

Innovative family startups: an emerging research field

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Abstract

Purpose of the paper: *The paper aims to study the value creation of Innovative Pure Family Startups (IPFS), which are innovative startups characterized by simple family governance, as compared to the Total population of Innovative Startups (TIS).*

Methodology: *Adopting the T-test analysis, the contribution detects whether significant differences exist between IPFS and TIS in terms of financial structure and profitability performance.*

Findings: *Results show that IPFS perform the best in terms of profitability. Moreover, they highlight IPFS' preference for debt rather than opening up firm equity to external investors.*

Research limits: *Our results are limited to IPFS and not generalizable to all Innovative Family Startups, including Innovative Professional Family Startups. Moreover, no distinction between Innovative Family Spin-off and Innovative Family Newco is made.*

Practical implications: *Implications are related to business governance structure and organizational governance to support the managerial decision-making process.*

Originality of the paper: *The paper tries to fill a gap in both the literature on family business and on entrepreneurship. On the one hand, it analyzes the start-up phase of family businesses that is generally neglected in family business studies. On the other hand, it detects the contribution of family governance to the innovative startup phenomenon, while focusing on the role of family firms in innovative high tech industries that traditionally under-participate compared to their non-family counterparts.*

Key words: family startups; family business; innovative startups

1. Introduction

Stereotypes of innovative startupper depict them as a technologists and brilliant people without a family business or business or consulting experience to support them, who start their innovative and high-tech activity in a garage with some trusted friends. In parallel, another stereotype is based on the perception of family businesses as originating and growing in a comfortable environment and in traditional sectors that are not characterized by innovativeness. Therefore, in this study we endeavour to verify whether family startups exist in innovative contexts and what their characteristics and performances are compared to other innovative startups in order to confirm or refute such stereotypes.

Family businesses represent an important value creator in both industrialized countries and developing economies, thus contributing to socio-economic growth, affecting market dynamics and providing employment opportunities (Zahra and Sharma, 2004; Anderson and Reeb, 2003; Yu *et al.*, 2012; O'Boyle Jr. *et al.*, 2012; Mazzi, 2011; Jiang and Peng, 2011; Chrisman *et al.*, 2008). Various studies suggest that a significant portion of worldwide economic activity is based on family businesses (e.g. Astrachan and Shanker 2003; Morck and Steier 2005). According to the Family Firm Institute (2018), family firms account for 2/3 of all businesses around the world, annually amounting to an estimated 70%-90% of the global GDP. In most countries worldwide, approximately 50%-80% of jobs are created by family businesses, and 85% of start-up companies are founded with family money.

Numerous studies within literature on family business have dealt with family business management and succession issues (Dyer and Handler 1994). The role of family business in nascent entrepreneurial activity has been less studied, except for a few works that deal with the entrepreneurial attitude of incumbent family businesses (e.g. Eddleston *et al.*, 2012, Miller *et al.*, 2015). In general, we can claim that the start-up phase of family businesses has been neglected by the literature.

On the contrary, as far as the literature on entrepreneurship is concerned, while there has been a significant body of research focusing on resource requirements, little research has been devoted to the role that family governance plays in startup firms, especially in innovative and high-tech sectors. To fill this gap, we aim to detect the contribution of family firms to the startup phenomenon in order to analyze the role of family governance in innovative high tech industries.

To sum up, by means of an empirical analysis, the present contribution compares the phenomenon of "Innovative Family Startups" with total Innovative Startups in Italy. Thus, family startups with innovative and high-tech characteristics are under investigation. In truth, the Italian government has been involved in the creation of legislation aiming at promoting the establishment and growth of new innovative enterprises with high technological value since 2012: such endeavors have culminated in Decree-Law 179/2012. This decree introduced a definition of the "innovative startup", a new and innovative enterprise of high technological value, into the Italian legal system. In the paper we will deal with innovative startups in Italy that are also "family businesses". To the best of our knowledge, no studies have captured the phenomenon of the creation of new ventures in high-tech sectors by family members or by existent family firms. As anticipated, family firms are more likely to be active in traditional sectors and under-participate in high-tech industries than their non-family counterparts.

The analysis defines Innovative Family Startups as new ventures in high-tech sectors whose founders are members of the same family, i.e. two or more siblings, husbands and wives, parents and sons/daughters, cousins and other in-law relatives. Family startups may be "Family Innovative Spin-offs", which are new business projects that emerged from the strategic processes, vertical integration or diversification strategies

of previously established family businesses (family intrapreneurship), or “Family Innovative Newcos”, which are new business projects that are created by members of the same family but not related to previous business activities (family entrepreneurship). Both types were included in the empirical analysis that follows.

In general, a vast part of the literature supports the idea that family participation in both the governance structure and the organizational governance can strengthen the business (Tagiuri and Davis 1996; Neubauer and Lank 1998, Villalonga and Amit, 2006; Habbershon *et al.*, 2003; Olson *et al.*, 2003; Van Essen *et al.*, 2011; Martinez *et al.*, 2007; Lee, 2006; Anderson and Reeb, 2003; Andres, 2008; Bjuggren and Palmberg, 2010). However, another part of the literature sustains that there is a distortion of the family effect on performance due to the greater complexity that characterizes family businesses’ value creation (Milton, 2008; Lubatkin *et al.*, 2005; Morresi, 2009; Westhead and Howorth, 2006).

Therefore, we aim to detect whether, the presence of family ties in the company’s business governance can affect the performance of innovative startups in the start-up phase of innovative businesses, compared to the performance of Total Innovative Startups in Italy. The objective of the study is to detect if there are any significant differences between Family Innovative Startups and Total Innovative Startups founded starting from 2012 in terms of financial structure and profitability performance.

The analysis could provide insight for further academic inquiry into the phenomenon. A survey on the existence, characteristics and performance of start-ups with the characteristics analyzed here could also be useful for policy makers when defining measures to support new family-based entrepreneurship. The relevance of the phenomenon and the need for further investigation was highlighted by the 2018/2019 global report of the Global Entrepreneurship Monitor (GEM, 2019). As underlined by the GEM, “It may not be a surprise that many businesses are family-owned and run. Family-run small businesses are visible in most communities; and family involvement can be seen in many regional, national and global businesses. What may be less known, however, is to what extent entrepreneurs start out as a family venture”. The GEM also revealed the release of a “forthcoming special topic report (that) will delve into this issue in detail”.

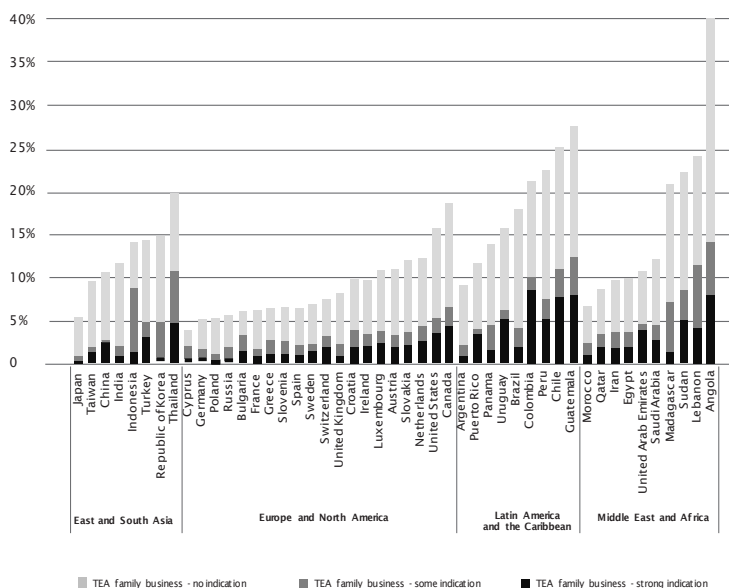
Moreover, it is worth pointing out that there is no data on Italy in the GEM report, so the present paper represents the first and only examination of the phenomenon in Italy. The GEM report adopts a broad definition of family-based entrepreneurship, which includes entrepreneurs involved in TEA (Total early-stage Entrepreneurial Activity), and more specifically: (i) those who report owning and partially managing their business with family members (strong indication), or (ii) those who do not share ownership but have at least one employee and manage their business jointly with family members (some indication).

As shown in Figure 1, in 47 economies assessing family business activity, nearly one in five entrepreneurs start businesses that will be owned and/or managed with family members. Colombia, the United Arab Emirates, and Uruguay report the highest level of family-based entrepreneurship,

accounting for over one-third of entrepreneurs. In Europe, the highest ‘strong indications’ of family-based early-stage entrepreneurship (as a percentage of TEA) are located in Switzerland and Bulgaria (just below 30%), while the lowest rates of family-based early-stage entrepreneurship are located in Poland and the United Kingdom.

Therefore, the questions this article wants to answer are “How is the situation in Italy? What is the extent of the phenomenon in Italy? and, is it a significant phenomenon in terms of performance?” The article stands out in its analysis more because it refers to start-ups with innovative characteristics.

Fig. 1: Total early-stage Entrepreneurial Activity (TEA) Rates among Adults (ages 18-64) in 47 Economies in Four Geographic Regions, Proportion of Family-owned or Managed Start-ups



Source: GEM, 2018-2019

2. Literature review

When dealing with family business literature, one may note that there is no single, coherent definition of family business (Astrachan *et al.* 2002; Brockhaus, 2004; Chua *et al.*, 1999; Handler, 1989a e b, Litz, 1995). Chua, Chrisman and Sharma (1999) carried out a review of 250 papers on the topic and found 21 definitions. All of them concurred that all businesses that are owned and managed by families are family businesses. However, not all the definitions agreed on whether a business that is owned but not managed by a family or viceversa constitutes a family business. Sharma (2004) sustained that there are different types of family business. Astrachan *et al.* (2002) developed the F-PEC scale by considering three dimensions

of (f)amily influence, i.e. (p)ower, (e)xperience and (c)ulture. The power dimension is represented by a family's influence on ownership, governance and management. The experience element is related to succession and the number of family members working in a business, and the culture aspect is related to family and business values. Such a scale has been reviewed and used by a number of authors who have grasped the multifarious "souls" of the phenomenon of family businesses (Björnberg and Nicholson, 2007; Chrisman *et al.*, 2005; Corbetta and Salvato, 2004; Jaskiewicz *et al.*, 2005). Chua *et al.* (1999) developed a definition that could be considered the most inclusive one: "The family business is a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families." (p. 25). Although the present paper is guided by such a definition in order to develop its thesis, due to issues related to secondary sources of data, we consider businesses owned by family members in the empirical analysis, thus assuming the existence of a family vision but not confirming the real presence of such a vision.

As far as family business studies are concerned, Sharma (2004) identifies four level of studies: the individual level that deals with the characteristics of the founder, the following generation, women, and non-family members. Second, the interpersonal level that deals with contractual agreements, sources of conflict, management strategies and intergenerational transitions. Third, the organizational level looks at the unique resources and capabilities that a family business obtains as opposed to other forms of governance. Fourth, the societal level focuses on the economic importance of family businesses in various countries.

In the present contribution, we adopt the third level of analysis, i.e. the organizational level, by empirically studying the differences in performance that have been achieved by Innovative Family Startups compared to Total Innovative Start-ups. Such interest in the connection between family business and performance, with particular attention on economic-financial indicators, is motivated by the specific nature of family businesses, which stems from the interaction between family and business systems, from which a complex system of unique, rare, precious, inimitable and irreplaceable resources emerge (Habbershon and Williams, 1999; Schillaci, 2008).

In relation to their performance, a vast part of the literature supports the idea that family members' participation can strengthen the business (Koironen 2000, 18, 106; Tagiuri and Davis 1996; Neubauer and Lank 1998, Villalonga e Amit, 2006; Habbershon *et al.*, 2003; Olson *et al.*, 2003; Van Essen *et al.*, 2011; Gallucci and Nave, 2011; Martinez *et al.*, 2007; Lee, 2006; Anderson and Reeb, 2003; Andres, 2008; Bjuggren and Palmberg, 2010). However, another part of the literature believes that there is a distortion of the family effect on performance, due to the greater complexity that characterizes family businesses, which leads to a vicious circle in the processes of value creation (Milton, 2008; Lubatkin *et al.*, 2005; Morresi, 2009; Westhead and Howorth, 2006). The positive performances of family businesses are related to the fact that family ties generally give rise to

great communication, cooperation and trust, and create understanding (Tagiuri and Davis 1996; Neubauer and Lank 1998). The family brings a series of specific inputs, in terms of capital, work, intellectual capacity, culture and trust, to the business. The combination of these factors could lead to an improvement in the decision-making processes and governance mechanisms that are implemented in the firm. Zahra *et al.* (2008) indicate that the presence of the family stimulates the promotion of a strong corporate culture, thus enhancing active participation. This family involvement is considered an important element in the longevity and sustainability of the family business. Furthermore, some believe that the decision-making process is more centralized and efficient in family firms (Tagiuri and Davis 1996). For this reason, the family business is the type of organization with the longest life expectancy in the world (Miller, 2005). On the contrary, negative performances are generally attributed to the contextual presence of family members that can negatively influence the business in relation to property and management issues by acting to protect their own interests, regardless of the interests of other investors (Lee, 2006). In addition, they can be too generous towards the members of the entrepreneurial family by providing them with otherwise unobtainable jobs/positions or other privileges (Ward, 1987). Achmad *et al.* (2009) show that a concentration of equity in the hands of family members hinders corporate performance in terms of ROA; Bennedsen *et al.* (2007) suggest that the company's performance is negatively affected if a family member is also a CEO; Escribá-Esteve *et al.* (2009) stress that the presence of family members in the top management team is negatively correlated with proactive strategic orientation. The family business may also have problems with internationalization and growth, the succession process and conflicts based on ownership and the exercise of power (Tagiuri and Davis 1996; Koiranen 2000; Neubauer and Lank 1998).

Having declared that our objective is that of empirically analyzing differences in the performance of family business compared to the rest of population, we specifically aim to study family businesses in their start-up phase, which is a stage that is generally neglected by the literature on family businesses.

In recent times, great emphasis is put on innovative startup firms. The fact that startups can create jobs, thus reducing unemployment both for people in self-employed positions and for employees is now taken for granted. Various studies have found evidence that the increase in business ownership rates is positive in relation to the employment generation (Fritsch, 1997, Fritsch and Mueller 2008; Mueller *et al.* 2008, Acs and Mueller, 2008; Baptista *et al.*, 2008). Besides, new businesses are seen as innovators, exploring new markets and paving the way for the jobs of the future. There are many examples of radical innovations introduced by new firms (Audretsch, 1995; Baumol, 2004). Moreover, startups produce new knowledge about the economic feasibility of business concepts and, more specifically, reveal consumer preferences that may lead to the creation of new markets and new entrepreneurial opportunities (Kirzner, 1997, 2009). Startups are also a way of commercializing new ideas or new technologies. Due to the reluctance of incumbent firms to adopt new ideas, setting

up one's own business may appear to be the only or the most promising way for inventors to put their knowledge into practice (Audretsch, 1995; Klepper, 2009). Finally, startups increase competition, thereby increasing the efficiency of a market and improving people's welfare. Increased variety due to new supplies may intensify the division of labour, as well as follow-up innovation, which generates significant economic development (Boschma, 2004; Saviotti and Pyka, 2004).

Therefore, the objective here is to detect the contribution of family firms to the startup phenomenon in order to analyze the role of family governance in innovative high tech industries, since traditionally family businesses under-participate in high-tech industries more than their non-family counterparts.

The literature has dealt with the reasons why family businesses can set up new businesses. First, it represents a means of creating new products with a view to making the business grow. The risk of failure in this case can be mitigated so that if the start-up fails, the parent company does not suffer financially (Miller *et al.*, 2015). Second, it provides the family firm with a means of training the next generation before they take over the parent firm. In addition, the parent firm could provide an element of sustainability for the new firm by providing additional resources such as funding, access to networks of stakeholders (skilled workforce, customers, and suppliers), and additional human resources like management expertise.

The focus of all such studies consists in the fact that family businesses are able to generate entrepreneurship. On the contrary, in the present study the focus is on entrepreneurial momentum, the start-up phase of a family business that may also not be part of the family's legacy. This field is still widely unexplored. It is interesting to understand how a startup firm is affected by family ties among founders, whether they have a business legacy or not, and how this, in turn, affects its sustainability in the longer term. There is a gap in the literature on the role that family governance plays in the start-up phase and, in particular, on the effect that this has on start-up performance. Moreover, to the best of our knowledge, no studies have captured the phenomenon of the creation of new ventures in high-tech sectors (innovative startups) by family members or existent family firms. In general, family firms are more likely to be considered active in traditional sectors and under-participate in high-tech industries than their non-family counterparts.

3. Research design

Research hypothesis

In general, family members tend to keep their shares within the family business, thus avoiding equity financing (Schillaci, 2012; Dunn and Hughes, 1995). Furthermore, according to Poutziouris *et al.* (1997), family businesses have a rather limited understanding of the sources of funding and, because of their desire for privacy, they are reluctant to discuss finances with outsiders. This desire for control, independence and privacy, which drives family businesses to avoid external equity financing, is less

common in non-family businesses. In parallel, in a 1998 study, Bopaia noted that lenders tend to grant credit to family businesses more easily than non-family businesses. One reason is that family businesses are able and willing to offer personal guarantees. Therefore, we expect a higher level of equity in Total Startups and a higher level of debt in Family Startups.

This led to the following hypothesis related to the startup phase:

Hypothesis 1: higher levels of equity are found in Total Startups than in Family Startups

Hypothesis 2: higher levels of debt are found in Family Startups than in Total Startups.

With reference to profitability performance, part of the literature states that family businesses show higher levels of efficiency (value added per worker) and higher ROE and ROA values than non-family businesses (Gorriz and Fumas, 1996, Gallo and Estapé, 1992; Coleman and Carsky, 1999). In addition, Davis (1982) argues that family businesses have a higher level of perseverance and commitment to see the business succeed. Other studies (e.g. Pajarinen and Ylä-Anttila 2006; Perheyritystyöryhmä 2005) have found evidence that small family businesses achieve higher levels of profitability and growth than large ones. However, it is necessary to underline that other scholars have considered family involvement in governance as having a negative influence on commercial practices, leading to corruption and non-rational behavior (Perrow, 1972; Dyer, 1994).

Therefore, the following hypothesis related to the start-up phase has been formulated:

Hypothesis 3: higher levels of profitability are found in Family Startups than in Total Startups.

Variables

In order to fill the gaps in the literature, the differences between Innovative Family Startups and Total Innovative Startups are analyzed here in terms of the following dimensions.

1. *Size and location.* We investigate differences with respect to some demographic issues. Several authors have indicated that observed differences between family and non-family firms in empirical research are often not caused by the family character, but by 'demographic sample' differences relating to the firm's size and the geographical location of the business. By trying to assess its size and geographical location, we can analyze the impact of family ties without being influenced by demographic issues.
2. *Financial indicators.* Differences/similarities between the two groups are detected in relation to some financial variables, and more specifically, Debt/Equity ratio, Bank debt/Revenue ratio, Debt/EBITDA ratio, Invested Capital Turnover, Net Debt, Equity, Total Assets, Current ratio, Cash and cash equivalents + Current receivable - Current liabilities, Equity - fixed asset, Operating Cash Flow, Net Working Capital.
3. *Profitability indicators.* Differences/similarities between the two groups

are detected in relation to the following variables: Revenue, EBITDA, EBITDA/Revenue, Profit, ROE, ROI, ROA.

4. *Financial and profitability indicators in relation to age.* Family innovative start-ups and other innovative start-ups have been analyzed in relation of their age. In this manner, we have compared more homogeneous groups of firms, composed by firms of the same age that could probably provide more significant results. Furthermore, we have observed the evolution of the two groups over time.

Empirical data

Data have been gathered by Bureau van Dijk's AIDA database containing comprehensive information on companies in Italy with up to ten years of history. In particular, AIDA provides information on the demographic, governance and financial data of "Innovative startups in Italy". In truth, the Italian government has been involved in the creation of legislation aimed at promoting the establishment and growth of new innovative enterprises with high technological value since 2012. Such endeavour has culminated in = Decree-Law 179/2012 on "Further urgent measures for Italy's economic growth", also known as "Decreto Crescita 2.0" ("Growth Decree 2.0"), converted into Law 221/2012. The decree has introduced a definition of the "innovative startup", a new innovative enterprise of high technological value, into the Italian legal system. Legislation in support of innovative startups does not apply to all newly-established enterprises, but only to those that present clear traits of technological innovation. An innovative startup consists in any company with shared capital (i.e. limited companies, "società di capitali") that has been recently founded or operational for less than 5 years (or in any case, not before 18 December 2012), has its headquarters in Italy or in another EU country but with at least one production site branch in Italy and an annual turnover below €5 million. It does not distribute profits, sets the production, development and commercialization of innovative goods or services of high technological value as its exclusive or main company object, as stated in its deed of incorporation; moreover, it is not the result of the merger, split-up or selling-off of a company or branch. The innovative character of these enterprises is identified by at least one of the following criteria: 1. at least 15% of the company's expenses may be traced back to R&D activities; 2. at least 1/3 of the total workforce is composed of PhD students, PhDs or researchers or, alternatively, 2/3 of the total workforce holds a Master's degree; 3. the enterprise is the holder, depositary or licensee of a registered patent (industrial property), or the owner and author of a registered software program.

We gathered data on the total population of innovative startups on January 1st, 2018, i.e. 8.205 businesses/firms. We then selected the ones that are active (7778) and of which we possess all financial data (4968). Starting from such a sample, we distinguished 3 groups of startups based on their governance. We selected all the startups where most of the owners have the same family name and called them Innovative Pure Family Startups. They amount to 9.48% of the entire sample and a list of 471 startups. We then selected all the startups where a certain parts of owners (<50%) have

the same family name, and that are also characterized by the presence of venture capitalists and other companies in the governance. We called them Innovative Professional Family startups; they amount to 3.3% of the entire sample and a list of 164 startups. The third group is called Innovative Non Family Startups and are not characterized by evident family ties. There are 4333 of them and they amount to 87% of Total Innovative Startups.

Given that our goal is to analyze the phenomenon of family innovative start-ups in all its facets, we have only focused on Innovative Pure Family Startups and present a bivariate comparison with Total Innovative Startups in this contribution. To make the reading easier, in chapter 4, we will refer to “Family Startups” to indicate “Innovative Pure Family Startups” and to “Total Startups” to indicate “Total Innovative Startups”.

Methodology

To verify whether Innovative Pure Family Startups are different from Total Innovative Startups in terms of financial and economic indicators, we adopted the T-test method which is used to determine if two distributions of data are statistically different from one another. The result of the test is a p-value. We set three levels of significance: 0.1, 0.05 and 0.01 levels. For a p-value that is lower than the chosen level of significance, the means of the two datasets are different in a statistically significant manner; in the case of a p-value that is higher than the chosen significance level, it is not possible to conclude that the averages are different. In this study, the averages of indicators relating to pure family innovative startups are tested against those of other innovative startups. For p-values that are below the significance level, the two averages are significantly different. The value of the average establishes whether pure family innovative startups perform better or worse than other family startups. Since it is impossible to know which one performed better *a priori*, the probability distribution is tested on the right side of the average (Innovative Pure Family Startups achieve better results than Total Innovative Startups), and on the left side of the average (Innovative Pure Family Startups obtain worse results than Total Innovative Startups): therefore, the chosen distribution is two-tailed. Since the variances of the two data samples are unknown, the standard deviation of each sample is used as a variance estimator.

4. Analysis and results

4.1 Location and size

Several authors have expressed their concern that observed differences between family firms and non-family firms in empirical research may be caused by size and geographical location differences between both groups of firms rather than the family character (Westhead and Cowling, 1998). Therefore, we verify whether such ‘demographic’ differences (size, location) between Family Startups and Total Startups (Tab.1 and Tab. 2) are relevant.

Tab. 1: Differences between Family Startups and Total Startups in relation to location

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	N. Family Startups	% Family Startups	N. Total Startups	% Total Startups
Trentino- South Tyrol	10	2%	138	3%
Veneto	38	8%	356	8%
Friuli-Venezia Giulia	12	3%	98	2%
Lombardy	77	17%	1032	24%
Piedmont	20	4%	251	6%
Aosta Valley	3	1%	6	0%
Emilia-Romagna	53	11%	483	11%
Liguria	3	1%	78	2%
Tuscany	18	4%	214	5%
Marches	18	4%	198	5%
Umbria	7	2%	72	2%
Lazio	38	8%	433	10%
Abruzzo	18	4%	90	2%
Molise	0	0%	16	0%
Apulia	18	4%	165	4%
Campania	58	13%	293	7%
Sardinia	8	2%	81	2%
Basilicata	8	2%	29	1%
Calabria	8	2%	98	2%
Sicily	46	10%	192	4%

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 2: Differences between Family Startups and Total Startups in relation to firm size

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Employment	472	1	3,12	4332	2	4,58	0,1221
Assets (Thousand EUR)	472	234	556,11	4332	279	850,86	0,1165
Revenue (Thousand EUR)	472	147	734,36	4332	125	366,53	0,5195

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

In the case of location, the T-test yields a p-value of 0.5930. In addition, when dealing with firm size, assets and revenue p-values are not significant in relation to employment. Therefore, location and size are not significant in determining differences between the two groups of startups.

4.2 Financial indicators

Tab. 3 reports the analysis on the differences between Family Startups and Total Startups concerning financial indicators. From the Debt/EBITDA ratio (see Tab. 3), it is possible to conclude that Family Startups have significantly more debts than Total Startups. It is also true that, as we

shall see, the EBITDA of Family Startups is significantly higher than the EBITDA of Total Startups, so the Debt/EBITDA ratio may be influenced by the fact that Family Startups feature high levels of profitability and the same level of debt of Total Startups. However, in confirming the hypothesis on Family Startups' greater debts, we may notice the significance of the "Net Debt" variable. This variable is the result of debts minus current assets and is significantly higher in Family Startups.

On the other hand, the Equity indicator is significantly higher in Total Startups. This result is probably due to the fact that Family Startups are simple companies that do not include external investors in their governance.

The Current Ratio is significantly higher (albeit with a very low level of significance) in Total Startups than in Family Startups. The Current Ratio measures a company's ability to pay its obligations. To gauge this ability, the current ratio considers a company's current total assets in relation to its current total liabilities. The formula for calculating a company's current ratio is: $\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$. The Current Ratio gives the idea of a company's ability to pay back its liabilities as well as its assets. As such, the Current Ratio sheds lights on a startup's financial health. The higher the Current Ratio, the more capable the company is to pay its obligations. The high level of debts in Family Startups also lowers their Current Ratio. For the same reason, the indicator that is composed by "Cash and cash equivalents + Current receivable - Current liabilities" is significantly higher in Total Startups than in Family Startups.

The indicator deriving from the "Equity - fixed asset" mathematical expression is also higher in Total Startups since they have more Equity (also because of the participation of venture capitalists and, in general, of financial investors) than Family Startups. Similarly, the Net Working Capital, which is the result of Current Assets - Current Liabilities in the AIDA database, is significantly low in Family Startups, probably because of their level of indebtedness. A more positive value of the Net Working Capital is an indicator that current liabilities are sufficiently covered by current assets. The fact that such an index is low in Family Startups may indicate a financial situation in which the company also funds part of the assets that are immobilized with short-term sources, thus exposing itself to high financial risk.

However, the Operating Cash Flow is significantly higher in Family Startups. The Operating Cash Flow is the net amount of cash and cash-equivalents that move into and out of a business. Positive Operating Cash Flow indicates that a company's liquid assets are increasing, thus enabling it to settle debts, reinvest in its business, return money to shareholders, pay off expenses and provide a buffer against future financial challenges. A Negative Operating Cash Flow indicates that a company's liquid assets are decreasing. Here the operating cash flow is composed by Profit + Amortization and depreciation.

Tab. 3: Differences between Family Startups and Total Startups concerning financial indicators

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	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	472	1,63	12,41	4332	1,00	37,69	0,6008
Bank debt/Revenue ratio (%)	472	9,33	20,20	4332	7,48	18,39	0,2811
Debt/EBITDA ratio (%)	472	1,86	18,79	4332	-1,10	25,26	0,0370**
Invested Capital Turnover (times)	472	0,55	0,73	4332	0,54	0,73	0,8747
Net Debt (Thousand EUR)	472	53,25	264,22	4332	4,40	420,38	0,0167**
Equity (Thousand EUR)	472	43,75	111,81	4332	94,71	561,45	3,2416E-07***
Current ratio	472	1,60	1,69	4332	1,76	1,77	0,0661*
% of Working Capital (%)	472	-5,64	122,38	4332	-15,55	129,80	0,3413
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	472	-40,97	201,87	4332	0,41	344,37	0,0092***
Equity - fixed asset (Thousand EUR)	472	-29,28	173,66	4332	-11,29	326,96	0,0725*
Operating Cash Flow (Thousand EUR)	472	1,68	49,88	4332	-5,93	122,14	0,0099***
Net Working Capital (Thousand EUR)	472	18,76	134,55	4332	36,94	283,28	0,0155**

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

4.3 Profitability indicators

As far as profitability indicators are concerned, Tab. 4 demonstrates that Family Startups achieve higher levels of EBITDA and Profit. This supports the hypothesis that family firms achieve higher profitability levels than the rest of population, including start-up phases and innovative fields.

Tab. 4: Differences between Family Startups and Total Startups concerning profitability indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
EBITDA (Thousand EUR)	472	4,65	57,78	4332	-4,41	128,48	0,0061***
EBITDA/Revenue (%)	472	-16,97	100,98	4332	-32,38	140,773	0,0102**
Profit(Thousand EUR)	472	-7,81	53,33	4332	-18,39	128,44	0,0007***
ROS (%)	472	1,09	16,76	4332	1,74	15,54	0,5654
ROA (%)	472	-8,74	40,90	4332	-12,45	52,25	0,0676*
ROE (%)	472	-2,08	44,76	4332	-1,01	45,36	0,6739

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

4.4 Financial structure and economic performance based on age

Among the Family Startups and Total Startups in the sample, we selected the ones that were founded last year (Tab. 5 and 6). We can therefore see that, in the first year, there were no significant differences between the two groups, neither from a financial nor a profit-oriented point of view. Only the Net Working Capital is significantly reduced in Family Startups, probably because Family Startups already start their activity with high levels of debts that are not covered by Current Assets.

Tab. 5: Differences between Family Startups and Total Startups founded in 2016 concerning financial indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	109	1,31	7,48	1069	0,62	4,63	0,6188
Bank debt/Revenue ratio (%)	109	2,67	10,59	1069	2,47	9,85	0,9379
Debt/EBITDA ratio (%)	109	0,03	0,95	1069	-1,62	37,78	0,4258
Invested Capital Turnover (times)	109	0,34	0,59	1069	0,34	0,59	0,9709
Net Debt (Thousand EUR)	109	-11,99	73,39	1069	-36,34	298,22	0,2388
Equity (Thousand EUR)	109	30,48	77,52	1069	45,11	206,10	0,1351
Total Assets (Thousand EUR)	109	117,76	317,34	1069	123,71	373,36	0,8553
Current ratio	109	1,82	1,82	1069	1,89	1,92	0,7336
% of Working Capital (%)	109	-1,64	61,64	1069	-10,42	144,46	0,6390
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	109	-16,74	67,71	1069	4,69	384,23	0,3633
Equity - fixed asset (Thousand EUR)	109	-0,50	141,34	1069	13,28	222,95	0,3899
Operating Cash Flow (Thousand EUR)	109	-1,70	29,18	1069	-3,28	33,17	0,5982
Net Working Capital (Thousand EUR)	109	-5,11	87,20	1069	23,29	182,55	0,0052***

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 6: Differences between Family Startups and Total Startups founded in 2016 concerning profitability indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Revenue (Thousand EUR)	109	51,52	239,74	1069	37,27	149,64	0,5455
EBITDA (Thousand EUR)	109	-0,61	31,29	1069	-2,84	36,11	0,4875
EBITDA/ Revenue (%)	109	-13,29	87,83	1069	-30,16	146,25	0,2176
Profit (Thousand EUR)	109	-3,75	27,10	1069	-6,36	43,51	0,3729
ROS (%)	109	2,09	14,96	1069	1,80	16,63	0,9182
ROA (%)	109	-10,28	41,31	1069	-14,39	55,20	0,3438
ROE (%)	109	-6,41	35,34	1069	-4,55	41,95	0,6301

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

The paths between the two analyzed groups begin to diverge in startups that are over two years in age (founded in 2015), (see Tab. 7 and 8). In fact, the Debt/EBITDA ratio starts to be slightly significant, still identifying a higher level of Debt in relation to EBITDA in Family Startups. Indicators of Equity, and Net Working Capital, on the other hand, confirm being significantly higher in Total Startups than in Family Startups for the reasons outlined above. The Operating Cash Flow is significantly higher in Family Startups along with certain profitability variables like EBITDA and Profit.

Tab. 7: Differences between Family Startups and Total Startups founded in 2015 concerning financial indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	136	0,24	13,88	1341	3,42	51,85	0,2398
Bank debt/Revenue ratio (%)	136	5,51	18,43	1341	5,62	16,15	0,9681
Debt/EBITDA ratio (%)	136	-0,30	3,82	1341	-2,84	30,74	0,0583*
Invested Capital Turnover (times)	136	0,58	0,78	1341	0,61	0,80	0,6501
Net Debt (Thousand EUR)	136	5,50	161,75	1341	-13,04	369,58	0,4584
Equity (Thousand EUR)	136	43,37	132,48	1341	82,35	477,66	0,0248**
Total Assets (Thousand EUR)	136	236,76	754,65	1341	233,06	677,01	0,9564
Current ratio	136	1,61	1,67	1341	1,78	1,76	0,3100
% of Working Capital (%)	136	-59,38	195,78	1341	-28,16	136,58	0,3288
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	136	-63,20	301,59	1341	17,81	354,28	0,0520*
Equity - fixed asset (Thousand EUR)	136	-23,95	187,33	1341	6,23	322,59	0,1238
Operating Cash Flow (Thousand EUR)	136	0,44	45,87	1341	-10,21	113,89	0,0347**
Net Working Capital (Thousand EUR)	136	10,97	133,08	1341	39,92	312,71	0,0435**

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 8: Differences between Family Startups and Total Startups founded in 2015 concerning profitability indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Revenue (Thousand EUR)	136	174,90	1237,02	1341	102,38	294,41	0,4981
EBITDA (Thousand EUR)	136	2,03	52,87	1341	-9,00	122,17	0,0513*
EBITDA/ Revenue (%)	136	-30,95	114,54	1341	-41,18	149,89	0,4185
Profit (Thousand EUR)	136	-6,91	39,37	1341	-18,71	124,58	0,01436**
ROS (%)	136	-1,36	19,60	1341	0,28	16,10	0,51234
ROA (%)	136	-8,83	40,40	1341	-12,67	48,76	0,30349
ROE (%)	136	-1,02	51,15	1341	0,03	47,90	0,8356

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

There are no significant differences between Family Startups and Total Startups among the companies that were founded in 2014, and therefore have been active for over three years, in terms of profitability (Tab 10). The level of debt of Family Startups remains significantly higher than that of Total Startups (Tab. 9). In fact, the Debt/Equity ratio is significant. However, also in this case, it should be noted that the same level of debt in the two groups and a lower value of this index for Total Startups could derive from their greater level of Equity compared to Family Startups. Actually, the variable equity is also very significant, and higher in Total Startups than in Family Startups. However, the Net Debt variable, which is significantly higher in Family Startups, confirms the presupposition that there are higher levels of debt in Family Startups than in Total Startups.

Tab. 9: Differences between Family Startups and Total Startups founded in 2014 concerning financial indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	137	2,20	9,97	1131	-1,71	43,10	0,0693*
Bank debt/Revenue ratio (%)	137	10,50	19,40	1131	9,18	20,10	0,6506
Debt/EBITDA ratio (%)	137	4,32	30,02	1131	0,45	12,60	0,2866
Invested Capital Turnover (times)	137	0,52	0,71	1131	0,59	0,73	0,2768
Net Debt (Thousand EUR)	137	91,37	337,40	1131	10,53	463,06	0,0702*
Equity (Thousand EUR)	137	50,10	126,05	1131	99,85	419,46	0,0026***
Total Assets (Thousand EUR)	137	271,92	517,69	1131	315,49	702,07	0,3754
Current ratio	137	1,54	1,77	1131	1,65	1,66	0,4952
% of Working Capital (%)	137	4,12	63,13	1131	-8,38	113,05	0,2099
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	137	-25,92	134,29	1131	-4,98	268,77	0,2766
Equity - fixed asset (Thousand EUR)	137	-52,61	195,89	1131	-26,69	278,02	0,19
Operating Cash Flow (Thousand EUR)	137	-0,96	56,31	1131	-1,79	136,13	0,89
Net Working Capital (Thousand EUR)	137	33,30	158,89	1131	33,54	243,29	0,98

*: statistically significant at the 0.1 level of significance

**: statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 10: Differences between Family Startups and Total Startups founded in 2014 concerning profitability indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Revenue (Thousand EUR)	137	148,15	396,23	1131	148,78	385,63	0,9858
EBITDA (Thousand EUR)	137	1,75	65,41	1131	-0,52	144,87	0,7486
EBITDA/ Revenue (%)	137	-19,42	107,96	1131	-27,63	131,88	0,4639
Profit (Thousand EUR)	137	-15,82	76,14	1131	-19,23	131,48	0,6546
ROS (%)	137	0,37	16,93	1131	2,66	14,54	0,2394
ROA (%)	137	-10,90	40,96	1131	-11,40	46,82	0,8951
ROE (%)	137	-6,13	43,76	1131	0,76	43,19	0,1249

*: statistically significant at the 0.1 level of significance

**: statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

As regards companies that were founded in 2013 and have been active for at least 4 years (Tab. 11 and 12), almost all profitability indicators are significantly better in Family Startups than in Total Startups (EBITDA, EBITDA/Sales, Profit). However, the Return on Activities is significantly higher in Total Startups than in Family Startups. The ROA gives an idea of the value that is generated from assets, and is therefore an indicator of a firm's ability to make profits and to confer value to its assets. A higher ROA is typical of a company that is capable of enhancing the resources under its control, while a low value is symptomatic of a company that is unable to create value.

A significantly higher Equity indicator in Total Startups indicates a larger presence of investors compared to Family Startups. Besides, the significantly higher level of Total Assets in Total Startups indicates greater investments. This could be one of the reasons for the higher level of Profit in Family Startups. Pure families tend to adopt more conservative strategies than the rest of the population.

Tab. 11: Differences between Family Startups and Total Startups founded in 2013 concerning financial indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	83	3,23	16,38	724	0,93	9,31	0,3861
Bank debt/Revenue ratio (%)	83	14,46	22,24	724	10,65	21,14	0,3526
Debt/EBITDA ratio (%)	83	2,39	13,90	724	-0,80	14,42	0,1696
Invested Capital Turnover (times)	83	0,82	0,74	724	0,62	0,70	0,0242
Net Debt (Thousand EUR)	83	109,30	321,16	724	51,75	516,56	0,3127
Equity (Thousand EUR)	83	52,65	73,74	724	165,80	1013,90	0,0034***
Total Assets (Thousand EUR)	83	312,59	464,13	724	476,59	1425,43	0,0268**
Current ratio	83	1,47	1,41	724	1,72	1,72	0,1395
% of Working Capital (%)	83	21,98	42,47	724	-12,86	133,38	0,0007***
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	83	-45,90	159,18	724	-10,88	374,28	0,2709
Equity - fixed asset (Thousand EUR)	83	-40,38	144,55	724	-41,00	413,21	0,9789
Operating Cash Flow (Thousand EUR)	83	14,35	48,79	724	-6,46	164,57	0,0111**
Net Working Capital (Thousand EUR)	83	39,35	134,03	724	55,47	358,00	0,4189

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 12: Differences between Family Startups and Total Startups founded in 2013 concerning profitability indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Revenue (Thousand EUR)	83	220,10	435,53	724	234,32	554,40	0,78631
EBITDA (Thousand EUR)	83	21,47	60,30	724	-1,55	174,13	0,01377**
EBITDA/ Revenue (%)	83	-0,33	77,95	724	-27,97	132,97	0,0084***
Profit (Thousand EUR)	83	0,85	35,05	724	-29,53	176,24	7,35775E-05***
ROS (%)	83	3,84	12,26	724	2,24	15,41	0,3569
ROA (%)	83	220,10	435,53	724	234,32	554,40	0,0378**
ROE (%)	83	8,06	48,19	724	-1,34	45,60	0,1244

*: statistically significant at the 0.1 level of significance

**: statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

We also considered companies that were founded in 2012 (Tab. 13 and 14), but the limited number of companies in the two groups, especially in Family Startups (only 6), does not permit a meaningful survey.

Tab. 13: Differences between Family Startups and Total Startups founded in 2012 concerning financial indicators

	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	t-test
Debt/Equity ratio (%)	6	0,06	1,06	48	1,18	3,08	0,2126
Bank debt/Revenue ratio (%)	6	32,75	39,87	48	11,46	23,87	0,5306
Debt/EBITDA ratio (%)	6	0,42	1,41	48	4,69	16,77	0,1876
Invested Capital Turnover (times)	6	0,53	0,47	48	0,77	0,64	0,3225
Net Debt (Thousand EUR)	6	62,46	75,69	48	96,35	426,87	0,7074
Equity (Thousand EUR)	6	25,90	175,87	48	161,86	482,60	0,2170
Total Assets (Thousand EUR)	6	292,27	268,48	48	580,08	908,43	0,1222
Current ratio	6	0,86	0,48	48	1,81	1,69	0,0153**
% of Working Capital (%)	6	173,33	234,34	48	-5,62	111,91	0,3931
Cash and cash equivalents + Current receivable - Current liabilities (Thousand EUR)	6	-126,5	311,65	48	-63,08	344,54	0,8041
Equity - fixed asset (Thousand EUR)	6	23,53	102,70	48	-100,97	457,40	0,1891
Operating Cash Flow (Thousand EUR)	6	-23,97	153,40	48	-6,38	237,23	0,8248
Net Working Capital (Thousand EUR)	6	11,95	184,66	48	23,16	319,83	0,9085

*: statistically significant at the 0.1 level of significance

**: statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

Tab. 14: Differences between Family Startups and Total Startups founded in 2012 concerning profitability indicators

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	Family Startups			Total Startups			p
	N	mean	std.	N	mean	std.	
Revenue (Thousand EUR)	6	219,8	364,79	48	317,96	483,30	0,5978
EBITDA (Thousand EUR)	6	-7,54	167,53	48	-25,81	218,69	0,8289
EBITDA/ Revenue (%)	6	17,11	20,36	48	-19,44	117,15	0,1082
Profit (Thousand EUR)	6	-37,85	147,39	48	-48,09	265,73	0,8964
ROS (%)	6	6,80	25,52	48	5,38	9,01	0,9300
ROA (%)	6	-31,9	58,60	48	-7,77	43,67	0,4075
ROE (%)	6	5,76	50,78	48	7,82	41,63	0,9491

*: statistically significant at the 0.1 level of significance

** : statistically significant at the 0.05 level of significance

***: statistically significant at the 0.01 level of significance

Source: our elaboration from AIDA, Bureau van Dijk, 2018

5. Discussion

The results demonstrated that the best performances, in terms of profitability, were found in Innovative Pure Family Startups, thus confirming hypothesis 3. As claimed in previously mentioned contributions, family governance is revealed to be a competitive advantage and provide the best economic results. The superior performance of Innovative Pure Family Startups may be explained by the fact that family owners usually aim to preserve their “family name”. Because of their strong identification with the business and their desire to create a sustainable firm for future generations, family-owned companies show greater concern for the family’s reputation and image (Schillaci and Romano, 2012). Long-term orientation, the importance of a family business’ reputation in maintaining good relationships with stakeholders, and lower agency costs allow them to achieve positive economic performance and overcome the liability of newness (Freeman, 1983).

We may also refer to the concept of “antifragile” (Taleb, 2013) to prove the positive relationship between the presence of family members in the governance and the business’ performance. Family involvement seems to improve the company’s “antifragility” and flexibility through less formalism and fewer procedures, thus improving the organization’s ability to tackle uncertain situations in an innovative way during the start-up phase of the business. Antifragility goes beyond the concept of “resilience” (Bauweraerts, 2014), for something that is resilient resists shocks but remains the same as before: antifragility therefore gives rise to something better. Antifragile organizations manage to guide non-predictive decision-making processes in conditions of uncertainty. Any situation in which there is uncertainty, unpredictability, or incomplete understanding of the circumstances is promoted because it gives the organization the opportunity to better respond to unusual responses. Therefore, family involvement positively contributes to the creation of value through its constant concern for the preservation of the family name (Schillaci and

Romano, 2012; Gomez-Mejia *et al.*, 2007; Berrone *et al.*, 2012) and for the creation of a lean, chaotic and antifragile organization.

From a financial point of view, family businesses are generally unlikely to open their property to sources of external financing (see Schillaci 2008, Demsetz and Lehn, 1985; James, 1999; Romano *et al.*, 2001; Blanco-Mazagatos *et al.*, 2007). When internal finances are insufficient, family-owned firms prefer incurring debt to resorting to external equity (Poutziouris, 2001; Romano *et al.*, 2001; López-Gracia and Sánchez-Andújar, 2007), in order to keep the firm and the capital in the family. Our results demonstrate that Innovative Pure Family Startups clearly prefer debt to opening up firm equity to external investors, thus confirming hypotheses 1 and 2. This contributes to Innovative Pure Family Startups' higher levels of debt compared to Total Innovative Startups. Family firms' more cohesive governance (Bopaiah, 1998), the goal of family firm owners to uphold the family reputation and firm control reduce risk for creditors by entailing lower agency costs of debt and favoring longer relationships between family firms and creditors (MenéndezRequejo, 2006). In such a setting, we can expect these firms to more easily obtain debt than non-family firms.

On the other hand, Total Innovative Startups are more inclined towards external equity sources and subsequent higher level of investments (see the level of Total Assets) that may also result in lower levels of profit. On the contrary, Innovative Pure Family Startups adopt a more conservative strategy that is probably not suitable for rapid scale-ups. Should this be the case, our survey of Innovative Pure Family Startups probably reveals significant strategic differences that may be found in the analysis of Innovative Professional Family Startups, as well as that of the differences between Innovative Family Spin-offs and Innovative Family New-cos.

6. Conclusion and future research

The present contribution dealt with the phenomenon of Innovative Family Startups as compared with Total Innovative Startups. The focus of the analysis was Innovative Family Startups as new ventures in high-tech sectors whose founders are members of the same family: two or more siblings; husbands and wives; parents and sons/daughters, cousins and other in-law relatives. In generally, a vast part of the literature supports the idea that family governance can strengthen a business. However, another part of the literature sustains that there is a distortion of the family governance in relation to performance, due to the greater complexity of family businesses that create vicious circles in value creation processes.

In the paper we investigated Innovative Startups and specifically whether the presence of family governance can influence their economic and financial indicators. Results showed the best performances in terms of profitability in Innovative Pure Family Startups. From a financial point of view, our study proved the preference of Innovative Pure Family Startups for debt, as opposed to opening up firm equity to external investors. This contributes to higher levels of debt in Innovative Pure Family Startups

than in Total Innovative Startups. In addition, Total Innovative Startups are more inclined towards external equity sources and subsequent higher level of investments (see the level of activity) that may also result in lower levels of profits. On the contrary, Innovative Pure Family Startups adopt a more conservative strategy that is probably not suitable for rapid scale-ups.

Should this be the case, our survey of Innovative Pure Family Startups probably reveals significant strategic differences that may be found in the analysis of Innovative Professional Family Startups, as well as in the study of the differences between Innovative Family Spin-offs and Innovative Family New-cos. This contribution presents the first results of a broader study that is being carried out on Innovative Family Startups and will also investigate Innovative Professional Family Startups, Innovative Family Spin-offs and Innovative Family New-cos as different expressions of the same phenomenon.

Moreover, the focus of the present study was on financial and profitability indicators. Future contributions could also investigate other variables such as the individual characteristics of the founders (Costa and McCrae, 1985; Rotter, 1966; Krueger *et al.*, 2000); their motivations for starting the entrepreneurial process (Shapero and Sokol, 1981), the level of innovation in family startups and risk propensity (Berrone *et al.* 2010; Gómez-Mejía *et al.* 2007), as well as their internationalization, the strength of their network with stakeholders and of their connections with support structures (e.g. science parks, incubators).

The present analysis focused on data that was only collected from Italian companies, in accordance with the paper's objective. Therefore, the results are not generalizable, but rather contribute to the analysis of a phenomenon that increasingly seems to be relevant (see GEM, 2019). The aforementioned forthcoming special topic report by GEM on this issue will probably provide data on the phenomenon on an international level that can be extensively analyzed in future studies/research.

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