPO value, that greater family involvement corresponds to higher IPO value and lastly, that the beneficial effect of family control is mainly attributable to the first generation. Our results are robust to alternative specifications of each phenomenon.

As a single-country study, the results refer exclusively to the Italian context and thus the evidence provided may not automatically be generalized to IPOs of comparable equity markets.

This study expands current knowledge by showing how investors 'price' family ownership in an IPO; furthermore we assess how certain characteristics of family firms affect the IPOs (e.g family involvement and inter-generational).

[1] Please note that a similar version of this chapter (with the same title) has been accepted for publication in "Management Decision" journal (ISSN: 0025-1747). I am grateful to my co-authors, Prof. Mauro Romano and Dr. Otello Ardovino, for their help. However all the errors within the chapter are my own responsibility.

2.1 Introduction

Although the topic of family firms and performance has been widely investigated in the last decade, scholars have not reached consensus as to whether family ownership has a positive or negative effect on overall firm value. This lack of consensus is even more pronounced when it comes to assessing family ownership in the context of Initial Public Offering (IPOs) (Chahine, 2007). In the course of going public, several factors can influence investor's reaction such as ownership structure and corporate governance (Certo *et al.*, 2009). Baker and Gompers (2003) argue that the choice and effectiveness of governance mechanisms are key success factors in new environments such as equity markets.

Our paper aims to shed light on the relationship between family firms and IPO value. Recently, scholars have called for more research to examine the family dynamics that affect family firm performance (Gedajlovic *et al.*, 2012). Yet, some important issues and topics in relation to family firms have only been marginally studied including the role of the family and its involvement at the listing stage (Leitterstorf and Rau, 2014). Given the complexity of this phenomenon, the scarce research on family firm IPOs is unsurprising. The topic of this paper has thus far been rarely addressed since "the determination of family control in IPOs is difficult, time consuming and somewhat subjective" (Astrachan and McConaughy, 2001, p.310). To overcome this gap, our research intends to answer the following questions. First, does family involvement affect IPO valuation? Second, if this is the case, how do family involvement and intergenerational family control shape this relation?

Literature on family business and IPO does not offer univocal findings. These contradictory evidences may not only be due to methodological issues such as the samples and definitions of family business (Miller *et al.,* 2007), but also the different empirical constructs of independent variables (Basco, 2013) and the different measures used to proxy for IPO value (Certo *et al.*, 2009).

Keeping in mind these contradictions, we adopt multiple variables to measure each aspect. Based on a unique hand-collected dataset, we make inference on 113 IPOs of companies went public in the period 2000-2011 on the Milan Stock Exchange. We employ a set of variables, as suggested by the demographic approach (e.g. family

ownership, family involvement and family generation), to take into account different levels of family governance. Due to the altruistic nature of family firms, we investigate this phenomenon in a stewardship framework.

In line with prior literature (Mousa *et al.,* 2013), we define the *IPO premium*, which uses the offering stock price relating to the firm's equity book value per share. This measure has the merit of considering both accounting-based and stock price information (Nelson, 2003). Moreover, we perform sensitivity analysis by using the same ratio calculated with the closing price. We use the Market to Book ratio as second measure. In the robustness check, we also control for family-owned IPO performance in the long run through the ROA.

Second, we define an IPO as family-owned when two conditions exists simultaneously: first, one or more members of the family (related through blood or marriage) must control at least 30% of voting rights and second, one or more members of the family must be involved in the top management team. We use an alternative definition in the robustness check controlling for a continuous variable (*F-PEC* score).

Third, we use three ratios to account for family involvement. Family involvement at board level, at top management level and at firm overall level are considered. Moreover, we investigate how intergenerational control shapes IPO value by distinguish between first, second and last generations.

With these premises, our article intends to study a particular aspect of family-run businesses, namely, the impact of family and its involvement on IPO value. In a stewardship framework, we use a demographic approach to infer our conclusions and we can state that, in the Italian market, family firms positively affect IPO value. In addition, greater family involvement (however defined) leads to greater value at listing. Finally, this positive effect is mainly attributable to the first family generation as subsequent generations face greater family conflicts.

Our paper extends the existing literature, on management and family business, in two ways. First, we contribute to expand the current knowledge in management literature. While ownership structure has been found to be a determinant of long-term IPO performance (Bruton *et al.*, 2010), we advance previous studies by showing how family ownership and involvement foster valuation of outside investors at listing stage. To the best of our knowledge, this paper is the first to address the short-term

performance (we consider measures based on first-day trading price) of Italian family IPOs: previous literature devotes significant attention to long-run performance (e.g. Jaskiewicz *et al.*, 2005). However, family behaviour could differ over time with changes in stock market performance (Wennberg *et al.*, 2011). It is also known that differences exist between listed and private family firms (De Massis *et al.*, 2014): the present study seeks to understand how family involvement impacts in the transition period from private to public ownership by adding new insights. Considering that our results are robust to different proxies of IPO value, we also offer a deeper understanding of the value dynamics: our results take into account the entire market valuation (e.g. institutional and single investors) and do not suffer of underpricing influence (Certo *et al.*, 2009).

Second, our results allows us to contribute to family business literature. In the so-called family firm heterogeneity debate, Chrisman and Patel (2012) stress that subgroups of family firms differ from each other and call for further investigations. Chua *et al.* (2012) caution that differences among sub-groups of family firms are potentially greater than differences between family and non-family counterparts. To better understand heterogeneity of family IPOs we first operationalized family involvement in management and ownership; we also differentiate firms based on family involvement in the board of directors, in the top management team as well as in the entire organization. Our evidences offer a more fine-grained understanding of the implication of family involvement on IPO value. In addition, we add new indications for intergenerational family involvement on IPO performance.

The rest of the paper is organized as follows. Section 2 offers an overview of our theoretical framework and structuring our hypotheses. Section 3 describes the methodology. Section 4 shows and discusses the results. In the Section 5 we provide robustness checks to corroborate the previous findings. The last Section summarizes our work and identifies future research lines.

2.2 Theoretical framework and hypotheses development

2.2.1 Theoretical framework

To sustain and explain the relationship between family behaviours and performance, scholars have developed two approaches: the demographic and the essence approach. The former considers family involvement as a sufficient condition to analyse family effect on performance; the latter consider that the family may affect "the way an organization is governed and managed which subsequently affects family firm performance" (Basco, 2013, p. 42).

The demographic approach is rooted in the assumption that family involvement can proxy for family behaviours and the impact on performance (Mazzi, 2011). This approach has dual valence: it is useful to distinguish between family and non-family firms but also helps scholars disentangle family impact on performance (Molly *et al.*, 2012). In terms of measurement, the demographic approach has rarely been operationalized and the greater part of studies considers three elements: ownership, managerial involvement and intergenerational control.

The demographic approach has the merit of addressing what the essence approach implicitly assumes: making explicit that family behaviour and resources are not equal across families (Basco, 2013) and that family firms are a heterogeneous group (Dekker *et al.*, 2013). By addressing family diversity, this also contributes to the so-called family firm heterogeneity debate (Chrisman and Patel, 2012).

In family business literature, two core theories, namely agency and stewardship, have dominated the last decade of research. These theories are directly contrasting (Miller and Le Breton-Miller, 2006) but both concern managers acting to achieve firm objectives (Wasserman, 2006).

Stewardship theory highlights the possibility of goal congruence between owners and managers. In this case, managers are seen as stewards of the firm who do not pursue individual goals as their interests are aligned with those of the organization (Davis *et al.*, 1997).

In case of differing interests, higher value is placed on cooperative behaviour, which is considered rational as this type of behaviour serves greater utility (Davis *et al.*, 1997). Stewardship behaviour is created through a long-term orientation and the "other-

regarding" perspective; Hernandez (2012) also suggests an affective sense of connection with others as determining such behaviour.

In this approach, family firms and family members value financial and non-financial outcomes (Berrone *et al.*, 2010). Stewardship theory, and particularly its altruism perspective (Schulze *et al.*, 2003), has the advantage of capturing the financial and non-financial goals pursued by firms and family members (Mazzi, 2011). Corbetta and Salvato (2004) advocate that stewardship theory may be a particularly suitable vantage point in analysing family involvement and firm performance.

Following on from the preceding discussion, we sustain the relationship between demographic variables and family firm performance at the IPO stage by using stewardship theory. According to Corbetta and Salvato (2004), this theory helps explain behaviours aimed at maximizing present and future firm performance. We predict, in coherence with the demographic approach, a positive impact of family on IPO value.

2.2.2 Ownership structure and IPO value

For the purposes of this analysis, a shortcoming of literature on IPO value and ownership structure is that it fails to disentangle the specific impact of *familism* on value and this issue has therefore only been marginally studied in family firms (Jaskiewicz *et al.*, 2005; Leitterstorf and Rau, 2014).

An ample body of literature recognizes that ownership structure influences IPO value (e.g. Field and Sheehan, 2004; Chahine and Goergen, 2013). In this stream of research, scholars define firm value at the IPO stage in different ways to depict and infer advantages of specific ownership structures. One of the most used proxies is underpricing (e.g., the stock price on the first/second day of trading. See: Beatty and Ritter, 1986). The concept of underpricing is rooted in information asymmetry between the offering shareholders and the market investors[2] (Brennan and Franks, 1997) and is particularly suitable under the assumption of separation of ownership and control (Yu and Zheng, 2012). In this measure, Jaskiewicz *et al.* (2005) indicate a potential paradox:

[2] Literature offers two other theoretical explanations for underpriced offers, namely, signalling theory (Ritter, 1991) and litigation risk (Lowry and Shu, 2002).

family firms seem to underperform in the short-run while they show superior performance in the long-run. They maintain that it is necessary to assess the overall phenomenon since underpricing could be misleading if evaluating only the first day (or the second or seventh). With regard to this issue, Hill (2006) concludes that IPO underpricing, in the UK market, cannot be explained by the post-listing ownership structure, but he argues that shareholder composition could influence value, if differently measured.

Following Ritter (1991), IPO value is also operationalized as buy-and-hold abnormal returns, BHAR (e.g., "the change in a company's market valuation measured by its daily stock price over a period of 36 months in comparison to the benchmark return" Jaskiewicz *et al.* 2005, p.189) and typically indicates long-run performance (Aggarwal and Rivoli, 1990). This measure is valid in different contexts because its assumptions (e.g., market efficiency) can be easily generalized (Caselli and Gatti, 2006).

Other studies primarily focus on the use of ratios to define IPO performance (Roosenboom and van der Goot, 2005). Nelson (2003) and Chahine and Goergen (2013) measure firm value using the IPO premium: "the ratio of the difference between the offer price and the book value per share over the offer price" (Chahine and Goergen 2013, p.157). Roosenboom and van der Goot (2003) proxy IPO performance with the market to book ratio (e.g., the ratio of first-day market capitalization to post-issue book value of equity) or with price to book ratio (e.g., ratio of offer and the post-issue book values of equity. See: Roosenboom and van der Goot, 2005). The above measures rely on short-term performance and inferences with these variables may benefit from the use of long-run value proxies (Bartov *et al.*, 2002). IPO performance is sensitive to the way it is measured: different proxies lead to different conclusions and as a result, the findings can hardly be generalized (Certo *et al.*, 2009).

Literature has mainly focused on the role of managerial ownership (e.g. Bonardo *et al.*, 2007; Chahine and Goergen, 2013) or on the role of ownership concentration (e.g. Rigamonti, 2008). As a result, a clear picture of how family affects IPO performance is still lacking. A few studies have undertaken this challenge (Giovannini, 2010; Leitterstorf and Rau, 2014) but the results are far from univocal. In addition, there is much disagreement on what constitutes a family business, which adds complexity to the overall phenomenon (Holt *et al.*, 2010). Most of previous studies in our research context

have measure only one dimension of family involvement. That is, several researches employ a dummy variable based only on ownership involvement (Chahine, 2007; Leitterstorf and Rau, 2014). Mazzola and Marchisio (2002) describe family firms as those where one or more families own enough shares to ensure either an absolute or a relative majority. These definitions may offer an incomplete picture: Block *et al.*, (2011) argue that the jointly effect of family involvement in ownership and in management could lead to different results compared to the separate consideration of each aspects.

Taken together, differences in measurement (*for IPO performance*) and in definition (*for family business*) contribute to the research gap that we address. With regard to measurement, we adopt two proxies to account for short-term IPO value. We ensure the reliability of results by using a relative measure (IPO premium) and a market-based ratio (market to book value); moreover, we rely on long-term performance (ROA) to account for any differences between short-term and long-run performance. With respect to family IPO definition, we overcome any potential bias by operationalized a dummy variable that account for both involvement (ownership and management). We also acknowledge that a definition based on a dichotomous variable may not allow us to distinguish among different level of family strength: to test the validity of our results, we employ a continuous measure, the *F-PEC score* (Astrachan *et al.*, 2002).

2.2.3 Family firms and IPO value

The topic of family impact on IPO value has flourished in recent years. Jaskiewicz *et al.* (2005) examine the long-run stock market performance of German and Spanish IPOs over the period 1990-2000 using the BHAR methodology. The findings show that family-owned IPOs underperform when compared with non-family IPOs, but there is "[…] no significant differences between the distributions of abnormal returns of the family and nonfamily business sample" (Jaskiewicz *et al.*, 2005, p.192).

Giovannini (2010) verifies a negative impact of family firm status on performance. He analyses 56 firms whose listing took place during 1999-2005 on the Milan Stock Exchange and it is to date one of the few empirical paper considering the family aspect of Italian IPOs. His investigation considers the BHAR, calculated 12 months after the IPO, as a dependent variable but in doing so fails to address the impact on short-term

performance. However, the small sample size affects the overall validity of his results. Caselli and Gatti (2006) also make inference on a sample of Italian IPOs. They analyse firms that went public in the period 1990-2005 and obtained a final sample of 73 family and 29 non-family IPOs. In line with Jaskiewicz *et al.* (2005), their results show that family firms, evaluated in the long-run (36 months), perform worse than the overall market (BHAR) but, at same time, non-family IPOs perform slightly, albeit not significantly, better than their counterparts.

Chahine (2007) points out that the relationship between family ownership and IPO value is cubic. He uses a sample of 163 French IPOs during the period 1996-2000 and proxies IPO performance with the BHAR calculated within a year after listing. He finds that if family ownership is between 0% and 30.7% or is greater than 77% there is a negative relationship with performance, while if ownership ranges from 30.7% to 67.1% the relationship turns positive.

Leitterstorf and Rau (2014) study the underpricing of German IPOs over the period 2004-2011 distinguishing between family and non-family firms. Their results suggest sell their shares at a lower price compared to non-family firms leading to the sacrifice of part of their economic wealth.

However, finance literature suggests that families regularly use IPO underpricing to maintain control and avoid the formation of outside blockholders (Field and Sheehan, 2004). From a governance standpoint, Yu and Zheng (2012) confirm this result. They find that firms controlled by family trusts are less exposed to IPO underpricing, suggesting that family trusts and underpricing are alternative methods to retain family control over the firm during the listing process.

Mazzola and Marchisio (2002) focus on the long-term performance (3 years) of Italian family IPOs. They find that family-owned businesses show a higher level of ROI when compared with non-family businesses. On one hand, this study has the advantage of using both qualitative and quantitative data in accordance with the two-step approach; on the other hand, the results suffer from small sample size (26 family IPOs and 10 non-family IPOs).

We note that all the above-mentioned studies use different measures to define family businesses, which makes it difficult to generalize the results. Moreover, as shown earlier,

the lack of measurement clarity may be one of the reasons for the scarcity of studies with a clear focus on IPO value and family ownership.

As such, and in line with stewardship theory, we predict a positive effect of family ownership on IPO valuation. Thus, we test the following hypothesis:

Hypothesis 1*. Family firm status is positively related to IPO value.*

2.2.4 Family involvement and IPO value

To narrow the scope of our inquiry, we consider the impact of family involvement (as part of the demographic approach) on firm value at listing.

According to Jaskiewicz *et al.* (2005), while family ownership alone has no significant impact on equity prices, strong family involvement is positively related with IPO long-run performance. This outcome supports the interest-convergence theory of Jensen and Meckling (1976). The results of Hearn (2011) support the view that increased participation of family members at board level plays a central role in mitigating underpricing. Caselli and Gatti (2006) show that strong family involvement has a positive impact on long-term stock market performance in Italian IPOs (BHAR, calculated 36 months after listing).

Taken together, these evidences enable us to predict the following relationship:

Hypothesis 2. *Family involvement is positively related to IPO value.*

2.2.5 Family generation and IPO value

Complementing these two aspects of family-owned IPOs, we also examine the impact of family generation on IPO value. Family business scholars argue that with the entering of new generations in the business, the ownership becomes dispersed and the interactions of family members turn into a complex dynamic (Kellermanns and Eddleston, 2004). Under stewardship assumptions, scholars emphasize that the desire to pass the business onto the subsequent generations guarantees a long-term orientation and a strong commitment to firm goals (Miller and Le Breton-Miller, 2005).

The setting under scrutiny has a unique characteristic: family owners continue to retain control even after the listing process as our data show. IPO does not represent an entrepreneurial exit for family owners. This is in line with the idea that one of the main aims of IPOs is to ensure long-lasting generational control. First family generations often attempt to strengthen the business for their family successors (Miller and Le Breton-Miller, 2006), which results in a lower level of conflict and thus superior financial performance. Davis and Harveston (2001) observe that one of the principal reason why family members' views and opinions "may diverge is differences in familial distance" (p.15) that is more likely to occur in later generations. However, as the number of generations involved in management increases, the conflicts increase too. Sonfield and Lussie (2004) empirically show that the second, as well as subsequent, generations are more likely, than the first, to have conflicts and divergences among family members. First generations are, by definition, entrepreneurial (e.g. creation of new business opportunities) (Aldrich and Cliff, 2003). Moreover, these generations exhibit greater entrepreneurial orientation (Gómez-Mejía *et al*, 2007) that implies an improvement in productivity and the opportunity to achieve superior gains (Scholes et al, 2010). Later generations are more inclined to include outside managers in the governance (managerial involvement) with unclear effects on corporate performance (Sonfield and Lussie, 2004). That is, Chung and Yuen (2003) emphasize that family managers in second generation face greater difficulties and have to deal with a lower stewardship attitude by family members. As reflection of this problem, outside managers may enter the firm and nullify stewardship benefits. Scholars (e.g. Villalonga and Amit, 2006) have also demonstrated that companies run by the founder generation outperform those run by subsequent family generations. Along the same research line, Basu *et al*. (2009) suggest that since a firm going public does not have built its own reputation, the founder's reputation can help attract new equity capital. In their comparison of German and Spanish family IPOs, Jaskiewicz *et al*. (2005) advocate that aside from the first generation, family conflicts may become more severe resulting in lower performance. They find a negative relationship between the age of family IPOs and long-run performance, which supports the assumption of generational conflicts.

Moreover, the greater entrepreneurial orientation of first generation could help the firm in a transition stage such as IPO. These arguments lead to our next hypothesis:

Hypothesis 3. *The positive effect of family involvement is stronger in the first generation of family IPOs.*

2.3. Data and sample

2.3.1 Dataset

To test our hypotheses, this study includes all firms that went public for the first time on the Milan Stock Exchange via an IPO in the period 2000-2011. The choice to start our analysis from 2000 was dictated by two main reasons. First, the introduction of the Code of Corporate Governance, issued by the Italian Stock Exchange in 1999. The logic behind this is straightforward: the recommendations of the Code profoundly influence board composition and manager nomination including family members. Moreover, we selected this observation period to avoid any potential bias due to the good stock market index trend and the increasing public incentives[3] (e.g. tax benefit granted by the Tremonti law) in the period 1995-1999 (Bonardo *et al.*, 2007).

The sample includes 170 firms. Following prior studies conducted in our research context (e.g. Chahine and Filatotchev, 2008), we excluded firms in the financial sector (SIC code: 6000 - 6799, for 23 observations). The sample is also purified of foreign firms (3 observations) as we intend to investigate the IPO value of Italian firms. We also excluded 31 observations, as we were unable to obtain the IPO prospectuses.

[3] Italy underwent several reforms during this period. In the corporate governance regime, the most important is the "Draghi reform" introduced in 1998. This legal intervention fosters minority protection and improves the overall quality of corporate governance. For a complete analysis of these legal changes, see Mengoli *et al.* (2009).

TABLE I. Sample selection process

IPOs in the period (2000-2011)	170
Financial Industry Firms (SIC 60-67)	(23)
Foreign Firms	(3)
Firms with Missing Data	(31)
Final Sample	113

As shown in Table I, our final sample consists of 113 observations and accounts for 77% of total IPOs issued in the selected period. All data were hand-collected via the IPO prospectus of each firm available on the Italian stock Exchange website.

2.3.2 Dependent variables

Certo *et al.* (2009) highlight the variety of measures used to proxy IPO value. We measure IPO value with the *IPO premium* (Mousa *et al.,* 2013), which is the offering stock price in relation to firm book value per share. This measure has the merit of considering both accounting-based and stock price information (Nelson, 2003) including how much investors are inclined to pay over (or above) the accounting value of equity. In line with Mousa *et al.* (2013), we compute it (*IPO_PRM*) as follow:

$$IPO\ premium_1 = (Offer\ Price - Book\ Value)/Offer\ Price \quad (1)$$

Where Book Value is the book value (per share) of equity from the last audited pre-IPO financial statement divided by the pre-IPO shares (resulting from the IPO prospectus). We also perform a sensitivity test[4], unreported, by using closing price rather than offering price.

By separately considering offer price and closing price (not jointly as in underpricing), we are able to capture different investor valuations (Donaldson and Preston, 1995). With respect to the offer price, we assess the perceptions of pre-IPO investors as well as institutional investors. With respect to closing price, we consider the

[4] Please see Appendix, Table A.IX, to check for results of sensitivity tests conducted with closing price.

perceptions of the stock market as a whole. These measures have the advantage of incorporating an objective measure of a firm's asset base as they both consider the book value of equity.

Certo *et al.* (2009) caution researchers to also consider other proxies to capture short-term performance. We embrace this suggestion and employ a third measure to account for IPO value. As in prior literature, we use the Market to Book value (Astrachan and McConaughy, 2001; Roosenboom and Van Der Goot, 2003). This measure captures relative value: higher quality IPOs are expected to have higher values. The ratio *(M/B)* is operationalized as follow:

$$Market\ to\ Book\ value = \left(Market\ Capitalization_{1st\ day}\right)/(Equity\ book\ value) \qquad (2)$$

Where the first-day market capitalization is equal to the number of post-IPO shares multiplied by the closing price on the first trading day. The equity book value is the post-issue value of equity and sums the book value of the last audited pre-IPO financial statement with the primary offering proceeds. This measure has previously been used to analyse Italian IPOs (Mazzola and Marchisio, 2002).

2.3.3 Independent variables

2.3.3.1 Family firm definition

To address our research question, the definition of family-owned IPO is essential. Pindado and Requejo (2014) stress the paradox that when considering family impact on performance the great variation in results depends on the different definitions of family business used. We define as family firms those where two conditions exist simultaneously. First, one or more members of the family must control at last 30% of voting rights and second, one or more members of the family must be involved in the top management team. If both conditions take place simultaneously, the variable (*FAM_30*) is equal to one, zero otherwise. Not focusing only on ownership concentration allows us to examine family-owned and family-influenced firms. Firms that go public must disclose the presence of key figures and strategic managers (such as sales managers, managing directors and assurance managers) together with a short

version of their CV. We define the top management team (hereafter TMT) as the board of directors plus key figures and managers and thus carefully identify family members (related through blood or marriage). Previous international literature generally considers a threshold of 20%. Bearing in mind the massive block holding presence in Italy, scholars suggest that 50% ownership is required to achieve control in private firms while 25% ownership is required for listed companies (Bennedsen and Wolfenzon, 2000). Following this criteria, Cascino *et al.* (2010) define family-owned companies as those where the family holds 50% of the voting rights or outstanding shares. However, according to the Italian "Decreto Legislativo 58/1998", a level of 30% is required for a tender offer. Minichilli *et al.* (2010) rely on this threshold to define family firms. In response to these different interpretations, we conceptualize family firm status by using a threshold of 30% but we also perform different sensitivity tests considering a threshold of 20% and 50%[5].

2.3.3.2 Family involvement definition

We use several measure to capture family involvement. First, as demographic approach suggests (e.g. Basco, 2013) we define *FAM_BOARD* as the ratio of family members who sit on the board of directors over total board members. Second, we expand the above measure using *FAM_TMT*: this is a continuous variable equal to the number of family members who serve as top managers over the total number of top managers (Minichilli *et al.*, 2010). On one hand, stewardship theorists highlight that the participation of family managers in the firm's activities has a positive impact on performance and fosters shared objectives (Chirico *et al.*, 2011). On the other hand, we recognize that a part of literature suggests that the appointment of family managers could be detrimental and constitutes a cost for other shareholders (Kotlar and De Massis, 2013) leading to opportunistic behaviours determining how family managers use firm resources (Miller *et al.*, 2008). In light of this, we use a third variable, *FAM_EMP*: this is the ratio of family managers (considering TMT) over the number of total family members employed at all levels in the firm (Campopiano *et al.*, 2014). In accordance with Stark and Falk (1998), under the stewardship framework it is plausible

[5] Please see Appendix, Table A.IX, to check for empirical results of sensitivity tests.

to assume that each family employer acts as a *de facto* owner of the firm (in spite of having a residual claim on the family's estate rather than a salary).

2.3.3.3 Family generation

In order to test Hypothesis 3, we capture the generation involved in management through three variables. *FAM_GEN1* is a dummy variable equals to one only if the first and founding generation of the family runs the company. *FAM_GEN2* is a binary variable that assumes the value of one if the family business is in hands of the second generation. *FAM_GEN3* takes on the value one if the third, or the forth and so on, generation of family members is involved in the management and governance of the firm and zero otherwise.

2.3.3.4 Control variables

First, we use the standard controls of size, leverage and age. Size (*SIZE*) is equal to the sales logarithm. In line with Leitterstorf and Rau (2014), we expect a negative association between this variable and our proxies of IPO value. Leverage (*LEV*) is equal to book value of non equity-liabilities on book value of total asset. Since leverage could reduce managerial discretion, we assume a positive sign. Both variables use data referring to the last audited pre-IPO financial statement. Age (*AGE*) is a continuous variable computed as the difference between the IPO date and the founding year[6] in the prospectus; this variable is an ex-ante proxy for risk.

Following prior studies (e.g. Chahine and Goergen, 2013), we use a High-Tech dummy (*HIGH_TECH*) to control for industry sectors and define the "technology sector" - in line Kim *et al.* (2008) - using SIC codes (283, 357,366, 367, 318, 382, 384, 48, 737). The binary variable is equal to one if the firm belongs to the technology sector, zero otherwise. Chahine and Goergen (2013) emphasize that high technology firms are typically identified as those with great growth potential and tend to receive higher market valuations. We thus predict a positive sign.

[6] We compute days and months as a fraction of the year. In the analysis, we use the natural logarithm of (AGE).

Accounting literature recognizes the influence of auditor reputation on IPO price (Beatty, 1989). We codify the audit dummy (*BIG5_AUDIT*), which takes value one if the Auditor is one of the Big 5 (KMPG; Deloitte; PriceWaterHouseCoopers; Ernst & Young; Arthur Andersen), zero otherwise. Auditor reputation should reassure investors about their investments and we thus assume a positive association with IPO value.

In Italy, the shares offered at listing may originate from a capital increase (OPS, *Offerta Pubblica di Sottoscrizione*) or may be existing shares sold by existing shareholders (OPV, *Offerta Pubblica di Vendita*) or both (OPVS, *Offerta Pubblica di Vendita e di Sottoscrizione*). In order to consider this diversity, we define *IPO_SELL* as a dummy variable that is equal to one if the IPO is an OPS, zero otherwise. We do not predict any signs for this variable.

Krishnan *et al.* (2011) acknowledges a fundamental role to venture capitalists: we employ a dichotomous variable that is *VC*. It equals one if the firm is venture-backed, zero otherwise. The market positively evaluate their presence by assigning a positive value to venture backed IPOs (Astrachan and McConaughy, 2001). We predict a positive sign for this variable.

We also include the ratio of independent directors (*INDEP_DIR*) to total board size. We use the concept of independent director given in the Italian Code of Governance (Codice di Autodisciplina) provided by the Milan Stock Exchange. This code explicitly indicates evaluating form over substance when defining independent directors. We expect a positive relation between this ratio and IPO value.

Furthermore, we codify *CEO_DUAL* as a dichotomous variable equal to one if the Chairman is also the CEO, zero otherwise. In accordance with stewardship theory, we predict a positive sign.

Table II provides the descriptive statistics for the selected variables for the entire sample.

Panel A shows the overall distribution of IPOs during the period we consider[7], it shows the firms' descriptive statistics. By applying our definition of family firms, we

[7] We also take into account the potential effect of different economic cycles in three ways. First, we add year dummies with no changes on our results. Second, considered the period of our analysis (2000-2011) we perform an additional test to account for financial crisis (2007-2008). Such crisis had profoundly influenced corporate governance and firm value (Liu, Uchida and Yang, 2012). In line with Ivashina and Scharfstein

make inference on 77 family owned IPOs and 36 non-family counterparts. 64 IPOs belong to the technological sector (*HIGH_TECH*). As this is easily observable, the quota of shares offered at listing is always a minority stake. Panel B and Panel C offer the sample breakdown by ownership type. Non-family IPOs are larger than family counterparts and they tend to sell a larger part of shares.

Table III describes the sample in all the variables used. These statistics reveal that the big five audit firms advise approximately 82% of IPOs. We also recognize a low presence of venture capitalists. Among other things, of interest is that 50 out of 113 firms adopted a dual CEO structure before going public; at the same time, we note a low presence of independent directors, which is mainly due to the strict definition that we adopt. We perform *t-test* for difference in mean of firm characteristics: the results indicate that there are not statistically significant differences.

(2010), we consider that financial crisis started in august 2007: looking at our sample, we can notice that around 83% of IPOs were issued before that date; only nineteen firms went public after financial crisis. We create a dummy variable (*T_CRISIS*) equals to one if the IPOs were launched before crisis, zero otherwise. Our results are robust again this variable. Finally, in line with prior researches (e.g. Leitterstorf and Rau, 2014), in an unreported regression we also adopt a dummy variable equal to 1 if the IPO was held in 2000. We use this variable to account for overly optimistic investors (Filatotchev and Bishop, 2002). We did not register any changes and this analysis is qualitatively similar to those reported in the article. Please see the appendix, Tables A. X, A.XI and A.XII for empirical results.

TABLE II.A Yearly distribution of IPOs

Panel A: Yearly distribution of IPOs, entire sample

Year	# IPO	Family	Non Family	High Tech	MVE €/000				FLOATING EQUITY			
					Mean	*Median*	*Percentiles*		*Mean*	*Median*	*Percentiles*	
							25*th*	75*th*			25*th*	75*th*
2000	25	80%	20%	72,0%	382.438,441	200.000,000	146.919,600	411.400,000	24,5%	24,1%	20,9%	28,0%
2001	13	46%	54%	69,2%	764.821,925	373.559,666	230.070,000	544.000,000	34,1%	33,2%	25,0%	41,9%
2002	3	67%	33%	33,3%	231.455,730	247.500,000	194.625,000	276.308,595	36,0%	36,4%	34,2%	37,9%
2003	4	50%	50%	50,0%	360.271,928	193.435,557	74.717,029	478.990,455	39,8%	40,7%	35,9%	44,6%
2004	6	83%	17%	33,3%	864.856,620	243.836,880	115.105,410	954.825,000	34,3%	32,9%	26,9%	41,1%
2005	9	56%	44%	33,3%	325.714,382	82.977,933	62.562,500	439.368,160	40,2%	40,0%	35,0%	48,6%
2006	18	72%	28%	77,8%	593.352,621	305.307,000	72.164,282	393.987,000	33,1%	33,0%	31,1%	36,6%
2007	20	75%	25%	55,0%	470.954,649	278.065,614	125.850,856	490.625,000	33,7%	32,3%	30,3%	36,4%
2008	4	75%	25%	50,0%	79.750,357	33.547,821	30.446,731	82.851,447	25,6%	25,1%	21,3%	29,4%
2009	2	0%	100%	50,0%	150.197,210	150.197,210	120.886,130	179.508,289	28,5%	28,5%	17,6%	39,3%
2010	6	67%	33%	16,7%	1.363.861,641	43.072,724	18.717,227	69.453,933	24,2%	21,7%	11,6%	30,4%
2011	3	67%	33%	0,0%	515.910,000	24.480,000	16.020,000	770.085,000	26,4%	22,7%	19,7%	31,2%
TOTAL	113	68%	32%	56,6%	532.826,601	224.964,000	74.958,800	446.900,000	31,3%	31,7%	25,0%	36,7%

Notes: The Table reports the number of IPOs, the percentage of family and non-family firms, the percentage of high technology firms, the market capitalization and the flotation capital. We define family firms if two conditions take place simultaneously: first, one or more members of family (people related through blood or marriage) must control, at last, 30% of voting rights and second, one or more members of family must be involved in the top management team. The high technology firms belong to a sector with following SIC code: 283, 357,366, 367, 318, 382, 384, 48, 737. The market value of equity (*MVE*) is the capitalization of firm at IPO price. All data are corrected for inflation (basis year 2011). The flotation is the quota of shares offered in subscription at IPO stage.

TABLE II.B Yearly distribution of IPOs

Panel B: Yearly distribution of IPOs, family firms

Year	# IPO	High_tech	MVE €/000				FLOATING EQUITY			
			Mean	*Median*	*Percentiles*		*Mean*	*Median*	*Percentiles*	
					25*th*	75*th*			25*th*	75*th*
2000	20	75,0%	384.251,915	212.482,000	164.035,350	402.465,625	24,4%	23,4%	21,1%	26,1%
2001	6	50,0%	450.211,963	390.212,200	268.147,034	519.862,100	34,9%	33,5%	30,5%	41,6%
2002	2	50,0%	223.433,595	223.433,595	182.591,798	264.275,393	34,2%	34,2%	33,2%	35,3%
2003	2	50,0%	72.674,058	72.674,058	70.631,088	74.717,029	46,5%	46,5%	44,6%	48,3%
2004	5	40,0%	357.827,944	235.673,760	74.915,960	252.000,000	32,5%	32,0%	25,2%	33,9%
2005	5	20,0%	497.105,527	439.368,160	62.562,500	560.070,000	35,0%	35,0%	25,8%	40,0%
2006	13	69,2%	695.068,815	294.000,000	81.702,128	381.684,000	30,3%	32,3%	25,9%	35,1%
2007	15	60,0%	310.381,167	225.731,228	119.050,004	443.543,133	33,9%	32,1%	30,8%	35,7%
2008	3	33,3%	31.465,214	31.495,642	29.397,821	33.547,821	25,8%	25,2%	17,7%	33,7%
2009	0	0,0%	-	-	-	-	0,0%	0,0%	0,0%	0,0%
2010	4	25,0%	43.747,961	43.072,724	28.376,488	58.444,198	21,4%	12,8%	10,5%	23,7%
2011	2	0,0%	770.085,000	770.085,000	397.282,500	1.142.887,500	19,7%	19,7%	18,2%	21,2%
TOTAL	77	55,8%	399.407,303	224.964,000	74.958,800	439.368,160	29,9%	30,4%	24,1%	35,0%

TABLE II.C Yearly distribution of IPOs

Panel C: Yearly distribution of IPOs, non- family firms

Year	# IPO	High_tech	MVE €/000				FLOATING EQUITY			
			Mean	*Median*	*Percentiles*		*Mean*	*Median*	*Percentiles*	
					25*th*	75*th*			25*th*	75th
2000	5	60,0%	375.184,545	173.751,500	119.600,000	600.000,000	24,9%	26,7%	20,0%	29,4%
2001	7	85,7%	1.034.487,606	373.559,666	70.963,038	594.613,750	33,4%	33,2%	25,0%	38,4%
2002	1	0,0%	247.500,000	247.500,000	247.500,000	247.500,000	39,4%	39,4%	39,4%	39,4%
2003	2	50,0%	647.869,798	647.869,798	478.990,455	816.749,140	33,1%	33,1%	30,3%	35,9%
2004	1	0,0%	3.400.000,000	3.400.000,000	3.400.000,000	3.400.000,000	43,5%	43,5%	43,5%	43,5%
2005	4	50,0%	111.475,450	73.151,970	52.963,255	131.664,165	46,6%	47,5%	43,8%	50,3%
2006	5	100,0%	328.890,514	337.379,570	68.985,000	398.088,000	40,2%	40,0%	36,7%	40,6%
2007	5	40,0%	952.675,095	766.665,975	137.700,000	1.039.906,100	33,1%	35,4%	26,3%	40,0%
2008	1	100,0%	224.605,787	224.605,787	224.605,787	224.605,787	25,0%	25,0%	25,0%	25,0%
2009	2	50,0%	150.197,210	150.197,210	120.886,130	179.508,289	28,5%	28,5%	17,6%	39,3%
2010	2	0,0%	4.004.089,000	4.004.089,000	2.006.133,500	6.002.044,500	29,7%	29,7%	29,0%	30,4%
2011	1	0,0%	7.560,000	7.560,000	7.560,000	7.560,000	39,7%	39,7%	39,7%	39,7%
TOTAL	36	58,3%	818.195,656	236.052,894	73.621,307	769.999,481	34,5%	35,4%	26,6%	40,9%

TABLE III. Descriptive statistics

	Total sample, n=113					Family firms, n=77					Non-family firms, n=36					Mean T-Test
	Mean	*Median*	*Percentiles*		*S.D.*	*Mean*	*Median*	*Percentiles*		*S.D.*	*Mean*	*Median*	*Percentiles*		*S.D.*	
			25 *th*	75 *th*				25 *th*	75 *th*				25 *th*	75 *th*		*p-value*
FIRM CHARACTERISTICHS																
SIZE	11,37	11,55	10,20	12,35	1,72	11,30	11,36	10,42	12,24	1,49	11,52	11,77	9,91	12,91	2,14	0,64
LEVERAGE	0,70	0,72	0,59	0,82	0,18	0,71	0,73	0,62	0,84	0,18	0,66	0,69	0,55	0,77	0,18	0,16
AGE	2,27	2,57	1,61	3,00	1,10	2,40	2,64	1,79	3,00	1,02	1,99	2,30	1,00	2,86	1,23	0,09
HIGH_TECH	0,57	1,00	0,00	1,00	0,50	0,56	1,00	0,00	1,00	0,50	0,58	1,00	0,00	1,00	0,50	0,81
BIG5_AUDIT	0,82	1,00	1,00	1,00	0,38	0,82	1,00	1,00	1,00	0,39	0,83	1,00	1,00	1,00	0,38	0,84
IPO_SELL	0,88	1,00	1,00	1,00	0,33	0,90	1,00	1,00	1,00	0,30	0,83	1,00	1,00	1,00	0,39	0,39
VC	0,32	1,00	0,00	1,00	0,47	0,32	0,00	0,00	1,00	0,47	0,33	0,00	0,00	1,00	0,23	0,93
INDEP_DIR	0,26	0,25	0,18	0,33	0,17	0,26	0,25	0,20	0,33	0,14	0,25	0,27	0,08	0,40	0,22	0,74
CEO_DUAL	0,44	0,00	0,00	1,00	0,50	0,47	0,00	0,00	1,00	0,50	0,39	0,00	0,00	1,00	0,49	0,44
DEPENDENT VARIABLES																
IPO_PRM	0,723	0,79	0,63	0,91	0,25	0,77	0,84	0,67	0,93	0,21	0,63	0,70	0,53	0,83	0,30	0,01
M/B	4,26	2,67	1,98	4,69	5,74	4,85	3,05	2,06	5,18	6,61	2,99	2,38	1,86	3,20	2,65	0,03

TABLE III. Descriptive statistics. *Continued*

	Total sample, n=113					Family firms, n=77					Non-family firms, n=36					Mean T-Test
	Mean	*Median*	*Percentiles*		*S.D.*	*Mean*	*Median*	*Percentiles*		*S.D.*	*Mean*	*Median*	*Percentiles*		*S.D.*	
			25 *th*	75 *th*				25 *th*	75 *th*				25 *th*	75 *th*		*p-value*
INDEPENDENT VARIABLES																
FAM_30	0,68	1,00	0,00	1,00	0,47											
FAM_BOARD	0,20	0,18	0,00	0,33	0,19											
FAM_TMT	0,22	0,20	0,00	0,38	0,22											
FAM_EMP	0,23	0,22	0,00	0,39	0,20											
FAM_GEN1	0,32	0,00	0,00	1,00	0,47											
FAM_GEN2	0,30	0,00	0,00	1,00	0,46											
FAM_GEN3	0,11	0,00	0,00	0,00	0,31											

Notes: *SIZE* is the natural logarithm of sales; *LEVERAGE* is the ratio of Book Value of non-Equity Liabilities on book value of Total Asset; Both *SIZE* and *LEVERAGE* refer to last pre-IPO financial (audited) statement. *AGE* is difference between the IPO year and the founding year in the prospectus: in the analyses we employ the natural logarithm. *HIGH_TECH* is a binary variable equals to one if the firm belong to a sector with following SIC code (283, 357, 365, 366, 367, 376, 382, 384, 48, 737, and 8731; zero otherwise. *BIG5_AUDIT* is a binary variable equals to one if IPO advisor is one of Big 5 (KMPG; Deloitte; PriceWaterHouseCoopers; Ernst&Young; Arthur Andersen); zero otherwise. *IPO_SELL* is a dichotomous variable that take value 1 if the shares offered in subscription are originate from a capital increase *(Offerta Pubblica di Sottoscrizione). VC* is a dummy variable: it assumes value 1 if the firm is Venture-backed. *INDEP_DIR* is the ratio of independent directors to number of total directors. We do not develop this ratio upon the concept of "outside" or "not affiliated" directors: we identify "independent directors" in accordance with strictly definition of Italian Law; we are able to following this criterion because firms are obligated to disclose this information in IPO prospectus. *IPO_PRM* is the offering price minus the book value of equity over the offering price. The book value of equity is per shares; data are from last (pre-IPO) audited financial statement. *M/B* is the first day market capitalization over book value of equity. Where the first-day market capitalization is equals to the number of post-IPO shares multiplied by the closing price on the first trading day; the equity book value is the post-issue value of equity: it sums the book value of last audited pre-IPO financial statement with the primary offering proceeds. This measure has already

been used to analyse Italian IPOs (Mazzola and Marchisio, 2002).

In line with prior literature, we maintain that family ownership is not sufficient to classify a firm as family owned (e.g. Jaskiewicz *et al.*, 2005); in response to this issue we evaluate also family involvement in managerial positions (*FAM_30*). We define family firms if two conditions take place simultaneously: first, one or more members of family (people related through blood or marriage) must control, at last, 30% of voting rights and second, one or more members of family must be involved in the top management team. *FAM_BOARD* is the ratio of family members who seat in the board, over total board members. *FAM_TMT* is the ratio of family managers from TMT over TMT size. We delineate the TMT as board of directors plus key figures and managers: by this way, we are able to carefully identify family members (people related through blood or marriage). Our choice is related to the fact that firms that go public must disclose the presence of key figures and strategic managers (such as sales manager, administrative director, quality and assurance manager) reporting also a short version of their Curriculum Vitae. *FAM_EMP* is defined in accordance with Campopiano *et al.* (2014). It is the ratio of family managers (considering TMT) over the number of total family members employed, at all levels, in the firm. This variable is particularly meaningful over stewardship assumptions. *FAM_GEN1* is a binary variable equals to one if the founding generation runs the firm. *FAM_GEN2* is a binary variable that assumes the value of one if the family business is in the second generation; *FAM_GEN3* is equals to one if latter generations are involved.

Family participation shows that family managers account for less than 25% of total family involvement (this result does not change if we consider board level, top management level or employee level). However, we observe a lower level of family involvement when we consider the board of directors, which may suggest that families exercise their power not only at the top level. In the last set of demographic variables, we find that 36 IPOs are managed by the founding generation (*FAM_GEN1*), 34 family-owned firms are in the second generation (*FAM_GEN2*) while the rest of the family IPOs are governed by subsequent generations (*FAM_GEN3*).

In Table IV we report the correlation among variables. The Pearson (Spearman) correlation coefficients do not evidence serious multicollinearity problems. We also control, in an unreported analysis, for spurious relationships. A covariance provides explanation of how one variable may change in relation to another one. We run an analysis of covariance (ANCOVA) to test if the variance in the dependent variable may be explained by other variables than familism. The test of parallelism is not significant; we therefore accept the hypothesis of parallelism and conclude that we have no evidence of an interaction between *FAM_30* and other factors and covariate.

In line with prior literature on IPO performance (e.g. Chahine and Filatotchev, 2008), we estimate ordinary least-squares regressions to examine the relationship between IPO firm value and family demographic variables. The model reads as:

$$IPO\ value = \beta_0 + \beta_1 SIZE + \beta_2 LEV + \beta_3 AGE + \beta_4 HIGH\_TECH + \beta_5 AUDIT + \beta_6 IPO\_TYPE + \beta_7 VC + \beta_8 INDEP\_DIR + \beta_9 CEO\_DUAL + \beta_{10} Family\ demographic + \varepsilon_i \quad (3)$$

TABLE IV. Correlation matrix

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
IPO_PRM (1)	1											
M/B (2)	0.3212* (0.8008*)	1										
SIZE (3)	-0.2813* (-0.3931*)	0.0297 -(0.2291*)	1									
LEVERAGE (4)	0.3457* (0.4056*)	0.2344* (0.2398*)	0.0280 (-0.0008)	1								
AGE (5)	-0.0414 (-0.1484)	-0.0980 (-0.0497)	0.1956* (0.1396)	-0.0150 (-0.0026)	1							
HIGH_TECH (6)	0.0503 (0.1071)	-0.0284 (0.0591)	-0.0882 (-0.1215)	0.0337 (0.0753)	-0.0135 (-0.0252)	1						
BIG5_AUDIT (7)	0.0212 (0.0818)	0.0342 (0.0100)	0.2256* (0.2744*)	0.0150 (0.0238)	0.0951 (0.1241)	0.0153 (0.0153)	1					
IPO_SELL (8)	0.1029 (0.1285)	-0.0809 (-0.1565)	-0.2432* (-0.2783*)	0.1289 (0.1561)	0.0411 (0.0536)	0.1046 (0.1046)	-0.0336 (-0.0336)	1				
VC (9)	-0.1359 (-0.2111*)	0.0008 (-0.1353)	0.0545 (0.0330)	0.0442 (0.0173)	0.0751 (0.0599)	-0.0744 (-0.0744)	0.0271 (0.0271)	-0.0238 (-0.0238)	1			
INDEP_DIR (10)	0.1634 (0.2927*)	0.0999 (0.1746)	-0.1045 (-0.1424)	0.1286 (0.1750)	-0.0049 (-0.0551)	0.1522 (0.1711)	0.1430 (0.1969*)	0.1542 (0.1764)	0.0345 (0.0432)	1		
CEO_DUAL (11)	0.1198 (0.1445)	0.0717 (0.0273)	-0.2339* (-0.2463*)	0.0316 (0.0702)	-0.2366* (-0.2485*)	-0.1553 (-0.1553)	0.0397 (0.0397)	0.1728 (0.1728)	-0.0900 (-0.0900)	-0.0315 (-0.0444)	1	
FAM_30 (12)	0.2684* (0.2554*)	0.1621 (0.2568*)	0.0544 (-0.0437)	0.1331 (0.1512)	0.1689 (0.1527)	-0.0234 (-0.0234)	-0.0185 (-0.0185)	0.0888 (0.0888)	-0.0086 (-0.0086)	0.0372 (0.0644)	0.0738 (0.0738)	1
FAM_BOARD (13)	0.2798* (0.2705*)	0.0703 (0.2959*)	0.0621 (-0.0144)	0.1323 (0.1962*)	0.1685 (0.1756)	0.0658 (0.0707)	-0.1234 (-0.1170)	0.1219 (0.1155)	-0.1271 (-0.1119)	-0.0471 (0.0043)	0.0838 (0.1005)	0.6305* (0.7006*)
FAM_TMT (14)	0.2504*	0.1064	0.0438	0.1291	0.1634	0.0112	-0.1071	0.0953	-0.1252	-0.0416	0.0919	0.7493*

	(0.2313*)	(0.2755*)	(-0.0364)	(0.1650)	(0.1651)	(-0.0076)	(-0.1048)	(0.0936)	(-0.1001)	(0.0052)	(0.0934)	(0.8266*)
FAM_EMP (15)	0.2476*	0.1029	0.0624	0.1029	0.1693	-0.0008	-0.1037	0.0902	-0.1184	-0.0366	0.0853	0.7883*
	(0.2198*)	(0.2711*)	(-0.0128)	(0.1372)	(0.1691)	(-0.0143)	(-0.1054)	(0.0866)	(-0.0955)	(-0.0061)	(0.0897)	(0.8279*)
FAM_GEN1 (16)	0.3464*	0.1680	-0.2053*	0.0504	-0.1280	0.1001	0.0185	0.0842	-0.0724	0.1206	0.1557	0.3045*
	(0.3841*)	(0.2626*)	(-0.3319*)	(0.1005)	(-0.1891*)	(0.1001)	(0.0185)	(0.0842)	(-0.0724)	(0.1700)	(0.1557)	(0.3045*)
FAM_GEN2 (17)	0.0574	0.0296	0.0846	0.1325	0.2207*	0.0289	-0.1002	0.0124	0.0357	-0.0351	-0.0794	0.4072*
	(0.0050)	(0.1041)	(0.0822)	(0.1257)	(0.2697*)	(0.0289)	(-0.1002)	(0.0124)	(0.0357)	(-0.0633)	(-0.0794)	(0.4072*)
FAM_GEN3 (18)	-0.1280	-0.07778	0.2721*	-0.0946	0.1661	-0.1041	0.1598	0.0424	-0.0569	-0.0415	-0.0179	0.2357*
	(-0.1229)	(0.1294)	(0.3003*)	(-0.0806)	(0.1688)	(-0.1041)	(0.1598)	(0.0424)	(-0.0569)	(-0.0181)	(-0.0179)	(0.2357*)

Notes: This table provides Pearson (Spearman) correlation coefficients. * denotes statistically significant coefficients at 5% level of significance. See Table III for variable definitions.

TABLE IV. *Continued*

	(13)	*(14)*	*(15)*	*(16)*	*(17)*	*(18)*
FAM_BOARD (13)	1					
FAM_TMT (14)	0.9435*	1				
	(0.9229*)					
FAM_EMP (15)	0.9259*	0.9792*	1			
	(0.9171*)	(0.9821*)				
FAM_GEN1 (16)	-0.0750	-0.0493	-0.0226	1		
	(0.0136)	(0.0036)	(0.0021)			
FAM_GEN2 (17)	0.5841*	0.5421*	0.5337*	-0.4486*	1	
	(0.5807*)	(0.5526*)	(0.5413*)	-0.4486*		
FAM_GEN3 (18)	0.1917*	0.2433*	0.2663*	-0.2357*	-0.2261*	1
	(0.1969*)	(0.2485*)	(0.2692*)	-0.2357*	(-0.2261*)	

Notes: This table provides Pearson (Spearman) correlation coefficients. * denotes statistically significant coefficients at 5% level of significance. See Table III for variable definitions. See Table III for variable definitions

We estimate equation (3) using White's heteroskedasticity consistent estimator (Greene, 2003). IPO value is alternatively measured by *IPO_PRM* or *M/B*. Family demographic is the set of variables we use to test our three hypotheses. In line with Leitterstorf and Rau (2014), we use a hierarchical approach (separately regressing each variable of interest) as our variables measure different aspects of the same phenomenon (being a family-owned IPO) and jointly disentangle family firm heterogeneity. In order to test Hypothesis 1, we regress the IPO value on *FAM_30* and shed light on the impact of family involvement on IPO value (Hypothesis 2) by using *FAM_BOARD*, *FAM_TMT* and *FAM_EMP*. Finally, we investigate hypothesis 3 with *FAM_GEN1*, *FAM_GEN2* and *FAM_GEN3*, used in the same regression. All other control variables are as defined above.

2.4 Results and discussion

In Table V (columns I and II), we regress IPO value solely on the control variables: the first model (1a) provides evidences obtained from using *IPO_PRM*, the second (1b) concerns the *M/B* as a dependent variable. In terms of the predicted signs, all independent variables show the same results, when statistically significant, in the different IPO values.

Table V shows a negative association between size (-.050, $p<0.01$ model 1a; .361, $p<0.01$ model 1b) and IPO value, in line with Roosenboom and van der Goot (2003) and Leitterstorf and Rau (2014). Regarding this variable, Baron (1982) shows that larger firms are more difficult to market: size negatively influences investor perceptions. The level of debt is positively associated with our dependent variable (.375 $p<0.01$ model 1a; 1.772, $p<0.05$ model 1b), as previous findings suggest (Chahine and Goergen, 2013; Yu and Zheng, 2012; Hearn, 2011, Kim *et al.*, 2008). In the IPO context, Bruton *et al.* (2010) show that a higher level of debt mitigates possible managerial opportunisms. As predicted, Age enters the equation with a negative sign (only for models 1a), but with no statistical significance. This implies that the market does not distinguish between young and old firms. In line with prior literature (e.g. Chahine and Filatotchev, 2008), we find that the high-tech dummy positively affects IPO value. However, this variable is not statistically significant.

TABLE V. Regression estimates of the relationship between IPO value and Family Firm status

		Model 1a	***Model 1b***	***Model 2a***	***Model 2b***
		(I)	(II)	(III)	(IV)
Variable	*Predicted Sign*	*y= IPO_PRM*	*y= M/B*	*y= IPO_PRM*	*y= M/B*
INTERCEPT		1.024***	5.215***	1.005***	4.804***
		(0.131)	*(1.298)*	*(0.122)*	*(1.300)*
SIZE	-	-0.050***	-0.361***	-0.043***	-0.343***
		(0.010)	*(0.102)*	*(0.009)*	*(0.102)*
LEVERAGE	+	0.375***	1.772**	0.276***	1.527*
		(0.085)	*(0.846)*	*(0.079)*	*(0.851)*
AGE	-	-0.021	0.101	-0.030**	0.054
		(0.016)	*(0.157)*	*(0.015)*	*(0.159)*
HIGH_TECH	+	0.008	0.265	0.009	0.302
		(0.032)	*(0.318)*	*(0.030)*	*(0.318)*
BIG5_AUDIT	+	0.085**	0.747*	0.085**	0.731*
		(0.043)	*(0.424)*	*(0.040)*	*(0.423)*
IPO_SELL	+/-	0.063	1.250**	0.048	1.289***
		(0.049)	*(0.490)*	*(0.046)*	*(0.490)*
VC	+	-0.086***	-0.583*	-0.096***	-0.604*
		(0.033)	*(0.327)*	*(0.030)*	*(0.326)*
INDEP_DIR	+	0.187**	-0.718	0.171*	-0.585
		(0.093)	*(0.513)*	*(0.087)*	*(0.514)*
CEO_DUAL	+	0.004*0*	-0.278	-0.004	-0.307
		(0.034)	*(0.337)*	*(0.031)*	*(0.337)*
FAM_30				**0.068****	**0.663***
				(0.032)	***(0.338)***
R^2		0.374	0.193	0.380	0.213

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113.

In column I we regress *IPO_PRM* on: Size, Leverage, Age, High technology status, Audit quality, typology of IPO, Venture Capitalists' presence, Independent board members and CEO duality. In column II we use M/B to proxy IPO value. In columns III and IV, we present the results about first hypothesis. We regress two proxies for IPO value (namely: *IPO_PRM* and *M/B*) on the proxy for family firm status.

See Table III for variable definitions.

We can highlight that the advisory dummy positively affects IPO value (.085, $p<0.05$ model 1a; .747, $p<0.1$ model 1b), in line with Yu and Zheng (2012). Contrary to our prediction, the presence of a Venture Capitalist is negatively related to short-term IPO value (-.086, $p<0.01$ model 1a; -.583, $p<0.1$ model 1b). Literature (Brav and Gompers, 1997; Florin and Simsek, 2007) recognizes the VC's ability to monitor board outcomes: as a result, VC-baked IPOs are less underpriced. However, contradictory studies (Lee and Wahal, 2004; Bruton *et al.,* 2010) find that VCs are willing to accept greater underpricing in order to raise new capital from their investors. Thus, our result may be interpreted according to Arthurs *et al.*'s (2008) findings. They maintain that VC are simultaneously principal and agent with conflicting objectives. On one hand, VCs could be considered as agents in terms of their own investors who focus on the short-term and exert great pressure to obtain timely results. On the other hand, VCs face long-term pressure due to their own post-IPO orientation. Along the same lines, Bruton *et al.* (2010) prove that VCs negatively impact IPO performance, measured as the IPO premium. Our result may suggest that the focus of VCs shifts from the IPO to the investors in their capital. Table V shows that *IPO_SELL* is positively related but not always significant (1.250, $p<0.05$ model 1a). This implies that the stock market interprets whether existing shareholders retain equity by assigning higher value to OPS. Model 1 enables us to confirm the positive influence of independent directors (.187, $p<0.05$ model 1a) on firm valuation at listing. We obtain similar result to Roosenboom and van der Goot (2005). Regarding CEO duality, we are not able to conclude that this role could increase IPO value.

Table V (columns III and IV) provides support for our main analyses. Consistent with expectations, we find a strong positive relationship between family status and IPO value. Model 2 examines its impact on IPO value considered with a 30% threshold. No matter how we compute IPO value, our results suggest that *FAM_30* has a positive impact (.068, $p<0.05$ model 2a; .663, $p<0.01$ model 2b). We also consider two additional thresholds: 20% and 50%[8]; we repeat the analysis including a third ratio,

[8] If we consider *IPO_PRM* as dependent variable, *FAM_20* (dummy variable equals to 1 if family controls at last 20% of voting rights and, simultaneously, one or more family member is involved in TMT) is positively correlated (.098, $p<0.01$) as well as *FAM_50* (.067, $p<0.05$). We repeat the analysis by employing *M/B* as dependent variable: FAM_20 (.741, $p<0.05$) and *FAM_50* (.606, $p<0.1$) still offer same result.

computed as *IPO_PRM* with closing price rather than offering price. No surprises were found in, these sensitivity analyses: results are robust to all different specifications. Overall, results from our model confirm Hypothesis 1. Within this analysis, we are able to assess how family IPOs differ from non-family counterparts. In evaluating this aspect, to be kept in mind is that we consider family-owned firms as a homogeneous group. However, our findings contradict previous evidences on Italian IPOs. In the case of Giovannini (2010), his analysis considers: a) only family firms, b) family-owned IPOs defined according to the F-PEC scale, c) small sample size (56 firms) and finally d) long-run performance. These elements make the comparison with our results difficult.

Following the hierarchical approach (Leitterstorf and Rau, 2014), in Table VI we substitute family dummy with our proxies of family involvement. In this case, we take a deeper look at the demographic variable by considering family firms as a heterogeneous group. Model 3 provides evidence on family involvement at board level. In line with expectations, as family board members increase, the IPO value also increases (.196, $p<0.05$ model 3a; 2.366, $p<0.01$ model 3b). Nonetheless, we go beyond the analysis of board of directors and take into account the entire TMT. Model 4 reinforces the previous results: family members involved in TMT also positively influences IPO value (.150, $p<0.1$ model 4a; 1.999 $p<0.05$ model 4b). However, *FAM_TMT* has lower explanatory power compared to *FAM_BOARD.* The aforementioned result is coherent with Certo (2003) who proposes that board prestige and composition could influence investor decisions. While board structure is important non-financial information, the TMT structure may constitute information that is not directly observable by the stock market. In the last model, we make inference by using *FAM_EMP*. Also in this case, family involvement is positively related with our proxies of IPO value (.164, $p<0.05$ model 5a; 2.212, $p<0.01$ model 5b). Our results are also the same if we conduct the sensitivity tests as in the precedent model (e.g. alternative *IPO_PRM*). The analysis leaves no doubts and Hypothesis 2 is verified.

Our results also confirm Hypothesis 3. Unsurprisingly, in Table VII we find evidence that the greatest impact on IPO value is ascribable to the first generation: *FAM_GEN1* is positively related with all the dependent variables (.108, $p<0.01$ model 6a; .878, $p<0.05$ model 6b). Looking at *FAM_GEN2*, the results highlight that the impact of second family generation on IPO value depends on how the dependent variable is

computed. On one hand, if we consider *IPO premium* it seems that the market positively evaluates the presence of the second family generation involved in management (.090, $p<0.05$ model 6a); on the other hand, if we measure IPO value with *M/B* there is no statistical impact on the second generation. Instead, if subsequent family generations (3th and following) are involved in the business, no statistical significance is found on firm value at listing. Our findings are in line with prior literature. Le Bretton-Miller *et al.* (2011) suggest that stewardship attitude in family firms decreases when subsequent generations are involved in managerial positions.

TABLE VI. Regression estimates of the relationship between IPO value and Family Involvement

	Model 3a	***Model 3b***	***Model 4a***	***Model 4b***	***Model 5a***	***Model 5b***
	(I)	(II)	(III)	(IV)	(V)	(VI)
Variable	*y= IPO_PRM*	*y= M/B*	*y= IPO_PRM*	*y= M/B*	*y= IPO_PRM*	*y= M/B*
INTERCEPT	1.021***	5.181***	0.995***	4.872***	1.000***	4.832***
	(0.129)	*(1.255)*	*(0.130)*	*(1.270)*	*(0.127)*	*(1.265)*
SIZE	-0.051***	-0.385***	-0.048***	-0.356***	-0.047***	-0.364***
	(0.010)	*(0.099)*	*(0.010)*	*(0.100)*	*(0.010)*	*(0.100)*
LEVERAGE	0.330***	1.580*	0.329***	1.568*	0.306***	1.660**
	(0.085)	*(0.823)*	*(0.085)*	*(0.833)*	*(0.083)*	*(0.827)*
AGE	-0.027*	0.025	-0.026	0.041	-0.029*	0.036
	(0.016)	*(0.155)*	*(0.016)*	*(0.157)*	*(0.016)*	*(0.156)*
HIGH_TECH	0.002	0.190	0.008	0.257	0.010	0.263
	(0.032)	*(0.309)*	*(0.032)*	*(0.311)*	*(0.031)*	*(0.310)*
BIG5_AUDIT	0.107**	0.938**	0.101**	0.879**	0.100**	0.888**
	(0.043)	*(0.415)*	*(0.043)*	*(0.418)*	*(0.042)*	*(0.417)*
IPO_SELL	0.074	1.396***	0.065	1.356***	0.060	1.365***
	(0.049)	*(0.476)*	*(0.049)*	*(0.480)*	*(0.048)*	*(0.479)*
VC	-0.079**	-0.525	-0.081**	-0.522	-0.083**	-0.526
	(0.033)	*(0.318)*	*(0.033)*	*(0.322)*	*(0.032)*	*(0.320)*
INDEP_DIR	0.214**	-0.588	0.208**	-0.586	0.200**	-0.561
	(0.093)	*(0.498)*	*(0.093)*	*(0.503)*	*(0.090)*	*(0.501)*
CEO_DUAL	-0.007	-0.430	-0.003	-0.387	-0.003	-0.383
	(0.034)	*(0.328)*	*(0.034)*	*(0.332)*	*(0.033)*	*(0.330)*
FAM_BOARD	**0.196****	**2.366*****				
	(0.085)	***(0.825)***				

FAM_TMT			0.150*	1.999**		
			(0.078)	*(0.768)*		
FAM_EMP					0.164**	2.212***
					(0.076)	*(0.764)*
R^2	0.393	0.260	0.378	0.243	0.378	0.254

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113.

This Table provides evidences on family involvement and IPO value (*hypothesis 2*).

See Table III for variable definitions

TABLE VII. Regression estimates of the relationship between IPO value and Family Generation

	Model 6a (I)	***Model 6b*** (II)
Variable	*y= IPO_PRM*	*y= M/B*
INTERCEPT	0.982***	4.542***
	(0.127)	*(1.385)*
SIZE	-0.041***	-0.319***
	(0.010)	*(0.112)*
LEVERAGE	0.278***	1.513*
	(0.080)	*(0.871)*
AGE	-0.031**	0.055
	(0.015)	*(0.167)*
HIGH_TECH	-0.005	0.247
	(0.030)	*(0.326)*
BIG5_AUDIT	0.077*	0.598
	(0.040)	*(0.436)*
IPO_SELL	0.051	1.353***
	(0.046)	*(0.502)*
VC	-0.091***	-0.509
	(0.030)	*(0.332)*
INDEP_DIR	0.161*	-0.573
	(0.086)	*(0.522)*
CEO_DUAL	-0.009	-0.314
	(0.031)	*(0.342)*
FAM_GEN1	**0.108*** **	**0.878** **
	(0.039)	***(0.421)***
FAM_GEN2	0.090**	0.654
	(0.040)	*(0.435)*
FAM_GEN3	0.052	0.700
	(0.054)	*(0.596)*
R^2	0.417	0.215

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. Model 6 tests our last hypothesis. See Table III for variable definitions

In the IPO research context, the presence of the founder, included in the first generation, is seen as a reassuring signal by the market (Nelson, 2003), that is, new listed firms run by founders tend to receive higher equity market valuations (Certo *et al.*, 2001). The entrepreneurial involvement (typical of first generation) has a beneficial effect of IPO valuation. The logic behind this idea is straightforward: first, IPO is

archetypally an entrepreneurial transition (Certo *et al.*, 2009); second, the greater entrepreneurial orientation of family firms positively influences stock market performance. It naturally follows that potentially outside investors may evaluate intergenerational involvement to infer vantages and disadvantages of new listed family firms.

Finally, if we consider family firms as a homogeneous group, we can conclude a positive market evaluation when the family is in a controlling position. Thus, family-owned IPOs tend to receive higher valuations by outsider investors (Hypothesis 1 is verified). When we look at the differences among families (e.g. family firms considered as a heterogeneous group), we can infer two conclusions. First, strong family involvement, both on the board and in TMT, is positively associated with firm value at listing. Second, family businesses are different with respect to intergenerational involvement and the positive impact is mainly attributable to the first generation due the possible increase in family conflicts in later generations.

2.5. Robustness check

In addition to the main analysis, we address two further issues: alternative family firm definitions and long-term performance.

In defining family-owned IPOs, we use a dichotomous variable. In this regard, scholars (e.g. Chrisman *et al.,* 2005) claim that this operationalization does not capture "family strength". In response to this issue, we adopt the F-PEC scale. We calculate the F-PEC as follow:

$$F - PEC = (EQ_{fam}/EQ_{tot}) + (BoD_{fam}/BoD_{tot}) + (SB_{fam}/SB_{tot}) \quad (4)$$

The first addend represents family equity involvement as the quota of shares owned by the family (EQfam) over total firm equity (EQtot); the second is equal to family members (related through blood or marriage) on the board of directors (BoDfam) over total board members (BoDtot); the last defines the quota of family members in the entire supervisory board.

TABLE VIII. Robustness check: F-PEC score and Long-run performance

	Model 7a	***Model 7b***	***Model 8a***	***Model 8b***
	(I)	(II)	(III)	(IV)
Variable	*y= IPO_PRM*	*y= M/B*	*y= ROA*	*y= ROA*
INTERCEPT	1.024***	4.888***	0.138***	0.110**
	(0.122)	*(1.262)*	*(0.043)*	*(0.045)*
SIZE	-0.049***	-0.367***	-0.003	-0.001
	(0.010)	*(0.100)*	*(0.003)*	*(0.003)*
LEVERAGE	0.280***	1.482*	-0.104***	-0.084***
	(0.080)	*(0.830)*	*(0.028)*	*(0.029)*
AGE	-0.031**	0.001	0.000	0.000
	(0.015)	*(0.157)*	*(0.005)*	*(0.005)*
HIGH_TECH	0.004	0.269	0.019*	0.017
	(0.030)	*(0.310)*	*(0.010)*	*(0.011)*
BIG5_AUDIT	0.104**	0.874**	0.015	0.009
	(0.040)	*(0.414)*	*(0.014)*	*(0.015)*
IPO_SELL	0.066	1.442***	0.029*	0.028
	(0.046)	*(0.480)*	*(0.016)*	*(0.017)*
VC	-0.072**	-0.451	-0.006	-0.011
	(0.031)	*(0.325)*	*(0.011)*	*(0.011)*
INDEP_DIR	0.190**	-0.553	-0.005	-0.003
	(0.087)	*(0.500)*	*(0.017)*	*(0.018)*
CEO_DUAL	-0.015	-0.395	0.009	0.008
	(0.032)	*(0.330)*	*(0.011)*	*(0.012)*
F-PEC	**0.094*** **	**0.956*** **	**0.034*** **	
	(0.030)	***(0.315)***	***(0.011)***	
FAM_30				**0.034*** **
				(0.012)
R^2	0.414	0.260	0.246	0.186

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113.

This Table presents results of robustness check. We employ a non-dichotomous variable to take into account, contemporarily, family ownership and family involvement. Following previous researches conducted in our research setting (Jaskiewicz *et al.*, 2005) we define *F-PEC* as (equity owned by family/total equity) + (family board members/total board members) + (family supervisory board members/total supervisory board members).

Model 8 (a-b) is estimated with long-run IPO performance proxy. We define *ROA* as the ratio of Earnings Before Interests and Tax (EBIT) on book value of Total Asset, calculated within next year of went public.

See Table III for variable definitions.

Next, we estimate the impact of family strength on IPO value. Table VIII considers how F-PEC affects *IPO_PRM* and *M/B*. Our results are robust to this specification of family definition: F-PEC is positively related with all the dependent variables we consider (.094, $p<0.01$ model 7a; .956, $p<0.01$ model 7b).

Moreover, we use Return on Assets (*ROA*) as a measure of post-IPO operating performance (Chahine and Goergen, 2013): the ratio of Earnings Before Interests and Tax (EBIT) on the book value of Total Asset, calculated within a year of going public. The decision of also focusing on long-term performance is in line with stewardship assumptions. A stewardship orientation may also allow the firm to emphasize long-term financial performance rather than short-term objectives.

The results from Table VIII corroborate our previous finding. We can state that family involvement (irrespective of how we measure it) is also positively related with long-term performance (.034, $p<0.01$ model 8a; .034, $p<0.01$ model 8b).

2.6. Summary and conclusion

At the time of IPO firms are evaluated by equity markets for the first time. Previous literature recognizes ownership structure as one of the determinants of IPO value. On this premise, our paper provides empirical evidence on the impact of family control on IPO valuation. We ideally respond to the increasing number of calls from family business literature. For example, Jaskiewicz *et al.* (2005, p. 198) clearly suggest that "the family theory development should analyse in more detail the relationship between family influence and stock market performance, as well as family business age and stock market performance".

Using a unique hand-collected dataset, we make inference on 113 IPOs that took place on the Milan Stock Exchange in the period 2000-2011. In a stewardship framework, we analyse demographic variables and attempt to disentangle two separate issues. First, we address how and whether family-owned IPOs differ from their non-family counterparts. We find that family firm status positively affects how external investors evaluate the firm at listing.

Second, we address family firm heterogeneity by showing the differences across family-owned IPOs. Our results show that family involvement is a positive factor for

IPO value; however, as intergenerational control increases, the positive impact on value is attenuated.

Our analysis is based on large sample. The length of the period we take into account enables us to corroborate the validity of the results.

With our model, we test three hypotheses. First, we verify a positive impact of being a family controlled firm on IPO value. We define family firms in terms of both equity ownership and involvement in TMT. Our results are robust to all the thresholds (20%, 30% and 50%) that we adopt. We also corroborate these results by using a continuous scale (*F-PEC*) to define family firms.

Hypothesis 2 relies on the involvement of family managers. Also in this case, we adopt several measures to proxy for this involvement. We validate our results by using family involvement at three levels: a) board of directors; b) TMT; c) overall family employees. The findings suggest that the market appreciates the presence of family managers, which is in line with the stewardship framework we adopt.

Hypothesis 3 investigates how intergenerational control could affect value. Due to the increase in generational conflicts, we find that the positive impact of family involvement on IPO value is mainly attributable to the first generation.

To add relevance to our results, we adopt two measures to proxy IPO value: the results remain unchanged whatever value is computed. Moreover, we consider long-run performance as a robustness check. Family status continues to be positively associated with firm performance.

However, our analyses are not without limitations. First, as a single-country study, the results refer exclusively to the Italian context and thus the evidence provided may not automatically be generalized to IPOs of comparable equity markets (e.g. German or Spanish). A second avenue for future research lies in the long-run evaluation of IPO where studies should also consider a better evaluation of the impact of family on long-term performance.

To enable a better comparison of family versus non family IPOs, we suggest expanding the sample and using, where possible, a balanced panel of firms (family-owned and non-family owned firms). Moreover, we recognize that a cross country analysis would be time consuming and costly in terms of data gathering, but collectively consider that literature would advance thanks to such a comparison.

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Appendix

TABLE A.IX. Robustness check: Alternative definition of Family IPOs.

	Model 9a	*Model 9b*	*Model 9c*	*Model 10b*	*Model 11a*	*Model 11b*	*Model 11c*
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)
Variable	*y= IPO_PRM1*	*y= IPO_PRM2*	*y= M/B*	*y= IPO_PRM2*	*y= IPO_PRM1*	*y= IPO_PRM2*	*y= M/B*
INTERCEPT	1.016***	1.011***	4.839***	1.012***	1.030***	1.043***	5.242***
	(0.118)	*(0.132)*	*(1.295)*	*(0.134)*	*(0.129)*	*(0.137)*	*(1.300)*
SIZE	-0.045***	-0.048***	-0.347***	-0.047***	-0.050***	-0.051***	-0.380***
	(0.009)	*(0.010)*	*(0.101)*	*(0.010)*	*(0.010)*	*(0.011)*	*(0.103)*
LEVERAGE	0.281***	0.301***	1.541*	0.305***	0.319***	0.331***	1.635*
	(0.077)	*(0.086)*	*(0.846)*	*(0.088)*	*(0.084)*	*(0.090)*	*(0.850)*
AGE	-0.031**	-0.020	0.033	-0.019	-0.030*	-0.022	0.028
	(0.014)	*(0.016)*	*(0.159)*	*(0.016)*	*(0.016)*	*(0.017)*	*(0.161)*
HIGH_TECH	-0.004	-0.004	0.243	0.006	0.011	0.009	0.297
	(0.029)	*(0.032)*	*(0.317)*	*(0.033)*	*(0.032)*	*(0.034)*	*(0.319)*
BIG5_AUDIT	0.080**	0.068	0.669	0.073*	0.098**	0.081*	0.805*
	(0.038)	*(0.043)*	*(0.421)*	*(0.044)*	*(0.042)*	*(0.045)*	*(0.425)*
IPO_SELL	0.054	0.047	1.344***	0.042	0.055	0.044	1.274**
	(0.045)	*(0.050)*	*(0.489)*	*(0.050)*	*(0.049)*	*(0.052)*	*(0.491)*
VC	-0.089***	-0.074**	-0.537	-0.081**	-0.085**	-0.075**	-0.540
	(0.030)	*(0.033)*	*(0.325)*	*(0.034)*	*(0.033)*	*(0.035)*	*(0.329)*
INDEP_DIR	0.170**	0.177*	-0.567	0.176*	0.196**	0.190*	-0.619
	(0.084)	*(0.094)*	*(0.513)*	*(0.096)*	*(0.092)*	*(0.098)*	*(0.515)*
CEO_DUAL	-0.011	-0.010	-0.312	-0.005	-0.002	-0.002	-0.305
	(0.031)	*(0.034)*	*(0.336)*	*(0.035)*	*(0.033)*	*(0.036)*	*(0.338)*

FAM_20	**0.096*** **	**0.101*** **	**0.741** **				
	(0.033)	***(0.037)***	***(0.359)***				
FAM_30				**0.072** **			
				(0.035)			
FAM_50					**0.067** **	**0.069** **	**0.606***
					(0.032)	***(0.034)***	***(0.323)***
R^2	0.414	0.367	0.217	0.345	0.383	0.354	0.217

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113.

In this Table, we show results about sensitivity tests that we conduct. First, we employ a third dependent variable (*IPO_PRM2*): it is computed as the ratio of the difference between the closing price and the book value per share over the closing price. It differs from *IPO_PRM1* because considers the closing price, rather than offer price, of 1st trading day. Moreover, we perform a sensitivity test by taking into account different thresholds in the definition of family IPOs. That is, we outline family firms if two conditions take place simultaneously: first, one or more members of family (people related through blood or marriage) must control, at last, 20%, 30% or 50% of voting rights and second, one or more members of family must be involved in the top management team. The decision of not focusing only on ownership concentration allows us to examine family-owned and family-influenced firms. We employ 3 different dichotomous variables because we focus on different thresholds: 20% is considered when we use *FAM_20*; 30% with *FAM_30* and 50% with *FAM_50*. All other variables are defined as in Table III. In columns I, II and III (models 9), we regress our dependent variable (*IPO_PRM1* in model 9a; *IPO_PRM2* in model 9b; *M/B* in model 9c) on independent variables and *FAM_20*. In column IV (model 10b), we show the robustness of our results by employing *IPO_PRM2* as dependent variable and *FAM_30* as independent. Please note that Table V in the text reports the results about the others two (*IPO_PRM1* and *M/B*) dependent variables regressed on *FAM_30*. As in models 9, models 11 show findings about *FAM_50* as independent variable.

As anticipated in the main test, our results are strongly robust against different proxies of family definition and dependent variables.

TABLE A. X. Regression estimates of the relationship between IPO value and Family Firm status: time

	Model 12a	*Model 12b*	*Model 13a*	*Model 13b*
	(I)	(II)	(III)	(IV)
Variable	*y= IPO_PRM*	*y= IPO_PRM*	*y= M/B*	*y= M/B*
INTERCEPT	0.549***	0.692***	2.469*	3.324**
	(0.154)	(0.184)	(1.260)	(1.294)
SIZE	-0.027**	-0.041***	-0.077	-0.203**
	(0.011)	(0.015)	(0.087)	(0.092)
LEVERAGE	0.460***	0.444***	1.761**	1.490
	(0.114)	(0.128)	(0.811)	(0.912)
AGE	0.009	-0.001	0.107	0.021
	(0.024)	(0.023)	(0.168)	(0.186)
HIGH_TECH	-0.047	-0.008	0.057	0.270
	(0.041)	(0.039)	(0.320)	(0.347)
BIG5_AUDIT	0.015	0.050	0.164	0.572
	(0.045)	(0.047)	(0.395)	(0.446)
IPO_SELL	0.073	0.043	1.486***	1.155**
	(0.054)	(0.064)	(0.470)	(0.525)
VC	-0.041	-0.071	-0.283	-0.714**
	(0.042)	(0.046)	(0.332)	(0.347)
INDEP_DIR	0.189	0.125	-0.033	0.055
	(0.117)	(0.138)	(0.941)	(1.004)
CEO_DUAL	0.032	0.013	-0.069	-0.200
	(0.041)	(0.040)	(0.335)	(0.364)
FAM_30	**0.087***	**0.127****	**0.516***	**0.875****
	(0.046)	(0.053)	(0.337)	(0.359)
T=1	0.187*		0.634	
	(0.108)		(0.974)	
T=2	0.001		-1.412	
	(0.119)		(1.052)	
T=3	-0.115		-1.624	
	(0.164)		(1.302)	
T=4	-0.213		-2.020	
	(0.153)		(1.224)	
T=5	-0.073		-1.813	
	(0.139)		(1.139)	
T=6	-0.114		-1.581	
	(0.151)		(1.077)	
T=7	0.020		-0.746	
	(0.114)		(1.012)	
T=8	0.073		-0.384	
	(0.114)		(1.004)	
T=9	0.095		-0.906	

	(0.139)		(1.212)	
T=10	0.070		0.700	
	(0.189)		(1.532)	
T=11	-0.143		-1.060	
	(0.190)		(1.120)	
T_CRISIS		0.053		-0.170
		(0.082)		(0.515)
R^2	0.462	0.300	0.388	0.178

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113.

T=1 is a dummy variable equals to one if the IPO is issued in 2000, zero otherwise. *T=2* refers to 2001 … *T=11* refers to 2010. *T_CRISIS* is binary variable. It assumes value one if the firm went public before august 2007, zero otherwise. We use this variable to control for any potential effect of financial crisis (2007-2008), in line with Ivashina and Scharfstein (2010).

See Table III, in the manuscript, for variable definitions.

TABLE A.XI. Regression estimates of the relationship between IPO value and Family Involvement: time controls

	Model 14a	*Model 14b*	*Model 15a*	*Model 16b*	*Model 17a*	*Model 17b*	*Model 18a*	*Model 18b*
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
Variable	*y= IPO_PRM*	*y= IPO_PRM*	*y= M/B*	*y= M/B*	*y= IPO_PRM*	*y= IPO_PRM*	*y= M/B*	*y= M/B*
CONTROLS	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*	*YES*
FAM_BOARD	**0.307*** **	**0.362*** **	**2.358*** **	**2.758*** **				
	(0.098)	**(0.104)**	**(0.797)**	**(0.867)**				
FAM_TMT					**0.220****	**0.281*** **	**1.667***	**3.070***
					(0.088)	**(0.092)**	**(2.616)**	**(1.937)**
T=1	0.234**		0.934		0.218**		-0.112	
	(0.093)		(0.931)		(0.100)		(1.379)	
T=2	0.046		-1.056		0.033		-2.464	
	(0.108)		(1.009)		(0.113)		(1.881)	
T=3	-0.074		-1.301		-0.095		-3.616*	
	(0.151)		(1.240)		(0.153)		(2.150)	
T=4	-0.180		-1.752		-0.202		-4.145**	
	(0.141)		(1.165)		(0.146)		(1.946)	
T=5	-0.051		-1.727		-0.059		-2.164	
	(0.129)		(1.080)		(0.134)		(2.158)	
T=6	-0.068		-1.179		-0.087		-2.777	
	(0.144)		(1.033)		(0.150)		(1.771)	
T=7	0.076		-0.346		0.055		-0.033	
	(0.101)		(0.973)		(0.107)		(1.488)	
T=8	0.114		-0.182		0.099		1.939	

	(0.097)		(0.959)		(0.104)		(2.069)	
T=9	0.114		-0.772		0.108		-2.347	
	(0.131)		(1.148)		(0.133)		(1.491)	
T=10	0.111		1.144		0.078		-1.767	
	(0.174)		(1.451)		(0.181)		(2.464)	
T=11	-0.091		-0.572		-0.119		-2.626	
	(0.160)		(1.074)		(0.176)		(2.157)	
T_CRISIS		0.071		-0.034		0.072		1.285
		(0.072)		(0.490)		(0.076)		(0.951)
R^2	0.483	0.314	0.439	0.237	0.466	0.295	0.189	0.105

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. Due to space constraints, we do not report *INTERCEPT* and *CONTROL_VARIABLES*. Control variables include: *SIZE; LEVERAGE; AGE; HIGH_TECH; BIG5_AUDIT; IPO_SELL; VC; INDEP_DIR; CEO_DUALITY. T=1* is a dummy variable equals to one if the IPO is issued in 2000, zero otherwise. *T=2* refers to 2001 … *T=11* refers to 2010. *T_CRISIS* is binary variable. It assumes value one if the firm went public before august 2007, zero otherwise. We use this variable to control for any potential effect of financial crisis (2007-2008), in line with Ivashina and Scharfstein (2010).

See Table III, in the manuscript, for variable definitions.

TABLE A.XI. Regression estimates of the relationship between IPO value and Family Involvement: time controls. *Continued*

	Model 19a (IX)	*Model 19b* (X)	*Model 20a* (XI)	*Model 20b* (XII)
Variable	*y= IPO_PRM*	*y= IPO_PRM*	*y= M/B*	*y= M/B*
CONTROLS	*YES*	*YES*	*YES*	*YES*
FAM_EMP	**0.233*** (0.087)**	**0.295*** (0.093)**	**1.941** (0.747)**	**2.572*** (0.806)**
T=1	0.216**		0.846	
	(0.100)		(0.947)	
T=2	0.034		-1.099	
	(0.113)		(1.031)	
T=3	-0.091		-1.400	
	(0.153)		(1.264)	
T=4	-0.198		-1.852	
	(0.144)		(1.186)	
T=5	-0.056		-1.718	
	(0.133)		(1.103)	
T=6	-0.091		-1.324	
	(0.147)		(1.049)	
T=7	0.056		-0.439	
	(0.107)		(0.989)	
T=8	0.099		-0.257	
	(0.104)		(0.976)	
T=9	0.110		-0.765	
	(0.133)		(1.173)	
T=10	0.085		1.020	
	(0.180)		(1.479)	
T=11	-0.120		-0.776	
	(0.175)		(1.089)	
T_CRISIS		0.070		-0.084
		(0.076)		(0.496)
R^2	0.470	0.300	0.422	0.229

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. Due to space constraints, we do not report *INTERCEPT* and *CONTROL_VARIABLES*. Control variables include: *SIZE; LEVERAGE; AGE; HIGH_TECH; BIG5_AUDIT; IPO_SELL; VC; INDEP_DIR; CEO_DUALITY. T=1* is a dummy variable equals to one if the IPO is issued in 2000, zero otherwise. *T=2* refers to 2001 … *T=11* refers to 2010. *T_CRISIS* is binary variable. It assumes value one if the firm went public before august 2007, zero otherwise. We use this variable to control for any potential effect of financial crisis (2007-2008), in line with Ivashina and Scharfstein (2010).

TABLE A.XII. Regression estimates of the relationship between IPO value and Family Generation: time controls

	Model 21a	*Model 21b*	*Model 22a*	*Model 22b*
	(I)	(II)	(III)	(IV)
Variable	*y= IPO_PRM*	*y= IPO_PRM*	*y= M/B*	*y= M/B*
CONTROLS	*YES*	*YES*	*YES*	*YES*
FAM_GEN1	**0.165*** **	**0.216*** **	**2.089***	**2.615***
	(0.048)	**(0.058)**	**(1.393)**	**(1.428)**
FAM_GEN2	**0.110***	**0.143** **	**1.181**	**1.649***
	(0.062)	**(0.069)**	**(1.151)**	**(0.957)**
FAM_GEN3	**0.071**	**0.097**	**0.055**	**0.584**
	(0.086)	**(0.086)**	**(1.436)**	**(1.139)**
T=1	0.163		-0.885	
	(0.109)		(1.801)	
T=2	-0.019		-3.035	
	(0.119)		(1.957)	
T=3	-0.077		-3.062*	
	(0.166)		(1.674)	
T=4	-0.227		-4.637**	
	(0.143)		(2.323)	
T=5	-0.074		-2.527	
	(0.142)		(2.476)	
T=6	-0.106		-2.971	
	(0.148)		(1.865)	
T=7	0.015		-0.578	
	(0.115)		(1.435)	
T=8	0.069		1.509	
	(0.116)		(2.408)	
T=9	0.104		-2.504	
	(0.147)		(2.077)	
T=10	0.104		-1.383	
	(0.187)		(2.315)	
T=11	-0.129		-2.663	
	(0.184)		(2.032)	
T_CRISIS		0.028		0.715
		(0.083)		(0.845)
R^2	0.494	0.351	0.204	0.125

Notes: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. White (1980) heteroskedasticity-consistent standard errors are in parentheses. N=113. Due to space constraints, we do not report *INTERCEPT* and *CONTROL_VARIABLES*. Control variables include: *SIZE; LEVERAGE; AGE; HIGH_TECH; BIG5_AUDIT; IPO_SELL; VC; INDEP_DIR; CEO_DUALITY. T=1* is a dummy variable equals to one if the IPO is issued in 2000, zero otherwise. *T=2* refers to 2001 … *T=11* refers to 2010. *T_CRISIS* is binary variable. It assumes value one if the firm went public before august 2007, zero otherwise. We use this variable to control for any potential effect of financial crisis (2007-2008), in line with Ivashina and Scharfstein (2010). See Table III, in the manuscript, for variable definitions.

Chapter 2. All the power in two hands: the role of CEOs in family IPOs.[9]

Abstract

This paper aims to disentangle the effect of powerful CEOs on IPO valuations in family firms.

In a stewardship framework, we test how powerful leadership influences external investor perceptions of firm value at the entrepreneurial stage of going public. Our analysis relies on a unique hand-collected dataset of 77 family firms that went public on the Milan Stock Exchange between 2000 and 2011. We define family IPOs with respect to family involvement in ownership and management. Considering that CEO power is not directly observable, we use structural equation modeling (SEM) and operationalize CEO power with a multidimensional indicator: using a factor analysis, we take into account three types of power (structural, ownership and expert). We shed light on how family leadership at the apical level differs from outside CEO leadership; moreover, we consider the case of shared leadership (e.g., more than one CEO).

Our findings show that outside investors positively evaluate the presence of a powerful CEO in the transition from private to public ownership. If a family member serves as CEO, the relationship is strengthened while with a co-leader in command, IPO evaluations are less affected. Finally, the presence of one CEO who is also part of the family maximizes investor evaluations.

This study is the first to address the role of powerful CEOs in family IPOs. It contributes to family business literature by showing how different leadership styles influence investor perceptions.

[9] Please note that a similar version of this chapter (with the same title) is currently under review for (voluntary-omitted) journal. I am grateful to my co-authors, Prof. Mauro Romano and Dr. Luca Pennacchio, for their help. However all the errors within the chapter are my own responsibility.

3.1 Introduction

The decision to go public, even if only prospective, is a crucial step in the lifecycle of a firm. At the time of an initial public offering (IPO), outside potential investors make their financial decision based on relatively scarce information. Listing firms do not have performance records in public markets and may suffer from "liability of market newness" (Certo, 2003). As such, a sense of uncertainty characterizes the entrepreneurial stage of IPOs. In this scenario, corporate governance can mitigate the ex-ante risk and help firms build their reputations. The evaluation of governance mechanisms and their effectiveness is beneficial in transition periods - such as at IPO - rather than in calendar time (Baker and Gompers, 2003); in attempting to attract new equity, firms would be more inclined to choose the best board structure (Burton *et al.*, 2004). Equity markets have well established governance practices but as their adoption is voluntary for IPO firms, external investors 'price' firms differently according to their governance structure. Several studies assess the role of the board of directors (BoD henceforth) on corporate outcomes at the time of IPO (e.g., Mak and Roush, 2000; Filatotchev and Bishop, 2002; Baker and Gompers, 2003), while another stream of studies considers the top management team (TMT henceforth) (e.g., Cohen and Dean, 2005; Lester *et al.*, 2006; Zimmerman, 2008). However, although firms may have different BoD or TMT configurations, common across all IPOs is the presence of a CEO. There is an abundance of studies on the role of the founder CEO (Nelson, 2003; Jain and Tabak, 2008; He, 2008; Chahine *et al.,* 2011; Johnson and Yi, 2013) while relatively little is known about powerful leaders (Bach and Smith, 2007).

Whether or not a powerful CEO should lead a family firm through the IPO process is a relatively new issue in governance literature. There is still a gap in our understanding of how CEO leadership affects investor evaluations at a transitional stage such as going public. We bridge this gap by responding to the following research question: are powerful CEOs beneficial to investor evaluations of family IPOs?

In a stewardship framework, we argue that a powerful leader could foster trust among potential outside investors and reduce uncertainty. We use a sample of 77 family firms that went public on the Milan Stock Exchange between 2000 and 2011. We take advantage of the institutional setting in Italy to develop our hypotheses. The massive presence of family ownership as well as the introduction (1999) and the implementation

(2002, 2006 and 2009) of the Corporate Governance Code, makes this market an ideal setting to investigate the CEO role in the transitional stage of IPOs.

In our study, CEO power refers to a multidimensional construct (Finkelstein *et al.*, 2009). Using an exploratory factor analysis, we consider three types of power: ownership, structural and expert. Since CEO power is not directly observable (Liu and Jiraporn, 2010), we employ structural equation modeling to infer our conclusions.

This research is designed to analyse investor response to the presence of a powerful CEO, namely, we operationalize IPO value in the short term using two measures: IPO premium and Market to Book ratio. These measures are designed to capture how external investors 'price' the firm at listing stage. We define family owned IPOs and evaluate family involvement in ownership and managerial positions. We also study the moderating effects of familiar leadership and the role of a co-leadership structure. Given these premises, our results suggest that a powerful CEO fosters IPO value, that the positive effect is stronger when a family member manages the firm and when leadership is not shared (e.g., absence of co-leadership). Moreover, the presence of a family CEO without a co-CEO strengthens the positive relationship between CEO power and investor evaluations. To the best of our knowledge, this is the first paper that addresses the role of powerful CEOs at the entrepreneurial stage of IPOs in family owned firms.

Our paper extends family business and strategic leadership literature in three ways. First, we contribute to the ongoing debate on family firm heterogeneity from a different standpoint and in a leadership perspective. Miller *et al.* (2013) highlight the tendency to compare family to non-family counterparts, which may lead to underestimating fundamental intra-family differences. By considering different configurations of family leadership (e.g., moderating effect of family CEO and co-leadership structure), we embrace the general suggestion of Melin and Nordqvist (2007) to further investigate heterogeneity among family firms. Moreover, we ideally respond to calls in IPO literature (e.g., Leitterstorf and Rau, 2014; Jaskiewicz *et al.*, 2005) that recommend studying how different configurations of governance mechanisms in family businesses impact on investor perceptions. Collectively, our results advance our understanding of how family firms are differently "priced" by external investors in relation to different leadership styles. Second, this study provides evidence on family leadership (CEO) at the entrepreneurial stage of IPOs. Naldi *et al.* (2013) demonstrate that the impact of

family CEO on performance is contingent on the context and find considerable differences for listed and non-listed firms. Along this line of research, we shed light on how family leadership at the apical level affects investor evaluations in the transition from private to public ownership. Furthermore, our analysis contributes to strategic leadership literature by taking into account the effect of co-leadership on IPO value. Considering the moderating effect on the relationship between CEO power and investors enables extending the findings of Miller *et al.* (2014).

The remainder of the paper is structured as follow. Section 2 provides our theoretical framework and develops the hypotheses. In Section 3, we offer an overview of the database construction and explain in detail the methodology used. Section 4 shows and discusses the results. The last Section summarizes our work and identifies future research lines.

3.2 Theoretical framework and hypotheses development

3.2.1 Leadership in family firms: a stewardship perspective

Stewardship as a theoretical perspective is rooted in psychology and sociology. It admits the convergence of interests between managers and shareholders. The former are driven by financial and non-financial motives such as job satisfaction and recognition. This theory interprets managers as trustworthy stewards and posits that the human need for responsibility and achievement will outweigh opportunistic interests (Davis *et al.*, 1997). In essence, the utility obtained from acting in the interests of the organization offsets that obtained from acting against it. The stewardship framework describes organizations where stewards aim to increase shareholder wealth rather than seeking personal gratification (Nicholson and Kiel, 2007) with managerial intentions that are pro-organizational instead of self-serving (Abels and Martelli, 2013). In this line of research, scholars argue that an authoritative decision-making process combined with the strong leadership of individuals fosters higher firm performance (Donaldson and Davis, 1991). That is, CEO activities are facilitated when the governance mechanisms grant greater authority and autonomy (Sundarmurthy and Lewis, 2003).

These circumstances are likely to manifest in family firms where family members are generally more inclined to sacrifice personal objectives to develop long-term strategies

(Miller and Le Breton-Miller, 2005), which also reduces managerial myopia (Stein, 1989). Furthermore, the family's concern for subsequent generations may increase a stewardship orientation with a positive effect on corporate outcomes. As Corbetta and Salvato (2004) suggest, this framework could be particularly suitable in a context of concentrated family ownership. Advocates of stewardship theory claim that the CEO exerts the most powerful influence on the family firm's strategy, while Voordeckers *et al.* (2007) indicate the CEO as the dominant person among family members and outside managers. Prior literature focuses on powerful CEOs (e.g., duality leadership) and their general impact on performance (Braun and Sharma, 2007), recognizing a beneficial effect of strong CEO leadership in family businesses. In the family context, a powerful CEO may play a key role in the selection of managerial team members and may exercise greater influence on the board (Finkelstein and Hambrick, 1996).

3.2.2 The role of powerful CEOs in IPOs

Prior literature has demonstrated the existence of a relationship between top executive characteristics and IPO value (e.g., Lester *et al.,* 2006; Certo, Holmes and Holcomb, 2007; Zimmerman, 2008), yet scholars still debate the impact of CEO characteristics on investor evaluations at the IPO stage (Yang *et al.*, 2011). A sense of uncertainty among investors permeates the transition from closely held private ownership to more dispersed public ownership (Certo, 2003). In this context, Nelson (2003) suggests that not only the structural characteristics of the firm but also its behavioural aspects (e.g., managerial abilities) act as a potential signal to reduce scepticism on IPO future performance. Likewise, more capable management could serves as a "protective shield" (Yang *et al.*, 2011) for the firm during the IPO process.

In addition to the management role, literature offers evidence of the greater importance of the characteristics of the leader with respect to those of the group (Cannella and Holcomb, 2005). This is especially relevant in the context of family-owned businesses where CEO leadership influences corporate outcomes (Voordeckers *et al.*, 2007). Since the IPO is a crucial point in the evolution of entrepreneurial firms, it is reasonable to infer that CEOs play a central role in shaping the view of the firm (Bruton *et al.*, 1997) and that their role is preeminent (Andrews and Welbourne, 2000).

Extensive focus has been placed on the role of the founder CEO at the IPO stage. This line of research is rooted in the idea that the founder CEO is a unique governance mechanism since s/he created the company and is thus more entrenched than outside CEOs. This phenomenon therefore calls for analyses through different economic lenses (Gao and Jain, 2012). Within this research stream, Jain and Tabak (2008) discuss whether a firm should adopt a CEO founder structure on issuing an IPO. They find that both governance and ownership structures are crucial in this decision: the probability of hiring a founder CEO is higher when the board is less independent, while the probability is lower when managerial ownership is higher. Moreover, literature disentangles the effect of the CEO figure on different corporate outcomes. Nelson (2003) demonstrates that founder CEOs generate positive market reactions. She shows a positive correlation between founder executives and IPO value (measured in the short term). He (2008) finds that founder CEOs lead to greater financial performance and help firms overcome the "liability of newness" (Nelson, 2003); founder-managed IPOs are thus more likely to survive. Gao and Jain (2012) look at the market for corporate control and suggest that founder CEO behaviours are motivated by the desire to maximise the acquisition premium of post-IPO firms. Fischer and Pollock (2004) support the idea that greater ownership concentration in the hands of the founder CEO will reduce the likelihood of IPO failure.

These studies consider the founder CEO as an "asset" instead of a "liability" during the firm's transitional period. However, literature also offers contrasting results recognizing that founders may lack adequate experience or professional skills to lead new firms in an IPO process. Certo *et al.* (2001) find that founder CEOs are associated with a higher level of underpricing than non-founder CEOs. Chahine *et al.* (2011) find similar results where underpricing increases with founder CEO ownership.

In view of the abundance of literature on founder CEO and IPO characteristics, one may conclude that this role is a good proxy for powerful CEOs. It can be argued in this light that founder CEOs exert greater influence on the board, on employees and on stakeholders due to their longer tenure and the unique knowledge of their "creature". However, Finkelstein *et al.* (2009) suggest considering CEO power as a construct rather than a single factor: they maintain the need for multidimensional measures. Nevertheless, in management literature we note that scholars often refer to CEO power

using individual proxies (Lewellyn and Muller-Kahle, 2012). Entrepreneurial studies on IPOs examine CEO ownership (e.g., Certo *et al.*, 2003), CEO duality (e.g., Fischer and Pollock 2004) and CEO tenure/experience (e.g., Brouthers *et al.*, 2000). These studies rely on the concept of CEO power defined as the ability to centralize and reinforce the decision-making power in the hands of the CEO (Liu and Jiraporn, 2010).

3.2.2.1 CEO ownership power

Ownership is a key factor in the power building process and designates the kind of power exerted by CEOs and top external shareholders (Tosi *et al.*, 1999). A CEO with significant ownership power may reduce the board's ability to interfere in corporate affairs (Finkelstein, 1992). Ownership power may also favour the appointment of board members whose views are more aligned with those of the CEO. Large equity ownership of CEOs reduces the likelihood of new firms failing (Hitt *et al.*, 2001). Roosenboom and Schramade (2006) empirically demonstrate that post-IPO CEO ownership has a beneficial effect on firm value. In high-technology IPOs, CEO ownership power is positively related to after-IPO survival (Bach and Smith, 2007). Latham and Braun (2010) find that CEO ownership alters decision-making behaviours, namely, powerful CEOs are more likely to forgo IPOs in weak capital markets regardless of the interest of other shareholders. Roosenboom's (2005) findings are coherent with the idea that a dominant CEO has the power to influence board composition. He shows that the higher the post-IPO CEO ownership, the lower the presence of independent directors. Chahine and Goergen (2013) disentangle the impact of board ties on IPO value and find a positive effect of CEO ownership on firm value.

3.2.2.2 CEO structural power

Structural power refers to the influence that CEOs have over the board, top management team and, more generally, depends on their role in the firm (Daily and Johnson, 1997). Finkelstein *et al.* (2009) argue that scholars often adopt a dual leadership structure to proxy for structural power. On one hand, CEO duality fosters a clear sense of strategic direction and reinforces leadership. Mak and Roush (2000) find that firms with dual leadership are more likely to grow after the IPO. On the other hand,

Howton *et al.* (2001) argue that this overlap of positions (e.g., chairperson and CEO) may reduce board monitoring and exacerbate conflicts, but they do not find a statistical correlation between CEO duality and IPO value. Chahine and Tohmé (2009) show that CEO duality increases IPO underpricing but this turns into a positive sign when strategic ownership (e.g., corporations and other industry-related investors) moderates the relation between the duality structure and IPO performance. According to Lin and Chuang (2011), dual leadership in emerging economies decreases IPO value. Bach and Smith (2007) show a negative association between CEO duality and the likelihood of post-IPO survival in high-technology industries.

3.2.2.3 CEO expert power

Expert power indicates the influence on the decision-making process exercised by professional skills as well as by specific knowledge of the company and its sector. It also refers to the CEO's ability to deal with environmental contingencies and thus contribute to the firm's success (Finkelstein, 1992). Several studies consider CEO tenure as a proxy for CEO power (Shen, 2003). Longer tenure may signal greater professionalism and superior skills, tenured CEOs therefore strengthen their bargaining power with the board (Lehn and Zhao, 2006). Zona (2014) proves that tenured CEOs exert greater power over boards. Yang *et al.* (2011) find that firms led by experienced CEOs go public via IPOs earlier than those with less expert CEOs. Filatotchev and Bishop (2002) suggest that CEO experience is pivotal in the board selection process at the IPO stage. This result confirms the power the CEO figure exerts on the management team. Chahine and Goergen (2013) obtain the opposite evidence as they find a negative association between IPO premium and CEO tenure. Along the same research line, Johnson and Yi (2013) indicate that IPOs with higher relative valuations are those with shorter CEO tenure.

All the measures analysed capture some aspects of power. However, Finkelstein *et al.* (2009) claim that there are no theoretical foundations to sustain that one of these measures better captures the overall concept of CEO power. We hence define power as "the capacity of individual actors to exert their will" (Finkelstein, 1992, p. 506). As this definition does not lend itself to a natural and univocal classification of CEO power, we

adopt a multidimensional construct that encompasses three sources of power: ownership, structural and expert.

Literature has flourished on the topic of CEO founders and their impact on IPO value but rarely questions whether and how other CEO characteristics affect investor valuations. Moreover, the lens of CEO power has rarely been used to assess IPO evaluations of family firms. A shortcoming of the reviewed literature is that it fails to disentangle the influence of CEO leadership on investor investment decisions in family owned IPOs.

3.2.3 Powerful CEOs and IPO value

CEOs potentially have the power to influence and determine the strategy and the performance of their businesses. On one hand, the presence of a powerful CEO is beneficial in terms of reducing conflicts, fostering strong trust between directors and clarifying decision-making authority (Daily and Dalton, 1993). One the other hand, diluting CEO power can be costly as it reduces the probability of superior firm performance (Adam *et al.*, 2005).

Powerful CEOs are more inclined to be subject to what Hayward *et al.* (2004) define as "CEO celebrity". It is the tendency of the press (e.g., journalists) to assert that the firm's positive performance is a direct result of the CEO's actions. The benefit of such celebrity status in the IPO process is in greater media coverage. Dutton *et al.* (1994) argue that media reports are crucial to the way stakeholders evaluate firms and build their reputations.

From a stewardship perspective, a powerful CEO guarantees "a sense of direction for his firm that will both help him make difficult day-to-day decisions and reduce uncertainty" (Bourgeois and Brodwin, 1984, p. 244). In the context of an IPO, the reduction of uncertainty may have a positive effect on stakeholder evaluations since this implies a less risky investment. Powerful CEOs are less subject to removal, less inclined to hide information on their behaviour and the firm's real status, and provide more transparent information (Armstrong *et al.*, 2012). At the IPO transition stage, this could imply that in addition to the IPO prospectus, investors find a reliable and alternative source of data in the figure of the CEO. Moreover, the communication to equity markets of strong firm leadership would allow the firm to attract more capital (Daily *et*

al., 2002). In this sense, CEO structural power helps establish strong decision-making authority and unity of command. Expert power provides CEOs with rich knowledge and helpful tools for strategic decision-making. Pitcher and Smith (2001) demonstrate that the strategic actions of less experienced CEOs lead to a rapid decline in performance. On the board side, Hermalin and Weisbach (1998) argue that the equilibrium level of monitoring decreases as CEO expert power increases since board members are aware of the CEO's competences and tend to allow greater flexibility and independence in decision-making. Combining these two sources of power (structural and expert) enables CEOs to make timely and optimal decisions (Brickley *et al.,* 1997). Timely decisions are crucial to success in the context of environmental uncertainty, as in the case of IPOs (Lester *et al.,* 2006). Moreover, ownership power encourages CEOs to focus on long-term objectives. Managers with significant ownership are more likely to accept a lower salary (Gomez-Mejia *et al.,* 1987) so their wealth strictly depends on the firm's performance. Negative performance could inhibit their wealth increase.

Given this logic, we hypothesise:

Hypothesis 1. The presence of a powerful CEO has a positive effect on IPO value.

3.2.4 Family CEOs: the power in their hands

Family CEOs are assumed to have stronger psychological attachment and commitment to the company than outside CEOs. CEO power and dominance in the management team is higher for family CEOs than for outside managers (Minichilli *et al.,* 2010). Miller *et al.* (2013) show that in the case of concentrated ownership, firms managed by family CEOs outperform those managed by outside CEOs. Literature offers considerable evidence supporting the idea of the superior performance achieved by family leaders (e.g., Villalonga and Amit, 2006). Moreover, family CEOs also have the power to engage easier and faster in potential business relationships (e.g., without formal or written agreements) compared to non-family outside professionals (Naldi *et al.,* 2013). Closeness and familiarity with the firm may also increase the family CEO stewardship attitude towards the business (Gomez-Mejia *et al.,* 2007). Altruism among family members fosters greater goal alignment and inhibits the opportunism (if any) of family CEOs. Drawing on stewardship theory, Braun and Sharma (2007) state that in

family controlled firms, outside investors may benefit from clear and unambiguous leadership.

In the Italian market, family firms tend to go public to expand the capital base with lower costs than external financing rather than to attract potential successors (Rigamonti, 2008). Family CEOs will pay more attention to preparing the IPO process as its success could be crucial to the family firm's survival in the long-term. Being part of the controlling family is a great incentive for CEOs as they are strongly motivated to accomplish future investor requirements. Families may also achieve the objective of increasing reputational and social capital through the IPO (Marchisio and Ravasi, 2001) and are therefore more concerned about potential investor evaluations. A powerful CEO who is also a family member may be able to lead the transition with a clear focus on value. From the market perspective, family IPOs come under pressure to demonstrate the economic validity of their strategies; the appointment of a family CEO could act as a mechanism to ensure the long-term orientation of new firms.

In view of the differences between family and outside CEOs, we maintain the importance of considering family leadership and study the moderating effect of family CEOs.

Based on the aforementioned arguments, we predict:

Hypothesis 2. The positive effect of a powerful CEO on IPO value becomes stronger in the presence of a family CEO.

3.2.5 Co-leadership structure and powerful CEOs

The concept of co-leadership may appear counterintuitive as leadership is by definition an individual trait (O'Toole *et al.*, 2002). However, in the context of family businesses, it is not unusual for a firm to have more than one CEO (Miller *et al.,* 2014). This can be particularly the case when there is more than one generation involved in firm governance. In the stewardship framework, a co-leadership structure violates the "unity of command" (Fayol, 1949) and may be detrimental to the decision-making process that would be less timely and efficient. The direct effect of such leadership is weakening CEO power (Worrell *et al.*, 1997). Shared leadership generates confusion among stakeholders on the lines of authority (Galbraith, 1977). During the IPO

process, the lack of clear leadership could potentially outweigh the benefits of having a powerful CEO. The co-leader could also contend the power of the other CEO with negative consequences on performance. Hambrick and Cannella (2004) note that a shared leadership structure is less likely to occur with a powerful CEO. It is also arguable that the co-presence of more powerful managers may reduce any individual CEO's efforts (Aghion and Tirole, 1997). The competition that may occur between co-leaders is also detrimental for the board as it could reduce the monitoring function (Zhang, 2006) from higher to lower levels (e.g., monitoring of the CEO by other executives). These arguments lead us to formulate the following hypothesis:

Hypothesis 3. The positive effect of a powerful CEO on IPO value becomes stronger in the absence of a co-leadership structure.

Figure 1. CEO Power and IPO value: summary of hypotheses

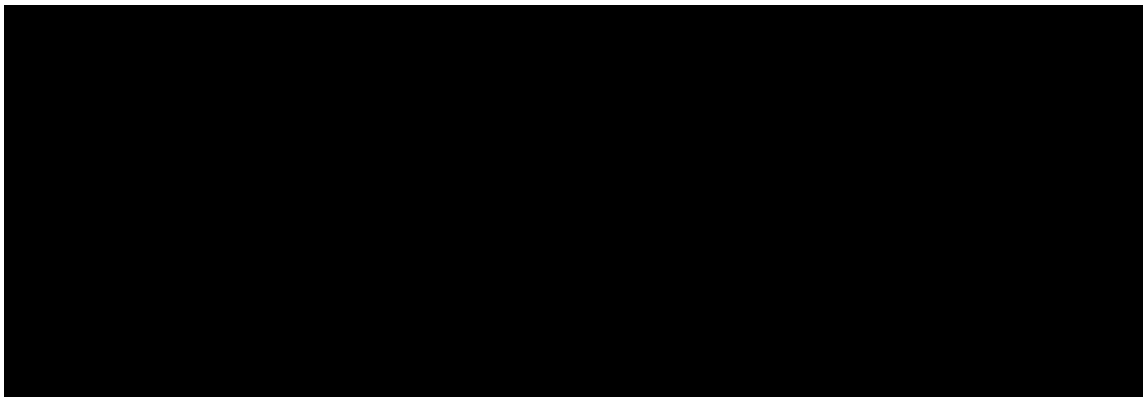

Figure 1 summarizes our hypotheses and the postulated relationships between CEO power, moderating factors and IPO value.

3.3 Data and sample

3.3.1 Dataset

The starting sample consisted of 170 firms that conducted IPOs on the Milan Stock Exchange in the period 2000-2011. We purposefully began our analysis from 2000 due to the introduction of the Code of Corporate Governance issued by the Italian Stock Exchange in 1999.

We excluded firms in the financial industry (SIC code 6000 - 6799, for 23 observations). The sample was also purified of foreign firms (3 observations) as we intend to investigate the IPO value of Italian firms. A further 31 observations were excluded as we were unable to obtain their IPO prospectuses.

The considerable presence of block-holders is characteristic of the Italian market. When defining family firms, both equity and managerial involvement must be considered. Following Cascino *et al.*, (2010), we identify family firms when two conditions exist simultaneously. First, one or more members of the family must control at last 30% of voting rights and second, one or more members of the family must be involved in the top management team. We focus on this threshold because Italian Law "Decreto Legislativo 58/1998" requires a level of 30% for a public tender offer and Minichilli *et al.* (2010) use this threshold to define family firms. We thus make inferences on 77 family owned IPOs[10].

Data were collected from the IPO prospectuses. This source has been widely used in previous literature (e.g., Lester *et al.*, 2006) as it discloses information that is freely accessible to investors and other parties (Beatty and Zajac, 1994) and perfectly fits our research question.

3.3.2 Dependent variables

In coherence with our research question, we quantify IPO value from the external investors' perspective. We refer to short-term IPO performance, which enables us to

[10] However, we also control for a different definition of family business. In line with prior literature on IPOs (Leitterstorf and Rau, 2014), we define family firms using the *F-PEC* score (Astrachan *et al.*, 2002), which computes family involvement in both ownership and managerial positions in a continuous variable. With this definition, we obtain a final sample of 75 family owned IPOs. Our results are robust to this proxy.

consider only measures based on the first-day trading price (e.g., offering or closing price). In our analysis, we employ two proxies. First, we rely upon market perceived value: to assess investors' valuation of IPO we use IPO Premium (*IPO_PRM*). Certo *et al.* (2009) claim that conventional measures fail to account for book value of equity or asset and they may offer a distorted representation of real value. We tackle this issue by considering a relative measure: IPO Premium captures the premium that investors place on firm's assets. In line with prior literature (Certo *et al.*, 2003; Lester *et al.,* 2006), we calculate percent premium as follow:

$$IPO\ premium = (Offer\ Price - Book\ Value)/Offer\ Price \quad (1)$$

where Book Value is the book value (per share) of equity from the last audited pre-IPO financial statement divided by the pre-IPO shares (resulting from the IPO prospectus). This measure weighs both accounting and stock market information (Welbourne and Andrews, 1996). Compared to only stock price, IPO Premium offers a more robust estimation of how investors reward future value. We also perform a sensitivity (unreported) test using the firm's closing price on the first day of trading rather than the offering price as in the above formula. This enables us to capture the entire market evaluation and to control for underpricing (Certo *et al.*, 2003).

Our second measure is Market to Book value (*M/B*) (Astrachan and McConaughy, 2001):

$$Market\ to\ Book\ value = \left(Market\ Capitalization_{1st\ day}\right)/(Equity\ book\ value) \quad (2)$$

where market capitalization is equal to the number of post-IPO shares times the closing market price of the first trading day. Equity book value is determined as the sum of primary offering proceeds and book value of equity from the last audited pre-IPO financial statement. Mazzola and Marchisio (2002) use this measure to value Italian IPOs as it is useful to capture future managerial performance.

3.3.3 CEO Power

On the one hand, top executive leadership may have multiple sources (Combs *et al.*, 2007), on the other, CEO power is not directly observable (Liu and Jiraporn, 2010) and therefore requires a multidimensional construct rather than a single variable that can capture CEO dominance. In line with Finkelstein (1992), we consider four types of power: ownership, structural, expert and prestige. Power can be defined as formal (ownership and structural) or informal (expert and prestige) (Adams *et al.*, 2005). The first relates to factors that directly affect CEO influence over the decision-making process, while the latter does not directly depend on the formal role of the CEO in the organizational hierarchy. However, even if from a theoretical perspective these forms of power are directly observable, it is empirically difficult to distinguish between the effects of different sources and infer conclusions.

We thus use a factor analysis to build the multidimensional construct and rely on previous literature to select the variables of interest. First, we proxy ownership power with two continuous variables: the equity owned by outside board members (*OUT_BOARD_VR*) (Lewellyn and Muller-Kahle, 2012) and the voting rights held by the CEO (*CEO_VR*) (Bach and Smith, 2007). Second, we operationalize structural power using two variables: the first is a dummy variable equal to one if the CEO is also the chairperson of the board (*CEO_DUALITY*) and zero otherwise (Adams *et al.*, 2005), while the latter is the ratio of independent directors (*INDEP_DIR*) (Lewellyn and Muller-Kahle, 2012). Third, we employ two variables to account for expert power: CEO board tenure (*CEO_TENURE*) (Combs *et al.*, 2007) and CEO age (*CEO_AGE*) (Yang *et al.*, 2011). Lastly, we disentangle prestige power with the help of two variables: the number of outside directorates that the CEO holds (*CEO_INTERLOCK*) (Oler *et al.*, 2010) and CEO education (*CEO_EDU*). This equals one if at the IPO the CEO had a university degree.

TABLE I. Rotated factor loadings and communalities

Variable	Factor 1	Factor 2	Communality
CEO_DUALITY	**0.889**	0.180	0.853
CEO_VR	**0.849**	-0.237	0.816
CEO_TENURE	**0.844**	-0.129	0.815
CEO_AGE	0.000	0.191	0.729
CEO_EDU	-0.109	0.022	0.756
CEO_INTERLOCK	0.148	**0.755**	0.732
INDEP_DIR	0.204	-0.279	0.618
OUT_BOARD_VR	-0.274	-0.283	0.595
Eigenvalue	4.36	1.55	5.91

Note: To build our indicator (*CEO_POWER*) we rely on four types of power: ownership, structural, expert and prestige (Finkelstein, 1992). *OUT_BOARD_VR* is equal to the voting rights owned by outside (e.g. non-family affiliated) board members; *CEO_VR* refers to the voting rights held by CEO. Both variables proxy ownership power.

CEO_DUALITY is a dichotomous variable equals to one if the CEO is also the chairperson, zero otherwise. *INDEP_DIR* is the ratio of independent directors over the total board members. We use the concept of independent director given in the Italian Code of Governance (Codice di Autodisciplina) provided by the Milan Stock Exchange. This code explicitly indicates evaluating form over substance when defining independent directors. Taken together, these variables proxy structural power.

We proxy expert power with the subsequent variables. *CEO_TENURE* is equals to the numbers of years (months are computed as fraction of years) that manager servers as CEO in the firm. *CEO_AGE* is the age of CEO (computed in years).

Finally, we rely on the following two variables to account for prestige power. *CEO_INTERLOCK* is the number of outside directorates that CEO holds at IPO time. *CEO_EDU* is a binary variable equals to one if CEO had obtained a university degree.

To identify the most relevant measures of CEO power, we run an exploratory factor analysis (EFA), a widely used methodology for data reduction. The concept is to obtain a small set of variables from the large set of variables described above that are subsequently used to build the latent endogenous variable *CEO power*. The factor analysis shows that two of the eight factors have Eigenvalues greater than one. Taken together, the two factors explain around 74% (5.91/8) of the total variance of variables considered in the analysis. The first factor accounts for 54.5% of the total variance and the second for the remaining 19.5%. Table I summarizes the values of factor loadings

after orthogonal rotation. *CEO_DUALITY*, *CEO_VR* and *CEO_TENURE* have the highest loads in factor 1 and *CEO_INTERLOCK* in factor 2. The first factor can be considered a broad measure of CEO power including ownership, structural and expert power; the second factor primarily measures CEO power in terms of prestige power.

The values of communalities are reasonably high, indicating that the results are quite reliable. Thus, the EFA suggests that the most pertinent measures of CEO power in our sample are *CEO_DUALITY*, *CEO_VR*, *CEO_TENURE* and *CEO_INTERLOCK*. However, the last variable, as we will explain further on, appears to be a very weak indicator of CEO power and will not be considered in constructing the endogenous latent variable.

Based on the arguments presented, we consider only three measures of power, namely, CEO voting rights (*ownership power*), CEO duality (*structural power*) and CEO board tenure (*expert power*). Our factor analysis also confirms the results of Combs *et al.* (2007) who use these variables to measure CEO power. Our indicator (*CEO_POWER*) allows us to disregard prestige power.

3.3.4 Moderating Variables

To test our second hypothesis, we define *FAM_CEO* as a dichotomous variable equal to one if the CEO is a family member, zero otherwise. We use the IPO prospectus to carefully identify family members (related through blood or marriage). In line with Miller *et al.* (2014), we employ a binary variable to account for a co-leadership structure (*CO_LEADER*), which assumes the value of one if the firm is managed by two or more co-CEOs, zero otherwise.

3.3.5 Control Variables

We employ several control variables. First, we use a standard control for size, leverage and age. We operationalize size (*SIZE*) with a natural logarithm of market capitalization computed at offer price (Filatotchev and Bishop, 2002). Leverage (*LEV*) is equal to the book value of non equity-liabilities on the book value of total asset. We

use data referring to the last audited pre-IPO financial statement. Age (*AGE*) is the difference between IPO date and firm founding date[11].

In line with Chahine *et al.* (2011), we control for firms belonging to the AIM market: we set a dummy variable (*MARKET*) equal to one if the firm is listed on this market, zero otherwise. Finally, we also control for board size (*BOARD_SIZE*) using the natural logarithm of the total board members. We assume that CEO power will decrease if a higher number of executives is involved in decision-making.

3.3.6 Data analysis

In Table II, we report the summary statistics of our sample. The data show that a family member (*FAM_CEO*) serves as CEO in 43 cases: family leadership is widely used in the IPO transition stage. Of interest among other things is that 21 out of 77 firm IPOs adopted a co-leadership structure (*CO_LEADER*).

Table II provides the correlation among variables. The Pearson correlation coefficients do not evidence serious multicollinearity problems.

The conceptual model shown in Figure 1 contains not only the observed variables but also the latent endogenous variable *CEO power*. Latent variables refer to phenomena that cannot be directly observed but can be measured through the observed variables. As mentioned earlier, CEO power is not directly observable as it is a multidimensional concept measured in a different and competing way. Thus, in order to test our theoretical hypotheses we rely on Structural Equation Modeling, a methodology that allows the simultaneous use of both latent and observed variables (Bollen, 1998). This method has been widely used in management researches (e.g. Ouakouak *et al.*, 2014) as well as in family business literature (e.g. Marko Sarstedt *et al.*, 2014). In addition, Structural Equation Modeling (SEM) offers several advantages (Hoyle, 2012): *i*) under given conditions, this is a robust method to deal with small samples; *ii*) it is a powerful tool for the confirmatory analysis of theoretical predictions, iii) it allows reliably defining latent variables by using the observable variables.

[11] We compute days and months as a fraction of the year. In the analysis, we use the natural logarithm of (*AGE*).

TABLE II. Descriptive statistics & correlation matrix

	Mean	Std. Dev.	Min	Max	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*
Dependent Variables													
(1) *M/B*	1.24	0.73	-0.47	3.93	1.00								
(2) *IPO_PRM*	0.77	0.21	-.073	0.99	0.64	1.00							
Control Variables													
(3) *SIZE*	11.37	1.45	8.38	14.30	-0.11	-0.34	1.00						
(4) *LEV*	0.71	0.18	0.03	0.99	0.26	0.41	0.03	1.00					
(5) *AGE*	2.40	1.02	-0.69	4.29	-0.08	-0.16	0.17	-0.01	1.00				
(6) *MARKET*	0.23	0.43	0	1.00	0.14	0.42	-0.47	0.13	-0.15	1.00			
(7) *BOARD_SIZE*	1.98	0.40	0.69	2.77	-0.00	0.02	0.37	-0.02	0.28	-0.03	1.00		
Moderating Variables													
(8) *FAM_CEO*	0.56	0.50	0	1.00	0.05	0.13	-0.01	0.13	-0.13	-0.16	0.22	1.00	
(9) *CO_LEADER*	0.27	0.44	0	1.00	-0.06	0.13	-0.21	0.00	0.13	0.03	0.27	-0.07	1.00

Note: *M/B* is the first day market capitalization over book value of equity. Where the first-day market capitalization is equals to the number of post-IPO shares multiplied by the closing price on the first trading day; the equity book value is the post-issue value of equity: it sums the book value of last audited pre-IPO financial statement with the primary offering proceeds. In the analyses, we employ the natural logarithm. This measure has already been used to analyse Italian IPOs (Mazzola and Marchisio, 2002). *IPO_PRM* is the offering price minus the book value of equity over the offering price (Certo *et al.*, 2003). The book value of equity is per shares; data are from last (pre-IPO) audited financial statement. *SIZE* is natural logarithm of market capitalization computed at offer price (Filatotchev and Bishop, 2002). *LEV* is the ratio of Book Value of non-Equity Liabilities on book value of Total Asset, it refers to last pre-IPO financial (audited) statement. *AGE* is difference between the IPO year and the founding year in the prospectus: in the analyses, we employ the natural logarithm. *MARKET* is a dummy variable equals to one if the firms will be listed on AIM Market, zero otherwise (Chahine *et al.*, 2011). *BOARD_SIZE* is the natural logarithm of total board of directors' members. *FAM_CEO* takes value one if the CEO is a family member (person related through blood or marriage), zero otherwise. *CO_LEADER* is a dummy variable equals to one if there is more than one CEO (Miller *et al.*, 2014).

Our SEM consists of two components: the measurement model that relates the latent variable *CEO power* to its indicators and the structural model that tests the hypotheses drawn from theoretical literature. Some variables included in the model are dichotomous and others are non-normally distributed. In such a situation, the maximum likelihood estimator, which we rely on, may lead to distorted coefficient estimates and to incorrect standard errors (Satorra and Muthén, 1995). To avoid such problems, we estimate a Generalized Structural Equation Model, by means of the GSEM command provided by the STATA (version 13) statistical software package.[12]

As regards the measurement model, initially we considered as indicators of CEO power *CEO_DUALITY, CEO_VR, CEO_TENURE* and *CEO_INTERLOCK,* that is, the variables identified with ECA. However, the estimates (not reported due to lack of space) show that *CEO_INTERLOCK* is not statistically significant. The variable is therefore excluded from the analysis and the final measurement model only includes measures of power related to the ownership, structural and expert dimensions.

3.4 Results and discussion

Panel A of Table III presents the estimates of our base structural model. We test our first hypothesis using two proxies for IPO value. In model 1, we consider the Market to Book value (*M/B*) as the dependent variable: in this case, powerful CEOs increase external investor evaluations (.280, $p<0.01$). We obtain similar results when using IPO premium (*IPO_PRM*) as a dependent variable (.066, $p<0.05$ model 2). Our results confirm that CEO power is useful to reduce self-serving CEO behaviours. Given the prominent role of a CEO during the IPO transitional stage (Andrews and Welbourne, 2000), our analysis suggests concentrating power in the CEO's hands to reassure potential investors and obtain a better evaluation at the time of going public. This finding indicates that investors view powerful leaders positively in such uncertain

[12] A major drawback of the GSEM command is that it does not provide goodness of fit statistics for the estimated models. However, in order to provide some information on the accuracy of our empirical model, we have estimated the base structural model also with the SEM command which is able to calculate some diagnostic tests. The overall goodness-of-fit statistics seem to be satisfactory (Comparative Fit Index is=0.97; Root mean squared error of approximation= 0.055; Standardized root mean squared residual= 0.038).

environments. Both models show the same relationship between the dependent variable and the control factors. Size (*SIZE*) is positively related with IPO value (.207, p<0.01 model 1; .041, p<0.05 model 2), larger firms are less risky (Giudici and Roosenboom, 2006). Leverage (*LEV*) enters the equation with a positive sign (.951, p<0.01 model 1; .398, p<0.01 model 2). As Bruton *et al.* (2010) show, a high level of debt may reduce managerial discretion. Age (*AGE*) is not significant in our models. The choice to list on the AIM market (*MARKET*) is positively evaluated by external investors (.322, p>0.1 model 1; .204, p<0.01 model 2). As expected, a greater number of managers involved in the decision-making process may be detrimental to CEO power, consequently, board size (*BOARD_SIZE*) is negatively associated with IPO value but no significance emerges. There is no doubt that the first hypothesis is verified: CEO power is positively associated with IPO value, irrespective of how this is measured[13]. With regard to the measurement model, Panel B of Table III shows that all coefficients are statistically significant at the usual levels.[14]

Table IV shows the results concerning our second and third hypotheses. Models 3a and 3b, as well as 5a and 5b, support the second hypothesis. When a family member serves as CEO, the positive effect of powerful leadership becomes stronger. That is, the *CEO_POWER* coefficient in model 3a (.499, p<0.05 model 3a) is higher than the coefficient in the previous models (.280, p<0.01 model 1) while the coefficient in model 3b is lower than in the previous models (.230, p<0.05 model 3b). These results suggest that potential investors positively evaluate the strong commitment of family leaders to their businesses.

Our empirical evidence is coherent with the research line that empirically demonstrates that *familiness*, at leadership level, has a positive impact on firm performance (e.g., Minichilli *et al.*, 2010). Our results are the same when we consider

[13] We also perform the analysis using a third proxy for IPO value: we compute IPO premium 2 (*IPO_PRM2*) using the closing price rather than the offer price in the formula (1). We indicate this as model 3. We obtain similar results (.079, p<0.01 model 3). Moreover, we also ran the analysis with a different definition of family firms: *F-PEC* scale (Astrachan *et al.*, 2002). This leaves us with 75 observations but the results remain unchanged (.307, p<0.01 model 1; .062, p<0.05 model 2; .081, p<0.01 model 3).

[14] Due to space constraints, we do not report the estimates of the measurement model for the subsequent models.

IPO premium as a dependent variable (models 5a and 5b): the *CEO_POWER* coefficient in the presence of a family CEO (.089, p<0.1 model 5a) is higher than in the previous models (.066, p<0.05 model 2; .062, p<0.01 model 5b). We also test the moderating effect of a co-leadership structure (models 4a, 4b, 6a and 6c).

TABLE III. CEO Power and IPO value

	Model 1	**Model 2**
	(I)	**(II)**
Variable	*y=M/B*	*y=IPO_PRM*
Panel A: Structural model		
CEO_POWER	**0.280*** **	**0.066** **
	(0.099)	(0.030)
SIZE	0.207***	0.041**
	(0.069)	(0.016)
LEV	0.951***	0.398***
	(0.331)	(0.129)
AGE	0.044	-0.002
	(0.090)	(0.020)
MARKET	0.322	0.204***
	(0.209)	(0.042)
BOARD_SIZE	-0.192	-0.001
	(0.194)	(0.060)
Industry controls	YES	YES
Panel B: Measurement model		
CEO_DUALITY	0.059***	
	(0.021)	
CEO_VR	0.040***	
	(0.015)	
CEO_TENURE	9.980***	
	(3.824)	
N	77	

Note: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. Standard errors in parentheses.
Models 1 and 2 present the results about first hypothesis.
In column I we regress *M/B* on: CEO Power, Size, Leverage, Age, Market and Board of Directors size.
In column II we use *IPO_PRM* to proxy IPO value
See Table II for variable definitions

Our last hypothesis is also supported: in line with stewardship theory, we find that the 'unity of command' is beneficial for family IPOs. Our findings indicate that the impact of powerful CEOs is magnified when they do not share leadership: the presence of at least one other CEO is detrimental for external investors who may be confused by multiple leadership roles. In model 4a, the *CEO_POWER* coefficient is higher than in the other models (.462, $p<0.01$ model 4a; .087, $p<0.01$ model 4b; .280, $p<0.01$ model 1) and the same results can be observed when IPO premium is a dependent variable (.109, $p<0.05$ model 6a; .031, $p<0.01$ model 6b; .066, $p<0.05$ model 2).

To assess whether the estimated CEO power coefficients in the model with a moderating effect of CEO family (*CEO_FAM*) are higher than those in the base models (models 1 and 2), we rely on the Welch-Satterthwaite (WS) test, the two-sample t-test with unequal variance. The t-statistics reported in Table III (model 3a and 5a) show that the differences are statistically significant at the usual levels. Thus, we can conclude that the stronger effect of CEO power for IPOs with CEO family has robust statistical significance. We also perform the WS Test for the *CO_LEADER* moderating effect (models 4a and 6a): our results confirm the hypothesis.

Finally, we consider the case of powerful family CEOs who do not share leadership (32 observations). We empirically test this with unsurprising results: there is a stronger effect of *CEO_POWER* on investor evaluations at IPO stage. A co-leadership structure would seem crucial to the effectiveness of a family CEO. The case under scrutiny can be interpreted as an extreme form of hierarchical structure: it may well be that individuals prefer hierarchical settings where leadership power is clearly defined (Tiedens, Unzueta & Young, 2007). Moreover, a powerful CEO may also affect employee behaviour: Jost and Banaji (1994) show that people are inclined to disempower themselves to create or sustain a hierarchical structure, which is particularly true among family members.

The WS Test confirms the statistical significance of the differences between the CEO power coefficients obtained in the last models (models 7a and 8a) and those obtained in the base models (models 1 and 2).

TABLE IV. CEO Power and moderating effects

	Model 3a (I) *FAM_CEO=1*	***Model 3b*** (II) *FAM_CEO=0*	***Model 4a*** (III) *CO_LEADER=0*	***Model 4b*** (IV) *CO_LEADER=1*	***Model 5a*** (V) *FAM_CEO=1*	***Model 5b*** (VI) *FAM_CEO=0*	***Model 6a*** (VII) *CO_LEADER=0*	***Model 6b*** (VIII) *CO_LEADER=1*
Variable	*y=M/B*				*y=IPO_PRM*			
CEO_POWER	**0.499****	**0.230****	**0.462*****	**0.087*****	**0.089***	**0.062****	**0.109****	**0.031*****
	(0.233)	(0.112)	(0.105)	(0.022)	(0.050)	(0.031)	(0.049)	(0.006)
SIZE	0.223**	0.229**	0.246***	-0.120	0.034**	0.070*	0.057***	-0.015
	(0.095)	(0.114)	(0.078)	(0.154)	(0.014)	(0.042)	(0.019)	(0.033)
LEV	0.562	1.545***	0.961***	1.159	0.193**	0.623***	0.379***	0.666**
	(0.424)	(0.578)	(0.337)	(1.291)	(0.080)	(0.194)	(0.145)	(0.293)
AGE	-0.011	0.070	-0.009	0.400	-0.009	0.009	-0.003	0.042
	(0.122)	(0.136)	(0.087)	(0.365)	(0.024)	(0.048)	(0.020)	(0.118)
MARKET	0.308	0.369	0.327	0.836**	0.172***	0.163	0.237***	0.146
	(0.252)	(0.312)	(0.255)	(0.427)	(0.037)	(0.113)	(0.055)	(0.102)
BOARD_SIZE	-0.284	-0.270	-0.194	0.113	-0.046	0.005***	-0.074	0.073
	(0.265)	(0.339)	(0.236)	(0.303)	(0.047)	(0.147)	(0.072)	(0.092)
Industry controls	YES	YES	YES	YES	YES	YES	YES	YES
N	43	34	56	21	43	34	56	21
Welch-Satterthwhite Test (*t-statistics*)	5.87		10.12		2.75		5.82	

Note: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. Standard errors in parentheses.

Models 3a, 3b and 5a, 5b provide evidences about the moderating effect of Family CEO on the base relationship between CEO Power and IPO value (*hypothesis 2*). Columns

I and II show the results obtained by using *M/B* to proxy IPO value; in columns V and VI IPO value is measured by *IPO_PRM*.

Models 4a, 4b and 6a, 6b tests our last hypothesis (the moderating effect of co-leadership structure). In columns III and IV we employ *M/B* to account for IPO value; in columns VII and VIII we rely on *IPO_PRM.*

We perform Welch-Satterthwaite test, the two-sample t-test with unequal variance, to assess wheatear or not the coefficient of *CEO_POWER* in the above models are higher those in the base models (Table III). We compare, one by one, the coefficient of *CEO_POWER* of models 3a, 4a, with that of model; while we compare the coefficient of models 5a and 6a with that of model 2.

See Table II for variable definitions

TABLE V. CEO Power, Family CEO and co-leadership structure: joint moderating effects

	Model 7a (IX) *FAM_CEO=1 & CO_LEADER=0*	*Model 7b* (X) *FAM_CEO=0 & CO_LEADER=1*	*Model 8a* (XI) *FAM_CEO=1 & CO_LEADER=0*	*Model 8b* (XII) *FAM_CEO=0 & CO_LEADER=1*
Variable	*y=M/B*		*y=IPO_PRM*	
CEO_POWER	**0.573*** **	**0.077*** **	**0.118*** **	**0.026*** **
	(0.120)	(0.032)	(0.018)	(0.009)
SIZE	0.254**	-0.270	0.049***	-0.059
	(0.103)	(1.310)	(0.016)	(0.395)
LEV	0.799*	1.265	0.221**	0.870**
	(0.455)	(2.265)	(0.079)	(0.401)
AGE	0.007	0.350	-0.007	0.044
	(0.174)	(0.747)	(0.030)	(0.248)
MARKET	0.136	0.572	0.188***	-0.099
	(0.354)	(1.306)	(0.047)	(0.166)
BOARD_SIZE	-0.403	0.636	-0.126**	0.624
	(0.385)	(4.936)	(0.063)	(1.644)
Industry controls	YES	YES	YES	YES
N	32	11	32	11
Welch-Satterthwhite Test (*t-statistics*)	12.19		11.13	

Note: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. Standard errors in parentheses.

Models 7a and 8a consider the joint effect of having a family member as CEO without shared leadership. In columns IX and X we proxy IPO value with *M/B*; in columns XI and XII we rely on *IPO_PRM*.

We perform Welch-Satterthwaite test, the two-sample t-test with unequal variance, to confirm the statistical significance of the differences between the coefficients of *CEO_POWER* obtained in models 7a and 8a with those obtained in the models 1 and 2.

See Table II for variable definitions

3.5 Conclusions

In the transition from private to public ownership, the link between CEO power and investor evaluations in the context of family firms has remained an unexplored area. The goal of this research is to better understand whether, how and why a powerful CEO has an effect on IPO value.

We argue, in line with Finkelstein *et al.* (2009), that CEO power must be analysed as a construct rather than multiple variables. Thus, by using an exploratory factor analysis

(EFA), we empirical build an indicator for CEO power. Considering Finkelstein's (1992) framework, we take into account three types of power through a factor analysis: ownership, structural and expert. Using a unique hand-collected dataset, we make inference on 77 family owned IPOs that took place on the Milan Stock Exchange in the period 2000-2011. In a stewardship framework, we confirm that a powerful leader can reduce uncertainty and foster trust among new potential investors. Our results suggest that outside investors positively evaluate family IPOs managed by powerful CEOs.

Further, broader family business literature has generally assumed that IPO firms belong to a homogenous group. We introduce two moderating factors that allow us to distinguish between different familiar leadership styles: we find differences in powerful family and non-family leaders as well as between a co-leadership structure and the case of 'one man in command'. The presence of a powerful family CEO strengthens the relationship between leader power and IPO value. Considering the second moderating factor, the presence of a co-leadership structure, we can state that IPO value will benefit from unity of command (e.g., absence of co-leaders). Moreover, we analyse the case of powerful family CEOs who are the only leaders (e.g., no co-leadership structure) of the board and unsurprisingly find that this leads to superior performance of family IPOs.

Our results are robust to different proxies: we employ two different measure of IPO, short term and value. We define family owned firms by evaluating family involvement in both equity and managerial positions, and perform a sensitivity test using an alternative definition (e.g., *F-PEC score*).

However, we must point out three limitations of our study. First, we focus on a single country. On one hand, as in Chahine (2007), we are able to avoid any endogeneity problems between family ownership and country-specific characteristics, but on the other, this may limit the overall validity of the results. Future studies, where possible, should attempt to replicate our analysis in other countries and consider institutional or cultural conditions that affect the relationship between CEO power and IPO value in family firms. Second, we focus on short-term evaluations, we cannot exclude that in the long run the relationship may differ. According to Shleifer and Vishny (1989), a more powerful leader may exhibit stronger entrenchment behaviour, in particular with respect to the market for corporate control and thereby lowering firm value in the long run. Future studies could address the differences, if any, between the short and long term by

analysing how outside investors perceive powerful CEOs. Third, we consider only the CEO role but readily recognize that the top management team and its prestige (Lester *et al.*, 2006) could also reduce uncertainty and influence IPO value. We do not take into account the possible interaction between powerful CEOs and top management team structure, which scholars may be interested in exploring further.

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Chapter 3. A story of complicated relationship: family involvement in TMT and stock market. Empirical evidences from IPOs survival.[15]

Abstract

The aim of this article is to analyse how and if TMT diversity affects post-IPO survival of publicly listed family firms. To this end, we draw upon the upper echelons perspective to investigate two sources of diversity: the percentage of family managers and the number of generations involved in TMT. We test our hypothesis on a data set of Italian listed family firms over the period 2000-2011. The results are robust to logistic regression and Cox hazard model. Our findings suggest that a higher presence of family members in TMT reduce the likelihood of post-IPO survival. Likewise, the number of generations is negatively correlated to survival. To corroborate such findings, we take show that when only one generation is in charge, survival probability increases.

[15] Please note that a similar version of this chapter (with the same title) is currently under review for (voluntary-omitted) journal. I am grateful to my co-authors, Dr.sa Donata Mussolino, Prof. Mauro Romano and Prof. Riccardo Viganò, for their help. However all the errors within the chapter are my own responsibility.

4.1 Introduction

Is it detrimental the Top Management Team (TMT) diversity in family Initial Public Offering (IPO) after went public? TMT is responsible for strategic outcomes and influences entrepreneurial activities as well as performance (Sciascia *et al.*, 2013). In entrepreneurial context, TMT provides valuable contribution to find new financial resources and sustain firm growth (Kamm *et al.*, 1990). In their seminal paper, Hambrick and Mason (1984) posit that organizations serve as reflections of their top executives. Complementing the studies of TMT, scholars broadened the focus to its demographic characteristics (Certo *et al.*, 2007). Indeed, having a heterogeneous TMT may provide the company with a competitive advantage (Bunderson, 2003). Critics question this advantage (Olson *et al.*, 2006) and define TMT diversity as a double-edged sword (Finkelstein and Hambrick, 1996) involving in opposite forces that differently affect firm outcomes.

In addition to previous literature, Ling and Kellermanns (2010) argue that family firms are an ideal setting to study TMT diversity. Therefore, the integration of family and non-family members in the TMT creates additional challenges and a greater source of diversity.

As Minichilli *et al.* (2010) state, TMT diversity in family firms is still an underdeveloped topic despite of its crucial importance in strategic process and choices (Kellermanns and Eddleston, 2007). Carpenter (2011) maintains that the principal task of TMT is the strategic management of organization in order to assure the survival of the firm. Additionally, management literature stresses that TMT heterogeneity may affect entrepreneurial activities and, as reflection, survivability.

IPO represents undoubtedly an entrepreneurial setting (Lester *et al.*, 2006) where studying TMT demographic composition is useful to interpret and predict firm outcomes. Top managers of IPO firms may be particularly influential in firm behaviours, in fact "these individuals often joined during the early stages of development, the firms they lead not only reflect the strategies they enact, but may also embody their values, ideals, and beliefs" (Certo *et al.*, 2009, p.1351). In the transition from a private to a public ownership, TMT is under scrutiny by potential investors who are unaware of how firm will react to the pressure of financial markets. Works in this

area suggest that competences and composition of a firm's top-level decision makers may infuse credibility to the equity market prior to IPO. Researches have flourished on this topic. Drawing on such works, empirical studies investigated TMT prestige and stakeholders' valuation (Lester *et al.*, 2006) as well as TMT prior managerial experience and IPO underpricing (Cohen and Dean, 2005). Beckman *et al.*, (2007) claim that TMT compositions impact on likelihood of firms undertaking an IPO, while the findings of Florin, Lubatkin and Schulze (2003) reveal an association between TMT social capital and the firm's ability to raise capital in the IPO process. Likewise, Zimmerman (2008) suggest that TMT heterogeneity allows firms to raise more capital at IPO.

Going one-step further, the existing literature fails to resolve how TMT demography influences the survival of firm in capital market (post-IPO success). In post-IPO phase, firms face transitional changes such as liability of adolescence. Within this line of research, scholars investigated several characteristics of apical key managers (Liu *et al.*, 2012). Bach and Smith (2007) find that CEO's structural power decreases, five years, post-IPO survival. A recent work of Kashefi Pour (2015) suggests that if CEO has greater power over the board (e.g. he/she is also the founder) the probability of delisting decreases. In the work of Yang and Zhu (2006), a U-shaped relationship between management insider ownership and survival time of IPOs is found. Welbourne and Andrews (1996) note that if top managers valued their employees as an asset, firms are more likely to survive post-IPO. Wilbon (2002) reveals that experienced senior executives enhances the chances the firm survives. Unsurprised, none of previous studies, to date, address the issue of post-IPO survival in family firms. Given the above discussion and considering that family offers a unique source of TMT heterogeneity (Ling and Kellermanns, 2010) we fill the gap by focusing on TMT diversity in family firms and post-IPO survival.

To test if and to what extent TMT diversity affect post-IPO survival, we draw upon a sample of 77 family owned firms that went public on Milano Stock Exchange in 2000-2011 timeframe. In line with Kraiczy *et al.*, (2014), we rely on two family firm-specific sources of TMT diversity: namely, the ratio of family members in the TMT and the number of generations involved in TMT. Previous literature on upper echelon theory and family business (e.g. Ling and Kellermans, 2010) claim that each source of family

firm-specific TMT diversity may have a different impact and needs separate consideration. We embrace this suggestion and separately assess their impact on post-IPO survival. First, we look at the presence of both family and nonfamily members as a major source of family TMT diversity (Naldi *et al.*, 2007). In this light, we rely upon the ratio of family managers in TMT: the findings unequivocally suggest that this source of diversity is detrimental for post-IPO survival. Second, the vertical distance among family members can be a source of TMT diversity. That is, we consider the number of generations involved in TMT and verify that the higher the intergenerational involvement is, the lower likelihood of post-IPO survival would be. Moreover, we focus on the impact of single and multiple generations in charge: results reveals that having only one generation involved in TMT increases the likelihood of post-IPO survival. Empirically our results are robust to two different techniques: logistic regression and Cox hazard model.

The present research aims to understand if and to what extent family TMT diversity affect post-IPO failure (e.g. the condition of being delisted). By integrating the upper echelon perspective within the family business literature, our study contributes to the management and entrepreneurship literature in several distinctive ways.

First, to the best of our knowledge, this study represents the first empirical investigation of IPO survival of publicly listed family firms. Considering that empirical studies investigating IPO firms' ability to survive are relatively limited and mainly concern large IPOs in the USA (Amini and Keasey, 2013), we contribute to advance the academic debate on IPO survival providing empirical evidence that suggests how family involvement in TMT influencing IPO ability to survive in the aftermarket. Second, our study demonstrates the importance of the TMT composition in a strategic and complex context. Few studies have examined attributes that capture the family dimension for the TMT diversity (Sciascia *et al.*, 2013; Minichilli *et al.*, 2010; Ling and Kellermanns, 2010). Yet, family firms offer a rich avenue for research on diversity, since the family provides an additional layer of complexity and unique sources of TMT diversity not found in non-family firms. Accordingly, we seek to enrich the understanding of TMT diversity in family firms by focusing on two important sources of diversity that are particularly salient to this type of business: the number of family managers and the number of employed generations in the TMT. Bringing the

dimensions into our research, we contribute to answer the question of how family involvement contributes to firm outcomes. We ideally respond to recent calls from family business literature for a deeper understanding of family heterogeneity (Melin and Nordqvist, 2010) and for a clearer picture of TMT diversity and entrepreneurial outcomes (Sciascia *et al.*, 2013).

Third, researchers are increasingly interested in explaining differences among family firms (e.g Chrisman and Patel, 2012); we contribute to this effort by developing arguments to explain how the influence of TMT composition on IPO survival changes depending on a single generation-managed family firm or multi-generation-managed family firms.

With supportive empirical results, our research offers two main contributions. First, this study contributes to the debate on whether family involvement is conducive or not for IPO survival, based on the level of family member's and of generational involvement in upper echelon positions. Second, we cautiously add some knowledge to the TMT diversity literature by proposing a negative relationship between two sources of TMT diversity and firm survival, thus shedding some light on previous mixed findings.

The remainder of this article is structured as follows. In the next section we briefly present previous studies on the issue of IPO survival and on the role of TMT in the IPO phase. Next, we review the literature on family firms and IPO and on TMT diversity in family firms. Section 3 is devoted to hypotheses development. The study design, methods and data analysis are described in Section 4. Section 5 highlights our empirical results. Section 6 discusses the findings of our investigation. Section 7 exposes the main limitations of this study and highlight some promising avenues for future research. The final section presents the conclusions.

4.2 Literature review

4.2.1 The issue of post-IPO survival

Over the past few decades, research on firms engaged in initial public offerings (IPOs) has turned up as a prominent topic in entrepreneurship and management

research (Certo *et al.*, 2009). IPOs take place when firms move from private to public ownership by issuing liquid shares that are subsequently traded on a stock market.

The entrepreneurial choice of go public is a trade-off between costs (e.g. indirect costs: market fluctuation and underpricing; direct costs: disclosure costs and underwriting fees) and benefits (e.g. diversification, access to equity and outside monitoring) (Zingales, 1995). Dealing with such costs, Migliorati *et al.* (2012), for example, report a gross spread of 8.08% for Italian IPOs. In management literature, a central tenet is that a sense of uncertain permeates IPO phase (Certo *et al.*, 2001): surviving in a new risky environment may depends from several factors. Post-IPO failure rates confirm these high risks involved in entrepreneurial IPO firms. A primary concern of researchers has been to individuate which are the aspect that could determine post-IPO success, defined as the condition of being still traded within three years after IPO. Among others, Jain and Kini (1999) provide a valuable contribution when defining the principal explanatory variables (e.g. entry barriers, firm size, research and development spending and underwriter prestige) that predict IPO survival. Prior studies have found that IPO failure may be attributable to two different subgroups of motivations: external conditions and intrinsic firm's characteristics.

Within the former group, Vismara *et al.* (2012) prove that there is no difference, in terms of probability of survival, between different types of markets but the likelihood of delisting is lower in Continental Europe (e.g. Germany and Italy) when compared with London Stock Exchange. Espenlaub (1999) argues that industry plays a pivotal role in predicting firm's survival in capital markets. For example, Wilbon (2002) reports that high technology IPOs face greater risk and are more subject to post-IPO failure compared to others sectors. Amini and Keasey (2012) show that spatial proximity to London increases failure rate for firms operating in the financial sectors.

In the second group of motivation, literature investigates internal characteristics of IPO firms: in particular, ownership (e.g. presence of venture capitalist), external advisors (e.g. nomad and audit firms) and management compositions and tasks. The finding by Carpentier and Suret (2011) reveals that venture-backed IPOs are also less prone to delisting. Jain and Martin (2005) empirically assess how audit quality could reduce post - IPO time to failure by using proportional hazard model. Their findings confirm that the hazard ratio is negatively (and hence survival time is positively) related

to auditor quality. Across a European sample, Thomsen and Vinten (2014) find that ownership concentration is positively associated with the likelihood of non-survival after IPO. Another factor that may affect IPO survival is pre-listing performance (Fama and French, 2004): in 2004, Peristiani and Hong test this argument and conclude that firms with negative pre-IPO earnings were three times more likely to be delisted compared with profitable listed firms. When discussing firm's characteristics, the study of Kooli and Meknassi (2007) find that large IPOs have lower probability of failing relative to their small counterparts.

4.2.2 The role of TMT in IPO phase

Our research is in line with the academic debate that investigate internal characteristics of IPO firms to predict IPO success or failure. Particularly, we build on previous studies that have found that the influence of the Top Management Team (TMT) knowledge and experiences is likely to be strong in the post-IPO firm (Liu *et al.*, 2012). The post-IPO firm faces a bigger community of stakeholders whose demands may influence its strategies creating complexity and a need to manage different external pressures (Ritter and Welch, 2002). The demands from external stakeholders require a more stable organization with clearer internal divisions of labour (Hannan and Freeman, 1984). In IPO firms, this new internal organization and external legitimacy to be a more professionalized firm is still yet to be developed compared to mature, publicly listed corporations (Filatotchev and Piesse, 2009). These unique characteristics of stakeholders, tasks, and internal organization require managers at the post-IPO firm to possess appropriate experiences and knowledge (Nelson, 2003). With the changes of the firm's dominant problems (Kazanjian, 1988) such as the lack of legitimacy and internal specialization, the composition of TMT in IPO firms provides an important solution as the upper echelon theory explains.

The upper echelon perspective states that firm performance is a "reflection" of the characteristics and actions of the team of managers central to the firm, known as the TMT (Finkelstein and Hambrick, 1990; Hambrick and Mason, 1984). The two basic assumptions of the upper echelon theory, that found their roots on the bounded rationality (Cyert and March, 1963; March and Simon, 1958), are: *(1)* executives act on

the basis of their personalized interpretations of the strategic situations they face, and *(2)* these personalized interpretations depend on the executives' experiences, value, and personalities (Hambrick and Mason, 1984). Therefore, "if we want to understand why organizations do the things they do, or why they perform the way they do, we must consider the biases and dispositions of their most powerful actors – their top executives." (Hambrick, 2007, p.334).

TMT members' different experience, perspectives, values, and affiliations shape the ideas and opportunities that are eventually pursued (Beckman, 2006). This diversity in TMT influences a firm's entrepreneurial activities, strategic behaviours and performance of firms (Barkema and Shvyrkov, 2007; Beckman *et al.*, 2007).

Prior studies have addressed the effects of TMT diversity on innovation and on entrepreneurial orientation (e.g. O'Reilly *et al.*, 1993; Talke *et al.*, 2011), as well as literature has widely explored characteristics and behaviours of the TMT, such as interaction and demography, on success of the firm (e.g. Amason, 1996; Amason and Sapienza, 1997).

However, the existing literature fail to resolve the contribution of the characteristics of TMT on the post-IPO success (or failure), defined as the likelihood of being listed (delisted) after three years from IPO (Certo *et al.*, 2007).

TMT is responsible for strategic outcomes and influences entrepreneurial activities as well as performance (Sciascia *et al.*, 2013). However, the relationship between IPO firms and top managers goes beyond the simple provision of strategic decisions. In fact, an IPO is a strategic event for firm with primary responsibility for success attributed to its management team (Lester *et al.*, 2006). Certo *et al.*, 2007 hold the view that TMT has a crucial role in the probability of post-IPO success or failure Indeed, the transition from a private to a public ownership may increase failure rates because of new challenges and unexperienced market pressure faced by management (Fischer and Pollock, 2004).

Moreover, the study of Welbourne and Andrews (1996) about firm survival claims that when top managers correctly nurture employees 'talents firms are more likely to survive post-IPO. By the same token, Wilbon's (2002) findings suggest that firms with more experienced top managers are more likely to survive after IPO.

Considering that family business creates a unique setting offering "a rich avenue for research on diversity, since the family provides an additional layer of complexity and unique sources of TMT diversity not found in non-family firms." (Ling and Kellermanns, 2010, p. 323) and that literature confirms that the role of upper echelon in family-controlled publicly listed firms in the strategic choice of going public is an underdeveloped topic (e.g. Leitterstorf and Rau, 2014; Jaskiewicz *et al.*, 2005), our paper fills the gap in literature about the role of TMT of publicly listed family firms in post-IPO survival.

4.2.3 Family firms and IPO

The world economy is dominated by family firms (La Porta *et al.*, 1999). Among different types of controlling shareholders, families represent 40% of the Fortune 500 firms between 1994 and 2000 Villalonga and Amit (2006), one-third of the S&P 500 firms between 1992 and 1999 (Anderson and Reeb, 2003), 85% of all the European firms, 27% of all the European listed companies with the market capitalization over 50 mln €, 60% of publicly listed firms in Italy (CONSOB, 2013).

Despite this significant proportion of family-controlled publicly listed firms, literature has devoted limited attention to family IPOs (Astrachan and McConaughy, 2001) and, to the best of our knowledge, there is no study that have examined IPO survival of family-controlled business.

To date, researchers provide scant evidences about why family firms go public. It is often said that firms whose controlling shareholder enjoys large private benefit, such as family owned companies, are less likely to go public (Boehmer and Ljungqvist, 2004). From an emotional standpoint (Dyer and Handler, 1994), family entrepreneur consider firm as their own creature and this may inhibit the wealth diversification premium of going public. Pagano, Panetta and Zingales (1998) suggest that firms go public to enjoy a lower cost of credit capital.

Within family IPOs, Mazzola and Marchisio (2002) address the relevant topic of the implementation of new and different governance mechanisms and change in managerial positions to gain benefits from the listing process. Strong family involvement has been found to increase long-run stock market performance of IPOs in Germany and Spain (Jaskiewicz *et al.*, 2005). Contrasting these results, Giovannini (2010) reports a negative

relationship between family involvement and share performance within the Italian context. The listing process may also influence long-run strategic outcomes: the findings by Jain and Shao (2014) reveal that family firms underinvest in post-IPO liquidity. Leitterstorf and Rau (2014) underline that there is no difference among different family generation in charge and their impact on underpricing. Recent evidences by Chahine and Goergen (2013) suggest that the strength of family ties within TMT negatively impacts on IPO performance. Jain and Shao (2014) sustain that the involvement of two generations of family members in TMT fasters the dissipation of post-IPO cash reserves.

However, studies on long-term performance give us very little information about family firms' survival after IPO. In literature, there is a general consensus that family businesses present survivability capital; it is "the pooled personal resources that family members are willing to loan, contribute, or share for the benefit of the family business" (Sirmon and Hitt 2003, p. 343). One may argue that, ceteris paribus, such firms would exhibit higher successful likelihood. In this sense, Wilson *et al.*, (2013) claim that family firms have a significantly lower failure rate than the nonfamily subsample, but their findings consider only private firms. On the contrary, scholars often refer to family firms as more risk adverse than non-family counterparts (Hiebl, 2013): this attitude may undermine the survivability of the company (Zellweger *et al.*, 2013). In fact, firms do not shoulder sufficient diversification when there is a necessity to devote more financial resource in diversifying innovation to increase survival chances (Carney, 2005).

Such reflections are unsatisfactory to predict the survival of family firms on the equity market, leaving open the question of family IPOs failure rate in capital markets (Certo *et al.*, 2001). Considering how previous studies have underlined the role of the TMT for the family firms' strategic outcomes (Minichilli *et al.*, 2010; Naldi *et al.*, 2013), we believe that the upper echelon perspective offer the theoretical framework to investigate the contribution of TMT of family business to the post-IPO survival.

4.2.4 TMT diversity in family firms

Family business, like other organizations, is often managed by a group or team of individuals whose collective dynamic has a direct impact on the direction and performance of the firm (Minichilli *et al.*, 2010). Upper echelon theory suggests that performance differences arise from the composition of the TMT (Hambrick, 2007) and scholars in the field of family business confirm that TMT diversity has an impact on family firm performance (Ling and Kellermanns, 2010).

When exploring TMT diversity, we assume that diversity could be induced by the involvement of the controlling family reflected in TMT, directly or indirectly (Ensley and Pearson, 2005). Studies on TMT in family firms provide inconclusive results. Such mixed results have induced most scholars to argue that TMT diversity is a "double-edged sword" (Milliken and Martins, 1996) in which the "effect of TMT diversity on innovativeness [and entrepreneurship]" is "mixed and ambiguous because of the dual impact of the benefits and costs associated with TMT diversity" (Auh and Menguc, 2005, p. 250). TMT diversity apparently brings the necessary knowledge to bear on complex strategic issues, but it is also likely to promote dysfunctional rivalries, impair social integration, and restrict knowledge flows-all of which serve to inhibit entrepreneurial orientation.

It is argued that TMT diversity shapes the ideas and opportunities (Beckman 2006), thus influencing a firm's entrepreneurial activities and performance (Barkema and Shvyrkov, 2007; Beckman *et al.*, 2007). Accordingly, a wide literature on the effects of TMT diversity on strategic behaviours and outcomes has been developed (Zimmerman, 2008). Research on diversity of the TMT and its impact on performance show controversial findings. From one side, some authors state that heterogeneous TMTs are beneficial (Bunderson, 2003), even if the positive effect of TMT diversity on performance does not receive consistent support (Olson *et al.*, 2006). From other side, agency scholars have indicated that TMT diversity, in terms of involvement of the family group within the upper echelon, become harmful to the financial performance (Minichilli *et al.*, 2010).

We have argued how the intertwinement of business and family introduces the unique sources of TMT diversity in family firms. A more diverse TMT has more comprehensive cognitive resources and, thus, greater potential for more thoughtful

decision-making (Haleblian and Finkelstein, 1993). Such a TMT, however, may suffer from problems and costs related to coordination of the various interests and behaviours of heterogeneous team members (Smith *et al.*, 1994). This is why researchers (e.g. Simons, Pelled and Smith, 1999) emphasize that the presence of differences within the TMT does not necessarily mean that the firm will make effective use of those differences.

The major drawback of reviewed studies is that they fail to account for different TMTs composition, while TMT demography as be found to be one of the crucial factor that affect family firms' strategic choices (Minichilli *et al.*, 2010). Among its strategic tasks, TMT is required to implement a diversification strategy (Jones *et al.*, 2008): it may offer an opportunity for family firms to spread out their holdings. Risk reduction could potentially improve the likelihood of firm survival; however, an additional threat is that family may need external funds to support diversification projects. The access to new equity via IPO creates a link to new actors (e.g. non-family shareholders) who can reduce family's power and influence (Schulze *et al.*, 2003) thereby generating a dilemma: maintain control over firm's assets hits with the aim to diversify the family's business risk (Gomez-Mejia *et al.*, 2010). The diversification thought listing process involves firms entering into new environment, thereby resulting in a change in the firms' administrative structure, systems, and management (Ramanujam and Varadarajan, 1989).

We next unpack the concept of TMT diversity and consider the impact of family involvement in TMT of family firms on IPO survival.

4.3 Hypotheses development: team composition in publicly listed family business and IPO survival

Consistent with previous studies (Sciascia *et al.*, 2013; Ling and Kellermanns, 2010), we focus on TMT diversity unique to family firms that originates from two sources: the ratio of family members to non-family members in the TMT and the number of generations involved in the TMT. We then analyse the impact that TMT diversity has on IPO survival of family-controlled business, filling the gap of no study in literature that tests IPO survival for family firms.

4.3.1 Ratio of family members in the TMT

In the case of family firms, the most evident TMT diversity is between family and non-family members. Family members share common culture, values, and norms inherited from their parents and relatives, along with a common pattern of education, and usually feel satisfied and rewarded with their occupation in the family firm (Chua *et al.*, 2003). Family members have a stronger emotional attachment to the firm. Emotional attachment enhances the level of commitment and involvement individuals have towards organizations, since they identify with the organization itself (Sharma and Irving, 2005). This is not true for non-family managers. They share similar outside professional experiences as those of family members, but possess a common feeling of exclusion from the controlling family.

To measure this first step of TMT diversity in family firms, we refer to the ratio of family members in the TMT that is the ratio of family to family-external members in the TMT. In this sense, we are in line with previous studies that use this measure (Minichilli *et al.*, 2010), thus facilitating comparisons among research findings.

Our most basic argument is that TMT with a higher percentage of family members will potentially bring disruptive behavioural dynamics including conflict and unshared strategic objectives. Looking to theories exploring the behavioural dynamics of teams (Gladstein, 1984; Goodman *et al.*, 1987), the group dynamic perspective predicts behavioural and emotional disagreements and tensions among family and non-family members.

A number of management scholars have reported that TMT diversity can produce high levels of relationship or emotional conflicts, i.e., "interpersonal incompatibilities among group members, which typically includes tension, animosity, and annoyance" (Jehn, 1995, p.263) that undermine consensus and agreement, and thereby the potential entrepreneurial advantages of having a group with different knowledge and perspectives. Recent evidences from the field of family business suggest that the existence of these two different groups of family and non-family top executives leads to behavioural disruptions that consequently hurt firm performance (Li and Hambrick 2005).

Minichilli *et al.* (2010) follow the idea developed by Li and Hambrick (2005) and suggest that the presence of divides inside groups or teams, based on one or more group

attributes (family versus non-family managers), can provoke subgroup conflicts that harm the group tasks' effectiveness (Lau and Murnighan, 1998). In fact, dissimilarities determined by team members' demographic or cognitive attributes create factional groups (Lau and Murnighan, 1998).

Based on these explanations, the consequences of the costs related to TMT diversity are well explanained by Knight *et al.* (1999). They found that more heterogeneous TMT makes less comprehensive evaluations of opportunities and threats; Hambrick *et al.* (1996, p. 664) showed that team heterogeneity is negatively related to strategic consensus and leads to "dispersion in the group's perspective," thus inhibiting or delaying entrepreneurial action. In this sense, several studies thus far have reported a negative impact of TMT diversity on entrepreneurship (e.g. Ancona and Caldwell, 1992).

In line with these findings, Kellermanns and Eddleston (2007) provide evidence that a higher number of family members facilitate the rise of emotional family issues and conflict, which can negatively affect organizational processes. Because of a higher number of family managers has been found to reduce non-family managers' discretion and freedom to act (Zahra, 2005) and because of the close connection of family member wealth to the firm is revealed to make investments in innovations and new products inherently risky by creating exposure to family assets (Gómez-Mejía *et al.*, 2007). A high ratio of family members within the TMT may yield more risk-adverse decisions (Kraiczy *et al.*, 2014).

To guarantee the survivability on the equity market, to manage the complexity deriving from an entrepreneurial choice such as IPO, to respond properly to the more numerous external pressures, TMT diversity within family firms could no longer be beneficial in the fast-growing exposure at the post-IPO stage. Hence:

Hypothesis 1: There is a positive relationship between the ratio of family managers in TMT and the likelihood of post-IPO failure.

4.3.2 The Number of Employed Generations

Generational involvement, that is the number of family generations simultaneously involved in the firm TMT, has been investigated as second source of TMT diversity in

family firms (Kellermanns and Eddleston, 2007). The diversity depends on that managers, although closely related through kinship ties, differ in their perspectives, objectives and knowledge based on the family generation they belong to (Sciascia *et al.*, 2013). To be in line with previous studies, we use the vertical distance among family members as a source of TMT diversity to investigate the impact on IPO survival.

Researchers and social scientists, who study the effects of population on society, use the term "generation" to refer to people born in the same general time period, sharing key historical events or social life experiences (Kupperschmidt, 2000; Smola and Sutton, 2002). The effects of those key life experiences tend to be relatively stable over the course of their lives (Smola and Sutton, 2002). Due to these distinct key life experiences, each generation develops unique traits and personality that influences its feelings toward authority and organization (Kupperschmidt, 2000; Smola and Sutton, 2002). For example, members of generations who lived in war years tend to think and act differently than those born and raised in peace and abundance. Indeed, generational personality is also likely to shape what individuals want from work, what kind of workplace environment they desire and how they plan to satisfy those desires. Due to generational differences, these wants and desires tend to vary from generation to generation. Therefore, people from different generations may have problems understanding others' perspectives of the work, which can be stressful, confusing, and frustrating in a demanding workplace (Gursoy *et al.*, 2008).

These generational differences are expected to create conflicts in the workplace by dividing the workforce into an "us" vs "them" mentality (Yang and Guy, 2006). Some studies have shown that when multiple generations work together, there is a potential for disagreement involving issues of setting objectives and taking actions, as individuals' interests and agendas diverge (Beckhard and Dyer, 1983). Business objectives are likely to become complicated. For example, previous research indicated that the founding generation usually desires that the business prospers, that their hard-won achievements are not undermined, and that their expertise is put to good use, while the younger generation tends to desire autonomy and recognition (Dumas, 1992).

Davis and Harveston (2001) found that more homogenous family teams would have less conflict— as a result of a single vision that is more commonly shared, held, and communicated— than those teams with greater familial distance. Similarly, Gersick *et*

al. (1997) highlight that as familial distance increases, the values, beliefs, and consensus of the family may become diluted.

Together these researches provide important insights that dysfunctional conflicts are likely to arise in TMT when multiple generations work together. This means that generational involvement offers relational obstacles due to relationship conflicts (Barkema and Shvyrkov, 2007), that are dysfunctional to team performance (Amason, 1996).

Several studies have attempted to explain that relationship conflict can become such a destructive force that the competitive advantages of familiness may be largely eliminated (e.g., Chrisman *et al.*, 2003). In the same vein, Habbershon *et al.* (2003) suggest that relational conflict may actually reduce the positive effects of familiness, thus reducing the ability of the firm to be successful. Therefore, by jointly considering the negative effect of multiple generations working together in TMT on team performance and the prediction of the upper echelon perspective, we hypothesize that:

Hypothesis 2: There is a positive relationship between the number of family generations involved in TMT and the likelihood of post-IPO failure.

4.4 Study design

4.4.1 Sample

We tested our hypotheses on the entire population (170 IPOs) of firms that went public on Milano Stock Exchange in the selected period. We pared the list down to 144 by deleting firms in the financial sector (SIC code: 6000 - 6799, for 23 observations) and foreign firms (3 observations). Due to missing data, we also exclude 31 observations.

The Italian capital market represents an ideal setting to scrutiny the influence of family involvement in TMT for publicly listed firms because of its unique feature of a large number of listed family firms (Cascino *et al.*, 2010).

For historical reasons, family firms represent a higher portion of companies traded on the Italian Stock Exchange. Similar to other countries with poor financial infrastructures, the control of a large fraction of the economy is delegated to wealthy

and well-established families (Pagano *et al.*, 1998). Controlling families are usually very much involved in the activities of the firm as revealed by the regular appointment of family members in the governance positions (Prencipe *et al.*, 2008).

Our period starts in 2000: before such date, national lawmaker made significant changes. First, Cattaneo *et al.* (2015) document that the introduction of *Draghi Law* (D. Lgs. N.58/1998) had influenced the listing patterns of Italian IPOs. Second, *Borsa Italiana* promoted the adoption of the first Italian code of good governance (Codice Preda, 1999): it may influence board composition and manager nomination including family members (Zattoni and Cuomo, 2008). Lastly, we select this observation period to avoid any potential bias due to the good trend of stock market index and the increasing of public incentives (e.g. tax benefit granted by *Tremonti law*) occurred in the period 1995-1999 (Bonardo *et al.*, 2007). We end our analysis in 2011 because we track the IPOs in the next triennium (until 31 December 2014) to determine whether they were delisted or not.

Reliable information on family firms are difficult to obtain. Therefore, we gathered information from IPO prospectus[16]. Lester et al. (2006) document the wide use of such prospectus in previous literature because it discloses data accessible to all kind of investors and other parties (Beatty and Zajac, 1994). By using the prospectus, we take an advantage: we can identify family members not only by surname affinity with that of dominant shareholder (relation by blood) but also by in-law relationships (e.g. marriage) with controlling family. Moreover, we obtain the number and kind of *delisting* from *Borsa Italiana*.

4.4.2 Family firm definition

Considering our research design, defining family firm is a central issue. Literature offers numerous definitions that rely upon being family managed or family owned (Astrachan and Shanker, 2003). However, due to the considerable presence of block-holders in Italian market we disentangle the issue from two prospective: family

[16] Welbourne and Andrews (1996) make researchers aware of the potential for positive bias in IPO prospectus. Keeping in mind such bias, we double-checked all financial data with *Zephyr Database* (Bureau van Dijk).

involvement in ownership and managerial position (Cascino *et al.*, 2010). We define as family firms those where two conditions exist simultaneously. First, one or more members of the family (related through blood or marriage) must control at last 30%[17] of voting rights and second, one or more members of the family must be involved in the top management team (De Massis *et al.*, 2012). In order to distinguish among family-owned and family-influenced firms we do not focus only on ownership concentration.

Considering such definition, the study population is limited to 77[18], non-financial, family IPOs.

4.4.3 Variables and measures

4.4.3.1 Dependent Variable

The present study considers as dependent variable a firm's survival on equity market after IPO. In line with Welbourne and Andrews (1996), IPO failure occurs if firm has been delisted. In keeping with Jain and Kini (1999), we treat mergers and acquisitions as non-survived IPOs. Based on such post-IPO outcomes, we segment the sample into survivors (63 observations) and non-survivors (14 observations). Table I provides information about the yearly breakdown of the sample.

[17] "Decreto Legislativo 58/1998" (*Draghi Law*) requires a level of 30% a tender offer. According to this threshold, we define firm's contestability.

[18] To confirm the goodness of this empirical strategy, we also perform a sensitivity test by using alternative definitions of family firms. Specifically, we define family IPO according to *F-PEC* scale introduced by Astrachan, Klein and Smyrnios 2002. It computes family involvement in both ownership and managerial positions in a continuous variable. With this definition, we obtain a final sample of 75 family owned IPOs. Our results are robust to this proxy.

TABLE I: Time series distribution of post-IPO failure

Year	IPO year	Event year
2000	20	0
2001	6	0
2002	2	0
2003	2	0
2004	5	0
2005	5	1
2006	13	0
2007	15	0
2008	3	0
2009	0	0
2010	4	1
2011	2	2
2012	-	2
2013	-	3
2014	-	5
Total	**77**	**14**

In the column "IPO year", we disclose the number of new listing occurred within each year. Our sample ends in 2011 but our observation period lasts until three years after (2014). The "Event Year" is the year when the delisting happened. We track a total of 14 delisting.

To test firm survival in post-IPO period we employ two models: Logit and Cox proportional Hazard models. In the first model, the dependent variable (*DELISTED_DUMMY*) is a dichotomous outcome coded one if the firm delisted during the sample period, zero otherwise (Kashefi Pour, 2015). In the Cox model, we operationalise survival time (*SURVIVAL*) as time interval (in years) from IPO date to the year of delisting or to the end of observation period (2014) for survived IPOs (Chancharat *et al.*, 2012).

4.4.3.2 Independent Variables

Our independent variables serve the scope to fully inquire specific sources of TMT diversity (ratio of family managers over TMT size and number of employed generations

in TMT). In line with the above hypotheses, we employ a set of variables. We operationalise family involvement (*FAM_TMT*) as the ratio of family top managers over the total number of TMT members (Minichilli *et al.*, 2010; Kraiczy *et al.*, 2014). To assess family generational involvement, we define a continuous variable (*FAM_GENERATION*): the number of generations (e.g. first and founding generation or second and so on) actively involved in the TMT (Ling and Kellermanns, 2010). Moreover, to corroborate our findings we investigate the effect family generations simultaneously in charge of the firm: *FAM_GEN1* is a dummy variable equals to one if only one generation of the family runs the company; likewise, we set *FAM_GEN2* as a dichotomous variable: it assumes value one if two generations are contemporarily involved in the TMT, zero otherwise.

4.4.3.3 Control Variables

There are different ways other than family TMT diversity that may influence IPO survival. To strengthen confidence in the analysis we include several control variables. First, we employ firm's profitability as a potential predictor of success/failure of IPO. In line with Chancharat *et al.* (2012), we adopt Return on Assets (*ROA*) as a measure of post-IPO operating performance: it is the ratio of Earnings Before Interests and Tax (EBIT) on the book value of Total Asset, calculated within a year of going public. Second, Brealey *et al.* (1977) argue that the higher quota of equity retained by pre-IPO shareholders may serve as a certification device. Within the framework of family firms, we define "overhang" (*FAM_OVERHANG*) as shares retained by family over shares offered (Leitterstorf and Rau, 2014). In accordance with Espenlaub *et al.* (2012), we also control for initial returns (*UNDERPRICING*): the difference between the closing price on the first day of trading and the initial offering price expressed as a percentage of the initial offering price (Beatty, 1989; Jog and McConomy, 2003). Following prior researches (Chahine and Goergen, 2013) we use a High-Tech dummy (*HIGH_TECH*) to control for industry; we define "technology sector", in line with Roosenboom and Schramade (2006), using SIC code (283, 357, 365, 366, 367, 376, 382, 384, 48, 737, and 8731). The binary variable is equals to one if the firm belongs to the technology sector; zero otherwise. A corporate governance attribute is also considered: we include the ratio

of independent directors (*INDEP_DIR*). Bearing in mind the importance of the year in which IPOs are issued (Demers and Joos, 2007), we include a dummy variable (*TIME_CRISIS*) [19] that assumes value one if the IPO took place before the financial crisis, zero otherwise. In line with Ivashina and Scharfstein (2010), we consider that financial crisis started in august 2007. Based on previous literature on the topic, we control for several firm characteristics, namely: age, size and leverage. Age (*AGE*) is the logarithm of the difference between the IPO date and the founding year, as in the prospectus; Ho *et al.* (2001) use it as an ex-ante proxy for risk. Size (*SIZE*) is the logarithm of market capitalization at the offer price (Filatotchev and Bishop, 2002). Leverage (*LEV*) is the ratio of the book value of non-equity-liabilities on book value of total asset: we use this variable to proxy for less growth-oriented firms (Myers, 1977).

4.4.4 Data Analysis

Logit. This paper explicitly analyses the delisting of a firm. Considering the nature of such event, the logit regression is appropriate for estimate a binary dependent variable and previous literature widely uses it (Wilbon, 2002; Bach and Smith, 2007).

Cox. One of the major drawbacks of previous method is that it is unable to discriminate among firms that fails three years after IPO from those that fail after few months (e.g. do not account for period at risk). To date, alternative methods have been developed and introduced to measure IPO failure. In the present study, we also employs a survival analysis technique. We take advantage of using Cox model: it tackles the problems of static models by explicitly accounting for time (Shumway, 2001). It is useful because allows us to handle time-varying covariates and censored observations (Chancharat *et al.*, 2012). In our research context, censored observations are firms that are still listed at 31 December 2014 (e.g. observations that do not experienced the event during the

[19] We also employ another time-proxy to perform our analysis. Literature often refers to "Hot issue market" (e.g. Espenlaub, Khurshed and Mohamed 2012) as a period when there are significantly greater numbers of new issues. We account for this phenomenon by using a binary variable (*HOT_MARKET*) equals to one if firm went public in 2000 (the year with major IPOs in our sample), zero otherwise. In line with Demers and Joos (2007), we expect a negative relation between hot issue and IPO survival. Our results, unreported, indicate that such variable is not significant but the overall validity of models remains unchanged.

observation time). Time-varying covariates refer to specific firm's characteristics that may change over time (e.g. financial ratio): such variables are important predictors of our time event, IPO failure. The major advantage of the model is that it does not make assumption on the underlying statistical distribution and the baseline hazard function is estimated non-parametrically.

In the Cox proportional hazards model, we employ our dependent variable (*SURVIVAL*) to generate hazard ratios of new IPOs and operationalise such ratios as a function of firms' characteristics at the time of going public. Following Mehran and Peristiani (2010) and, Kashefi Pour and Lasfer (2013), we operationalize the length of time to delisting-event, after controlling for related factors, as follows:

$$h\big(t, X(t)\big) = h(t, 0)\exp(BX(t)) \qquad (1)$$

where *h (t, X(t))* is the hazard rate at time t for a firm with covariates (independent variable) *X(t)*. Hazard ratios ($\exp(B)$) indicate the change in the hazard for a unit increase in the independent variable. If the ratio is greater (less) than one, it implies that the non-survived companies has a shorter (greater) time to the event (delisting). The hazard ratio equal to one means that there is no difference between survived and non-survived IPOs.

4.5 Results

4.5.1 Descriptive statistics and univariate analysis

Table II breaks down the sample by survived (e.g. firms who remain listed until the end of the study period) and non-survived IPOs. The two subsamples do not significantly differ each other. Results show that the average age is 2.43 for successful IPO and 2.26 for non-survived counterparts. While all others control variables do not diverge, it is interesting to note that firms who experienced a failure post-IPO are more underpriced than successful IPOs; this is consistent with the view that survivability is positively related to initial returns (Shultz, 1993; Hensler *et al.*, 1997). Going further, we notice that survived IPOs are bigger (*SIZE*) compared to non-survived counterparts.

In fact, small IPOs tend to be the most speculative and are expected to underperform in the long run (Kooli and Suret, 2004). If we scrutinize the role of family, we observe that survived IPOs exhibit higher level of "overhang" (e.g. the ratio of shares retained to shares offered, *FAM_OVERHANG*): that is, the greater family involvement in post-IPO ownership, the lower probability to fail. Coherently with our predictions, the ratio of family top managers (*FAM_TMT*) is higher in IPOs who experienced a failure.

TABLE II: Descriptive Statistics

	Survival IPOs *n=63*			Non-Survival IPOs *n=14*			Equality of means
	Mean	*Median*	*St.Dev.*	*Mean*	*Median*	*St.Dev.*	*t-test*
AGE	2.43	2.64	0.96	2.26	2.44	1.28	0.55
SIZE	12.24	12.35	1.24	11.87	11.87	0.91	1.04
LEV	0.71	0.72	0.18	0.73	0.77	0.16	-0.36
HIGH_TECH	0.57	1.00	0.50	0.50	0.50	0.52	0.48
ROA	0.12	0.10	0.15	0.09	0.08	0.05	0.69
T_CRISIS	0.83	1.00	0.38	0.93	1.00	0.27	-0.96
UNDERPRICING	0.22	0.03	1.16	0.73	0.02	2.49	-1.17
FAM_OVERHANG	2.22	1.94	1.40	1.75	1.57	1.03	1.16
INDEP_PERC	0.26	0.25	0.14	0.28	0.26	0.09	-0.51
FAM_TMT	0.31	0.26	0.16	0.40	0.39	0.16	-1.97**
FAM_GENERATION	1.71	2.00	0.73	2.00	2.00	1.04	-1.22
FAM_GEN1	0.44	0.00	0.50	0.29	0.00	0.47	1.08
FAM_GEN2	0.40	0.00	0.49	0.57	1.00	0.51	-1.19

Note: *AGE* is the logarithm of the difference between IPO year and founding year, as reported in prospectus. *SIZE* is the logarithm of market capitalization at offer price. *LEV* is the ratio of Book Value of non-Equity Liabilities on book value of Total Asset, it refers to last pre-IPO financial (audited) statement. *HIGH_TECH* is a binary variable equals to one if the firm belongs to technology sector, zero otherwise. This variable is computed in line with Roosenboom and Schramade (2006), using SIC code (283, 357, 365, 366, 367, 376, 382, 384, 48, 737, and 8731). *ROA* is defined scaling Earnings Before Interests and Tax (*EBIT*) by the Book Value of Total Assets, it refers to the end of IPO year. *T_CRISIS* is a dummy variable; it assumes value one if the IPO was issued before financial crisis, zero otherwise. In line with Ivashina and Scharfstein (2010), we consider that financial crisis started in august 2007. *UNDEPRICING* is the percentage difference between the closing price (at the end of the first trading day) and the offer price. *FAM_OVERHANG* is the ratio of shares retained over shares offered by family. *INDEP_PERC* is the percentage of independent directors in the board. We do not develop this ratio upon the concept of "outside" or "not affiliated" directors: we identify "independent directors" in accordance with strictly definition of Italian Law; we are able to following this criterion because firms are obligated to disclose this information in IPO

prospectus. All data are corrected for inflation (basis year 2011).

FAM_TMT is the ratio of family managers from TMT over TMT size. We delineate the TMT as board of directors plus key figures and managers: by this way, we are able to carefully identify family members (people related through blood or marriage). Our choice is related to the fact that firms that go public must disclose the presence of key figures and strategic managers (such as sales manager, administrative director, quality and assurance manager) reporting also a short version of their Curriculum Vitae. *FAM_GENERATION* is a continuous variable; it discloses the number of generations actively involved in the TMT. *FAM_GEN1* is a binary variable; it assumes value one if only one generation runs, simultaneously, the company. *FAM_GEN2* is equal to one if two generations are involved in management.

TABLE III: Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11
1	*AGE*	1.00										
2	*SIZE*	0.21	1.00									
3	*LEV*	-0.55	-0.05	1.00								
4	*HIGH_TECH*	-0.04	0.02	0.06	1.00							
5	*ROA*	0.11	0.04	-0.45**	0.16	1.00						
6	*T_CRISIS*	0.09	0.32**	-0.02	0.34**	0.05	1.00					
7	*UNDERPRICING*	-0.01	0.06	0.14	-0.01	-0.09	-0.14	1.00				
8	*FAM_OVERHANG*	-0.11	0.23*	0.07	-0.18	-0.06	-0.37**	-0.02	1.00			
9	*INDEP_PERC*	-0.15	0.01	0.16	0.20	-0.18	-0.04	0.05	0.18	1.00		
10	*FAM_TMT*	0.05	-0.06	0.06	0.05	0.25*	-0.08	-0.02	0.17	-0.17	1.00	
11	*FAM_GENERATION*	0.27*	0.29*	-0.12	-0.06	0.076	-0.04	-0.07	-0.40	-0.15	-0.38**	1.00

Note: This table provides Paerson correlation coefficients. ** and * denote statistically significant coefficients at 1 and 5% level of significance. Please see Table 2 for variable definitions.

On the same line, non-survived IPOs see the involvement of multiple family generations (*FAM_GENERATION*) compared to successful IPOs.

In Table III, we report the correlation among variables (Pearson correlation coefficients). It suggests that multicollinearity is not a problem in our analysis.

4.5.2 Logit and Cox results

To examine the impact of TMT demography on post-IPO survival, first we run a logit regression. The findings reported in Table IV matches our hypotheses. In such models, the dependent variable (*DELISTED_DUMMY*) is a binary outcome set to one if a firm has not survived to the end of the sample period, and zero otherwise. To explore the possibility that IPO survival is influenced by other factors than TMT demography, we include several control variables. We can observe that firm's age (*AGE*) negatively affect the probability of delisting, (-.52, $p<0.10$ model 2; -.50, $p<0.10$ model 3). That is, younger firms are subject to a greater likelihood of failure (Fischer and Pollock, 2004). The evidence shows that size (*SIZE*) has a positive effect on survival time (-.65, $p<0.05$ model 1; -.94, $p<0.01$ model 2; -.88, $p<0.05$ model 3; -.66, $p<0.05$ model 4), in accordance with Espenlaub *et al.* (2012). Among factors that enhance post-IPO survival, we find that belonging to the high tech sector (*HIGH_TECH*) is negatively and significantly related to dependent variable (-1.46, $p<0.1$ model 1; -1.31, $p<0.05$ model 2; -1.17, $p<0.05$ model 3; -1.07, $p<0.1$ model 4). Findings reported in Table IV also reveal that firms that went public before financial crisis (*T_CRISIS*) are more incline to delist (1.87, $p<0.05$ model 1; 2.39, $p<0.05$ model 2; 1.99, $p<0.1$ model 3; 1.67, $p<0.1$ model 4). Underpricing (*UNDERPRICING*), found positively correlated (.29, $p<0.05$ model 1; .35, $p<0.01$ model 2; .31, $p<0.01$ model 3; .25, $p<0.05$ model 4), may indicate the firm's ability to acquire financial resource after IPO (Pollock *et al.*, 2002). A greater level of underpricing could inhibit firm's potential growth leading to a higher likelihood of failure (Kooli and Meknassi, 2007). Our results are consistent with prior literature, in fact Dolvin and Jordan (2008) observe that the greater quota of shares retained by controlling shareholder (family, in our case) (*FAM_OVERGHANG*) would imply a fostering of long-term strategy and an increased survival horizon (-.62, $p<0.05$ model 1; -.46, $p<0.1$ model 2; -.67, $p<0.1$ model 3; -.59, $p<0.1$ model 4). The

distance, in terms of objective, from family ties may lead independent directors (*INDEP_PERC*) to have a negative impact on firm's survival after went public (4.72, $p<0.05$ model 1; 3.78, $p<0.05$ model 2; 4.68, $p<0.05$ model 3; 3.77, $p<0.05$ model 4). Regarding others control variables (*LEV* and *ROA*), we find that they are not statistically significant. Therefore, in the interests of brevity, we do not report these results.

TABLE IV: TMT and post-IPO survival, logit regression

variable	***Model 1***	***Model 2***	***Model 3***	***Model 4***
CONST	4.90	6.79	9.79	5.93
	(4.89)	(5.70)	(6.30)	(5.61)
AGE	-0.32	-0.52*	-0.50*	-0.34
	(0.34)	(0.28)	(0.28)	(0.31)
SIZE	-0.65**	-0.94***	-0.88**	-0.66**
	(0.28)	(0.34)	(0.35)	(0.31)
LEV	-1.00	0.84	0.11	-0.14
	(2.69)	(3.09)	(3.11)	(3.09)
HIGH_TECH	-1.46*	-1.31**	-1.17*	-1.07*
	(0.77)	(0.68)	(0.65)	(0.67)
ROA	-1.95	0.12	-0.92	-0.92
	(2.61)	(2.01)	(2.16)	(2.11)
T_CRISIS	1.87**	2.39**	1.99*	1.67*
	(0.92)	(1.14)	(1.09)	(1.09)
UNDERPRICING	0.29**	0.35***	0.31***	0.25**
	(0.12)	(0.12)	(0.12)	(0.12)
FAM_OVERHANG	-0.62**	-0.46*	-0.67*	-0.59*
	(0.32)	(0.34)	(0.40)	(0.38)
INDEP_PERC	4.72**	3.78**	4.68**	3.77**
	(2.31)	(2.01)	(2.12)	(1.96)
FAM_TMT	**6.20*** **			
	(2.52)			
FAM_GENERATION		**1.14****		
		(0.48)		
FAM_GEN1			**-1.93****	
			(1.11)	
FAM_GEN2				**1.20***
				(0.76)
Pseudo R^2	0.2347	0.2190	0.2125	0.1730

Note: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance. Heteroskedastic-consistent standard errors in parentheses.

This Table presents the results for the logit regression for the characteristics affecting

the post-IPO survival. The sample includes n.77 family firms that went public on Milano Stock Exchange in the period 2000-2011. The dependent variable (*DELISTED_DUMMY*) is a binary outcome coded one if the firm delisted during the sample period, zero otherwise. In model 1, we test how TMT composition (*FAM_TMT*) affects the likelihood of post-IPO survival. We investigate, in model 2, which is the role of family generations actively involved in TMT (*FAM_GENERATION*). Models 3 (*FAM_GEN1*) and 4 (*FAM_GEN2*) are devoted to test the impact of multiple family generations simultaneously in charge of the firm on our dependent variable.
Please see Table 2 for variable definitions.

In model 1, the results suggest that the greater family involvement in TMT (*FAM_TMT*) increases the likelihood of post-IPO delisting (6.20, $p<0.01$). Due to the robustness of our results, hypothesis 1 is strongly supported. Going further, as the number of actively generations involved in the TMT (*FAM_GENERATION*) increases, the likelihood of post-IPO success decreases (1.14, $p<0.05$). This finding allows us to verify also second hypothesis. The overall analysis reports a negative effect of family TMT diversity on IPO failure.

Table V illustrates the results we obtain with Cox hazard model. In this model the dependent variable (*SURVIVAL*) is the time, expressed in years, from IPO date to delisting (failed observations) or to the end of our observational period (2014). Within such model, a change in independent variables does not necessarily have a proportional effect on failure time, but it can accelerate or decelerate the time-to failure. This model corroborates our previous results. Both hypotheses are verified. In particular, the estimated hazard ratio for variable *FAM_TMT* is 30.05 which indicates that the likelihood of delisting increases with the family involvement in TMT (3.40, $p<0.05$ model 1). Our findings confirm that greater family involvement is associated with higher failure likelihood. Regarding family generation, we can observe that *FAM_GENERATION* (0.68, $p<0.05$ model 2) exhibits an hazard ratio of 1.98 meaning that as the number of generations actively involved in TMT increases, the probability of delisting increases too. Likewise, IPOs where two family generations are in charge (*FAM_GEN2*) are 4.30 times as likely to fail compared to other companies (1.46, $p<0.1$ model 4). As in logit results, *FAM_GEN1* has a negative estimated coefficient (-2.02, $p<0.05$ model 3) and a hazard ratio of 0.13.

Among control variables, *SIZE* and *UNDERPRICING* are statistically significant in each models. Coherently with previous results (Table IV), we find that larger IPOs (*SIZE*) are less likely to delist (-.51, $p<0.05$ model 1; -.82, $p<0.05$ model 2; -.83, $p<0.001$ model 3; -.59 $p<0.05$ model 4). While, *UNDERPRICING* increases the likelihood of IPO failure (.20, $p<0.05$ model 1; .24, $p<0.01$ model 2; .18, $p<0.01$ model 3; .15, $p<0.05$ model 4).

TABLE V: TMT and post-IPO survival, COX hazard model

	Model 1		*Model 2*		*Model 3*		*Model 4*	
variable	*(1)*	*(2)*	*(1)*	*(2)*	*(1)*	*(2)*	*(1)*	*(2)*
AGE	-0.11	0.90	-0.31	0.73	-0.38	0.68	-0.26	0.77
	(0.27)		(0.26)		(0.25)		(0.25)	
SIZE	-0.51**	0.60	-0.82**	0.44	-0.83***	0.43	-0.59**	0.55
	(0.29)		(0.33)		(0.32)		(0.31)	
LEV	-0.60	0.55	0.93	2.53	-0.25	0.78	-0.58	0.56
	(2.02)		(2.02)		(1.82)		(1.93)	
HIGH_TECH	-0.63	0.53	-0.80*	0.44	-0.52	0.59	-0.49	0.61
	(0.61)		(0.62)		(0.62)		(0.63)	
ROA	-1.63	0.19	-0.24	0.78	-1.79	0.166	-1.57	0.21
	(1.79)		(1.92)		(2.03)		(1.88)	
T_CRISIS	-0.93	0.40	-0.64	0.53	-1.26	0.28	-1.57	0.21
	(1.27)		(1.26)		(1.24)		(1.41)	
UNDERPRICING	0.20**	1.23	0.24***	1.27	0.18***	1.20	0.15**	1.17
	(0.13)		(0.13)		(0.13)		(0.13)	
FAM_OVERHANG	-0.30	0.74	-0.34	0.71	-0.48	0.62	-0.47	0.62
	(0.33)		(0.35)		(0.36)		(0.37)	
INDEP_PERC	-0.05	0.95	0.00	1.00	0.15	1.61	0.08	1.08
	(0.22)		(0.22)		(0.23)		(0.23)	
FAM_TMT	**3.40****	**30.05**						
	(1.81)							
FAM_GENERATION			**0.68*****	**1.98**				
			(0.29)					
FAM_GEN1					**-2.02****	**0.13**		
					(0.87)			
FAM_GEN2							**1.46***	**4.30**
							(0.75)	

Note: ***, ** and * denote statistically significant coefficients at 1, 5 and 10% level of significance.
Columns (1) report coefficient and standard errors in parentheses, calculated with robust variance estimator (Lin and Wei 1989). Columns (2) display hazard ratios. For such ratios, a value greater than one implies that firm has a shorter time to event (delisting); a value equals to one means that there is no difference between the two

subgroups (survived and non-survived IPOs).
The dependent variable is a continuous outcome (*SURVIVAL*): it is the time interval (in years) from IPO date to the year of delisting or to the end of observation period (2014) for survived IPOs.
Model 1 investigates the impact of family top managers (*FAM_TMT*) on post-IPO survival. Model 2 considers the family generational involvement (*FAM_GENERATION*) while model 3 and model 4 examine the role of single-family generation in charge (*FAM_GEN1*) and the role of two family generations simultaneously involved in TMT (*FAM_GEN2*).

4.6 Discussion

Drawing our research on the upper echelon perspective, the aim of this study is to examine the potential effect of diversity in TMT on the likelihood of post-IPO survival. It is often said that diversity at apical level in family firms could be beneficial (Minichilli *et al.*, 2010). However, scholars critic this view arguing that diversity does not necessarily bring benefits (Ling and Kellermanns, 2010). Literature often looks at family firms as reluctant to changes (Naldi *et al.*, 2007). That is, we scrutiny contexts in which "potential benefits of diverse teams appear to be highly vulnerable to certain liabilities" (Michie *et al.*, p. 131). In fact, family business literature emphasises how capital markets may lead to different behaviours (Naldi *et al.*, 2013) and change strategic decisions. Recent works (Wilson *et al.*, 2013) broaden our thinking by incorporating the effects of two sources of diversity: the presence of family and non-family members and vertical distance (e.g. generational involvement). We take advantage of an ideal entrepreneurial setting, such as IPO choice, to investigate whether or not TMT diversity affect the survival of firms in capital markets. Therefore, despite its merits to bring new sources of knowledge and experience, we point out that TMT heterogeneity involved in costs as well.

Our results clearly reveal that the higher number of family members in TMT reduces the likelihood of post-IPO survival. On this point, literature offers controversial findings. From one side, TMTs with family members are likely to provide better results since they are more prone to develop survivability capital (Sirmon and Hitt, 2003). TMT diversity apparently brings the necessary knowledge to bear on complex environment. On the other hand, the potential entrepreneurial advantages of having a group with different knowledge and perspectives may be offset by behavioural disruptions (Li and Hambrick, 2005) or by unreached consensus agreement (Jehn,

1995). In fact, one or more sub-group's attributes (family versus non-family managers) can aggravate subgroup conflicts that harm the group tasks' effectiveness (Lau and Murnighan, 1998). Moreover, high ratio of family members within the TMT may yield more risk- adverse decisions: this attitude may undermine the survivability of the company (Zellweger *et al.*, 2013). Additionally, Knight *et al.* (1999) revel that more heterogeneous TMT makes less comprehensive evaluations of opportunities and threats and, consequently, may have less chances to survive.

Further, we examine intergenerational diversity in TMT (*hypothesis 2*). Our findings support the idea that the involvement of multiple family generations increase the likelihood of post-IPO failure. Contrasting this evidence, the involvement of more than one generation in TMT results in greater knowledge diversity (Sciascia et al., 2013) and bring new expertise to TMT (Ling and Kellermanns, 2010). Such intergenerational involvement may result in "effective identification and assessment of opportunities as well as creative approaches to exploit them" (Sciascia *et al.*, 2013, p. 5). However, Davis and Harveston (2001) observe that one of the principal reason why family members' views and opinions "may diverge is differences in familial distance" (p.15) that is more likely to occur with multiple generations in charge. Likewise, Gursoy *et al.* (2008) argue that people from different generations may have problems understanding others' perspectives of the work with a negative reflection on strategic outcomes. Going further, when generational involvement in TMT reaches high levels, conflict are more likely to manifest. Despite of non-univocal findings, family business literature argues that if multiple generations are in charge firm tend to foster routines regardless of the strategic challenges (Zahra, 2005). This increases the risk of turning a formula for success into a failure (Ahuja and Lampert, 2001).

Through the outlined scenario, our findings reinforce the idea that multiple generations may imply greater level of conflict and a lower attitude to entrepreneurial changes. To corroborate our results, we sought to establish the effect on IPO survival when there is only one generation in charge or when two generations run the company. It is somewhat unsurprising that if only one generation is involved in TMT the firm is more likely to survive after IPO in capital markets.

Considering family business literature, our results can be interpreted not only in light of TMT diversity but they also complement the ongoing debate on family involvement

and firm outcomes (Ling and Kellermanns, 2010). Our findings match the view that family involvement, through the participation of multiple family managers or generations, is not always beneficial and may involve in costs as well. For example, Kellermanns and Eddleston (2007) provide evidence that a higher number of family members facilitate the rise of emotional family issues and conflict, which can negatively affect organizational processes. Davis and Harveston (2001) found that more homogenous family teams would have less conflict than those teams with greater familial distance, and Chrisman *et al.* 2003 suggest that such conflicts may become a destructive force rather that gain a competitive advantage. Our study also suggests that TMT diversity in family firms could offset advantages leading to a shorter time of post-IPO survival.

The evidence of detrimental effects on post-IPO survival due to family TMT diversity provides suggestions for practice. From the family entrepreneurs' perspective, our research establishes that TMT composition may play a crucial role in the survival of firm after went public. We advice family owners to structure TMT by including more external (e.g. non-family) managers to assure a longer survival in capital market. From the regulator perspective, this research suggests to consider not only the composition of board of directors (BoD) but offers an important reflection concerning TMT. It know that policymakers often focus their attention on BoD, in terms of its independence and directors' tasks, by emanating compulsory laws and "compulsory or explain" codes (Zattoni and Cuomo, 2008). To date, there is no recommendation about TMT in the environment of equity market.

4.7 Limitations and Future Research

This research suffers from some limitations that lead to future directions for research.

First, this study urges more fine-grained theorization on TMT' contribution at the IPO. In particular, the issue of team dynamics and effectiveness should be integrated into future theoretical development on IPOs. As TMT diversity brings different objectives according to the different sub-groups involved in the team, a comprehensive

framework should shed light on the complicated situation where managers may become focused only on the short term at IPO.

Second, empirically, more information about TMT diversity could be investigated. There is a general consensus that diversity is not a unitary construct (Phinney, 1996) and thus far a common metric to evaluate it hasn't been provided. Organizational demography researchers note that the characteristics such as tenure, background, education, age, gender, race, are salient, under most circumstances, to capture the diversity (Williams and O'Reilly, 1998). However, in our research, we have focused our attention on only two sources of TMT diversity: the presence of family and non-family managers and the number of employed generation within the TMT. So our results may be biased by the choice of these metrics. Other independent variables, specific of TMT diversity, such as education and tenure, might be considered in future researches.

Third, we do not measure conflicts; rather, our variables may be proxies for behavioural dynamics. Thus, more fine-grained measures can provide more insight into group consensus (Wang and Song, *forthcoming*), group performance, and the capacity of the group to perform in the future for the analysis as next steps of research. Particularly, we proposed that diversity in TMT in family firms brings conflicts, but we have no direct measure of this last variable. Thus, more survey and behavioural-based methods should be used in the future research.

Fourth, we have tested our hypotheses using data collected in one country (Italy). So generalization of results should be made with caution, and further tests in other empirical settings for comparative studies are required.

4.8 Conclusions

This paper aims to shed light on the relationship between TMT diversity and post-IPO survival in family firms. Within upper echelon theory, we test if and to what extent TMT diversity affect post-IPO survival. Considering that the intervening processes between TMT heterogeneity at IPO and post-IPO survival is an important research area, we test this relationship by considering a sample of 77 family firms gone public in the period 2000-2011.

Our investigation analyses two source of TMT diversity: the percentage of family managers and the number of generations simultaneously involved in TMT. By using logistic regression and Cox hazard model, the findings reveal that a higher involvement of family members in TMT reduces the likelihood of post-IPO survival. Likewise, the number of family generations in charge is positively correlated with post-IPO failure. However, if only one generation is in TMT, the likelihood of survival increases.

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Conclusions

The present thesis aims to understand if and to what extent family involvement (considered at group level or at individual, CEO, level) affect IPO value and post-IPO failure (e.g. the condition of being delisted).

Within first chapter, we use a stewardship framework to scrutiny the impact of family involvement in ownership and management on IPO value. We empirically test three hypotheses.

First, we verify a positive impact of being a family controlled firm on IPO value. We define family firms in terms of both equity ownership and involvement in TMT. Our results are robust to all the thresholds (20%, 30% and 50%) that we adopt. We also corroborate these results by using a continuous scale (*F-PEC*) to define family firms.

Hypothesis 2 relies on the involvement of family managers. Also in this case, we adopt several measures to proxy for this involvement. We validate our results by using family involvement at three levels: *a*) board of directors; *b*) TMT; *c*) overall family employees. The findings suggest that the market appreciates the presence of family managers, which is in line with the stewardship framework we adopt.

Hypothesis 3 investigates how intergenerational control could affect value. Due to the increase in generational conflicts, we find that the positive impact of family involvement on IPO value is mainly attributable to the first generation.

To add relevance to our results, we adopt two measures to proxy IPO value: the results remain unchanged whatever value is computed. Moreover, we consider long-run performance as a robustness check. Family status continues to be positively associated with firm performance.

The second chapter relies on the role of CEO and his/her leadership in IPO valuation. We argue, in line with Finkelstein *et al.* (2009), that CEO power must be analysed as a construct rather than multiple variables. Thus, by using an exploratory factor analysis (EFA), we empirical build an indicator for CEO power. Considering Finkelstein's (1992) framework, we take into account three types of power through a factor analysis: ownership, structural and expert. Our results suggest that outside investors positively evaluate family IPOs managed by powerful CEOs.

Further, broader family business literature has generally assumed that IPO firms belong to a homogenous group. We introduce two moderating factors that allow us to

distinguish between different familiar leadership styles: we find differences in powerful family and non-family leaders as well as between a co-leadership structure and the case of 'one man in command'. The presence of a powerful family CEO strengthens the relationship between leader power and IPO value. Considering the second moderating factor, the presence of a co-leadership structure, we can state that IPO value will benefit from unity of command (e.g., absence of co-leaders). Moreover, we analyse the case of powerful family CEOs who are the only leaders (e.g., no co-leadership structure) of the board and unsurprisingly find that this leads to superior performance of family IPOs.

Our results are robust to different proxies: we employ two different measure of IPO, short term and value. We define family owned firms by evaluating family involvement in both equity and managerial positions, and perform a sensitivity test using an alternative definition (e.g., *F-PEC score*).

Finally, in the last chapter aims to shed light on the relationship between TMT diversity and post-IPO survival in family firms. Within upper echelon theory, we test if and to what extent TMT diversity affect post-IPO survival.

Our investigation analyses two source of TMT diversity: the percentage of family managers and the number of generations simultaneously involved in TMT. By using logistic regression and Cox hazard model, the findings reveal that a higher involvement of family members in TMT reduces the likelihood of post-IPO survival. Likewise, the number of family generations in charge is positively correlated with post-IPO failure. However, if only one generation is in TMT, the likelihood of survival increases.

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