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Performance variability of family businesses: an empirical study over a
sample of Italian SMEs

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ABSTRACT

Studies in the family business literature to date have mostly focused on critical issues such as family involvement, succession, tradition and innovation, and other concepts. Developing and deepening a sensitive topic such as Innovation through tradition and family involvement in business, we explored the effects of family involvement on performance variability when firms are both innovative and traditional at the same time. Starting from a sample of 1548 firms, all associated with the respective ATECO code, we defined which sectors were both innovative and traditional. The latter was assessed by looking at the industrial districts in Italy. We used three different dimensions to identify family involvement in business and hypothesized and tested their effects through linear regressions. The final evidence shows that family involvement has a negative effect on the performance variability of the firm in which they operate, and this effect is further accentuated if the latter is located within a district. This report aims to be a pioneer in the literature to further explore the concept of performance variability in family businesses.

ABSTRACT

Gli studi in letteratura nell'ambito family business, ad oggi, si sono perlopiù concentrati su aspetti critici quali la family involvement, la succession, il binomio tradizione e innovazione e altri concetti. Sviluppando e approfondendo un tema molto delicato come l'Innovation through tradition e la family involvement nel business, abbiamo esplorato gli effetti che la presenza di quest'ultima causa sulla performance variability nel caso le aziende siano innovative e tradizionali allo stesso momento. Inizialmente partendo da un campione di 1548 aziende, tutte associate al rispettivo codice ATECO, abbiamo definito quali fossero i settori sia innovativi che tradizionali. Quest'ultimo aspetto è stato valutato approfondendo i distretti industriali presenti in Italia. Abbiamo utilizzato tre dimensioni differenti per identificare la family involvement nel business e ipotizzato e verificato tramite regressioni lineari i loro effetti. L'evidenza finale dimostra che la family involvement ha un effetto negativo sulla performance variability dell'impresa in cui operano, questo effetto è ulteriormente accentuato nel caso quest'ultima si trovasse all'interno di un distretto. Questo report ha lo scopo di essere un apripista nella letteratura per approfondire ulteriormente il concetto di performance variability nelle family business.

EXECUTIVE SUMMARY

Family businesses are a highly discussed topic in the literature, since it has been estimated that about 60% of existing companies in the Italian market can be considered family businesses. They therefore play a key role in the global economy as well as in Italy: in fact, among companies with a turnover of more than 20 million Euros, family businesses represent 65% of the total number of Italian companies, consolidating a total turnover of more than 730 billion Euros and employing about 2.4 million workers (Corbetta, Quarato, Minichilli, 2018).

Our study starts from the research that experts and professors have carried out in the past, as well as from the existing literature on the subject, and then goes on to develop an analysis that is new in the field, which we hope will be a source of inspiration for future studies. In fact, the relation that exists between firm performance and family involvement is far from being clear, despite the fact that there have been numerous studies that have explored the topic in depth (among others, Gedajlovic et al. 2012; Mazzi 2011; Abrardi & Rondi, 2020; De Massis et al., 2015; Hansen & Block, 2020). In particular, a completely new topic regarding the scope of the study of family firms is the relationship between the variables endogenous to the firm and performance variability, a topic that in our opinion is key to reach the most complete picture possible about the advantages and disadvantages of family firms. In fact, it is possible to find in variability one of the causes of mismanagement of the company, which, if prolonged over time, can lead to a significant decrease in performance; from here, it is clear that an in-depth understanding of this issue, which factors lead to an increase and which to a reduction, and how to protect oneself from it, is of great importance in order to reduce the likelihood of failure.

Therefore, our main interest in this area is to understand whether family firms are more or less variable than family firms in their performance and, if this is true, whether this reduction in variability is due to greater or lower family involvement in the business. In particular, the fact

of belonging or not belonging to an industrial district can level out or make this phenomenon more explosive.

Starting from family ownership and subsequently developing the hypotheses with the family involvement variables most used in the literature, we used a multiple linear regression model to test the effect that these variables had on performance variability. This model confirmed our five research hypotheses on the subject, showing that there is an inverse relationship between family involvement and performance variability: in fact, greater family involvement would reduce the oscillation of performance over time, with what could be positive consequences for the stability of the company, although further studies in this field are needed.

Our work, however, did not stop at the endogenous variables of the firm: in fact, the great novelty of this thesis is to further investigate one of the most interesting aspects of the world of family businesses, namely the concept of Innovation Through Tradition (ITT). This concept, introduced by De Massis et al. in 2016, is a young and still little debated topic in the literature, and it is interesting because it delves into the relationship between tradition and innovation for family businesses, and how they are able to bring innovations (mostly product innovations) by reinterpreting "historical" elements, which are part of the company's or territory's tradition, and re-propose them under a new and modern guise. In an area as rich in history and culture as Italy, this paradigm applies perfectly. This is why, in our analysis, starting with the ATECO code that identifies the 99 sectors into which all activities in Italy are classified in terms of goods, we first classified all sectors according to their innovative drive, then made a second classification based on how 'traditional' a given sector was; In order to do the latter, we based ourselves mainly on the concept of industrial districts, but also on the presence of Italian firsts in the world that can be traced back to that sector, as well as the different levels of exports. Using an AND formula, we selected, in the ranking that we drew up on MS Excel, the sectors that were most innovative

but traditional at the same time, and for our analysis we chose the top six, which therefore provided us with a sample of 2165 companies.

Also in this case, our ultimate goal was to understand whether the ITT paradigm had any relation with the variability of performance; in particular, we assumed that, in a broad sense, this paradigm applied to all firms located in an industrial district: we were able to prove that these firms are on average 'older' - and, therefore, historical - than those located outside, and this statement is even more valid when we go to consider family firms, in this case. Therefore, we hypothesized in three further research hypotheses that the presence within the industrial district, therefore linked with greater innovativeness and greater historicity, had an impact of reducing the variability of performance over time. The regression analyses carried out on our sample demonstrated the validity of our hypotheses.

Basically, we found that there are two "macro-variables" capable of reducing performance variability: family involvement, which we interpreted as the percentage of family members in the management (TMT) and control (BoD) bodies of the business, the number of generations involved in the business, and the presence of a family president at the helm of the company, and finally the location of the company within the district, which guarantees a greater innovative drive and a certain "seniority" of the company.

Our findings have important implications, both for the literature but especially for practice. Indeed, firstly, the link between innovation and the reduction of performance fluctuations opens the door to a renewed conception of innovation, which should no longer be seen as a source of risk but as a shield to protect the firm. This is particularly true for managers of family firms, the heart of our study, who are left with the task of changing a mindset that has been ingrained for years and which sees innovation and SEW preservation as opposites.

A second important detail that emerges from our research is also evidence of how the past plays a key role in innovation, proof of which is that at the base of our sample are sectors that we

have identified as innovative but traditional at the same time. The past should not be forgotten, but rather, as already theorised by De Massis et al. in 2016, internalised and reinterpreted in order to create from it something new and innovative that can benefit the company and the community of stakeholders surrounding it.

Finally, the fact that family involvement within the business should not be 'demonised', as has happened in some studies that have highlighted how high family involvement wears down performance, making it less than that of companies with 'average' family involvement; However, our research shows that such performance is more stable over time when family involvement is high, and therefore we could leverage this by looking for new strategies to increase performance in the long run even in firms with high family involvement, but without losing the "advantage" of less fluctuation in performance.

In spite of the limitations of our model, with the results we have obtained we hope to encourage future research in the field of organisations and family firms to analyse also how organisations are created, evolve over time and what are the factors that determine a greater longevity of the same, or that instead drive them to innovation, and how all this is intertwined.

INTRODUCTION

Family businesses are of strategic importance to local and national economies (Gomez-Mejia et al., 2007). In fact, they represent a dominant share of listed company worldwide (Shim & Okamuro, 2011) and 35% of the Fortune 500 companies. Family firms are major contributors to economic growth, wealth creation, job generation and competitiveness (Westhead & Cowling, 1998); for example, based on their broadest definition, Astrachan and Shanker (2003) estimate that family firms generate 89% of the total 64% of GDP and employ 62% of the labour force in the United States.

As far as Italy is concerned, however, family businesses with a turnover of more than €20 million account for 65% of the total number of Italian businesses, consolidating a total turnover of more than €730 billion and employing around 2.4 million workers (Corbetta, Quarato, Minichilli, 2018), while broadening the view to businesses with a turnover of less than €20 million, Istat estimates that the percentage increases to around 75%. The data from the AUB Observatory also confirm how family-owned businesses create employment (+20.1% in the last six years), grow more than other types of companies (+47.2% in the last ten years, compared to 37.8% for other companies), record higher profitability (ROI in 2016 at 9.1% compared to 7.9% for other forms of companies) and generally have a lower debt ratio. Moreover, Italian family companies also stand out for their longevity: among the 100 oldest companies in the world, fifteen are Italian, and amid these, five - Barone Ricasoli (foundation year 1141), Fonderie Pontificie Marinelli (1000), Torrini (1369), Barovier & Toso (1295), and Marchesi Antinori (1385) - are some of the ten oldest family businesses which are still operating.

As comes to the incidence of family companies, the Italian context is in line with that of the main European economies such as UK (80%), France (80%), Spain (83%) and Germany (90%), while the differentiating element with respect to these countries is a lower use of external

managers by entrepreneurial families: 66% of Italian family companies have all the management made up of family members, in France this situation is found in 26% of family companies while we have a 10% in the UK companies. (AIDAF)

What we know about family firms?

Despite these impressive numbers, the field of family business research as a discipline is quite young compared to established fields such as strategic management, finance or organisation. Before the 1980s, few scholars paid attention to the specificities of family-owned and controlled firms, while an in-depth discussion of the subject began in 1988, with the founding of *Family Business Review*, *Journal of Family Business Strategy*, and *Journal of Family Business Management*, the three main academic journals devoted exclusively to this type of business (De Massis et al., 2021). Subsequently, these studies have been expanded, and particularly relevant have been empirical studies assessing differences among non-family and family in important aspects such as risk preferences (e.g., Gómez-Mejía et al. 2007), financial system (e.g., Mishra and McConaughy 1999), growth (e.g. Miroshnychenko et al., 2020) innovation (De Massis et al. 2013; De Massis et al., 2015 Migliori et al., 2020), and corporate governance (e.g., Bammens et al., 2011; Le Breton-Miller et al., 2018; Le Breton Miller et al., 2015; Miller et al., 2017) among others.

In general, it is observed that family involvement enhances the sales level of new firms in their first year (Chrisman, Chua and Steier, 2002), and that sales are higher in international operations for family firms (Zahra, 2003). On the other hand, Gallo (1995) finds that family companies need longer to grow to the same size as same industry non-family companies, while Chrisman et al. (2004) suggest that the growth of short-term sales are statistically equal between small family and non-family firms.

Instead, Gedajlovic et al. (2012) show that the relevance of family ownership as a source of competitive advantage is based on its support of small and medium-sized enterprise (SME)

networks through family-specific advantages such as: stewardship (Miller et al., 2008), long-term orientation (Miller & Le Breton-Miller, 2005), family social capital (Arregle et al., 2007), and greater access to internal financial capital (Steier, 2007). All these features can be relevant when the process of economic development is derived from the predominance of micro and small companies that construct their competitiveness in a system of inter-firm relations, as in industrial districts (ID). A very big literature has concentrated precisely on the relevance of industrial districts for economic development, both locally and internationally (Becattini et al., 2009; Baù et al., 2019). In IDs, both new and established populations of firms are embedded in social communities characterised by a "relatively homogeneous system of values and views" (Becattini, 1990). In them, values and tacit knowledge can be created over a long period of time and then transmitted to the wider community to regulate competition and facilitate low-cost coordination. Recently, the emergence of new technological paradigms, the challenges of globalisation and innovation, and other events have encouraged a number of structural changes in the basic structure of IDs (De Marchi & Grandinetti, 2014; Rabellotti et al., 2009; Solinas, 2006). The emergence of medium-sized firms as key players able to compete in the new scenarios and adapt is one of the most significant results (Coltorti, 2009). The economic importance and presence of these enterprises leads to a shift towards a more hierarchical organisation of market transactions, where medium-sized enterprises, most of which still maintain a family structure, play a leading role as coordinators of SME networks (Markusen, 1996). In general, therefore, it has been shown that in each of the above fields there are profound differences between family and non-family firms, and how these differences translate into advantages and disadvantages. The debate on these advantages and disadvantages associated with family ownership and management is still ongoing and has progressively led scholars to devote more and more attention to results to better understand the relationships between family characteristics and firm financial performance (Villalonga and Amit, 2006). For example, using firms in the S&P 500, Anderson and Reeb (2003) show that accounting profitability measures

are higher for firms with founding family ownership and a family CEO, but market value creation is higher for those with founding family ownership and a founding family CEO or a non-family CEO. However, this superiority in performance is tempered by the need to balance the interests of outside shareholders with those of the family. (Anderson & Reeb, 2004).

Of relevance in this thread, however, is the strategic management of family firms, which leads to substantial differences in performance between family and non-family firms (Chrisman et al., 2005; Chua et al., 1999), which have distinctively captured the attention of scholars. In particular, what seems to be of most interest to scholars in the field is precisely the effect of family involvement on the performance of the firm, a topic that is both popular and controversial in the actual literature (De Massis et al., 2012; Dyer, 2006; Yu et al., 2012; Pittino et al., 2021). In this field of research, scholars have provided extensive empirical evidence and proposed several theoretical arguments on how firm performance is affected by family involvement (Basco, 2013; Block et al., 2011; Hansen & Block, 2020; Gedajlovic et al., 2012; Mazzi, 2011; O'Boyle et al., 2011; Roffia, 2021). A primary focus has been on how the degree of family ownership and the degree of family involvement in high-level managerial positions impact firm performance, while the actual structure of family ownership, i.e. how family ownership is distributed among family members, has only been considered in a few studies (e.g., De Massis, Kotlar, Campopiano, & Cassia, 2013; Goel et al., 2011).

What is still unknown?

However, the relationship between family involvement and firm performance is far from clear (Gedajlovic et al. 2012; Mazzi 2011). From a theoretical perspective, scholars continue to be divided between those who emphasise the benefits of family involvement (Chrisman et al., 2004; Dyer 2006; Miller et al. 2007; De Massis et al., 2015) and those who emphasise its disadvantages (e.g., Schulze et al., 2002, 2003a, 2003b). Moreover, empirical research continues to provide varied and sometimes conflicting results, so the tipping point in

understanding the role that family involvement plays in the performance of the firm seems to be still some way off.

In addition, a topic that is even less addressed in the literature concerns the variability of performance in family businesses: while there are numerous studies that discuss the variability of the performance of non-family businesses in relation to various factors, it is still unclear and poorly debated what factors cause variability in the performance of family businesses, and especially what impact family involvement has on this.

In addition, despite the considerable attention that industrial districts (ID) have received from researchers (Basco, 2015), both locally and internationally, the role of family ownership in ID and in the evolutionary profile of district organisations has been largely neglected, except for a few descriptive analyses (Cucculelli & Storai, 2015; Cucculelli & Storai, 2018). Moreover, evidence on the interaction between family governance and the district structure of a (local) economy is still somewhat neglected. Even less studied and analysed is the impact that these industrial districts have on the performance of firms within them, and in particular on the performance of family firms.

It is our intention to fill this knowledge gap by producing a paper that aims to be a sort of forerunner for further, more in-depth studies, also at an international level, in this direction. This thesis therefore seeks to contribute to this issue by studying in more detail the role of family ownership in the variation of firm performance, and how this "family effect" varies in relation to the location of the firm within an industrial district. To address this point, we provide an analysis of the relevance that family businesses have in the Italian economy, and discuss to what extent and how family ownership and district organization interact in varying firm performance.

Topics in our thesis

In conclusion, our aim with this thesis is to provide a contribution to the current literature by providing a first analysis of the relationship that exists between performance variability and in family-owned firms, and what is the effect of local embeddedness of the latter within industrial districts. Our analysis will be conducted on a sample of 2165 Italian firms, a landscape that as often stated in the literature (Paniccia, 1998; 1999) is an area rich in industrial districts, which have an almost always positive effect (Cucculelli & Storai, 2015) on the performance of firms operating within them.

This thesis is organised as follows: in the next chapter, we it will be discussed in depth the theoretical perspectives currently debated in the literature, investigating their origins and finally proposing an overview of current knowledge in the area of family businesses. In the third section, we will be developed the actual research hypotheses based on the evidence from the literature, combined with some insights from the gaps in the current literature. In the fourth section, we it will be described the methodology used in the research, including the collection of data, the first part of the construction of a new database for family firms, and a description of the choice of the variables included in the analysis. In the next section we will instead present the analytical techniques used in the statistical analysis, the results of the analysis and an assessment of the robustness of the sample. The sixth chapter provides a comprehensive discussion of our findings in the light of previous studies and theories, outlining the implications of the thesis we prepared, the limitations of the present study, and concluding the chapter with some suggestions for future research directions in the field. The last section is meant to be a simple conclusion to the work done.

THEORETICAL BACKGROUND

The second chapter is composed of four sections; the first one aims to provide a general definition of what has been said in the literature about family businesses, what their characteristics are and what are the main models proposed to study them. In the second section, in order to better understand the internal dynamics of family businesses, we have drawn a summary of the literature that provides theoretical pillars focusing on governance, agency theory and succession. In the third section, we are going to present a key topic when talking about family businesses, an intrinsic feature of them: the interest in the preservation of socio-emotional wealth, and all the implications that it has, especially in terms of performance; we will also provide a generic overview of what are the factors that have the greatest impact on the performance of family businesses, and we will briefly present the theories that concern them. In conclusion, we will explain what industrial districts are, what they are characterized by, why they are important and, above all, why the family business-industrial district combination has proved successful, drawing mainly on the work of Basco and Cucculelli & Storai.

The concept of family business

For the last 30 years, family firms have been increasingly discussed in the literature, given their importance at national and global level. In fact, since 1988, 1381 articles on family firms have been published (De Massis et al., 2021), aimed at explaining what they are, what their main characteristics are, and how they differ from non-family firms. In family firms, one or more family members typically own the majority of the shares in the firm, and they often occupy high management positions (De Massis et al., 2013). Chua, Chrisman and Sharma in 1999 defined family businesses as: "*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". We want to highlight that there are at least three main reasons why the family should continue to be considered as a distinct level of analysis: first, the family is absolutely the key element that defines any family business (Chua et al., 1999) and can be seen as a unique stakeholder category for this type of organisation (Zellweger & Nason, 2008). The involvement of this category influences the dynamics of the firm through additional elements, such as benevolent ties between actors, affections, identity concerns, and extended time horizon on firm-level behaviour, which are specific to each family. Secondly, the presence of the family as a distinct category of stakeholder has an impact not only on logic that guides the decision-making process of both the family and the company, but also on their behavioural outcome. There is a strong need to recognise the combined logic in the context of family businesses which is neither purely family-oriented nor fully company-oriented, but which seeks to accommodate in a kind of middle ground forces that are opposing one against the other. Thirdly, if families that own businesses are active parts in managing and owning multiple companies, investigating the family level of analysis is further justified. Actually, the implicit assumption in most studies is that a family business consists only of a single business entity. Family businesses may in fact add new enterprises, business units or companies, for example under a holding structure, extending ownership to a group of individuals rather than to a single individual, with or without family participation. It is essential to consider the many changes in ownership, board and management structure that occur in all businesses over time and that may affect whether a business is considered 'family' or 'non-family'. A family business is governed and/or managed with the intention of shaping and pursuing the vision of the business held by a dominant coalition, which is controlled by members of the same family or a small number of families in a way that is potentially sustainable across generations of the family or families (Zellweger et al., 2012). Family businesses are made up of several individuals who do not always

agree on all issues while working together. Families, like organisations, are dynamic in that they evolve and change over time, members come and go. Many families have an uncanny ability to align their views and act together in situations where it is most needed, and a key characteristic of the family is its tendency to perpetuate its existence by ensuring its integration, despite threats of dilapidation and dispersal.

In general, we can say that family businesses possess some peculiar advantages over non-family businesses. They normally provide closer contact with management, are less bureaucratic, have a built-in trust factor with established relationships, and provide practical training and initial exposure to the business for the next generation while it is still very young.

On the other hand, they also bring a unique set of challenges. Family businesses are often recognised in the literature as a source of difficulty when it comes to issues of succession, discerning family identity from business identity and sibling relationships. Of these, succession is one of the greatest challenges facing family businesses, and in most cases the process is very much resisted by the older generation, which does not give the younger generation the space it needs to grow, develop effectively and ultimately assume leadership of the business. Often business relations between siblings or between parents and children deteriorate due to a lack of communication within the family, resulting in criticism, conservatism, lack of support and trust – all of which have a negative impact on the company. In fact, family communication, conflicts with relatives and sibling relations are typically among the top ten concerns of family businesses.

There is an actor or coalition which is dominant, and represents a vision above the others, which determines the future of the entrepreneurial activities of the family. Entrepreneurial orientation (EO) has been a much studied and debated topic in latest years (Nordqvist et al., 2009; Naldi et al., 2007; Lumpkin et al., 2005) and is defined as the attitudes and mindset to engage in entrepreneurial activities and, in the case of family businesses, the increase in family orientation

will outweigh entrepreneurial orientation as the family business is passed down through the generations. Families are willing to promote change and growth in business activities, but they do so for the benefit of the next generation and not just for the immediate benefit of the current owners. EO has also a deep effect on innovation, which has proven to be a controversial topic when it comes to family firms (Arzubiaga et al., 2018; Jovic et al., 2021); but, in this field, family firms have a special card to play: indeed, this kind of firms are typically characterised by a set of shared traditions and values, rooted in the history of the company. In a changing world, family businesses can honour their traditions if they realise that they can be a guide to select the best course of action when there is a recognised need for change, and use that resource to generate innovation: hence the concept of Innovation Through Tradition, a form of innovation mostly typical of family businesses (De Massis et al., 2016) which we will discuss in depth later in the thesis.

Now, in order to adequately understand the concept of family business, several theoretical models have been developed, among which the clearest, although simplistic, is the so-called "3 circles model": it allows us to define the degree to which the three different dimensions of family, ownership and management overlap, and is therefore very useful for analysing the degree of familiarity within a firm, but also the extent to which it is involved in the business (Tagiuri and Davis, 1982).

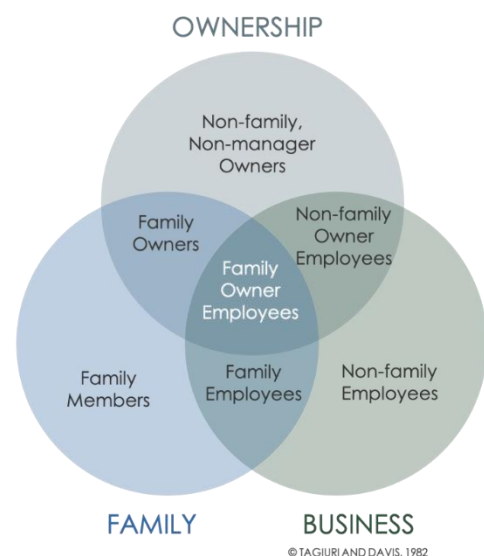


Figure 1: Three-circles model

Furthermore, a study conducted in 2012 shows that family businesses can be described mainly by six criteria: intra-family succession, multiple generations involved in the company, self-identification within the business, directorship, management and ownership of the family (De Massis et al., 2012). This study was created from the analysis of 238 quantitative studies, which were carried out between 1996 and 2010, and was fundamental in defining what characteristics make a family business different from other companies.

Previous studies also indicate that both the level of family ownership and the one of family involvement in management may influence firm performance; in particular, studies based on agency theory as well as the literature on conflict in decision-making offer a broad understanding of the implications of family ownership and management for the performance of family firms (Anderson & Reeb, 2004; Minichilli et al., 2010; Sciascia & Mazzola, 2008), topics that we will explore in the following paragraphs.

Governance structure in family firms

After defining the concept of family business, it is appropriate to understand and analyse the key aspects that determine its success compared to other existing business models.

The first of these is governance, i.e., the system of structures, rights and obligations through which a company is directed and controlled; several studies, that of Gedajlovic et al., 2004 in the first instance, and then that of Carney in 2005, state that family governance defines the authority structure, motivations and accounting rules. Governance is widely recognised as a key factor in the success or failure of all organisational activities. Family involvement introduces a unique dimension to governance, which we define more broadly as the mechanisms used to ensure that managers' actions are consistent with the goals of the "dominant coalition" (Chua et al., 1999; Sirmon & Hitt, 2003). As the conflicts and tensions discussed by Carr et. al (2015) can affect work and relationships within the family and the firm, a challenge of any governance

system is to attempt to eradicate sources of conflict and provide remedies when conflicts do occur. The problem, as with any control mechanism or system, is to calibrate the costs and benefits. Obviously, the challenges are greater in a family business than in a non-family business because of the blurring of boundaries between family and business. However, it is not entirely clear whether the problem is more or less solvable in a family business where the objectives are to maximise the utility of the family through the business and not vice versa.

One of the most critical issues that arises directly from the concept of family governance is agency theory, a subject that has been much studied and explored by many academics, especially in the non-family sphere. Jensen & Meckling were the first to put forward this theory in 1976, which highlights the problems linked to the personal interests of managers compared to family interests (first agency problem) and the differences in vision between majority and minority shareholders (second agency problem). Agency problems arise mainly when the objectives of the principal and the agent-managers differ and it is complex or costly to verify that the latter are behaving in the most appropriate way, through the use of performance monitoring systems. To avoid opportunistic agent behaviour, firms have to incur certain costs to detect, mitigate and prevent agency problems: these are known as agency costs. Although family firms are generally considered to have fewer agency problems (due to the close relationship between owners and managers), they do not represent a perfect resolution of the problem (Schulze, Lubatkin & Dino, 2003b). In fact, new agency problems appear in family firms and are usually based on altruistic behaviour and management entrenchment, such as problems of self-control, nepotism and freeriding (Schulze et al., 2001). Overall, family agency problems due to family involvement threaten the economic performance of the firm. In this respect, there are three different methods to try to overcome these critical issues; first, for the non-family manager an incentive-based contract is stipulated, to ensure constant alignment, or alternatively the literature suggests the implementation of control bodies such as the Board of

Directors (BoD), or reinforcing mechanisms (such as, for example, the managerial labour market) that allow risk reduction.

Returning now to governance, in the case of family firms it has a well-defined structure: it is made up of three bodies: the family council, the top management team and finally the BoD. In addition to management control and supervision, family firms need to establish solid governance structures that strengthen cohesion and shared visions within the family, while reducing harmful conflicts: from here the family council is born, a body made up only of family members with an interest - purely economic in the sense of company shareholdings, but it could also simply be 'emotional interest' - whose key role is to draw up the family protocol, a document that formally defines the guidelines and rules that must be clear and shared regarding the relationship between family and business. The BoD, on the other hand, has the strategic function of generating and validating the succession plan and, in addition, exercises control over the TMT and manages the relationship between the family and the business. The last operating body, the TMT, serves to manage the business from a high-level managerial perspective, and one of its main purposes is to generate the strategic plan that is approved by the BoD. So, what is different about the governance systems of a family company compared to a non-family company? Family council aside, the overlapping of the family and business systems indicates the interaction and mutual influence between them, which implies that, unlike public companies, where both systems are decoupled, internal governance in family firms requires that all systems are treated equally and function organically (Simon et al., 2005).

As mentioned earlier, the BoD has the task of generating and validating the succession plan, which is the most critical step through which a family business passes, an extremely delicate moment that, if not well planned and above all not well managed, could lead to the failure of the business itself. As they wrote in their study, *"One of the most agonising experiences that any business faces is the moving from one generation of top management to the next"* (Barnes

& Simon, 1976). De Massis, Chua, and Chrisman in 2008 define succession as the actions, events, and developments that influence the transfer of managerial power and control across generations; but, as we anticipated, only 12% of family businesses survive to the third generation, and only 4% even to the fourth and beyond, and this mainly occurs when there is no defined and developed succession plan (i.e., in 49% of cases). To overcome the problem of succession, in 1997 Churchill & Hatten developed a model that in four different stages defines the steps for a successful transfer of power, which can be seen summarized in the figure below. In the first stage, the incumbent-owner owns and manages his company, while his successor begins to take his first steps in the business and learn. The second stage, which obviously starts when the company is still entirely controlled and managed by the owner, is when the successor begins "his or her rise to the chair of the president" through a period of training and development, in which he or she becomes acquainted with all the dynamics within the company and learns from the owner (often, the father) what it means to be the head of the company. There is a third stage, called partnership, in which the successor supports the boss in his or her day-to-day work, carrying out increasingly important tasks to facilitate the transition that will be completed in stage four, the power transfer, in which the chair passes from the owner to his or her successor.

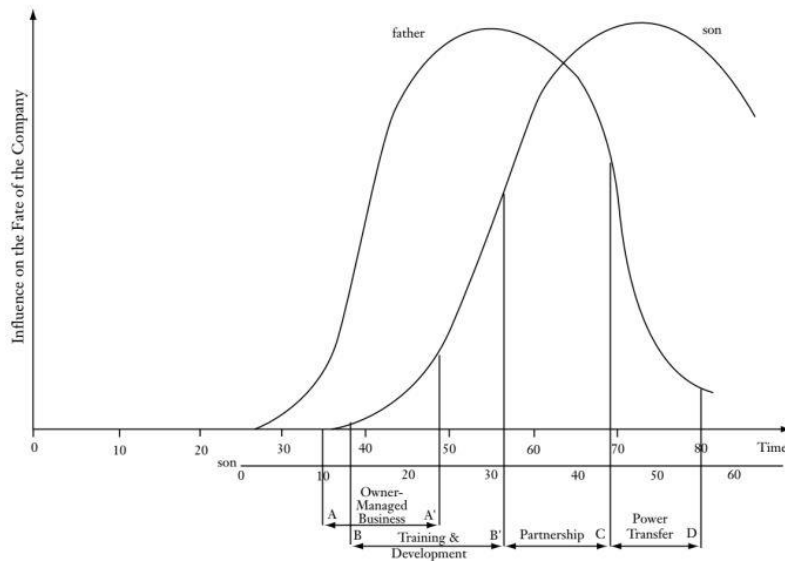


Figure 2: The four stages process for a successful intra-family power transfer

Despite the importance of the above topics in the context of family firm governance, it would not be wrong to say that, in reality, the most studied and debated topic in the literature is the relationship that exists and is formed between family firm governance and firm performance. This topic, which is still controversial, will also be developed throughout this thesis, of which it is a fundamental pillar, and which we will discuss in more detail in the next section.

Family firms and performance: a controversial combination

If we want to go deeper into the relationship between family-owned firm and performance, we cannot avoid mentioning the key elements of the study: the Board of Directors (BoD) and the Top Management Team (TMT).

Anderson & Reeb, in a 2004 study, point out that the most valuable public companies are those that are able to balance family board representation with independent directors, as we can see in the figure below:

Figure 1. Performance and relative board representation of family and independent directors.

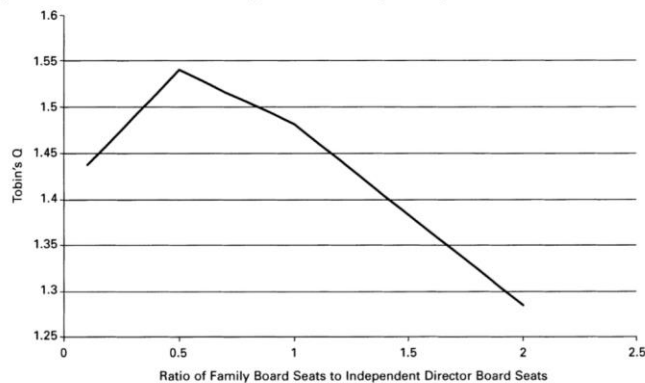


Figure 3: Performance and relative board representation of family and independent directors

It is readily apparent that a ratio of family directors to independent directors that is too high significantly undermines performance, as does one that is too low; in general, peak performance occurs at a ratio of just over 0.5, while high performance values occur between 0.5 and 1. The same conclusion have been reached by De Massis et al. in their study conducted in 2013, in which they have proven the existence of an inverted U-shaped relationship between family ownership and performance, with a negative effect on performance of ownership dispersion among family members.

A similar concept can be applied to TMT, where it is evident that a balance between family members and non-family members brings important benefits, as highlighted in some studies, for example the ones of Minichilli et al., (2010) and Patel & Cooper (2014).

Another important factor to be considered when studying family businesses is their risk appetite: family businesses are in fact companies that have a strong sense of attachment to their enterprise, which often leads to a lower risk appetite. Before studying this aspect, however, it is absolutely essential to introduce the concept of socio-emotional-wealth (SEW), which has been defined as "*the stock of [social and] affect related value that the family has invested in the firm*" (Berrone et al., 2010; Gomez Mejia et al., 2011). SEW is argued to be a unique factor differentiating family firms (Swab et al., 2020; Holt et al., 2018), as it describes the pursuit of

noneconomic goals, and deeply influences strategic decision making when it comes to the preservation or enhancement of existing resources (Berrone et al., 2012). There are several dimensions that characterise SEW, the main ones being the family's desire to exert its authority, to influence the business, the placement of trusted family members in key business positions and, in particular, the continuation of the family dynasty. Research on families owning family businesses shows that entrepreneurship is gathered among single or highly concentrated enterprises, here family members show a more entrepreneurial attitude by taking more risks and debts, these members own and actively manage the business (Hall et al., 2001). On the other hand, wealthier households' own businesses that are more likely to be more risk tolerant, these members often rely on external sources of funds (Piketty & Zuckman, 2014). SEW also shows an additional dimension on business owners, in terms of their businesses they tend to rely more on local talent and available resources (Gomez-Mejia et al., 2010), but in terms of wealth they claim to retain the best available talent, they seek specialist talent to improve their financial returns, this leads to business-owning households being less likely to interact with local banks and institutions (Rosplock & Welsh, 2012). By exploring the dynamics of SEW, we want to highlight how entrepreneurship must be a key point in the transition of business to the next generation. Thus, what families tend to do is to prepare generations for the moment of succession, even if there is resistance from the generation that might always postpone the moment of passing the baton (Pérez González, 2006). Entrepreneurship shifts to transgenerational entrepreneurship as the process through which a family uses and develops entrepreneurial mindsets and family-influenced resources and capabilities to create new financial and social value streams across generations (Habbershon et al., 2010). In the same vein, in a 1974 study, Tversky and Kahneman describe the different behaviours one can have when faced with risk:

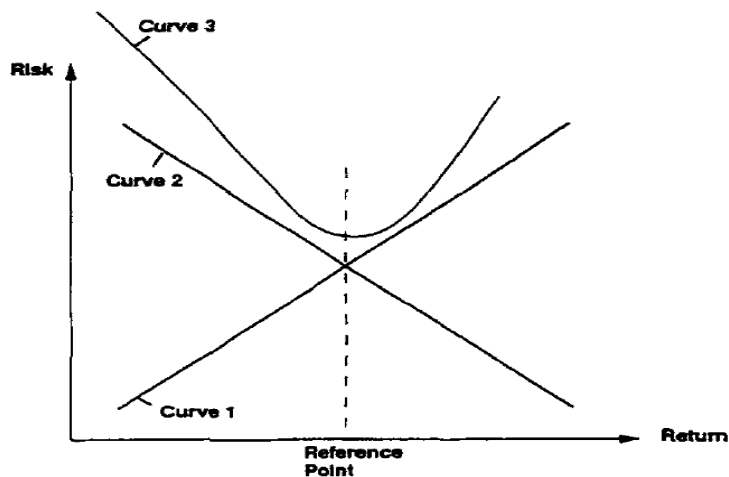


Figure 4: Representation of possible behaviours while facing risks

Curve 1 describes the attitude of those who tend to be risk-averse, i.e., they will only risk more if there is a potential for higher returns. Curve 2, which has exactly the opposite pattern, describes who the risk seekers are. Curve 3 balances the two different attitudes and is called prospect theory in the literature. In fact, several studies show that the attitude of the family does not depend mainly on the risk, but on the potential loss of SEW (Gomez Mejia et al., 2007). In fact, to avoid loss of SEW, and therefore loss of control, family firms are also willing to accept greater risks that imply greater losses and a decrease in their performance, but at the same time they try to avoid risky decisions that could potentially further aggravate this risk. Thus, we agree that family control is a relevant topic if we want to do a comparison with non-family companies, giving that is through the succession process that the owning family can sustain their control for multiple generations. However, is also true that family business and SEW literatures have progressed since 2007, and now the focus has shifted toward topics concerning a sort of heterogeneity across family firms, since there is a large variance of the goals and aspirations among families (Chrisman & Patel, 2012; Dibrell & Memili, 2019) and not all of them have proven to be extremely conservative when it comes to SEW. Actually, some of them have shown an extreme conduct when it comes to risk taking approaches (Miller & Le Breton-Miller, 2021).

As can easily be guessed from the above concepts, family influence within the business also has an effect on innovation, compared to those companies that are not characterised by a family presence. Innovation can be identified in three steps: innovation inputs, innovation activities and finally innovation outputs. In the first step, the characterising element is R&D; its investments are a good approximation of the company's autonomous innovation capabilities. Studies affirm and highlight that a negative relationship exists between family involvement and the level of R&D expenditures and external technological acquisitions. Innovation activities focus on identifying and developing critical factors for new product development. Again, in order to preserve control at the expense of innovation, family firms do not have the same inclination to undertake open innovation as non-family firms. The final step is the innovation output, where it is acknowledged that family firms invest less in innovation but have a much higher conversion rate than non-family firms, and thus this is positive since they turn out to be innovative without taking the risks usually associated with high R&D efforts, something that could erode SEW (Patel & Chrisman, 2013); Consequently, the ratio of performance to innovativeness of family firms remains high.

However, this topic is still far from being clear: indeed, scholars have attributed to family firms some characteristics that negatively influence innovation, others that instead have a positive effect on it and still others with ambivalent characteristics. Negative aspects that constrain family firms' innovation include their risk aversion (Morris 1998), a conservative approach (Habbershon et al. 2003), the desire they have to maintain the full (or almost full) control of the firm (Gomez-Mejia et al. 2007) and a somehow little propensity to invest capital in innovation projects (Block et al. 2013). On the positive side, however, there is their typical long-term orientation and the involvement of multiple generations in the firm, two elements that greatly enhance innovation capabilities (Llach & Nordqvist 2010; Zahra et al. 2004). Moreover, family culture and familiness are recognised as possible sources of competitive advantage, since they are for sure resources difficult to replicate (Zahra et al. 2004), and they also create a climate of

trust and shared goals (Dibrell and Moeller 2011). The ambivalence of some aspects, however, makes the definition of a complete picture a difficult task, which certainly needs further investigation.

Industrial districts and the effect on performance

The spatial agglomeration of economic activities has been shown to offer important advantages to companies, thanks to the relationships that develop among players and institutions, in addition to the specialization of activities in a delimited area. For a long time, the literature ignored the effects of geographical location on firm productivity, but more recent studies have begun to highlight this relationship (Pittino et al., 2021). Of particular relevance in this vein is the concept of the industrial district (ID), first introduced by Alfred Marshall in 1920 and from then on also referred to as the "Marshallian district", the study of which, forgotten for years after Marshall, has been revitalised since the 1970s thanks to the work of Giacomo Becattini and the Scuola Fiorentina. This topic is of great relevance in our thesis, since we will focus purely on a concept never developed in theory, with the aim of being a source of inspiration for future studies. Our aim is to analyse the effect of familiarity combined with location within a district, i.e., the concept of local embeddness, on firm performance and in particular its variability.

The industrial district is defined in the literature as *"a socio-geographical entity that is characterised by the active presence of both a community of people and a population of enterprises in a naturally and historically delimited area.* (Becattini, 1990). In general, it has been observed that industrial clusters have positive effects on firms in general as they allow the exploitation of external economies of scale with the consequent benefits of labour pooling, technological spillover as well as knowledge sharing (Molina-Morales, 2001). Interactions between local community norms and institutions with local business activity create a

"relationally dense" environment (Johannisson et al. 2007) that promotes trust, cooperation, mutual loyalty, partnerships and enhances both efficiency and innovation capacities (e.g. Becattini and Dei Ottati 2006; Harrison 2007). Industrial clustering is likely to lower transaction costs, stimulate innovation processes, generate external scale effects and bring economic benefits to cluster-based firms (Riordan & Williamson, 1985; Porter, 1998), where a cluster is a group of firms in the same or related sectors located geographically close to each other (Becattini, 1990; Harrison & Mason., 1996; Storper & Harrison, 1991). Firms in clusters have better access to information than other firms (Bianchi & Bellini, 1991; Porter, 1998;), resulting from both the direct effects of the cluster and the network processes underlying the cluster (Becattini, 1990; Harrison, 1994). Thus, the total effect of clusters on innovation of firms within the district will be a general improvement of the innovative drive mainly due to a better access to common knowledge, compared to firms outside the ID.

In industrial districts, both relations and network structures are "*a product of space (geography) and time (history), which transform a geographically delimited territory into a social space and a socio-economic community, with its own shared values, identity and institutions*" (Zucchella, 2006). These characteristics further reinforce the effect of local roots on business behaviour and performance, and in this sense family businesses may deserve some special attentions. Characteristics and advantages that are specific to family firms, such as a certain preference to engage in long-term relationships with their stakeholders (Miller et al., 2008; Sirmon and Hitt, 2003), long-term orientation (Miller & Le Breton-Miller, 2005), path dependency in knowledge creation (Chirico and Salvato, 2016; Sirmon and Hitt, 2003), and last but not least family social capital (Arregle et al. 2007) seem to fit perfectly into the ID paradigm. Family firms should, therefore, be particularly able to leverage local embeddedness at the district level to achieve higher levels of performance than non-family firms (e.g. Backman and Palmberg, 2015; Baù et al., 2019).

This is also due to a distinct tendency for them to keep the size of the firm small enough to be managed and controlled by a possibly not very large family, which in turn could result in a certain scarcity of financial resources (the capital employed being that of the family alone) and a certain lack of soft skills if mostly family managers are employed there (Bloom, Bond & Van Reenen, 2007; Perez-Gonzalez, 2006).

However, these are often called into question when one looks at the significant presence of family firms even in more developed countries. This is mainly due to a number of unique characteristics, including the organisational history of the family, the dynamic interaction between the values of family owners, their internal value maximisation policies, and many other factors which, put together, make these firms to some extent prone to innovation and risk-taking, and this can be considered as a significant component of entrepreneurship (Zahra, 2005). As a consequence of the above-mentioned aspects, several studies with industrial districts as their core have indicated the existence of a "district effect" (Cucculelli & Storai, 2015), thanks to which district firms manage to outperform firms located outside the districts in measures such as return on investment and capital, value added per worker and propensity to product and process innovation. The first scholar to measure the performance of industrial districts using firm-level performance indicators was Signorini (1994). Using balance sheet data, Signorini compared the performance of firms located in Biella and Prato - two of the best known Italian IDs - with the performance of non-ID firms, and his research concluded that firms within Italian industrial districts generally perform better than non-ID firms. This is argued to happen because of some characteristics of family ownership which seem particularly useful to support scale-sensitive strategies; among those, we can mention the interest in reputation, the long-term orientation, a general tendency to source from local producers and to take the local labour market into high consideration, shared social values and norms, and a networking capacity that fosters business alliances (Basco, 2013; Gedajlovic et al., 2012), it might be worth exploring

further the link between family firm performance and local embeddedness, a topic that has so far received poor academic consideration (Cucculelli & Storai, 2015).

HYPOTHESIS DEVELOPMENT

In this chapter, we will first of all present some practical and theoretical shortcomings that have emerged from the academic literature on the issues addressed in the previous section, and then propose some insights, i.e., our research questions, that will be explored in more detail during the discussion.

One of the main challenges of this thesis will be to find empirical evidence linking family involvement in a business with performance variability, and to analyse how this relationship changes within an industrial district. As we will specify later, there are some critical aspects that have been neglected, among others the link between family ownership and the variability of a firm's performance, a topic that in our opinion is too little considered in the literature, just as the link between tradition and innovation, whose perfect conjugation is found within industrial districts (ID), is quite neglected, if not by some (mainly De Massis et al., 2018).

Therefore, we hope that this study will contribute to a deeper understanding of the performance advantages of family business ownership.

Research questions

As mentioned earlier, one of the most prolific areas of research on family firms is the impact of family ownership and control on various measures of firm financial performance. For example, O'Boyle et al. (2012) identified 78 articles that compare the performance of family and non-family firms. In a much-cited article, Daily and Dollinger (1992) instead try to understand the effect that family control has on firm performance, and conclude that "family-owned and managed firms exhibit performance advantages as a result of unified ownership and control". Although some scholars have brought results that refute this judgment, it is also true that several subsequent empirical studies have proven its validity, especially recently (De Massis et al.,

2013; Abrardi & Rondi, 2020; Kotlar et al., in press, Basco, 2013). So, although we have not yet reached a real turning point in the issue, we have decided to espouse the view that family firms generally tend to perform better than non-family firms. This is because, if family firms achieve performance advantages, they are more likely to maintain them over time due to distinct innate mechanisms of isolation arising from family involvement in ownership and management. In particular, we argue that family control increases the historical dependence, social complexity and inseparability of value resources, and is therefore more effective in sustaining performance advantages than non-family forms of governance.

Having said that, we would now like to introduce what we believe is a key issue for future analysis in the field of family firm performance, namely the variability of family firm performance over time: this area is almost completely unexplored, since no studies have analysed its determinants in depth, so far. As far as firms in general are concerned, it has been observed that performance variability is caused by countless different factors; Pearce & Patel (2017) mention a few, the main ones being the opportunistic behaviour of the agent-manager, who increases performance variability for his own self-interest, and the independence of the BoD, who instead reduces variability.

It emerges from numerous studies (as well as our own) that the BoD of family businesses is predominantly composed of family members and, although it cannot be considered 'independent' according to Pearce & Patel's definition, this makes it more efficient than a board composed only of non-family members (Anderson & Reeb, 2004); In addition, a particularity of family businesses is that they reduce principal-agent conflicts (Schulze, Lubatkin & Dino, 2003b), due to the fact that often those who work in the TMT of family businesses are family members, or at least a 'trusted' person and, as such, are much less likely to behave opportunistically or act according to agency theory. Consequently, given the statements above, we hypothesise that:

Hypothesis 1 → *Family ownership has a negative impact on the variability of performance over time.*

To give a better representation of this, let us look at the performance variability line: the main hypothesis is that in the line below, on the axis we have the performance variabilities, at the extremes the impacts are more significant, both positive and negative, in the middle the effects are more controlled and constant. Our expectation is to find family businesses in the middle of the graph, where performance variability is more constant.

However, we now want to look more specifically at the variables endogenous to the family in order to better understand which factors have the greatest impact on the creation of superior performance and its maintenance, or variation, over time, and so we begin by investigating the interaction between the family and the business.

The family is a key component within a business and, naturally, its involvement has important effects on performance. It is often argued in the literature that family ownership can be beneficial to the performance of a firm largely due to concentrated ownership. Indeed, thanks to it, owners have both authority and access to decision-making processes (Carney 2005; De Massis et al. 2015) to monitor managers in more detail, and this can reduce monitoring costs and thus be beneficial for the performance of the firm with high family involvement. However, behavioural theory also highlights some negative consequences of family involvement, such as a substantial lack of self-control, which can lead family owners to become more risk-averse and to unconsciously take decisions that can harm both the firm and the family (Schulze et al. 2001), as well as bring to limitations in the knowledge and perspectives in TMT when family members with very similar background, culture and values and occupy the majority of managerial positions in a company (Anderson and Reeb, 2004). Scholars therefore continue to be divided between those who emphasise the overall benefits of family involvement (Chrisman, Chua, &

Litz, 2004; Dyer, 2006; Yenziaras et al., 2017; Tan et al., 2021) and those that underline its disadvantages (e.g. Schulze, Lubatkin, & Dino, 2002; Schulze, Lubatkin, & Dino, 2003; Madison et al. 2016; González-Cruz & Cruz-Ros 2016). As for the Italian case, Giovannini (2010), reported a negative relationship between family involvement and shareholder performance in Italian firms, and same happened for Roffia (2021), who discovered a negative relationship between family involvement in the BoD and profitability, while in the same study he found a statistically significant U-shaped relationship between Return on Asset (ROA) and family ownership. Therefore, those contrasting results prove that we are still far from getting to a conclusion in this field.

This said, we are more interested in performance rather than in profitability, and in particular our topic of interest is the variability of performance over time, and which can be endogenous factors that can determine it. Therefore, to prove our ideas, we prefer to follow the stream of studies that focuses on performance and, in particular, we would like to start from the study by Sciascia & Mazzola (2008) who has highlighted what Miller & Le-Breton Miller (2006) had already hypothesised in their paper on the subject, namely that family firm performance is linked to family involvement by means of an inverted U shape graph, where the peak point on performance occurs for average levels of family involvement.

One of the main drawbacks of family involvement, however, relates to what is in fact the primary objective of the family, namely to keep their Socio-emotional Wealth (SEW) as high as possible, and this is reflected in the desire for recognition of the family's authority within the business, or for family members to occupy relevant positions or, finally, that control of the various governing bodies of the business should always be assured (Gomez-Meija et al., 2007). However, this last effect is at odds with the idea of investing, as investments logically lead to negative changes in family control. Indeed, as illiquid investors, highly concentrated family owners are likely to assign lower values to uncertain cash flows and this may result, for example, in poor investment decisions, such as avoiding risky long-term investments

(Cucculelli et al., 2016; Tan et al., 2021). All these factors cause uncertainty, and uncertainty causes variability, especially in performance. Consequently, given the previous steps, our second hypothesis turns out to be:

Hypothesis 2 → The relationship between family ownership and performance variability furtherly varies depending on the level of family involvement in the business.

Family involvement in business management reflects family participation in strategic decision-making, which is usually measured by the proportion of family members in the Top Management Team (TMT) and in the Board of Directors (BoD) (e.g., Zahra, 2003; Sciascia and Mazzola, 2008; Sciascia et al, 2012; De massis et al, 2015; Roffia, 2021), if family members are senior managers (Songini and Gnan, 2015), and the involvement of multiple generations within the business (Sciascia et al., 2013; Kosmidou, 2020; Pittino et al., 2020).

Let us now analyse more specifically how each of these variables impacts on family involvement in the business, and consequently on performance variability. To begin with, we define control bodies as "purely family" when the family presence is higher than 51% in the total Board of Directors and Top Management Team. As mentioned above, the TMT is one of the three most important bodies within the family business and has the function of proposing and implementing the strategy plan. This is supervised and accepted by the second most important body of the business, the BoD. Giving that family involvement also provides the family with the ability and power to influence business decisions by shaping the goals, strategies and behaviours of the business (Chrisman et al., 2012), we can understand that a higher degree of family ownership corresponds to the family's ability to exercise a higher degree of discretion due to their status as owners of the firm and to impose some influence on strategic and tactical options presented to the top management team by virtue of their voting power (Evert et al., 2018). Family involvement in management also determines family members'

emotional identification with the company (Berrone et al., 2012), as family members view the company as a family asset and have a strong desire to inherit it in the future (Denison et al., 2004; Ward, 2004). In turn, business inheritance makes family firms pay more attention to the development and sustainability of performance over time, so they are likely to do their best to reduce performance variability, being mainly conservative and not subject to great variations from previous trends.

Therefore:

Hypothesis 2.1 → The presence of a mostly family-based management reduces performance variability.

Besides the CEO, the most important figure within a company is the president. The president within the BoD is the one who directs the meetings, leads the whole competent body and reports the wishes and orders expressed by the family council. He/She is in close contact with the whole family, as He/She to report directly to the family shareholders and, if he or she were also a family member, he or she would also fully reflect their wishes and values. There is not significant literature over the figure of family president, giving that his/her figure is included in the BoD, therefore the effect that a family president can have on the business performance is usually discussed withing the BoD effect, of which we have already spoken above.

As a consequence, for the same reasons explained above, the presence of the family president on the Board has a negative effect on the variability of performance, which we expect to be very constant. Therefore:

Hypothesis 2.2 → The presence of a family president in the Board of Directors further reduces performance variability.

As mentioned above, the involvement of more than one generation in the management and control of the business is also a key parameter for assessing the level of involvement. As can be seen from the analysis carried out, family businesses tend to have at least two generations in the control bodies: De Massis et al. (2014) argue that family ownership tends to dissipate over time when the owner passes his shares to his children and the company moves from an "owner-owner" to a "sibling partnership" phase. This translates in the fact that, now, decision-makers have to respond to more heterogeneous demands (Mitchell et al. 2011). Although has been demonstrated that generational involvement is capable of increasing knowledge and fostering innovation and growth (Cruz & Nordqvist, 2012; Pittino et al., 2020), in the literature is still contradictory the role that it has in the performance of family firms.

Some scholars have found that generational involvement increases performance (Kellermanns et al., 2012), since it strengthens family ownership, stimulates the development of a shared vision and increases commitment to the firm. In addition, the diverse and original visions that members of different generations bring, can family firms better manage emerging challenges (Zahra, 2005), become more innovative (Kellermanns et al., 2008; Eddleston et al., 2008) and effectively solve their problems (Talke et al., 2011). However, despite its benefits, generational involvement also exposes family businesses to a number of risks which can erode performance over time (Kosmidou, 2020). Younger family members often do not have the same skills and knowledge as their predecessors (Duchesneau and Gartner, 1990), have lower levels of commitment (Gersick, 1997) and disagree with founding members because of their different views (Ling and Kellermanns, 2010). Moreover, this effect is amplified by nepotism and conflicting interests (Kellermanns et al., 2012); not only: the diversity of goals between founding family members and younger members can inhibit innovation due to different visions (Ling and Kellermanns, 2010), which generate conflicts. In particular, founding family members are often more concerned with the preservation of social-emotional wealth (SEW)

than with profit maximisation (Gomez-Mejia et al., 2011) and see family goals as more important than business goals (Sciascia et al., 2013). Younger family members, on the contrary, are more interested in profit than SEW (Gomez-Mejia et al., 2011) and are more likely to professionalize and innovate (Danes et al., 2008). Moreover, when leadership is transferred to a sibling, he/she may lack the influence and authority over other family members that is necessary to foist his/her decisions on them. Other siblings may also try to influence the controlling person, and this may lead to suboptimal decision-making and biased investment inclines, along with poor performance. To conclude, the involvement of younger generations certainly leads to a higher overall risk propensity, since the innovation drive of younger generations is higher; this increases uncertainty, which leads to higher performance variability. Consequently:

Hypothesis 2.3 → Multiple generations in the business increase performance variability

As a final aspect, we are going to study a concept that has not yet been developed in the literature, except by very few (Cucculelli & Storai, 2015; Chirico et al., 2018; Baù et al., 2019; Pittini et al., 2021), dealing with variables that are completely exogenous to the firm: the strand of industrial districts, and more specifically the effect that the geographical location of the family firm within the district has on its performance, but especially on its variability. Given the effects of family control discussed above, we expect family firms to generally have a greater ability to sustain performance advantages than non-family firms. However, these effects cannot be separated from the configuration of the external environment. The evolution of a market may affect the value creation in organisations (Teece, 2014) in such a way that the value created through resource ownership can erode (Le Breton-Miller & Miller, 2015). This is particularly true when technological innovation is intense (Priem, Li, & Carr, 2012). In such circumstances,

firms will need to acquire new resources and redeploy old resources to remain competitive (Sirmon et al., 2007; Ndofor et al., 2011; Sirmon, Hitt, Arregle, & Campbell, 2010; Teece, 2014). Resources associated with family control may not 'adapt' to dynamic markets because the potential rigidities of family control may increase the cost of re-deploying resources (Sirmon, Arregle, Hitt, & Webb, 2008; Sirmon et al., 2007). This perspective suggests that mechanisms that allow firms to achieve sustainable advantages in stable competitive environments may, on the other hand, make it more difficult to sustain performance advantages in markets characterised by high uncertainty and dynamism. Hence, we can state that the extent to which family control leads to sustainable performance advantages may vary depending on the nature of the environment, and in the case of locating the firm within an industrial cluster, a fairly stable competitive environment since it is characterized by a historical presence above all, and by some effects such as labor pooling, technological spillovers and knowledge sharing, surely these performance advantages will be greater, and performance will therefore tend to be more constant over time. In fact, having a cluster of companies in the same sector, in a relatively narrow space, makes it possible to have highly qualified personnel in the field, technological spillovers that involve everyone and a constant updating and sharing of knowledge that facilitates the maintenance of constant performance over time. Consequently, putting these two aspects together, we can theorise that:

Hypothesis 3 → The industry cluster effect causes family firms within an industry cluster to have significantly lower performance variability than non-families within the cluster.

As mentioned above, an important characteristic of industrial districts is that of being traditional, since they were established in a given area in 'historical' times, but at the same time innovative: in fact, in them the practice of innovating mostly through technological spillover and knowledge sharing with other firms in the district, which are configured as partners and

competitors at the same time, is accepted (Paniccia, 1998). Consequently, firms within districts fit perfectly into the paradigm of innovation through tradition (De Massis, Kotlar, Frattini, Petruzzelli & Wright, 2016). This concept applies to both family and non-family firms, provided that they are located within the district. It is therefore easy to understand how there is a substantial difference, from the point of view of innovativeness, between companies inside the district and those outside it, and this is especially true for family businesses. As explained in the previous chapter, in fact, family businesses tend to be less innovative than non-family companies, on average, to the extent that innovating means taking risks and therefore putting one's own socio-emotional wealth at risk. However, strong commitment, long-term relationships, and very strong networks encouraged by family members, and then furtherly supported and legitimated by some local community norms can make family businesses feel more secure, and thus push them to innovate more. In addition, the strong ties that family members usually develop within and across levels support the accumulation of cognitive resources, which have an impact on top executives' decision-making in a way that it may foster innovation.

Therefore, we argue that:

Hypothesis 3.1 → Family firms within the cluster innovate more than family firms outside the cluster, which implies a higher performance of the former and a lower performance variability at the same time.

Another critical issue affecting family businesses, and one that has been extensively studied in the past, is that of succession and the resulting low capacity to survive to the next generation. In fact, only 12% of family businesses manage to survive and reach the third generation (Ward, 2011). The industrial district, however, is based on the concept of traditionality, i.e., something

that has been elaborated, produced and developed successfully for a long time. As family businesses are purely traditional, we expect them to have been part of the district for a long time, and to be older than their counterparts outside the district. Consequently, as they have been there longer and are now "historic", one might say, it is possible to assume that they have a good reputation and enjoy great trust from customers regarding the specific sector, compared to those family businesses outside the district that we expect to be newer. More customers mean more sales, which undeniably reflects on and increases performance; but reputation and stability also means that volumes and customers are likely to be more or less constant over time. Moreover, as regards purely the firm age, while some consider it simply as a contingency, behavioural or control variable, others think that it is a determining factor for company growth, sustainability and performance (St-Pierre et al., 2010; Walker & Tobias, 2006). Furthermore, age is certainly an indicator of the company's level of experience, which is positively related to its efficiency and its ability to maintain itself in the market (Nguyen et al., 2015); we can therefore infer that experience allows the company to have greater control over its operations through learning mechanisms, and that this greater control also translates into the company's performance, which will be kept more constant thanks to it.

Consequently:

Hypothesis 3.2 → Family firms within the district have existed longer than family firms outside the district, which improves performance on the one hand, and reduces variability on the other.

METHODOLOGY

In this fourth chapter we will provide a concrete description of the methodology that was adopted for the empirical analysis. This process was the most time-consuming activity within the thesis, especially since our goal was to build "from scratch" a new database that would serve to map the situation of Italian firms on the variables of familiarity, tradition and innovation. We can therefore say that it represents the backbone of the thesis and a large part of our effort.

As the complexity of the data collection was quite significant, especially in the first phase of the work, our aim is to allow our readers a better understanding of the process behind the database; therefore, in the next sections we will present all the steps that were taken for the data collection, the skimming of irrelevant information and, finally, the construction of the final database.

As this is part of an empirical collection of data, some guidelines will also be provided to allow transparency and replicability of these results, in the hope that this may be useful in the future to conduct further studies in the field or, more simply, to be able to enlarge the database with all those sectors that have been excluded from our analysis for the reasons we will present below.

In the first section we will present an initial overview of the general structure of the work and describe in as much detail as possible the process of data collection, analysis and cataloguing, as well as the steps in constructing the database. Next, we will define and detail two key measures in our discussion, namely ownership and family involvement, two key variables for understanding their relationship with firm performance. In the third and final section, we will present the variables we used to conduct statistical analyses on the sample we constructed.

Sample Selection

Our research began with a fundamental observation: to date, no platform or database is able to automatically distinguish family businesses from non-family businesses. In order to understand whether a company is family or not, it is necessary to assess its ownership according to the definition given in chapter 2, as well as repeated in the next section; this is a long and cumbersome task, especially considering that in Italy alone family businesses are estimated to be slightly more than 60% of the total companies (Corbetta, Quarato, Minichilli, 2018), a percentage that increases in some manufacturing sectors. In the hope of being able to simplify the work of researchers who, in the future, will need to carry out empirical analyses on samples of family-owned firms, we decided to start building a completely new database that would map by means of a dummy variable whether a given firm was family-owned or not.

As our readers can well imagine, it would be impossible for a team of only four people to analyse the ownership of almost five million firms in an attempt to map their familiarity; such an activity would require time that is not compatible with the writing of a master's thesis. It was therefore decided to start with a much smaller cluster of firms, but one that is far more interesting from the point of view of analysis, namely innovative firms. As highlighted in the latest Istat report, published following the 2019 business census, Italian companies are still struggling on the innovation front, with only 16.6% of them having adopted at least one innovative technology among Internet of Things, augmented or virtual reality, Big Data, Blockchain, advanced automation, simulation and 3D printing; nonetheless, innovation in these areas was expected to grow by more than 100% by 2021, a growth that will undoubtedly have been greatly helped by the Covid-19 pandemic crisis, which has undoubtedly given the country a strong push towards digitisation. Hence our interest in innovative companies, and consequently the decision to start from these in order to create the first, embryonic form of a database capable of mapping the variables of innovativeness and familiarity of all the companies present in Italy.

A recent study conducted by Mediobanca* on the turnover of the main Italian companies over the last two years showed that *Italian products* are constantly growing with traditional brands, even though many Italian companies have become foreign owned. As a result, we decided to consider not only those innovative companies mentioned above, but also and above all those that could be considered ambassadors of *Made in Italy*, companies that we defined as being traditional. In the literature, the combination of tradition and innovation has a name, which was first used in Italy by Petruzzelli and Albino (2014), and later applied in the study of family firms by De Massis, Frattini, Kotlar, Petruzzelli & Wright (2016): the concept of Innovation Through Tradition (ITT).

Therefore, our first objective in building the database was to identify all those companies that are able to innovate more in full respect of the Italian tradition, and therefore have a strong link with our cultural heritage. In order to do this, we had to carry out two analyses in parallel: the first aimed at identifying the most innovative sectors in the Italian panorama, and the second aimed at identifying the sectors most representative of Made in Italy (in the broad sense, this time) and of Italian tradition. These analyses were then combined to lead us to a single "pool" of sectors that are innovative and traditional at the same time, as we will explain below.

When we talk about sectors, we refer to the ATECO 2007 code, approved by ISTAT and defined as "*an alphanumeric combination that identifies an ECONomic Activity, in which the letters identify the economic macro-sector while the numbers (from two to six digits) represent, with different degrees of detail, the specific articulations and subcategories of the sectors themselves*". The complete list of Italian companies in each of the 99 sectors identifiable by ATECO code was extracted from AIDA, a database for the Computerised Analysis of Italian Companies, in the form of tables on Excel sheets which were subsequently used as a fundamental tool for carrying out the analysis. At this point, as mentioned above, the survey was articulated in two different directions which were carried out in parallel.

*<https://www.panorama.it/economia/le-20-imprese-italiane-piu-grandi>

Identification of innovative sectors

At this stage, we made use exclusively of information from the existing online AIDA database. In particular, we used an Excel spreadsheet containing, for each of the 99 sectors identified by the ATECO codes, the following items referring to each company in the list: the company name, the ATECO code, the value of expenditure in Research, Development and Publications (years 2019-2016), the value of Patents (years 2019-2016), the Turnover (years 2019-2016), the value of Assets (years 2019-2016), the number of employees (years 2019-2016). We have chosen to conduct the analysis over a four-year time horizon in order to be able to map the evolution of innovativeness over time, thus giving three-dimensionality to our analysis; However, the decision to stop at the year 2019 was taken because of the strong crisis caused by the pandemic in 2020, which led to layoffs, bankruptcies of many companies and a strong push towards digitalisation, all factors that would strongly interfere with the data of previous years, giving us a picture that is perhaps more realistic, but certainly more difficult to understand.

Returning to what we said earlier, we were able to create a set of quantitative indicators that were useful for measuring the "degree" of innovativeness of each of the 99 sectors through a comparison function.

- The first indicator constructed was the R&D indicator, useful for measuring which sectors spend the most on R&D - which, as highlighted in the literature, is one of the quantitative components for measuring innovativeness. In order to calculate this value, the sum of all R&D expenditure values of companies in the sector was calculated for the years 2016 to 2019; subsequently, the average value over 4 years was calculated, thus obtaining the average R&D expenditure of the sector. For a more solid comparison, this value was then divided by the average sum (referring to the same time period as above) of the Turnover values, so as to also consider the size of the companies in each sector. This choice has been made to ensure consistency in the results, since Turnover and R&D expenditure are both items in the Income Statement and, as such, are accounted for in the same way.

- The second is a Patent Value indicator, which has the same function as the R&D indicator presented above, the only difference being that it is the total value of patents owned by companies in the sector that is considered in this case. In order to calculate this value, the sum of all the patent values of the companies in the sector was calculated for the years 2016 to 2019; subsequently, the average value over 4 years was calculated. Also in this case, for greater consistency in the comparison, this value was then divided by the average sum (referring to the same time period as above) of the values of Assets, so as to also take into account the size of the companies in each sector. As above, this choice was made in order to ensure consistency in the results, since the value of patents is entered directly in the balance sheet - assets.

- The third and last one is a CAGR (Compounded Annual Growth Rate), useful to measure the growth of the sector and to have a final feedback on the effective capacity to grow thanks to innovation. This CAGR was calculated by evaluating three dimensions: the value of Assets, Turnover and the Number of Employees of the companies in each sector. The methodology used for the calculation of the CAGR is similar to the previous ones: for each of the three items, the sum of the values for each year has been carried out, calculating then thanks to these the growth in comparison to the previous years through the formula $\frac{Value\ year - Value\ (year-1)}{Value\ (year-1)}$. We then calculated the average growth over the 4 years, and

this value was then used to calculate a compound growth index, giving the three items equal weight of 1/3.

These results for sectors 1 to 99 have been included in a summary Excel table, which is useful for comparison by formula.

At this point, a ranking was drawn up for each of the three items presented above using the RANGO.UG function: the sectors with the best R&D expenditure, patent value and CAGR scores were clearly placed at the top. At this point, in order to obtain the final ranking of the most innovative sectors, we decided to add up the "scores" obtained by each sector in each of

the partial rankings (i.e.: the position in the ranking), and then use the RANGO.UG function again - the sectors occupying the first positions are those with the lowest scores, as this indicates a better position in the rankings of the individual items.

So, from our analysis, the five most innovative sectors on the Italian scene are:

- 1) ATECO 30 - **Manufacture of other transport equipment**
- 2) ATECO 62 - **Software Production, Computer Consulting and Related Activities**
- 3) ATECO 26 - **Manufacture of Computer, Electronic and Optical Products; Electromedical, Measuring and Watchmaking Equipment**
- 4) ATECO 95 - **Repair of computers and personal and household goods**
- 5) ATECO 32 - **Other manufacturing industries**

Identification of traditional sectors

As far as the identification of traditional sectors is concerned, the sources from which we drew information were many; mainly the resources on the ISTAT website were used, including the database of Italian companies and reports on the trade balance. The assessment of the "Italianness" of the 99 sectors mentioned in the previous paragraph was measured using the following parameters, which allowed us to draw conclusions from both a quantitative and qualitative point of view:

- **Presence of Primates:** As the name suggests, primates represent those sectoral activities in which Italy stands out, and this excellence is recognised at European and world level. To better understand their nature and find out what they were, we referred to the 2019 Symbola report*, called "I.T.A.L.I.A 2019 - Geographies of the new Made in Italy", a report drawn up biannually by the Symbola Foundation, Unioncamere and Edison Foundation, and which aims to show all the excellences present on the Italian territory and which are often not recognised, considered and esteemed by the Italians themselves, while they are instead highly appreciated and searched for abroad - so much so that the search for the phrase "*made in Italy*" on Google

*<https://www.symbola.net/ricerca/i-t-a-l-i-a-2019/>

has undergone an increase of +56% between 2015 and 2018. The report shows that Italy has globally recognised primates in the sectors of Automation and Mechanics, Agribusiness, Furniture and Clothing, or the so-called '4° of Italian excellence', referring to most of the sectors from 10 to 33 (with, clearly, some exclusions).

- **Presence of Industrial Districts:** The industrial districts, whose definition was given in chapter two and repeated in chapter three, are fundamental in determining the traditionality of a company or a sector, since their entire existence is based on the history of the place where they are located and of the companies that are part of it. In order to identify the exact location and specialisation of these clusters, we used a 2011 document downloaded directly from the ISTAT website, which identified the 141 clusters in the territory by means of certain codes identifying the local labour system, the municipalities in which they are located, and the main industry in them, respectively. Through an in-depth analysis of these codes and of the geographical regions, we were able to link all these IDs to the sectors in which the industries present in the districts operate, summarising all the results in a single document. As was to be expected, and as anticipated in the study by Paniccia (1998, 1999), we were able to 'place' the districts only in the first 40 sectors, i.e., those belonging to the Primary and Secondary macro-sectors; moreover, in this list, it appears that several districts operate in the same sector, while there are sectors in which no district is active.

- **Export shares of the sector:** These values refer to the quantity of goods that the country exports abroad each year and is a measure that we believe is very relevant in identifying those traditional sectors that are recognised, and appreciated as such, even abroad. They refer to the same four-year time horizon (2019-2016) considered in the previous section, and have been downloaded directly from the Istat website, section "Export data - world". The document contains both export values and, obviously, import values at global, continental and national level, divided by year but also visible by quarter and month; together with the percentage share, the change in the same compared to the previous year is also provided. These shares refer, sector

by sector, to the percentage of exports that that sector managed to make out of the total exports made by all the 40 sectors considered - i.e., those belonging to the Primary and Secondary macro-sectors, or manufacturing as you like.

- **Golden Power in the sector:** As stated in a short extract on the official website of the Italian government, "*Special powers (golden power) include, among others, the power to impose specific conditions on the acquisition of shareholdings, to veto the adoption of certain company resolutions and to oppose the acquisition of shareholdings, with the aim of safeguarding the ownership structures of companies operating in sectors deemed strategic and of national interest.* These are, in particular, powers exercisable in the defence and national security sectors, as well as in certain areas of activity defined as strategically important in the energy, transport, communications, artificial intelligence and robotics, semiconductor, nano and biotechnology, and agri-food sectors. Consequently, since they are in the interest of the State and under its protection, these sectors can be defined as 'characterising Italian character'. In a similar way to the previous phase, the results of the analysis were inserted into a summary Excel table, useful for comparison by formula. At this point, since the variable of "Italianness" that we are going to map is mostly a qualitative variable, it would be in our opinion unrealistic to think of proposing a ranking of the more traditional sectors using an analytical method as in the previous case. Therefore, trying to remain as consistent as possible with our research, the method we have used to identify a sector as traditional is as follows:

- First of all, the average of the % export shares of the 99 sectors was calculated, and the result (3.63%) was used as the lower limit for selection.
- In our opinion, a sector is considered traditional if at least one of the following is true:
 - The sector has been recognised as a national and international leader according to the definition above, and as such it can be considered representative of Made in Italy.

- There is at least one specific industrial district for that sector, which is an unequivocal sign of the traditionality of that sector in Italian culture, as seen in chapter two.
- The export shares of this sector are above average, which means (in our opinion) that this production is recognised and appreciated abroad and can therefore be considered a symbol of Italian character.
- The sector is protected by the Italian State in accordance with the DPCM of 23 December 2020, no. 180.

Consequently, all those sectors that did not have at least one of the above characteristics were discarded.

➤ Finally, all sectors within the tertiary macro-sector, i.e., sectors 44 and below, have also been discarded because these sectors relate to the provision of services to businesses, individuals and communities, whereas the focus of our analysis is more on ITT companies producing physical goods.

At this point, thanks to this analysis we were able to identify 25 traditional sectors out of the 99 considered, marking them with a dummy variable (Yes for traditional sectors, No for excluded sectors).

At this point, since our objective is to obtain a detail of the companies that are able to innovate through tradition, as specified in the literature when talking about ITT, we have rejoined the two analyses in a common point, which aims to identify the most innovative but traditional sectors at the same time. To do this, we constructed a summary Excel table in which we entered all the sectors with their code and ATECO description, the number of companies present in each sector, the score obtained in the final ranking regarding innovativeness, and simply a "dummy" variable (Yes for traditional companies, Empty for non-traditional companies) to indicate their traditionality. At this point we decided to use an AND function to finally identify

the sectors that are both traditional and innovative, obtaining a variable number of ITT sectors depending on "how many positions in the innovation ranking" we were going to consider:

- Out of the top 50 innovative sectors, 19 can be called ITTs
- Among the top 40 innovative sectors, 16 are ITTs
- Out of the top 30 innovative sectors, 13 can be called ITTs
- Among the top 20 innovative sectors, 8 are ITTs
- Among the top 10 innovative sectors, 5 are ITTs

It is easy to see that the most innovative sectors are also the most traditional ones, since by increasing by 10 positions in the ranking, the ITT sectors increase by only 3; indicatively, the number of ITT sectors is about 40% of the number of innovative sectors considered. Consequently, with a calculation of the time required per capita for an in-depth analysis of the family variables on each of the companies belonging to the sectors examined, it was decided to consider only the first 11 most innovative sectors, resulting in 6 innovative and traditional sectors containing a total of 2165 companies. The number 11 was chosen because, considering only the first 10 innovative sectors, in the 5 ITT sectors highlighted, the sixth one was missing, that of the manufacture of leather goods, a sector that is historically recognised as incredibly traditional and representative of Made in Italy in the world, as well as being part of the "4A" that we mentioned earlier regarding Italian Primates in the world. With the formula we set up, this sector would have been included in the ITT list only if we had decided to consider 11 innovative sectors. Since we did not want to disregard the analysis of this sector, we decided to go ahead and analyse the following:

- 6) ATECO 30 - **Manufacture of other transport equipment**
- 7) ATECO 26 - **Manufacture of Computer, Electronic and Optical Products; Electromedical, Measuring and Watchmaking Equipment**
- 8) ATECO 32 - **Other manufacturing industries**
- 9) ATECO 28 - **Manufacture of machinery and equipment NCA**

10) ATECO 21 - **Manufacture of Basic Pharmaceutical Products and Pharmaceutical Preparations**

11) ATECO 15 - **Manufacture of leather and imitation leather goods**

Measuring family ownership and involvement

At this point, it was necessary to understand which and how many family firms there were in the analysed sample of 2165 firms in order to create the new database of family firms mentioned in the first section. In order to distinguish family firms from non-family firms, we relied primarily on the concept of family ownership, which is to be understood as ownership of the shareholding of a firm, if it is a stand-alone firm, or of the Global Ultimate Owner (GUO) of a group, if it is a subsidiary. Although the issue is quite controversial in the literature, as different studies often adopt different approaches to measure this variable, in this study we used the share ownership of the founding family and/or any 'secondary' families that took over the business to identify family firms (Anderson & Reeb, 2003; Block et al., 2013; Faccio & Lang, 2002). Where at least two members of the same family hold a share of shares greater than or equal to 51%, thus sufficient to control the business outright, such a firm was considered by us to be family. For some of the younger companies, this determination was straightforward as it was easy to identify (through the family name) the shares belonging to both the founder and his family members. However, several generations after the founding one, the family expands to the point of including distant relatives such as second or third cousins whose surnames may no longer be the same of the principal ones; in this case, we tried to understand the link between the people involved by looking to see if their residential address was the same or similar, in a nearby street or town - given the tendency for family members working in the same place to reside more or less close together. However, it was impossible for us to carry out a kind of double familiarity check using social media such as Facebook or LinkedIn, as we did not know the faces of the people in question, so we could not tell whether those profiles actually matched

the people we were looking for, or whether those found were just homonyms. Consequently, anyone who lived in the same street, in the same village or in a village close to that of the main family, and who had a similar place of birth to the family members, was considered by us to be part of the family. Clearly, we recognise that this methodology is highly imprecise and consequently gives rise to possible errors of judgement, of which we are well aware, and which we will discuss in the penultimate chapter.

While the percentage shareholdings of family members provide a measure more or less similar to other ownership studies, differences in ownership levels between family firms may not represent the influence family members exert on the firm. In order to consider this dimension as well, we decided to also measure a second composite and qualitative variable, namely family involvement. As can be seen in a number of studies on the subject (Sciascia & Mazzola, 2008; Miller & Le-Breton Miller, 2006; Gomez-Mejia, Cruz, Berrone, & de Castro, 2011), the impact that family involvement has on firm performance is still not entirely clear but, generally, empirical evidence tends to show that the two are linked by an inverted U-shaped relationship: Significantly higher performance is achieved for an 'average' level of family involvement, while the further away from the centre of the curve we move towards low or high levels of family involvement, the more performance wears down. But what happens when we consider, instead, the variability of performance? To answer this question, we need to measure the actual level of family involvement in order to understand whether there is a link between the variability of performance and involvement and, if so, what form it takes, thus answering our second research question. As in other studies on the subject (Anderson & Reeb, 2003; González-Cruz & Cruz-Ros, 2015), we have chosen to measure the level of family involvement through a number of parameters: the first, and most important, is the presence of a family president and a family CEO at the reins of the company who, being the figures with the most decision-making power within the company, clearly increase the level of family involvement in the business since they

have the will and power to pursue the will of the family; the second is a prevalence of family members within the management and control bodies of the business, i.e. the Board of Directors and the Top Management Team (in this second case, their roles were examined if they were indicated): the effect of a greater number of family members within these bodies will in fact have a direct impact on the choices that will be made in the daily management of the business, in full respect of the interests of the family, since they will have the majority, and this will consequently have repercussions on the performance of the company (Cirillo et al, 2017). Finally, taking a clue from Kellermanns & Eddleston (2006) and Sciascia, Mazzola, Chirico (2012), we decided to consider a further parameter, not widely used in the literature as the previous ones, namely the number of generations involved in management, where a number greater than or equal to two clearly implies a higher family involvement, but not always beneficial for the company's performance due to the conflicts that can be generated between different generations (Bertrand & Schoar, 2006).

Measuring local embeddness

The purpose of this short section is to present the method we have used to determine whether or not a firm is located within an industrial district. The concept of location within the ID, i.e. local embeddness, is a very relevant and discussed topic in the literature, as we have seen in chapter two. In particular, our aim is to consider it in order to validate hypotheses H3, H3.1 and H3.2. Consequently, in order to understand whether a company is to be considered rooted in the industrial district or not, we adopted the following method: first, we obtained the codes of the districts belonging to the six sectors we considered in the analysis, and from these codes we were able to establish the main municipality in which this district is located, as well as all the municipalities included in the district. Then, we considered the address of the company under consideration, including the street and the municipality of location, and compared it with the list of municipalities in each district using an Excel comparison formula: if there was a match,

we classified that company as being located within the district through the use of a dummy variable - where the value 1 equals yes, and 0 means no.

Further Methodological Specifications

As we said, the six sectors involved in our analysis included 2165 companies. However, only those companies with GUOs based in Italy were actually analysed in depth by us: as a result, the sample on which the familiarity analyses were carried out, and with which the first Italian database mapping family firms was constructed, consists of 1548 companies.

Of these, only 1438 are the firms that have data on annual performance: for all the other firms it was impossible for us to obtain data from both AIDA and ORBIS. Therefore, in conclusion, the dataset on which were constructed the regression analyses that we will comment on in the next chapter consists of "only" 1438 companies.

Variables

Our hypotheses were tested using regression analysis, carried out on SPSS software, using the variables described in the following sections.

Dependent variables

In our case, what interests us is to understand how certain parameters vary performance, which is therefore our dependent variable. We decided to measure performance as Return on Assets (ROA), defined as Operating Income over Total Activities. The use of ROA is widely supported in the literature, and has been especially suggested for manufacturing firms, which constitute the entirety of our sample. (Goodman & Bamford, 1989; Prague & Brabeck, 2013; De Massis et al., 2014; Soler et al., 2017;). ROA has also been used in other studies analysing the relationship between family involvement and firm performance and is historically considered the key indicator of the performance of family firms (Minichilli et al., 2010) and managers in

general. In order to then conduct a robustness test to double-check the veracity of the results obtained from the analysis, we used as alternative performance measures the Return on Sales (ROS), which can be calculated as Operating Income over Total Sales, and the Return on Equity (ROE), which is computed as Operating income over Equity; those two are variables that are often used in the literature as an alternative performance indicator to conduct robustness checks (De Massis et al.,2013). As already illustrated above, in order to capture the variability of performance, which is then the true dependent variable of our interest, it was necessary to go and assess the annual delta performance over a defined time horizon, which in our case was chosen to be four years (2016-2019). Moreover, since what we are assessing is a delta and not a "static snapshot" in a precise year, for the purposes of the analysis it was not necessary to adjust the values for sector effects through the use of the median of sectoral performances. However, to measure the variability of the performance, we have computed the standard deviation over the timespan of four years for each company: in this way, we have obtained the variable "*Performance variability (ROA)*"

Independent variables

To test our three macro-hypotheses and their respective sub-hypotheses, we used several independent variables. First of all, *family ownership*, which was simply measured through the use of a dummy variable (1 means family, 0 means non-family): although the actual definition of family ownership that we set out in the previous section contemplates the use of the percentage of shares owned by the family, we chose to measure it operationally in a binary way for the simple fact that ownership percentages do not interest our analysis closely, but it is only relevant for us to know whether a firm is family or not. As far as the testing of the second macro-hypothesis is concerned, as anticipated, the family involvement variable we considered turns out to be an "aggregate" variable, therefore composed of the three variables that are used to test sub-hypotheses H2.1, H2.2 and H2.3, respectively. They are the presence of a (purely) family management, measurable through the *percentage of family members present in the TMT*

and *BoD*, the *presence of a family president* in the *BoD* management, which is also a binary variable, and finally the *number of generations involved* in the management and control of the business, which we have evaluated directly from the information obtained from the AIDA database and assume values from 0 to 3. With regard to hypothesis number 3, in order to assess whether a company is physically located within a district, as explained in the previous paragraph, we used a dummy variable (1 is yes, 0 is no), which is called “*Local Embeddedness*”. The variables that were used to evaluate hypotheses H3.1 and H3.2 are, instead, *Number of Publications*, *Investments in Intangible Assets* and *Value of Patents* as regards the testing of hypothesis 3.1 and *Firm age* for hypothesis 3.2. Number of publications is measured precisely through the homonymous item that we extracted from the AIDA database, and same is for *Investments in Intangible Assets* and *Incremental Value of Patents*, two items that are accounted for in the Active part of Balance Sheet, and refer to the time horizon already mentioned above (2016-2019), which were calculated as the average on four years for each company the first, while the second was computed by doing the incremental value year by year of the patents value and then by computing the average of the three values obtained. With regard to the firm age, it is simply the difference between the year of foundation of the company and the year 2019 - the year ending the time horizon in which we decided to base our analysis.

Control variables

We have also included in the statistical model a series of control variables in order to exclude possible effects that could generate bias in the performance of the companies in the sample; as for the previous ones, our control variables come from the AIDA database, and refer to the time horizon considered in the analysis (2016-2019). Firm size is our first control variable, which we have chosen to measure simply as the four year average of the *Number of Employees* of the firm over the time horizon considered, so as to go and smooth out any variability in the results due to the different sizes of the firms considered. Then, another control variable is the *Indebtedness*, which we have chosen to measure through the index of

Financial Gearing, which in turn is calculated as Financial Debt on Total Equity: this indicator is useful to control those effects on performance that may be due to a too high level of indebtedness, which in turn can impact on the current management and therefore on the choices of the Top Management and the Board. In addition, it is well known that ownership, especially family ownership, has an important impact on the capital structure of the company, and it is therefore necessary to take this into account. Finally, in order to also consider the sphere of company management, the third control variable used in the model is the size of the Board, measured simply as the number of members present on the Board of Directors (Zahra et al., 2000).

Student's T-Test

During the process of data analysis, we realised that it would have been impossible to carry out a regression analysis to test the first hypothesis, which envisaged the use of a single binary variable as the independent variable: the lack of three-dimensionality of the data would certainly have distorted the model, leading to an untrue result. Consequently, we chose another route: since the sample under examination was very large, specifically composed by 1438 entities, a statistical technique was necessary, with the aim to summarize the quality of the data and at the same time did not underestimate any aspects. Considering that the population is composed of N individuals greater than 30, it is therefore possible to use the statistical tool called "T-Test"; this is used to statistically compare the equality of the means of the same population with respect to a certain parameter (paired t-test) or the means of two different populations (unpaired t-test). In the case in question, the populations can be considered different, as on the one hand there are family firms, and on the other hand there are non-family firms. T-test is based on the following assumptions:

- The number of observations is sufficiently high
- The two populations have similar variance

Said X_1 and X_2 the representative vectors of the data relating to the two populations, we had the following hypotheses:

- H_0 : $m_1 = m_2$
- H_1 : $m_1 \neq m_2$

Where m_1 and m_2 are respectively the mean of population 1 (family companies) and population 2 (non-family companies). The t value to verify the hypothesis of means' difference of two populations with Gaussian statistics and of equal variance is given by the following equation:

$$t = \frac{m_1 - m_2}{\sqrt{s_1 * s_2 * \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where the term $m_1 - m_2$ is the difference between the two means, and $s_1 * s_2$ product of the standard deviations, multiplied by 1 on the number of entities in each population (n).

Then, the value obtained from the equation it must be compared with the critical t value obtained from the tables, in order to decide whether to reject or not the null hypothesis.

FINDINGS

In this chapter we will describe the results of the statistical analysis we carried out, mainly using the regression functions in Excel.

In the first section of this chapter we are going to describe in more detail the sample on which we have carried out the analysis, by means of some graphs created using Excel; the objective in this first phase is to understand in a preliminary way the link between the data, and in particular to carry out a comparison between family firms and non-family firms to verify if our sample is consistent with what we have stated in the previous chapters. We also report the correlation matrix we obtained, in order to show the correlation between the variables and to understand whether or not the linear regression model was applicable. The second section deals with the actual testing of the hypotheses, in which we will explain which methodologies we used to test our research questions, and to analyse the results of the eight regression models we built in a more detailed way. Finally, we will briefly discuss the robustness of our model through a preliminary robustness check using the R^2 statistics, and through a sensitivity analysis we conducted using ROE and ROS instead of ROA in the models.

Preliminary descriptive analysis of sample

For the sake of completeness, the sample presented in the annexes is made up of 1548 companies, whose average age is 37.8 years: this is often the case since many of the companies in the sample have undergone company reorganisation in recent years, together with a change in their company name, a phenomenon that dates them much later than the actual year of foundation: proof of this is the fact that some 'young' companies, founded in the late 2000s, already have more than one generation in-house, with the second generation in charge, a sign that succession has already taken place - which is almost impossible in a company that is less

than 20 years old. Therefore, it is reasonable to question the actual significance of this measure, which we nevertheless decided to keep within the variables tested in the model because of its importance in validating hypothesis 3.2.

Moreover, in this sample, we observe that family businesses are 58.2%, a figure that is absolutely in line with the studies carried out by AIDAF - which estimates the percentage at around 60%; of these, we can see that only 37.2% are located within a district.

As mentioned above, the companies within the sample operate in six sectors, respectively those identified by the ATECO codes 15, 21, 26, 28, 30 and 32 of the two-digit NACE Rev.2; the companies are equally distributed among the six sectors, with the exception of sector 28, related to the manufacture of other general purpose machinery, within which 58% of the companies we studied are present, as can be seen in the figure below.

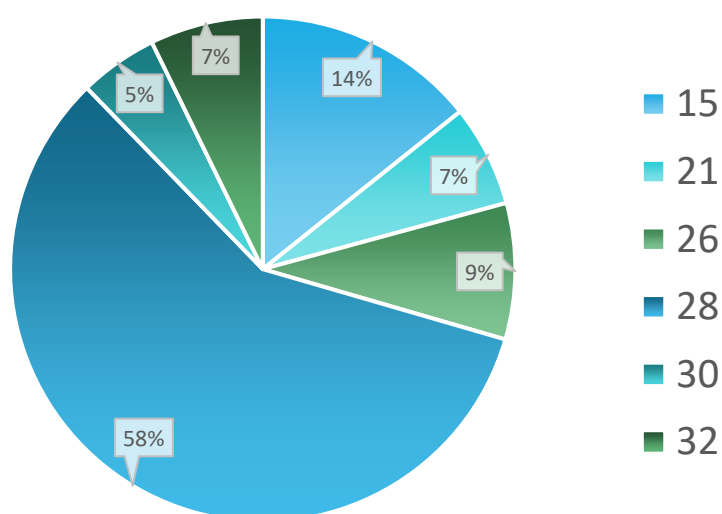


Figure 5: Percentage distribution of companies in each ATECO sector

It is also interesting to see how the distribution of businesses within the various sectors does not differ much when we consider the comparison between family and non-family businesses, as can be seen in the figure below: this shows that family businesses are equally distributed within each sector in a percentage that varies between 53% and 64%, a value that is compatible with what was previously observed.

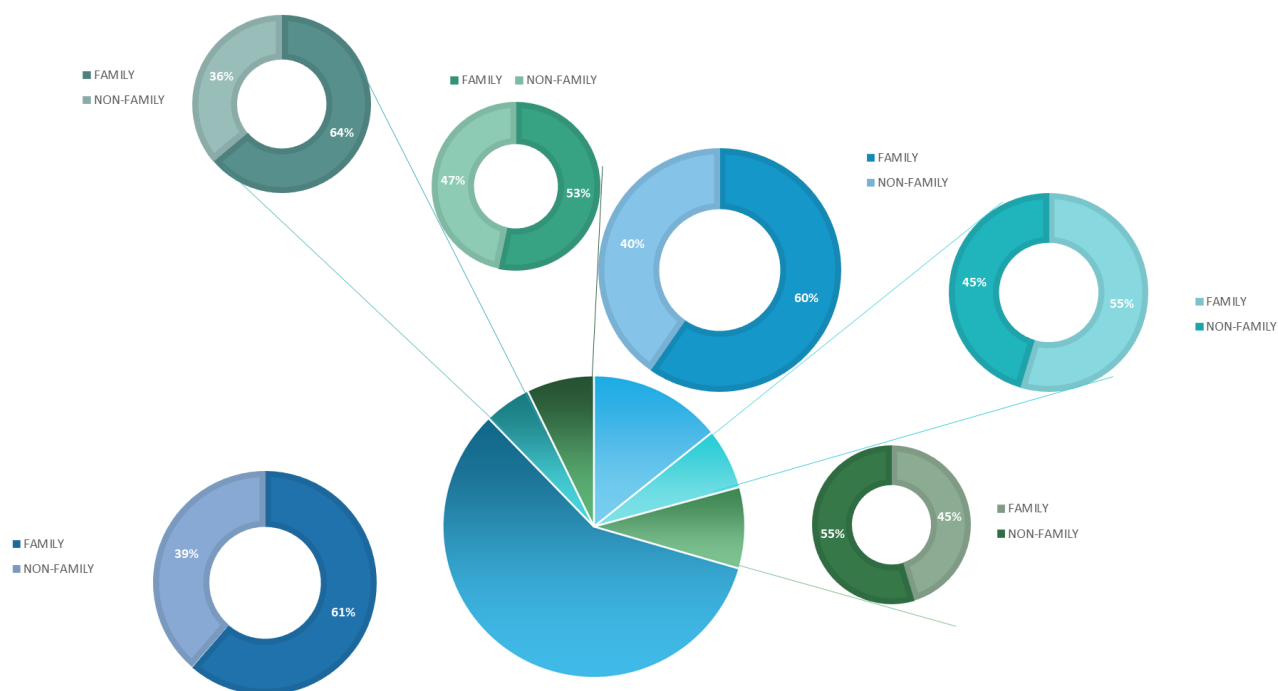


Figure 6: Percentage distribution of family and non-family companies in each ATECO sector

In this sample of family firms we can observe that 86.5% of them have a family member as BoD president, while the percentage of family members in the management is around 63.2% (with almost 30% of the firms having an all-family management) and with an average age of 57 years - very high, if we consider that, as we can observe in the table, more than 60% of the firms have two generations of family members in the management.

In any case, it is interesting to note from the graph on the right that there are very few family businesses that do not have any family member in the management, in this case only 2.37%: this means that, even in the 13.5% of cases where there is no family member at the helm of the

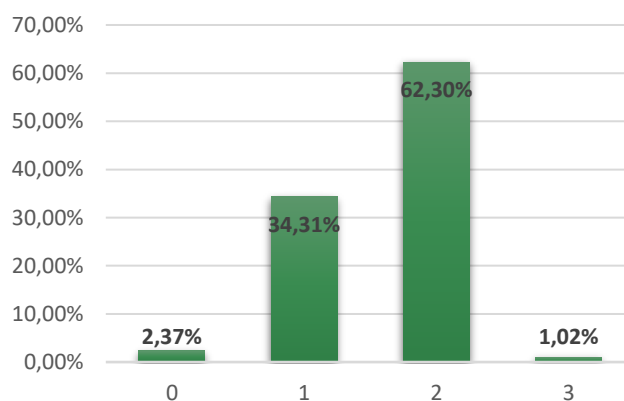


Figure 7: Percentage distribution of number of generations involved in the business

company as president, the family is still represented in the management and control bodies of the business in almost all cases.

In addition, at a glance we can observe in the graph here at side how average annual sales are 6% higher than those of non-family businesses: this is perfectly in line with the theory we have already discussed in chapter

two, and therefore we can say that also in our case it is correct to say that the performance of family businesses is on average higher than that of non-family businesses.

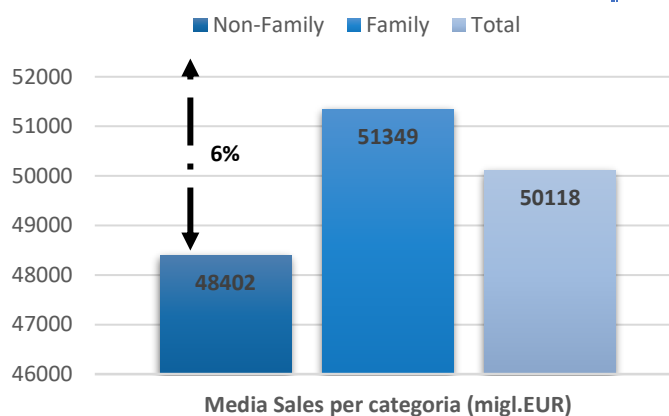


Figure 8: Average sales on 4 years of family businesses vs non-family businesses, and a comparison with the total average

To conclude this introductory paragraph, we present the correlation matrix between the variables analysed by the model, visible in the figure, where the Pearson correlation coefficients that we calculated between the dependent variable y and the dependent variables x_1 to x_3 are highlighted in green.

As can be seen from the table, the very low correlation between the variables in the model indicates that there is no collinearity between them, so it is possible to proceed with the regression analysis. Although we have found some statistically significant correlations, highlighted in yellow, and some of which are "obvious" in our view (such as, for example, the relationships between the percentages of family members in management and the presence of a family president), others mostly concern correlations with and between the control variables. However, this is not a major problem because these hypotheses were firstly tested separately, and secondly the correlation is below the cut-off limit of 0.7 allowed in the regressions (Hair et al., 1998).

As far as the correlation coefficients are concerned, at first glance we observe that the dependent variable (performance variability calculated through ROA) is inversely correlated with the first

three variables, concerning family involvement in the business, as well as the age of the firm; it is positively correlated with the variables concerning local embeddedness and the drive for innovation: we can therefore expect the effect of these elements on performance variability to be positive.

Table 1: Correlation table between variables tested in the model.

	μ	σ	x1	x2	x3	x4	x5	x6	x7	x8	x'1	x'2	x'3	y
x1 - Family members involved in the business (%)	0,613	0,32	1											
x2 - Presence of a family president (dummy)	0,866	0,34	0,31	1										
x3 - Number of generations involved in the business	1,610	0,55	0,32	0,34	1,00									
x4 - Local Embeddedness (dummy)	0,206	0,40	0,04	0,02	0,00	1,00								
x5 - Firm Age	37,793	68,33	-0,01	0,01	0,03	0,00	1,00							
x6 - Number of publications	71,762	265,39	-0,04	-0,02	0,04	0,05	0,02	1,00						
x7 - Incremental value of patents	6,495	129,25	0,00	0,02	0,02	-0,02	0,01	-0,01	1,00					
x8 - Investments in Intangible Assets	254,098	1051,84	-0,03	0,04	0,02	0,06	0,01	0,17	0,01	1,00				
x'1 - Number of Employees	192,648	321,00	-0,12	-0,02	0,01	0,01	0,01	0,34	0,03	0,09	1,00			
x'2 - Financial Gearing	0,545	1,19	-0,01	-0,01	-0,08	-0,04	-0,01	-0,04	-0,02	-0,02	-0,03	1,00		
x'3 - Management size	8,980	4,94	-0,22	-0,09	0,09	0,06	0,00	0,38	0,03	0,24	0,51	-0,09	1,00	
y - Performance Variability (ROA)	3,424	3,66	-0,01	-0,03	-0,04	0,01	-0,04	0,03	0,01	0,07	-0,09	-0,03	-0,05	1,00

With μ indicating mean, and σ standard deviation.

Variables indicated as $x'n$, refer to the control variables of the model.

All values indicated in the table are significant for $p < 0.05$.

Hypothesis testing

The model we used to conduct the regression tests is the most common one in the literature, a multiple and monivariate linear regression (since the variable y of our interest is only one), which provides some assurance on the validity of the data thanks to the significance test. As specified above, we used Excel's 'Data Analysis' function to conduct our analysis. The table produced in output by the system presents various values, but what we are particularly interested in, in order to evaluate the actual truthfulness of our hypotheses, is the part of the Analysis of Variance (ANOVA) concerning the level of significance F . This value, in fact, is nothing other than the p -value calculated on a Fisher-Snedecor distribution, and indicates the probability that an element within our sample falls within the confidence interval defined by us; therefore, it is useful for us to go and evaluate whether or not it is possible to reject the null hypothesis H_0 . For all our tests we have chosen to use a p -value of 0.05 - consistent with most of the statistical studies carried out in the literature in the field we analysed; this means that we are accepting to commit errors with a probability of 5%. An exception is the testing of Model H which, as can be seen in the summary table below, is significant for $p < 0.1$.

Table 2: Output of the linear regression models conducted with Performance Variability (ROA) as dependent variable

Performance Variability (ROA)	Model A (Total)	Model B (H2)	Model C (H2.1)	Model D (H2.2)	Model E (H2.3)	Model F (H3)	Model G (H3.1)	Model H (H3.2)
x1 - Family members involved in the business (%)	-0,12	-0,04	-0,25					
x2 - Presence of a family president (dummy)	-0,29	-0,23		-0,36				
x3 - Number of generations involved in the business	-0,18	-0,21			-0,27			
x4 - Local Embeddedness (dummy)	0,05					0,04	0,04	0,10
x5 - Firm Age	-0,002					-0,002		-0,002
x6 - Number of publications	0,001					0,001	0,001	
x7 - Incremental value of patents	0,0003					0,0003	0,0003	
x8 - Investments in Intangible Assets	0,0003					0,0003	0,0003	
x'1 - Number of Employees	-0,001	-0,001	-0,001	-0,001	-0,001	-0,001	-0,001	-0,001
x'2 - Financial Gearing	-0,12	-0,12	-0,12	-0,12	-0,12	-0,11	-0,11	-0,12
x'3 - Management size	-0,04	-0,01	-0,01	-0,01	-0,01	-0,04	-0,04	-0,01
Constant	4,62	4,34	3,95	4,10	4,18	3,99	3,91	3,82
Observations	900	900	900	900	900	900	900	900
F	2,092	2,984	2,409	2,565	2,686	2,603	2,784	2,108
Significance F	1,53%	4,59%	4,78%	3,70%	3,02%	0,8%	0,72%	*6,23%
R²	2,53%	1,23%	1,07%	1,13%	1,19%	1,41%	2,14%	0,612%

An F-test based on the Fisher-Snedecor distribution was used for all models.

*indicates a test significant for $p < 0.1$

Where not specified, $p < 0.05$.

In this section we will briefly analyse the significance values resulting from each hypothesis, starting with the analysis of hypothesis number two. It states that "*The relationship between family ownership and performance variability furtherly varies depending on the level of involvement of the family in the business*".

In order to test its truthfulness, we conducted a linear regression test including all the variables referring to hypotheses 2.1, 2.2 and 2.3 and in addition the control variables: Model B. With a significance level corresponding to 4.59%, thus lower than the critical value of 5%, we can consider our hypothesis valid and therefore reject the null hypothesis. For the sake of

completeness, we decided to launch three further models to test the single hypotheses 2.1, 2.2 and 2.3, which we report below.

Hypothesis 2.1, tested in Model C, states that "*The presence of a purely family management reduces performance variability*", and with a significance obtained from the regression analysis of 4.78% we can also in this case reject the null hypothesis and affirm the truth of what we affirmed. The same applies to hypotheses 2.2 and 2.3 (Models D and E), which state, respectively: "*The presence of a family president within the BoD further reduces performance variability*" and "*The presence of multiple generations within the business increases performance variability*"; in both cases, we obtained values lower than 5% (to be precise, 3.70% for hypothesis 2.2 and 3.02% for hypothesis 2.3), and consequently we were able to reject the null hypothesis and prove the validity of our hypotheses. Since all sub-hypotheses of H2 have been tested, we have a sort of double-check on the truthfulness of the above statement, and we can therefore state that the performance variability of family firms is subject to further variation due to the impact of family involvement.

As for hypothesis number three, we stated in it that "*The industry district effect causes family firms within an industry district to have significantly lower performance variability than family firms outside the district*". In a manner absolutely identical to that carried out previously for hypothesis number two, we started with the conduction of a linear regression model including all the variables that were then used to test hypotheses 3.1 and 3.2, in addition to the control variables, and we obtained in this case for Model F a very low significance value (0.8%) which led us to categorically reject the null hypothesis in favour of ours. At this point, we went to perform a double check on the truthfulness of the above hypothesis, and then tested sub-hypotheses 3.1 and 3.2 through Models G and H exactly as we did for hypothesis 2; here too, we report them for completeness, where hypothesis 3.1 states that "*Family firms inside the district innovate more than family firms outside the district, which implies a higher performance of the former, and a lower performance variability at the same time*" and hypothesis 3.2 instead

states that "*Family firms inside the district have existed longer than family firms outside the district, which improves performance on the one hand, and reduces variability on the other*".

In the first case we obtained a significance level of 0.72%, much lower than the 5% set as sensitivity, and in the case of hypothesis 3.2 the significance stood at 6.23%: theoretically, this would have induced us to accept the null hypothesis and therefore to abort our hypothesis. Theoretically, this would have led us to accept the null hypothesis and therefore to abort our hypothesis. However, it is worth considering the fact that one of the two explanatory variables of the model, i.e. the age of the firm, has in itself a certain percentage of error due to the facts explained in the previous paragraph. Consequently, since this variable is included in the model as an imprecise but fundamental variable for hypothesis testing, we decided to raise the level of significance to 10% when testing only hypothesis 3.2. With a p-value of 10%, we can reject the null hypothesis. This means that, by accepting both sub-hypotheses 3.1 and 3.2, the "mother" hypothesis is automatically verified: we can therefore state that the variability of performance for family firms inside the district is lower than for family firms outside the district.

At this point, we can test what is really the central hypothesis of our thesis, i.e. number one: in it, we state that "*Family ownership has a negative impact on the variability of performance over time*". As mentioned in the previous chapter, given the binary nature of the variable 'family

ownership', we preferred to perform a Student's T-test to assess the nature of the relationship between our dependent variable and family ownership, rather than using the usual regression model. We started by evaluating, by means of a graph,

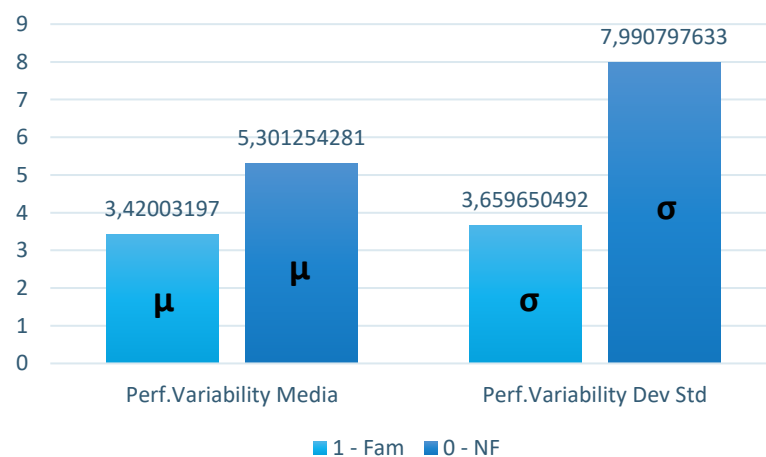


Figure 9: Comparison of Average (μ) and Standard Deviation (σ) of Performance Variability (ROA) between family firms (1) and non-family firms (0)

which we report below, which was the average performance variability of family firms compared to non-family firms, and the same for the standard deviation. As we can see from the graph, it is easy to see that on average non-family businesses have not only higher performance variability, but also "more variable" performance variability, as can be seen from the standard deviation - which is 118% larger than that of family businesses.

In order to assess the statistical truthfulness of our observation, we have consequently decided to carry out Student's T-test on the mean of the performance variability of our sample, using the formula that we have presented in the dedicated paragraph; in carrying out the t-test, we have used the following hypotheses:

H₀: The performance of family firms varies over time to the same extent as that of non-families

H₁: The performance of family businesses varies less over time than non-family businesses

The T-test value resulting from the formula is 1.18. Therefore, setting an alpha of 0.05 (consistent, therefore, with the 5% sensitivity that we used to decide whether or not to reject H₀ in all other statistical analyses carried out on the sample) at 1436 degrees of freedom, through the tables we found online we obtained a critical value of 1.96.

Since the value of our T-test turns out to be lower than the critical value, we have good reasons to reject the null hypothesis and therefore consider valid the statement that the performance variability of family firms varies less than that of non-family firms.

As regards, instead, the relationship between performance variability and family ownership, we used the value extracted from the correlation matrix: as can be seen in the figure below, not only is this value quite high, a sign of a strong correlation between the two variables, but it is also negative: this means that family ownership has a negative impact on performance variability over time and, therefore, we can

Table 3: Correlation table between family ownership and performance variability (ROA)

	x	y
x - Family Ownership (dummy)	1	
y - Performance Variability (ROA%)	-0,1584	1

consider hypothesis 1 to be valid in its entirety.

Robustness Check

At this point, we also felt obliged to present the results of the robustness check carried out on our model, a widespread practice in the literature to ensure the robustness of the claims made. As a first step, we relied on the value obtained from R^2 , a value that measures the percentage of variability of the values on the ordinate with respect to those on the abscissa. In our case, as can be seen from the table above, the percentage of all values is always within the range 1-2.5%: which means that, assuming that X and Y are causally linked, then only 1-2.5% of the variation in the ordinate is explained by the variation in X. These values, when compared with those found in previous studies on the performance of family businesses, are much lower (e.g. Sciascia and Mazzola 2008; De Massis et al., 2013a), and moreover vary poorly when compared with the R^2 index of the entire regression model with all variables (Model A). However, it should be borne in mind that this is by far the first study that has been carried out on the performance variability of family businesses, and consequently it is not free of errors; there is certainly ample room for improvement with regard to the goodness of the model used in any future studies, which we are confident in stating will have a much more significant R^2 coefficient due to a better choice of variables to be used.

However, we decided to conduct further analyses to test the robustness of the model, and the second step was to perform a sensitivity analysis using alternative measures of performance variability - in particular, we used Return on Equity (ROE) and Return on Sales (ROS) respectively, and calculated the performance variability of the companies as the standard deviation of these values over a four-year period, just as we had done previously for ROA.

The results, which can be seen in the tables below, were very satisfactory: as can be seen, not only were the results of the models used with ROE and ROS, respectively, as Y variables consistent with what we expected, but it was also possible to test (almost) all the hypotheses

with a significance level of $p < 0.1$ for ROS, and even with $p < 0.01$ for ROE. The only exception is the model referring to hypothesis 3.2, which turns out to be significant with $p < 0.2$ when conducting the sensitivity analysis with ROS - exactly as we explained above, this is probably due to errors in the data concerning the variable "Età dell'azienda" (company age) rather than to an error in the model. However, some very interesting things emerge from the sensitivity analysis conducted with ROE: in particular, with a very low significance level F and an R^2 that is between 16% and 17%, we can say that this model is quite robust and, consequently, this statement leads us inevitably to note the robustness of the main model as well. The robustness check we conducted can be seen in the two tables below, in which we have summarized the results of the seven different regression models that we have carried out.

Table 4: Output of the linear regression models conducted with Performance Variability (ROS) as dependent variable, for robustness check

Performance Variability (ROS)	Model B' (H2)	Model C' (H2.1)	Model D' (H2.2)	Model E' (H2.3)	Model F' (H3)	Model G' (H3.1)	Model H' (H3.2)
x1 - Family members involved in the business (%)	-0,29	-0,63					
x2 - Presence of a family president (dummy)	-0,86		-0,99				
x3 - Number of generations involved in the business	-0,09			-0,33			
x4 - Local Embeddedness (dummy)					-0,27	-0,27	-0,19
x5 - Firm Age					-0,001		-0,001
x6 - Number of publications					0,001	0,001	
x7 - Incremental value of patents					0,0004	0,0004	
x8 - Investments in Intangible Assets					0,001	0,001	
x'1 - Number of Employees	-0,001	-0,001	-0,001	-0,001	-0,001	-0,001	-0,001
x'2 - Financial Gearing	0,03	0,03	0,03	0,03	0,04	0,04	0,04
x'3 - Management size	0,01	0,01	0,01	0,02	-0,02	0,02	-0,02
Constant	4,23	3,55	4,00	3,59	3,34	3,16	3,29
Observations	900	900	900	900	900	900	900
F	2,344	2,229	3,350	2,157	3,323	3,732	1,488
Significance F	2,98%	*6,41%	0,98%	*7,21%	0,09%	0,05%	**19,10%
R²	1,55%	0,99%	1,48%	0,95%	2,90%	2,85%	0,83%

An F-test based on the Fisher-Snedecor distribution was used for all models.

* indicates a test significant for $p < 0.1$

** indicates a test significant for $p < 0.2$

Where not specified, $p < 0.05$.

Table 5: Output of the linear regression models conducted with Performance Variability (ROE) as dependent variable, for robustness check

Performance Variability (ROE)	Model B'' (H2)	Model C'' (H2.1)	Model D'' (H2.2)	Model E'' (H2.3)	Model F'' (H3)	Model G'' (H3.1)	Model H'' (H3.2)
x1 - Family members involved in the business (%)	-5,02	-6,56					
x2 - Presence of a family president (dummy)	-2,10		-4,22				
x3 - Number of generations involved in the business	-1,36			-2,80			
x4 - Local Embeddedness (dummy)					1,12	1,12	1,32
x5 - Firm Age					-0,02		-0,02
x6 - Number of publications					0,002	0,002	
x7 - Incremental value of patents					-0,0002	-0,0003	
x8 - Investments in Intangible Assets					0,001	0,001	
x'1 - Number of Employees	-0,004	-0,004	-0,004	-0,005	-0,005	-0,005	-0,004
x'2 - Financial Gearing	10,23	10,27	10,30	10,23	10,33	10,34	10,33
x'3 - Management size	-0,22	-0,24	-0,18	-0,11	-0,25	-0,25	-0,16
Constant	17,06	14,17	13,20	13,57	10,33	9,85	9,52
Observations	900	900	900	900	900	900	900
F	29,639	44,162	43,506	43,601	21,954	24,743	34,818
Significance F	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
R²	16,61%	16,48%	16,28%	16,31%	16,47%	16,26%	16,30%

An F-test based on the Fisher-Snedecor distribution was used for all models.

*indicates a test significant for $p < 0.1$

Where not specified, $p < 0.05$.

DISCUSSION

In this chapter we will mainly discuss what we have understood from the model results, and we will draw some conclusions about the initial aim of our thesis. Our aim at this stage is to understand whether we have been able to give a satisfactory answer to the questions we posed while writing the research hypotheses, and to investigate what these results might mean in the broader framework of the study of family businesses. In particular, we would like to emphasise how the results of our study contribute to the literature by paving the way for a new strand of studies in the field of family businesses. In fact, as we have already mentioned, the purely empirical issue of performance variability is not much analysed in the literature in general, while in the case of family businesses it is almost non-existent; a similar argument applies to the "district effect", which has so far been analysed by very few scholars. With this study we want to begin to fill this gap, providing some ideas that may be useful to academics in conducting further and more precise studies on the subject. We will then go on to analyse the limitations of this thesis, the model we used, the problems that arose during the analysis and provide some suggestions for posterity in order to avoid making the same mistakes, while in the next section we will outline the implications of our study for future research, explaining what is interesting in our study but we have just touched on, without going into depth, and that would certainly deserve further attention in further studies.

As a final point, we will list the implications for practice that emerge from this thesis.

Discussion of results & theoretical contributions

The original purpose of this thesis was to find out whether family ownership had any kind of effect on the performance variability of a firm and, in particular, what we wanted to show was that this effect was "negative", i.e. that it reduced performance variability. Why performance

variability? This issue immediately struck us as key since it has been observed that significant variability in firm performance produces uncertainty about a firm's ability to meet future obligations, and makes the firm potentially unprofitable in the future; this decline has the potential to create inefficiencies in the firm's operations and increase the cost of conducting business (Miller and Bromiley, 1990). This, of course, is detrimental to the overall performance of the firm and could undermine its survival over the years. Yet, as already mentioned, this issue seems to be little considered in the previous literature, especially with regard to the strand of analysis of family firms, where it is even absent. Consequently, in order to fill this gap in the literature, we set out to understand whether or not family involvement in the business had a reductive impact on performance variability, and what would happen if the family firm were located within an industrial district instead. This study is to be considered as a “stand alone” in its field: as we have mentioned several times, it is the first in this field, and therefore it is intended to be a kind of pathfinder for future studies in the field, aimed at investigating what this study has inevitably just touched upon, given the ambition of the project. In any case, it is satisfying to announce that all of our eight research questions were successfully proven and confirmed in the regression test mentioned in the previous chapter.

In fact, by analysing 1548 firms – of which, however, 110 firms had no performance data available, and therefore the sample actually tested with the regression was reduced to 1438 firms – we were able to prove the existence of an inverse relationship between family ownership and performance variability: this is very interesting, since it adds a piece to the literature on family businesses regarding their performance, which is on average higher than that of non-families and sustainable over time (Sciascia & Mazzola, 2008; Kotlar et al, 2021) as we were also able to demonstrate graphically in the previous chapter; thanks to this study, we can affirm that not only performances are on average better, but they are also more stable over time since their variability is mediated by the so-called "family effect". We are also talking about the "family effect" with regard to our second macro-hypothesis of research, that is the

overall negative effect that family involvement in the business has on performance variability: in fact, it was found that a more active involvement of the family, meaning more family members in the management, the presence of a family president at the helm of the company and more family generations in the board manage to reduce the oscillation of performance over time, keeping it more stable. Thus, although the involvement of multiple generations in the business leads to an increase in variability (hypothesis 2.3), in reality this incidence is completely wiped out by the effect that more family members involved in management have on variability. This finding is not necessarily at odds with what is stated in the literature about performance attrition when family members in management exceed an "average" value of around 50-60% (De Massis et al., 2013), since more stable performance over time does not necessarily mean higher performance. An explanation for this fact could be sought in the typical risk aversion of family firms, which is explained by several factors (Hiebl, 2013): in fact, a management with a strong family prevalence will certainly take a series of strategic decisions aimed at protecting the socio-emotional wealth of the family rather than at earning more (Gomez-Meija et al., 2007), and a series of less risky decisions will have the effect of ensuring performance that is perhaps average, but certainly more stable over time and less subject to variability. In addition, a further explanation could be that among the benefits of family management there is also a certain alignment of interests between owners and managers, plus the positive effects of kinship relations within the group of managers, in perfect agreement with what is stated in stewardship theory: the reduced presence of agent managers who behave opportunistically would in fact guarantee a reduced variation in performance over time.

Another determinant of reduced performance variability of family firms is the presence of family companies within an industrial district; exactly as we expected, in fact, in-house family firms seem to be even more protected from performance variability than family firms located outside the districts. We have shown that this protection is mainly attributable to two factors:

the greater longevity of in-district firms and a higher innovation drive of in-district firms. The first factor is mainly due to the fact that locating within a district guarantees better performance on one hand (Molina-Morales, 2003) and, on the other hand, helps in risk mitigation; consequently, the district entails a higher probability of company survival. Moreover, industrial districts are 'historical' areas, existing for a long time (Paniccia, 1998), and it is therefore more likely to find within them some historical companies, sometimes even centuries old - for example the "Fabbrica d'Armi Pietro Beretta", founded in the early 16th century and located in the industrial district of Val Trompia. In any case, there is evidence in some studies that older firms suffer performance attrition over time (Nunes et al., 2015, Cowling et al., 2018), yet they continue to survive, even after cyclical business shocks (Fort et al, 2013): our study proves that, as far as the industrial district is concerned, this is due to the age of the firm, which has an impact of reducing the variability of performance over time and, consequently, reduced variability allows for better business management and a greater chance of long-term survival even for a firm that is no longer growing.

There is conflicting evidence in the current research on the innovative drive of family firms, with most scholars claiming a lower innovativeness of these firms mostly due to the ingrained conviction of family-managers that innovation implies risk which, as mentioned above, in turn implies a loss of the family's socio-emotional wealth: an eventuality that family members often do not want to risk. What we have been able to prove in this study is that when family firms are in a "protected" environment, where the risk of innovation is mitigated by factors such as technological spillover and cooperation with, among others, partner-competitors in the district, then their innovative drive becomes stronger; this greater innovativeness, typical of all firms within the district, brings with it a further reduction in investment risk, which translates into less fluctuation in performance over time. This finding is quite relevant, since it builds on a theme that could become key in the future, which is increasingly linked to technology and

innovation: innovating reduces risk, which is in turn the primary cause of performance variability over time.

So, going to evaluate the results of the third research hypothesis in its entirety, we discover that it fits perfectly into the theme of Innovation Through Tradition, a concept presented by De Massis et al. in 2016, exactly as we had announced in the fourth chapter during the drafting of the hypotheses: it is precisely the historical nature of the industrial district that allows the companies located there a greater drive for innovation, which they generate not only thanks to the sharing of knowledge with the other players in the district, but also through a reinterpretation of their own past, offering an innovative product while fully respecting the tradition of the company and the place in which the company is located in. This finding has important implications for the literature, as it makes possible to connect two variables, i.e. the age of the company and innovation, which have been analysed together in only a few studies, and which in the common imagination are often polar opposites. Indeed, it is difficult to imagine that something 'old', such as tradition, can give rise to something new and innovative, yet this is precisely what happens in these industrial districts. This issue certainly deserves further study, which we refer to future studies in this field.

Limitations of the study

The onerous analysis we conducted on a sample of 1548 companies suffered since the beginning from a tradeoff between precision of analysis and time. Such a large sample, as readers can imagine, would require timeframes to be analysed in real detail that are not consistent with the work of a master's thesis, and which have therefore been left to a possible future treatment; we limited ourselves to carrying out the analysis at a first level, taking data provided directly from AIDA and ORBIS databases and which, in some cases, unfortunately proved to be inaccurate or missing. Consequently, as already mentioned in the previous chapters, even this model is not free from limitations and errors that may have affected the outcome of the tests, and which

should be corrected in any further analysis. One of the errors with the greatest impact is perhaps the one concerning the variable "Age of the company": in fact, as we explained in chapter five, some companies have recently undergone a reorganisation, or have been "incorporated" within a more recently founded holding company, etc... For all these companies, the AIDA database has stored as "foundation date" the date on which the company was reorganised and obtained its new company name, while it makes no mention of the company's "history"; consequently, this error in the sample could jeopardise the truthfulness of hypothesis 3.2, which we have confirmed as true. Another error attributable to the database is the almost total lack of data concerning the innovativeness of the companies: as far as the companies we analysed were concerned, most of them presented a value "n.a." (not available) both in the item of the total value of the company's patents and in the item of the expenses in Research & Development. In order to obtain values that could be included in the regression analysis, which would inevitably have been highly imperfect if we had used a sample with very few values, we had to use alternative measures of innovation which, however, do not turn out to be as relevant and appreciated in the literature as the two just mentioned. In addition, another important limitation of this model was the estimation of the number of family members in the management: as can be easily guessed, it often happens that family firms that have existed for many years, and perhaps already reached the third or even fourth generation, have included in the business some cousins or relatives with a different surname from that of the main family. In these cases, with the exception of those who lived at an address 'similar' to that of one of the family members (and who, in this case, were considered by us to be 'relatives and kins' of the family), it was impossible for us to understand what kinship these people had with the family, and so we excluded them from the count. The error made in the latter case is therefore one of underestimation of the number of family members within the management but, in any case, we do not think that this error had an impact on the model like the two described above.

Finally, we conclude this section by saying that our study was based on a sample of exclusively Italian companies, based in Italy and having also an Italian GUO (Global Ultimate Owner); therefore, given the universally recognised uniqueness (especially in terms of attachment to tradition) of the Italian territory, we cannot state with certainty that such studies are to be considered valid in contexts other than the Italian one.

Implications for research and future directions

In this final section of the chapter we are going to provide some recommendations for those responding to our call for future research in the field, as well as outline what might be some interesting research directions and implications for practice.

In fact, researchers should think to corporate performance as a construct with multiple dimensions, and conceive of its positive aspects, negative ones, and especially its variability as critical components; for example, the behavioural theory of the firm is largely worried about achieving a minimum acceptable level of performance so that risks are minimised, while the agency theory is largely concerned with avoiding managerial opportunism and ensuring that firms do not perform worse. Few, however, have bothered to consider what connects these two theories: the concept of risk, which is the root cause of performance variability. Many studies have attempted to decouple the relationship between risk and firm performance, but the results have been inconclusive. That's why understanding the differences between managerial risk taking, organisational risk and firm performance is somehow crucial, and this thesis aims to be a first step in this direction.

A first interesting hint comes from the fact that, in hypothesis three, we focused on the benchmarking between family firms inside and outside the district, while we did not consider what would be an interesting comparison between the variability of the performance of the firms inside the district, both family and non-family. This would in fact be relevant, in our opinion, since it could be a possible reinforcement (or denial) of what we found in the testing

of hypothesis one, and it could also go deeper into the analysis of the "district effect" that Cucculelli and Storai talked about in his 2015 study, investigating whether or not it is able to mediate those differences now established between family businesses and non-family businesses regarding survival, performance and innovativeness.

There are other factors that have barely been touched upon in our analysis, but which certainly deserve further investigation given the impact they could have on the performance of family businesses, as well as on their variability. We refer to the age of the firm, the limitations of which we discussed in the previous section, and which would therefore require greater attention in any future studies, but also to the relationship between innovation and risk, which we have only mentioned: in particular on this front, in our opinion, we should dive deep in how much the two dimensions are actually correlated outside the industrial district. In fact, a possible correlation between innovation and risk reduction, which in turn reduces the variability of performance, outside the district could have implications of enormous relevance in the study of family firms and their drive for innovation, as well as being key to practice. A similar discourse deserves to be applied to the theme of Innovation Through Tradition, which until now has only been dealt with by very few scholars but which has very interesting implications for research and practice, since exploiting what is already available in one's own corporate culture and history in order to innovate would make it possible to reduce part of that investment risk which is connected to innovation in the sense of "search for novelty", and whose reduction, as we said earlier, could make it possible to increase annual performance, reducing its variability at the same time.

It would also be important to carry out a future and more precise investigation into the relationship between performance variability and company size, which we have used as the model's control variable, but which could have a discrete relationship (given the high value of the correlation coefficient between the two, which we have presented in the table ...) with the

performance variability of the company – family and otherwise – and which would therefore merit some further investigation.

In particular, it would be interesting to understand to what extent an agent-manager acts on the variability of performance by pursuing his own opportunistic goals, and whether there could be solutions other than removing an external manager in favour of a steward manager within the family, with all the drawbacks that this figure entails. In the same vein, it would also be interesting to study whether the effects of the agent manager on performance variability are somehow mediated by the location of the firm within an industrial district.

Lastly, we would like to point out that this study, although large in terms of the number of companies analysed, refers to a sample of six sectors taken from a population containing several thousand companies belonging to all 99 sectors identified by the ATECO codes. In addition, upstream of the analysis process, as mentioned in chapter four, we have made a selection in order to analyse only those sectors that were innovative and traditional at the same time. And, when we speak of tradition, we mean product or process innovation, but not service innovation: all those sectors which are perhaps more innovative, but certainly not traditional, since they are part of the tertiary sector, were therefore excluded from our analysis a priori.

Therefore, in our opinion there are two further categories of sectors that would merit further analysis from the point of view of the variability of performance, given the great difference they might have with the sample we selected: we are talking about all those sectors belonging to the Primary and Secondary sectors which, for one reason or another, turned out to be not very innovative in our analysis, as well as the entire Tertiary sector, which could certainly provide very interesting information from the point of view of the relationship between innovation and variability of performance, being a sector which, unlike the ones we analysed, is still expanding very rapidly, therefore is more risky, and will consequently be more sensitive to fluctuations in performance.

Implications for practice

As already mentioned, some interesting implications for practice can be deduced from this study, and mainly addressed to managers who are periodically confronted with the problems arising from performance variability.

Firstly, the possibility of a link between innovation and the reduction of the risk that is the cause of fluctuations in performance opens the door to a renewed conception of innovation, which is no longer to be seen as a source of risk but as a shield to protect the company. This is especially true for the managers of family businesses, the heart of our study, who are left with the task of changing a mindset that has been ingrained for years and which sees innovation and the preservation of SEW as opposites.

An important detail that emerges from our research is also a proof of how the past plays a fundamental role in innovation, proof of this is that at the base of our sample there are sectors that we identified as innovative but traditional at the same time. The past should not be forgotten, but rather, as already theorised by De Massis et al. In 2016, **internalised and reinterpreted** to create from it something new and innovative that can benefit the company and the community of stakeholders around it.

Finally, the fact that family involvement in the business should not be “demonised”, as has happened in some studies that have pointed out how high family involvement wears down performance, making it lower than in companies with 'average' family involvement; however, our research shows that performance is more stable over time when there is a high level of family involvement, and therefore we could leverage this by looking for new strategies to increase performance over the long term, even in companies with a high level of family involvement, without losing the advantage of the reduced performance fluctuation.

CONCLUSIONS

Family businesses are one of the most important business realities, accounting for more than half of all businesses in several countries, including Italy, where about 60% of businesses are family-owned. Nevertheless, their study is still a young field with many grey areas, which deserve further analysis and investigation. One of these gaps is represented by the in-depth analysis of the reasons that can be the root-cause of performance variability, an undesirable result that, if underestimated, could jeopardise the survival of the business.

Here begins the purpose of our thesis, which is to pioneer a series of studies aimed at examining in greater detail the factors that may be at the root of performance variability in firms, starting from the hypothesis that family involvement in the business and location within an industrial district are some of the factors that dampen such variability. From our analyses carried out on a sample of 1548 Italian firms belonging to six different sectors, purposely chosen because they turned out to be, from some of our first empirical analyses, the most innovative and traditional at the same time, it emerged that these variables are indeed able to reduce the fluctuation of firms' performance. In particular, what seemed most interesting to us was the effect of reducing variability that the age of the firm and the innovative drive have. Especially the latter could have important implications for future research, since family firms are often considered in the literature as conservative and resistant to innovation, despite evidence that some of the most innovative firms in the world are family-owned. Understanding the reasons behind the choice of some family firms to innovate, taking a risk that many others are often unwilling to take, could shed light on how these firms have managed to guarantee a significantly smaller fluctuation in performance than other firms, and not only within a protected environment such as the district. Our research is part of the branch of research concerning the concept of Innovation Through Tradition, a notion that is still young and not much discussed in the

literature, but that could in the future become the key to understanding the mechanisms behind innovation in family firms.

Despite the limitations of our model, with the results we have obtained we hope to encourage future research in the field of organisations and family businesses to also analyse how organisations are created, evolve over time and what factors lead to greater longevity of organisations, or drive them to innovation, and how those are intertwined.

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