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The assessment of Corporate Governance in family and non-family businesses

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Master in Management

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Abstract

The last financial crisis has brought global attention to a practice that has been studied over the past years and is called Corporate Governance. This phenomenon has become more relevant in the last decade with the ESG criteria, and it is expected to remain this way for a long period of time. It has changed the way companies are organized around the world and led to the success of many companies by helping them avoid agency costs.

However, despite the number of studies in this area, there is still much to study about the impact of Corporate Governance on family businesses and how best practices help these companies overcome risks typical of their shareholder structure. This paper acknowledges and explores Corporate Governance's most important dimensions in the financial performance of a company and then compare its impact between family and non-family businesses.

The paper results show that Board Functioning and Board Composition have significant impact in financial performance. Moreover, family firms that have a succession plan for the board and an audit independent committee are more likely to have a better performance. Results also show that family businesses have a higher Return on Assets than non-family businesses.

Keywords: Corporate Governance, Family Businesses, Measures of Financial Performance.

JEL Classification System:

G30: General

G34: Mergers; Acquisitions; Restructuring; Corporate Governance

G39: Other

Resumo

A última crise financeira chamou a atenção mundial para uma prática que tem sido estudada ao longo dos últimos anos e que se chama Governo Societário. Este fenómeno tornou-se mais relevante na última década com os critérios ESG e espera-se que se mantenha desta forma durante um longo período de tempo. Mudou a forma como as empresas estão organizadas em todo o mundo e conduziu ao sucesso de muitas empresas, ajudando-as a evitar custos de agência.

Contudo, apesar do número de estudos nesta área, há ainda muito a analisar sobre o impacto do Governo Societário nas empresas familiares e na forma como as boas práticas ajudam a ultrapassar os riscos característicos da sua estrutura acionista. Esta tese irá reconhecer e explorar as dimensões do Governo das Sociedades mais importantes no desempenho financeiro de uma empresa e depois comparar o impacto entre empresas familiares e não familiares.

Os resultados da dissertação mostram que o funcionamento e a composição do Conselho de Administração têm um impacto significativo no desempenho financeiro. Além disso, as empresas familiares que têm um plano de sucessão para o conselho de administração e uma comissão independente de auditoria têm maior probabilidade de ter um melhor desempenho. Os resultados também mostram que as empresas familiares têm um maior retorno sobre o património do que as empresas não familiares.

Palavras-chave: Governo Societário, Empresas Familiares, Medidas de Desempenho Financeiro.

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1. Introduction

1.1. Main Objectives and Structure

This paper will delve into the Corporate Governance best practices that may affect the financial performance of family businesses and compare it with non-family companies. These practices involve the **governance pillar score**, **functioning of the board of directors**, **composition of the board**, **compensation policies** and **shareholder rights**. Most importantly, it aims to answer the question: **How does Corporate Governance influence the financial performance of family and non-family firms?**

The study will take on several previous analyses about Corporate Governance. Moreover, it will conduct a regression model with the variables above, to better explain the influence of Corporate Governance in family and non-family firms. Furthermore, it will acknowledge some limitations in the model and, ultimately, suggest future research about the topic.

1.2. Context – Corporate Governance and Family Businesses

The recent financial crises have made stakeholders in general even more attentive to Corporate Governance of companies (specially listed companies), leading managers, investors, analysts, legislators, and the media to discuss and reflect on Corporate Governance guidelines. Proof of this is the proliferation of Corporate Governance initiatives developed in several countries, in the form of mandatory regulations included in Company Law, on the one hand and voluntary recommendations contained in Good Governance Codes, on the other.

The term Corporate Governance began appearing in academic articles and discussions about half a century ago. Corporate governance is still very important not only in the financial area, but also in the political and social area. Going back in time, the 2008 financial crisis was triggered by the failure of the big banks. In the first years of the new millennium, scandals at WorldCom and Enron led to their bankruptcy. These scandals led to policy makers raising serious questions about the effectiveness of Corporate Governance mechanisms in these companies. Consequently, these events led to a greater need for more laws and regulation to restrict and regulate corporate behavior, namely the Sarbanes Oxley Act of 2002 and the Dodd- Frank Act of 2010 (Bhagat & Bolton, 2019).

Family businesses also must comply with the regulations, regardless of having a different ownership structure. Despite the relevance of family businesses worldwide and the importance given to the study of Corporate Governance for over a century, research on Corporate Governance in family-

controlled organizations is relatively recent. This results from an initially limited concept of Corporate Governance, developed in the financial field (Banca March, 2019). According to this concept, Corporate Governance can be established as a set of rules designed to avoid conflicts of interest between managers and owners (agency problems), which are more common in non-family businesses with diversified shareholder groups. The resolution of these conflicts of interest implies certain costs, known as agency costs, which represent a decrease in the value of the company (Jensen & Meckling, 1976). Additionally, it results from a traditional view of family businesses in which agency problems were practically nonexistent, and, therefore, the implementation of control mechanisms to correct them was unnecessary. This assumption argues that the convergence of shareholders and managers within the same family guarantees the alignment of interests between the parties involved. Similarly, the family's participation in the board of directors enables the oversight of the directors' work, minimizing the agency problem that may arise (Anderson and Reeb, 2004; Bettinelli, 2011).

1.3.   Relevance, Scope and Research Questions

The current business environment has forced a review of these concepts, which has raised interest in the study of Corporate Governance in companies controlled by a family group. Firstly, the financial model of Corporate Governance has evolved to a much broader view, which includes the design of mechanisms to control agency problems among a larger number of stakeholders, in addition to shareholders and managers. Secondly, studies on family businesses published in the last decade reveal that, while family ownership minimizes certain types of agency costs, others can be created because of the idiosyncrasies inherent in the family business (Gomez-Mejia et al., 2011).

In this context, a significant number of studies on Corporate Governance have been conducted, although, there has not been substantial previous research on this matter in family-controlled organizations. This paper will investigate if Family-owned companies or Non-family-owned companies have better financial performance, followed by the importance of Corporate Governance in family and non-family businesses. The fundamental research questions (RQ) are the following:

RQ1: Which type of company has better financial performance? Family-owned companies, or non-family-owned companies?

RQ2: How does governance pillar score affect financial performance?

RQ3: How does the functioning of the board of directors affect financial performance?

RQ4: How does the composition of the board of directors affect financial performance?

RQ5: How does compensation policy affect financial performance?

RQ6: How does shareholder rights affect financial performance?

2.   Literature Review

This chapter aims to collect all the relevant theory related to Corporate Governance in family and non-family businesses. The current chapter is divided into four main sessions namely: Corporate Governance, family businesses, measures of firm performance and the impact of Corporate Governance in firm performance.

2.1.   Corporate Governance

Previous studies defend that the definition of Corporate Governance differs depending on the world's view.

Literature states that Corporate Governance is composed by processes, mechanisms and relationships that control and operate corporations (Shailer, 2004). Khan (2011) also states that it increases corporate performance and, therefore, shareholder' value. According to Shleifer and Vishny (1997), Corporate Governance is a mechanism whereby providers of finance to firms ensure that they get a return on their investment. From a broader point of view, Gillan and Starks (1998) define Corporate Governance as the mechanism of factors, laws and rules that control operations in a company.

Corporate governance quality aims to assess which companies have the best Corporate Governance performance. A review of the literature on the topic by Rahman and Khatun (2017) found that Corporate Governance quality has been measured over the years, with the same goal in mind, by Corporate Governance score, Corporate Governance ranking, Corporate Governance rating, Corporate Governance quality in percentage form and Corporate Governance index. Most surveys create their own way of measuring Corporate Governance quality and few use the indices provided by agencies. This study suggests that measurement should be based on previously agreed upon rules and regulations, considering governance codes and their practices.

According to de Haan and Vlahu (2015), the traditional Corporate Governance mechanisms are board size and composition, ownership, management compensation schemes and the market for corporate control. These Corporate Governance mechanisms impact the performance of firms, whether they are smaller or larger.

Regardless of the definition used, researchers usually consider Corporate Governance mechanisms to fall into two groups (Gillan, 2006): Those internal to the firms in which management, who act as agents for the shareholders, decide what assets to invest in and how to finance those

investments. In addition, the board of directors, at the top of internal control systems, is responsible for advising and controlling managers and has responsibility for hiring, firing and compensating the top management (Jensen, 1993); And those external to the firms where governance elements are introduced due to the firm's need to raise capital. As Jiang and Kim (2020) said, the suppliers of finance, as shareholders and debtholders, use Corporate Governance as a legal protection to assure that they will get a return on their investment. Furthermore, Shleifer and Vishny (1997) points out that in listed companies, there is a separation between the providers of capital, known by shareholders and debtholders and those who manage the capital, known by boards and managers. This separation reinforces the importance of Corporate Governance structures to assure an alignment between the two parties. In listed companies, shareholders elect board members and boards as established in law (Gillan, 2006).

Even so, firms are more than debtholders, shareholders, managers, and boards. There are more participants in the corporate structure such as employees, suppliers, and customers that, when added to the previously mentioned participants, constitute the nexus of contracts view of the firm, as articulated by Jensen and Meckling (1976). Moreover, if the community in which companies operate is incorporated, the political environment, the laws and regulations, and the markets in which companies are involved, it also reflects a stakeholder perspective on the company. Law and politics have important influence on both Corporate Governance and how companies operate such as, in the US, some states have stakeholder laws under which unsolicited takeovers may not be accepted if the acquisition is expected to have adverse effects on the community in which the target company operates (Gillan, 2006).

According to Banca March (2019), Corporate Governance initiatives that have been developed in several countries, taking the form of mandatory regulations included in Company Law, or voluntary recommendations contained in Good Governance Codes contribute to managing companies in an accountable, effective, and transparent manner, to gain the trust of investors and maximize value creation. Additionally, the same author argues that the new Spanish Good Governance Code is an excellent example of what a good code should promote. Firstly, the good functioning of the administrative bodies and governance of firms. Moreover, a relationship of trust and transparency towards shareholders and investors. Furthermore, improving internal controls and corporate accountability systems. Finally, assure the correct internal distribution of responsibilities, functions and duties, under standards of maximum professionalism and rigor.

2.2.   Corporate governance in family firms

Family businesses represent a considerable part of all businesses, especially in smaller companies. Although there are several definitions of family business, Diéguez-Soto, López-Delgado, and Rojo-Ramírez (2014) found that, based on empirical research, most definitions had the following criteria in common: ownership, control, board of directors, management, self-definition as a family business, transgenerational succession, multiple generations, family, and business values. According to the literature, a family business is a business owned or/and controlled by members of the same family, through the positions they hold in management or on the board of directors. In addition, some researchers consider a company to be a family business based on subjective aspects, such as whether a company defines itself as a family business, or not. Furthermore, some scholars argue that the intention to transfer ownership to the next generation or intergenerational ownership dispersion are strong criteria to define a family business. Finally, Gomez-Mejia et al. (2007) say that family businesses are different and unique because they share socio-emotional wealth. As stated by these authors, the empirical research is not conclusive since there are different definitions for family businesses which may lead to contradictory conclusions.

According to Banca March (2019), there are positive aspects in family firms such as a long-term vision, alignment of interests between owners and directors, commitment to the business project, greater importance of extrinsic compensation systems based on motivation, less asymmetric information, and less risk of opportunistic conduct by directors. Nevertheless, there are also negative aspects, such as the absence of meritocracy and nepotism. This last one, happens when there is the possibility of employing other members of the family and, sometimes, financial profit may coexist with the achievement of other non-economic goals that are important for the owner family such as transferring wealth to future generations. Moreover, stakeholders know the risks of conflict between family shareholders and minority shareholders and a management style that is, sometimes, too personal, and not always aligned with the goal of value creation. Therefore, they demand that family businesses have higher levels of transparency and governance than non-family companies. Furthermore, if family businesses want to remain competitive, they must be able to embrace Corporate Governance mechanisms to mitigate these risks. Some researchers go further regarding the importance of Corporate Governance in family businesses and argue that there are two types of companies, those that implement effective Corporate Governance mechanisms to mitigate risks and those that do not follow best practices, and this explains why some prosper while others disappear (Schulze, Lubatkin, Dino & Buchholtz, 2001).

Resource-based theory, the stewardship perspective and agency theory are typically adopted by researchers to explain performance differences between non-family businesses and family businesses (Diéguez-Soto, López-Delgado & Rojo-Ramírez, 2014). Some agency theorists believe that governance structure and ownership influence firm decisions. Family shareholders use their superior information and power to take over minority shareholders and thereby undermine the wealth of smaller shareholders by expropriating firm assets and defending family managers, thus decreasing firm performance. In addition, some theorists also argue that they are more sensitive to agency costs because of the shortage of control systems. In contrast, other trackers of agency theory believe that alignment between manager and owner guarantees effective decision making, maximizing their family wealth. Moreover, regarding the stewardship perspective, it says that family owners use their area of influence to benefit all stakeholders of the organization by improving a sustainable business strategy, free from the short-term demands of the financial markets. In addition, the goal of securing family control, the family's worry about compromising the family's reputation and concern in the long-term survival of the firm may reduce opportunistic behavior with respect for the gains made. In this way, the resource-based theory argues that family businesses are better at creating profitable relationships and building social capital with stakeholders than non-family businesses.

The literature also says that family companies prefer to not issue equity and are more dependent on internally made funds, which explanation may be that these companies do not want to lose control over their business. On the other hand, growth is the main goal of non-family businesses and to achieve this they seek for external funding with a market-oriented approach in mind (Zata Poutziouris, 2001). Donckels & Lambrecht (1999) also states that family directors are more involved in corporate finances than the non-family directors.

Diéguez-Soto, López-Delgado, and Rojo-Ramírez (2014) argue that the family firm's explanation for its lower leverage is risk-averse behavior. However, this decreases investment options and forces family businesses to consider retained earnings and financial resources efficiency as crucial factors, but also provides them with a greater capacity to deal with turnarounds and gives them a longer life expectancy. Moreover, family businesses are more disposed to sustainable growth by building social capital, creating profitable relationships with stakeholders, and avoiding opportunistic behavior. Still, succession can be the most challenging step in the life cycle of family businesses as, among other things, they may suffer from a lack of competences and skills and be more vulnerable to conflicts of interest.

While not much is known on if capital structure decisions differ between family firms and non-family firms, they might behave differently when it comes to capital structuring decisions, in particular, due to their non-economic goals. Some authors state that family firms could be immune from agency

problems because of its altruistic nature and suggest that families are very involved in the management of their companies, leading to a greater alignment between shareholders and managers interests. A sample of US firms was investigated, and the results suggest that family engagement in the business decreases overall agency problems. The desire to pass on succession to future family generations, having a more long-term perspective, and management's concern for reputation may reinforce family firms' aversion to debt. In addition, it is also proposed that the fact that families are interested in the long-term survival of the firm allows family shareholders to alleviate agency conflicts between the firm's debt and its capital claimants (Vieira, 2017). This is corroborated by a study in which the debt policy of US family firms was analyzed and in that it was found that family firms benefit from a lower cost of debt compared to non-family firms because they are associated with a lower agency cost of debt (Anderson, Mansi & Reeb, 2003).

2.3. Measures of firm performance

According to Siddiqui (2015), the return on equity (ROE) and the return on assets (ROA) are accounting measures of operating performance of a company that are more short term oriented and reflect a tangible balance sheet effect with the Corporate Governance effect already incorporated into the book value. On the other hand, Tobin's Q and MBV are more long-term oriented measures of firm performance and are more related to market perceptions of the value of Corporate Governance. Still, the same author argues that ROA and ROE are more related to profitability and, in contrast, Tobin's Q and MBV are more related with future expectation of the firm's actual value.

Some researchers criticize accounting measures of performance, such as ROE and ROA, for their potential to be manipulated by management while market value is accepted as a performance measure. For that reason, market measures of performance, such as Tobin's Q and MBV, are considered more reliable to some researchers (Siddiqui, 2015). Even so, according to Gompers, Ishii and Metrick (2003), investors do not always correctly interpret the implications of Corporate Governance on a company's market value, and this can lead to misunderstandings when variables more related to market perceptions are used. According to literature, there is a debate about the relationship between measurement of firm performance and Corporate Governance and it is clear that this relationship is mixed. Empirical studies to date do not provide conclusive evidence about which measures are best to use.

Bhagat & Bolton (2019) argue that accounting measures of performance are better than market-based performance measures because if investors anticipate, or do not understand the effect of

Corporate Governance on firm performance, long-term stock returns will not be significantly correlated, even if a significant relation between governance and performance indeed exists. Furthermore, in a previous study of the same authors they find out that Tobin's Q shows an inconsistent and weak relationship with the governance measures, so they concluded that governance measures are not related to future stock returns (Bhagat & Bolton, 2008).

Core et al. (2006) defends that ROA book value is an effective measure to assess the relationship between performance and Corporate Governance. Furthermore, he says that ROA has better distributional properties than ROE, such as the fact that the total assets are strictly positive, but equity can be zero or negative. ROA is the measure of operating performance most commonly used by researchers (Barber and Lyon, 1996). According to Al-Ghamdi & Rhodes (2015), it's an approximate measure of what management has achieved. Finally, ROA reflects how well a company's assets are used to generate profit and is calculated by dividing the company's annual earnings by its total assets (Kyere & Ausloos, 2020).

Similar to ROA, some researchers argue that ROE, which is calculated by dividing the company's annual earnings by its total equity, is better because it measures firm performance from shareholder's point of view (Brown & Caylor, 2008).

2.4. The impact of Corporate Governance in firm performance

Literature has studied several measures of Corporate Governance and has considered the impact of these governance measures on firm performance for a long time (Bhagat & Bolton, 2019). According to Banca March (2019), the quality of a company's Corporate Governance can be measured using several dimensions. These dimensions can range from the composition and functioning of its board of directors to the compensation policies and shareholder rights. For this reason, in order to better explain the impact of Corporate Governance in firm performance, the paper will be analyzing the four dimensions of the Asset4 Global Corporate Governance Rating, namely: Functioning of the Board, Composition of the Board of Directors, Compensation Policies and Shareholder Rights.

The Asset4 Global Corporate Governance Rating collects and analyzes information from the newspapers, websites, companies' annual reports and specialized magazines. In addition, Asset 4 is prepared by Refinitiv Eikon, which is the platform that will be used to collect the database later in the methodology.

2.4.1. Functioning of the Board

According to Banca March (2019), Functioning of the board is the capacity to have an effective board that meets, as often as necessary, to guarantee the correctly functioning of the company. Moreover, it is the ability to assign suitable committees with clearly defined responsibilities and tasks.

According to the literature, the board of directors has a significant role in the Corporate Governance structure of companies. The shareholders' concern has to do with whether the board of directors can control and monitor managers to act in the owners' interest. What is known is that companies that have a large board of directors are liable to have effective oversight that can enhance company performance. Also, some researchers argue that a large board of directors is likely to have executives with specialized skills which are beneficial to company performance. Even so, there are researchers who argue that limiting the size of a board improves communications and decision making. Furthermore, some of them go further and say that a board membership should not exceed 10 members because a greater number of board directors sometimes may be considered an expensive affair for a firm, which may affect the firm's performance (Kyere & Ausloos, 2020).

Board meetings are important as well. The meetings give board members the opportunity to meet, and to discuss results and exchange ideas about how they want to control strategy and managers. Thus, the more frequent the meetings, provided they are held assiduously, the more control over strategy and managers there is, which results in better business performance (Andres & Vallelado, 2008).

The role of the audit committee is to assure the integrity of financial reporting and to ensure that it meets the standards of the Corporate Governance board. It also ensures compliance of required disclosures. Still, some researchers have found that the presence of audit committees has no impact on accounting performance measures (Kyere & Ausloos, 2020). According to Gulati, Gupta and Gupta (2020), audit committee members financial experts promote effective accounting practices because of their knowledge and skills, and these experts should investigate and know the outcome of the board of directors' financial decisions to develop an effective monitoring mechanism. In the absence of the audit board, the chances of reporting distorted financial results are high.

The literature suggests that there are two fundamental agency problems in which family firms are different from non-family firms. Firstly, the Type 1 agency problem is related to the conflict of interest between ownership and control. As already explained, in family businesses the convergence of shareholders and managers within the same family guarantees the alignment of interests between the parties involved, decreasing the separation of control and ownership, which in turn increases the

performance of family firms compared to non-family firms. On the other hand, the Type 2 agency problem is associated to the conflict between the dispersed and the majority family shareholders. This conflict occurs when boards of family firms protect the interests of major family investors, but not the interests of the dispersed non-family investors. The Type 2 agency problem may have adverse effects when family board makes self-interested decisions at the expense of non-family shareholders and take advantage of private rents such as special dividends, excessive compensation and related-party transactions, expropriating the wealth of dispersed shareholders and consequently reducing the market value of family firms compared to non-family firms. The Type 2 agency problem results in lower earnings quality and less transparency, however stronger Corporate Governance can effectively mitigate these adverse effects. When family companies have independent and strong audit committees, they require greater oversight of accounting practices and estimations used in the preparation of financial statements, as well as related-party transactions and other forms of private rents extraction by family shareholders. Furthermore, family firms with strong Corporate Governance mechanisms are more likely to choose specialist auditors and show higher earnings quality, lower abnormal accruals, more informativeness and fewer transitory components relative to non-family firms (Srinidhi, He & Firth, 2014).

According to Diéguez-Soto, López-Delgado and Rojo-Ramírez (2014), when the transgenerational succession component is considered by family businesses, profitability (ROE) shows significant differences compared to family businesses that do not consider this variable. Succession can be one of the most challenging steps in family firms because, among various reasons, they may be more sensitive to conflict of interests, or suffer from a lack of competencies and skills, which shows the importance of having a plan for succession. Some researchers argue that, in a family business, there must be the intention and desire to transfer ownership to the next generation.

Planning takes years, not months and this explains why family businesses are much more successful in succession planning than non-family businesses, because as management usually passes from generation to generation, these companies have a lot of time to plan succession, while in non-family businesses this change occurs many more times. If a company shows bad results in a certain year that can lead to a change in the top management. Thus, it is very difficult to plan in the short term, there is no time to search, nor to choose the best possible board of directors. Still, a succession plan is beneficial, both in family and non-family businesses, but as long as it is well planned and long term oriented, otherwise it may not have a positive effect, or may even have a negative effect if the succession fails (Harrell, 2016).

2.4.2. Composition of the Board

Composition of the Board is the company's capacity to ensure independent decision-making through an independent board with a strong presence of independent and non-executive directors. Moreover, it is also important to have a diverse board made up of both women and men. Furthermore, it's crucial to have members that have proven professional experience (Banca March, 2019), even so literature is not clear on this topic.

Independent managers are considered experts in control and monitoring decisions. They help reduce agency costs by monitoring the appointment, evaluation and expulsion of top executives, including the CEO. In addition, they also help in forming corporate strategies, and when the company performs poorly, they can oppose against the strategy in place. Some researchers have found that outside directors can reduce instances of misappropriation of funds created by the major shareholders and that the effectiveness of independent directors can be improved through more specific firm' information (Gulati, Gupta & Gupta, 2020).

In addition, governance can also be strengthened by using non-executive directors on the company's board, thus contributing to a judicious mix. Like independent executives, non-executive directors also have no direct impact on management and their primary role is to provide judgment, however they may be representative of a shareholder. In accordance with the agency theory, for the board of directors to control effectively, it must be independent of management. The greatest incentive for non-executive directors to exercise good decision control is to protect their reputation. When there are non-executive directors on the board of directors, fraud is not likely to occur in the financial statements. According to a study in the UK, they found a significant relationship among independent management and disclosure as measured by the proportion of non-executive directors. This study shows that companies with non-executive directors are more likely to disclose information which can increase company performance. Some researchers agree with the agency theory that non-executive directors can improve firm performance due to their ability to control managers (Kyere & Ausloos, 2020).

Some researchers argue that the presence of female members on the board of directors has a positive influence on firm performance. In addition, researchers state that the presence of female board members improves social performance since it raises firm donations toward society and ensures higher participation and attendance of board members in committees. Moreover, studies say that in countries with female leaders a globally lower level of corruption is found because females are unwilling to take risks and are less self-centered. Furthermore, lesser takeover protection, lower R&D

investment, lesser productive investments, and lower leverage are found in companies with higher participation of females in a board firm. Finally, the appointment of female board members requires substantial managerial accountability for poor performance from the managers and especially in the audit committee, leads to less earning management because it improves the quality of financial reporting, resulting in an accurate prediction of the organization's earnings. Earning management is known by purposefully influencing the process of financial reporting to obtain some private gain and when earnings management is low, earnings quality is high and vice versa (Gulati, Gupta & Gupta, 2020).

Empirical research has found mixed results considering the relation between board's monitoring function and tenure. Some researchers say that experienced board members over time become more closely with managers and lose their capacity to objectively scrutinize managers' performance, thereby decreasing the level of board independence and contributing to the decrease of firm performance. On the other hand, another stream of literature in the field argues that longer-tenured board members are in better place to examine managers' actions, are less likely to be controlled by managers and are less susceptible to peer pressure. This stream of literature sees tenure as a Corporate Governance mechanism that would improve the level of board's independence and, therefore, increase firm performance (Livnat, Smith, Suslava & Tarlie, 2019). One study found that board members with more than 20 years of tenure are better at tracking management actions because they not only collect and store valuable information and know-how about the company but can also share it with other independent directors. They found that such companies have a better firm performance and have a higher market value (Bonini et al., 2015).

When CEO sits on the board holds a position of great honor, but also great responsibility since this leads to concentration of power. A CEO/Board relationship must be built on well-defined roles and responsibilities. The duty of the board is to create the vision, direction and policies for the firm and the duty of the CEO is to implement those policies in accordance with the board's guidelines. While these roles balance and support each other, they stay distinct and separate. Since the greater the power, the greater the responsibility the main concern of CEO being a board member is that the dominance of so much power can lead to questionable control of board meetings and a conflict of interests between the two roles may urge. In this regard, the CEO may influence and share only convenient information with the board of directors in order to achieve personal interests and might also select only directors loyal to him. For this reason, it is necessary to have strong Corporate Governance mechanisms to avoid management based on self-interest. Even so, when CEO serves as board member this leads to a positive impact on company performance because it allows a clear leadership direction and a perfect alignment between strategy formulation and its implementation, which is optimal for business. Also,

being a board member gives the CEO more credibility and authority and improves communication and the relationship between those who govern and those who manage. In addition, since the decision-making power is concentrated in the board, the uncertainty about which decision will be favorable is reduced, which strengthens the decision-making process and allows the company to act faster than the competition, thus obtaining a better performance (Council on Foundations, 2010).

2.4.3. Compensation Policies

Compensation policies are fundamental to attract and retain senior executives and board members. These policies must be performance-oriented and transparent (Banca March, 2019).

The role of Corporate Governance in the case of executive compensation is very important, since most managers' goals and opportunistic practices are motivated by the desire to improve financial and non-financial rewards. For this reason, the Corporate Governance mechanism must be strong enough to ensure equitable and transparent compensation among executives to decrease agency costs and self-interested motives that may harm the company for self-benefit (Balachandran & Faff, 2015).

Some researchers say that executive compensation has a positive influence on company performance. Moreover, some researchers go further and argue that perks paid to the CEO directly affects ROA. Even so, literature also says that executive compensation is affected by the firm's size, which means that literature, in this topic, can be controversial and inconclusive (Gulati, Gupta & Gupta, 2020).

The literature also says that companies with weaker governance mechanisms are more exposed to agency problems, and some of that problem is reflected in CEO compensation. Specially since Corporate Governance is not always effective in establishing an optimal executive compensation package that is beneficial to shareholders (Balachandran & Faff, 2015).

Managers and owners represent two major forces within a firm with opposing compensation policies preferences, which may reflect who is more powerful inside the firm. In the absence of strong owners, CEOs can take advantage of extracting higher salaries above market value. The combination of compensation, or long-term incentives, can serve to align the interests of managers and shareholders. Since long-term incentives are more difficult to monitor because of their extended period, shareholders may favor those targeted for lack of control. However, CEOs may want to forgo this long-term component, as they only get paid if the results are positive for shareholders. Since they are more exposed to long-term risks that they cannot control, such as stock market fluctuations and variation in aggregate market demand, CEOs presumably prefer to retain control over their compensation. In addition, long-term incentives in the form of shares also raise risk by increasing a

CEO's specific investment. Thus, they prefer to be compensated through cash, thus limiting the extent to which their income is exposed to risk. Moreover, some researchers have also found that incentive alignment is greater in owner-controlled firms as opposed to manager-controlled firms and when CEOs gain power as when they hold the title of Chairperson of the board (David, Kochhar & Levitas, 1998).

Bouteska and Mefteh-Wali (2021) also found that in firms with higher CEO power and poor governance structure, the CEO pay levels are high, consistent with the managerial power theory.

2.4.4. Shareholder Rights

The areas of shareholder voting and shareholder rights are fundamental features for The Organization for Economic Co-Operation and Development. OECD says that Corporate Governance should facilitate and protect the exercise of shareholder rights. Thus, it should promote access to regular and timely information about the company, the right to elect and remove board members, the right to vote and participate at shareholder meetings and, finally, the right to share company profits (Mallin & Melis, 2010). According to Banca March (2019), shareholder rights are the company's ability to attract, ensure equal treatment and retain non-controlling shareholders, facilitating shareholders involvement and restricting the use of anti-takeover devices.

According to Bebchuk, Cohen and Ferrell (2008), stock returns of companies with strong shareholder rights outperform. Gompers, Ishii and Metrick (2003) examined the ways in which shareholder rights vary in different companies. To do this, they developed a "Governance Index" that looks at the level of shareholder rights at 1,500 large companies during the 1990s. In this way they created an investment strategy that bought companies in the lower index (stronger rights) and sold companies in the higher index (weaker rights). With this strategy, they would have obtained abnormal returns of 8.5 percent per year during the sample period. They concluded that stronger shareholder rights are related with higher firm value, higher profits, higher sales growth, fewer corporate acquisitions, and lower capital expenditures.

Voting is increasingly seen as one of the most powerful tools available to shareholders to engage with the board of directors. They should not ignore the shareholder vote, as they risk getting negative press and being downgraded by governance rating companies. In the US, directors with such behavior are less likely to be reelected and are more susceptible to lose other management positions. Thus, shareholder proposals seem to play an emerging role in decreasing agency costs by increasing the director's responsiveness to shareholder concerns. When shareholders have their rights guaranteed and engage with companies, the overall risks may be mitigated, and long-term sustainable corporate performance achieved (Mallin & Melis, 2010).

3.   Methodology

The present chapter is dedicated to exposing how the research questions and the mentioned hypothesis should be validated. It provides the tools, characteristics, suitability, and justifications of the research methodology, along with the rationale for the data analysis tool chosen.

3.1.   Research Approach

The main research goal is to analyze what are the dimensions with more impact on the financial performance of a firm, namely The Governance Pillar Score, The Functioning of the Board of Directors, The Composition of the Board of Directors, the Compensation Policies, and the Shareholder Rights. Moreover, it is also studied if family firms are healthier financially than non-Family firms.

To achieve the study's objectives, the first step was to review the existing literature to develop the previous theoretical framework. Through the problem reported and the formulated hypothesis, the data collecting was better identified.

To transform the theoretical framework into an operational model, both exploratory and explanatory research methods were used.

3.2.   Secondary data

Secondary data was collected from Refinitiv Eikon Financial Analysis & Trading Software. Refinitiv Eikon contains historical financial and economic data for over 175 countries in 60 markets for the past 50 years. It covers both developed and emerging markets, and the data include bonds, commodities and derivatives, company accounts, equities, and options.

The collected data covers only US Family and Non-Family firms from 2011 to 2020, in a set of indicators of interest for this study, namely the dimensions referred in the previous chapter: Return on Assets, Return on Equity, Governance Pillar Score, Directors' Board functioning, Directors' Board composition, Compensation Policy and Shareholder rights.

US non-family firms were chosen in order of data reliability, that is, they were chosen based on the safety and reliability of the data reported by the firms, according to the Refinitiv Eikon platform.

In addition, since it was not possible to discriminate family businesses on the platform, a study between the University of St. Gallen and Ernst & Young from 2021 that identified the 500 largest family businesses in the world, according to their revenue, was consulted. From these 500 companies, only US companies were selected and depending on the reliability of the Refinitiv Eikon platform data,

selected the family companies to be studied. To avoid having family companies on the non-family list, it was validated that the non-family companies chosen all had higher revenues than the family company with the least revenue on the study, because if it was a family company it would be present in the respective study.

Furthermore, this study considers a company to be family-owned when family controls at least 50% of the voting rights if it is a private company and when family controls at least 32% of the voting rights if it is a public listed company.

3.3. Indicators / Variables

The variables of interest in this study and their scale classification are presented in Table 1. The dependent variables are short-term firm performance represented by Return on Assets (ROA) and Return on Equity (ROE). Since the data contains both Family and Non-Family businesses, a dummy variable Family was created, with a value of zero for non-Family firms and 1 for Family firms. Four dimensions of firms´ structure were observed: Director´s Board Functioning, Directors' Board Composition, Compensation Policy, and Shareholder Rights, each one measured by a set of variables. The control variables are Total assets (TA), the number of employees (E) and Net sales revenue (R).

Table 1. Variables Description and classification

Dependent Variables		Return on Assets - ROA	Scale
		Return on Equity - ROE	Scale
		Family (0-Non-Family, 1-Family) – Family	Nominal
	Dimensions		
	General	Governance Pillar Score - GPS	Scale
	Directors' Board functioning	Board size -BS	Scale
		Number of Board meetings - BM	Scale
		Board Meeting Attendance Average - BMAT	Scale

Predictors		Value - Board Functions/Audit Committee Independence - BF	Scale
		Succession Plan (0-No, 1-Yes) - SUC	Nominal
	Directors' Board composition	Value - Board Structure/Independent Board Members - BSEI	Scale
		Value - Board Structure/Non-Executive Board Members - BSNE	Scale
		Value - Board Structure/Board Diversity - BSD	Scale
		Value - Board Structure/Experienced Board - BSE	Scale
		CEO Board Member (0-No, 1-Yes) - CEO	Nominal
	Compensation Policy	Value - Compensation Policy/Policy (0-No, 1-Yes) - CP	Nominal
		Value - Compensation Policy/Individual Compensation (0-No, 1-Yes) – CPI	Nominal
	Shareholder rights	Shareholder Rights Policy Elements/Policy Equal Voting Right (0-No, 1-Yes) – SEQV	Nominal
		Value - Shareholder Rights/Policy (0-No, 1-Yes) - SR	Nominal
Control Variables		Total Assets – TA	Scale
		Number of Employees - E	Scale
		Net Sales or Revenues - R	Scale

3.4. Data Analysis

The sample was characterized using the indicators already defined, pointing out for each of the scale variables, the minimum and the maximum, the mean, standard deviation, skewness, and kurtosis.

For the nominal variables, the percentage of observations in each category is presented. Treatment for the missing values was made, considering in the scale variables, that the missing values were filled by the linear trend for those points, where the existing series of values for that variable was regressed and the missing values were replaced with their predictions. In the nominal variables, the missing values were replaced by the mode of the existing values for that variable.

Also, treatment for outliers was made by considering the log-transformations for the variables with only positive values, and for the variables with negative values, a convenient threshold was set. This last procedure did not affect much mean values of the studied variables, but certainly decreased the standard deviation, skewness, and kurtosis. Instead of simply deleting outlier values, these procedures avoid a problem of unbalanced panel in which at least one panel member is not observed every period.

To analyze the difference in financial performance, through the values of ROA and ROE, between Family and non-Family firms, the nonparametric Mann-Whitney test was used, after verifying by Kolmogorov-Smirnov normality test that the samples in both categories did not come from a normal distribution.

Before estimating the regression models to evaluate the impact on the short-term financial performance of a firm, ROA and ROE, through a set of predictors, the Dickey-Fuller unit root test was computed, to analyze the stationarity of the financial performance series and of all the predictors, to assure no spurious regressions.

A correlation analysis and an Exploratory Factor Analysis for each dimension were made to reduce the number of variables in the study and to avoid multicollinearity problems in the regression study.

Before choosing the model estimation procedure by random or fixed effects, a Hausmann test was processed to decide between the two techniques. For all statistical tests, significance levels of 10%, 5%, and 1% were used.

Given the data collected, the analysis was held in IBM SPSS Statistic, version 27, and the estimation of the regression models in EViews $^\circledR$12, Student Version.

4.   Results and Discussion

This chapter has the purpose of understanding the data collected and the respective analysis, performed according to the methodology presented previously in the methodology chapter. The main goal is to reach conclusions for the research questions that were proposed earlier. A brief characterization of the sample is given, followed by hypothesis testing and model estimation.

4.1.   Sample characterization and data treatment

The sample is composed by 166 (79,8%) non-Family firms and 42 (20,2%) Family firms. This data was collected from Refinitiv Eikon Financial Analysis & Trading Software, choosing only US firms to avoid discrepancies related to country realities and country cultures that could impact the results. These companies, as previously said, were chosen based on the reliability and trustworthiness of the data reported according to the Refinitiv Eikon platform. In addition, as stated before, since it was not possible to discriminate which firms were family businesses, it was used a study between the University of St. Gallen and EY to identify the largest North American family businesses according to their revenue and based on that it was selected those with the most reliable reported data.

These data are composed by US firms operating in several economy sectors and contain mid-size businesses (revenue between $38.5 and $1 billion) and large-size businesses (revenue higher than $1 billion). Most of the companies are large-size (98% in NF and 100% in FF) and a smaller proportion are medium-size companies (2% in NF and 0% in FF%). They cover four economy sectors: secondary (e.g., Ford Motor Company and Coca Cola), tertiary (e.g., Walmart and Goldman Sachs), quaternary (e.g., Salesforce and Nasdaq) and quinary sector (e.g., Unitedhealth Group and Liberty Media).

Each firm was observed for 10 years, from 2011 to 2020, given a total of 2080 observations. In Table 2 are presented the descriptive measures: minimum, maximum, mean, standard deviation, skewness and kurtosis of each variable in the study. As it can be observed by the sample dimensions (N) from which the descriptive measures are calculated that missing values were present. So, a treatment for the missing values was made. In the scale variables, missing values were filled by the linear trend for those points. The existing series of values for that variable was regressed and the missing values were replaced with their predictions. In the nominal variables, the missing values were replaced by the mode of the existing values for that variable.

Also, it can be observed in Table 2, that due to the diversity of firm sizes, the variables Total Assets (TA), Number of Employees (E) and Net sales or Revenues(R) had high standard deviations, and high

skewness and kurtosis, so a transformation with logarithm was accomplished to smooth the data. The variable Board Functions/Audit Committee Independence (BF) had also a high skewness and kurtosis, but none of the transformations by logarithm or square root led to better results.

The same technique cannot be applied to Return on Equity (ROE) since negative values were present, however, skewness and kurtosis were too high due to outliers, but they could not be simply deleted because it would create a problem of unbalanced panel data, so by flooring and capping those outliers through the thresholds -100 and 100, since ROE is a percentage, it was assumed that each value under -100 will take value -100 and each value above 100 assumed value 100. A new descriptive statistic was made and presented in Table 3.

Table 2. Scale Variables Descriptive Statistics

Variables	N	Min	Max	Mean	Std Deviation	Skewness	Kurtosis
ROA	2066	-21,75	41,48	6,639	6,292	0,511	4,243
ROE	2053	-2117,54	6672,81	24,588	217,859	26,984	827,622
GPS	1994	0,86	99,53	58,770	21,264	-0,422	-0,538
BS	1994	4	19	11,14	2,246	0,328	0,464
BM	1976	1	41	8,32	3,903	2,150	8,453
BMAT	1961	7	100	80,172	9,326	0,987	1,652
BF	1991	33	100	99,10	5,408	-8,541	85,790
BSEI	1994	10	100	81,736	11,640	-1,737	4,231
BSNE	1994	50	100	85,180	7,741	-1,349	2,137
BSD	1994	0	62,50	21,454	9,856	0,384	,263
BSE	1994	0,25	24,08	9,424	3,374	1,010	1,751
TA	2072	842684,0	3386071000,00	97037494,900	291666205,072	6,361	46,366
E	2051	83,00	5862114,00	64497,988	214284,409	14,994	312,046

R	2073	,00	5591510 00,00	2893291 2,358	52686329,13 4	4,796	32,596

Table 3. Scale Variables Descriptive Statistics after fulfilling missing values and removing outliers

Variables	N	Min	Max	Mean	Std Deviation	Skewness	Kurtosis
ROA	2080	-21,75	41,48	6,641	6,271	0,512	4,292
ROE	2080	-100,00	100,00	17,201	20,175	0,743	6,405
GPS	2080	0,86	99,53	58,720	20,823	-0,423	-0,437
BS	2080	4	19	11,142	2,199	0,334	0,613
BM	2080	1	37	8,315	3,804	2,208	8,360
BMAT	2080	7	100	80,168	9,056	1,017	1,935
BF	2080	33	100	99,114	5,292	-8,732	89,762
BSEI	2080	10	100	81,734	11,397	-1,775	4,543
BSNE	2080	50	100	85,195	7,580	-1,383	2,367
BSD	2080	0	62,50	21,372	9,673	0,414	0,387
BSE	2080	0,25	24,08	9,438	3,302	1,012	1,867
ln(TA)	2080	13,64	21,94	16,975	1,527	0,545	0,170
ln(E)	2080	4,42	15,58	10,024	1,437	-0,279	0,931
ln(R)	2080	12,95	20,14	16,292	1,299	0,290	-0,304

In Table 3 it can be noted the new descriptive analysis for the transformed variables. In the nominal variables, the missing values were replaced by the mode of the observed values and in Table 4 are presented the results. The percentages in each category after replacements are basically identical. Although the extreme difference in percentages of each category in almost all nominal variables is notorious, which would lead to an unbalanced data problem.

Table 4. Nominal Variables Frequency tables

	Value	Frequency	Percent	N
CEO Board Member (CEO)	No	19	0,9	
	Yes	1971	99,1	1990
after replacing missing values	No	19	0,9	
	Yes	2061	99,1	2080
Succession Plan for Executives (SUC)	No	51	2,6	
	Yes	1943	97,4	1994
after replacing missing values	No	51	2,5	
	Yes	2029	97,5	2080
Value - Compensation Policy (CP)	No	4	0,2	
	Yes	1990	99,8	1994
after replacing missing values	No	4	0,2	
	Yes	2076	99,8	2080
Value – Compensation Policy/Individual (CPI)	No	1979	99,2	
	Yes	15	0,8	1994
after replacing missing values	No	2065	99,3	
	Yes	15	0,7	2080
value – Shareholder Rights Policy Elements (SEQV)	No	259	13,0	
	Yes	1735	87,0	1994
after replacing missing values	No	259	12,5	
	Yes	1821	87,5	2080
Value – Shareholder Rights (SR)	No	1	0,0	
	Yes	1993	100,0	1994
after replacing missing values	No	1	0,0	
	Yes	2079	100,0	2080

4.2. Results from the Hypothesis Testing

4.2.1. Comparison of firms´ performance in non-Family and Family business

Concerning hypothesis H1: Family-Owned companies are more likely to have better financial performance and to decide between the usage of a parametric or a non-parametric test to validate this hypothesis, the Kolmogorov-Smirnov normality test was executed (Appendix 1). Since the distributions of ROA and ROE values, both in non-Family and Family firms, did not follow a normal distribution (p<0,01), the non-parametric test of Mann-Whitney was performed along with a brief descriptive analysis in each category (Appendix 2). The descriptive analysis in Appendix 2 shows, by observing the mean, that the Return on Assets (ROA) mean value in Family firms is higher than in non-Family, but it is lower in Return on Equity (ROE) for Family firms.

The null hypothesis of equality of means between the two categories (non-Family and Family) is rejected for Return on Assets (ROA), but is not rejected for Return on Equity (ROE). In fact, Family firms had higher profitability, measured by Return on Assets, but equal Return on Equity compared to non-Family firms. A closer look at those results indicated that Family firms have a more effective profit (ROA) than non-Family for each unit of its assets, but the usage of investors' money (ROE) is equally effective than in non-family. It may be concluded that Family firms have better financial performance (Palma et al., 2021). **Then H_1 is verified**.

4.2.2. Models' estimation

To estimate the regression models proposed and to avoid multicollinearity problems, a correlation analysis of each dimension was performed.

The first dimension is Governance Pillar Score (GPS) which has only one variable.

The second dimension Directors' Board functioning has 5 variables and a correlation analysis of these five variables was computed (Appendix 3). The variables Board Size (BS), number of Board Members (BM), and Board Meeting Attendance Average (BMAT) had all a significant correlation among them and the most related to the dependent variables is BM. The variable Board Function/Audit Committee Independence (BF) is only related to Succession Plan (SUC), and the last one was more related to the dependent variables, so from this dimension, it was kept BM and SUC that translated two concepts, Directors´ Board Size and Meetings (DBSM) and Independence and Succession Plan Existence (DBIS). An Exploratory Factor Analysis was also computed (Appendix 4) and the results pointed out the two same factors, the first one Independence and Succession Plan Existence

(DBIS), which explains 31,381% of the variability, and the second one Directors' Board Size and Meetings (DBSM), which explains 23,398% of the variability, both reaching 54,779% of variance explained. The scores of the firms in each factor were saved for future usage as variables in the regression model and were designated by DBIS and DBSM.

The third dimension, Directors' Board composition, has 5 variables as well and also a correlation analysis of these five variables was computed (Appendix 5). The variables Board Structure/Independent Board Members (BSEI), Board Structure/Non-Executive Board Members (BSNE), Board Structure/Board Diversity (BSD), and CEO (CEO) are significantly directly related, and many were significantly related to ROA, but CEO was the most related to ROE. Board Structure/Experience Board (BSE) was inversely related to the others, so it was decided to keep CEO and BSE, defining two concepts of Board composition, board structure (BSNE) and board experience (BSE). An Exploratory Factor Analysis was again computed (Appendix 6) and the results pointed out two factors, with an arrangement of BSEI, BSNE, BSE, and BSD inversely related to the other variables in one factor and the existence of CEO in the second factor. The scores of the firms in each factor were saved to use as variables in the regression models and were designated by the Directors' Board Structure (DBS) which explain 39,737% of the variability and Directors' Board CEO member (DBCEO) which explain 23,530% of the variability, reaching both 63,267% of total inertia explanation.

In terms of the fourth dimension regarding Compensation Policy both variables were significantly inversely related, but none of them was related to the dependent variables, although it was decided to keep CP (Appendix 7).

With an identical technique the fifth dimension regarding Shareholder rights were analyzed (Appendix 8) and SEQV was kept. With the same method, the control variables were studied (Appendix 9). All variables were significantly related among them, but lnE was the variable more highly related to both dependent variables. However, an Exploratory Factor Analysis was computed obtaining one factor (Appendix 10) which explains 79,352%, and the scores were used as predictors representing the control variables (CV) in the regression models.

Yet, to analyze the impact of family companies in the predictors, the cross product between the dummy variable Family and all predictors was accomplished, obtaining a set of new predictors, namely FGPS, resulting from the product of Family by GPS, FDBIS, FDBSM, FDBS, FDCEO, FCP, FSEQV and FCV using the same technique. Regarding the correlation analysis of the last variables (Appendix 11), it was observed a quasi-perfect correlation between Family and FCP, so it was decided to drop off FCP.

This dataset is a panel data, because the behavior of the same multiple firms was observed at multiple time intervals, which can be referred to as longitudinal data and contains observations about different cross-sections across time.

The concept of stationarity in a panel data is very important since the properties of estimators in a regression model rely on it. Stationary means that statistical properties of the series do not change over time, assuring that models and statistical inference are valid.

Usually, those series may not be stationary, so in order to analyze the properties of series ROA and ROE, the dependent variables, their mean values per year were plotted, separating between non-Family and Family firms, which can be observed in Figure 1.

Figure 1. Plot of the dependent Variables in non-Family and Family firms
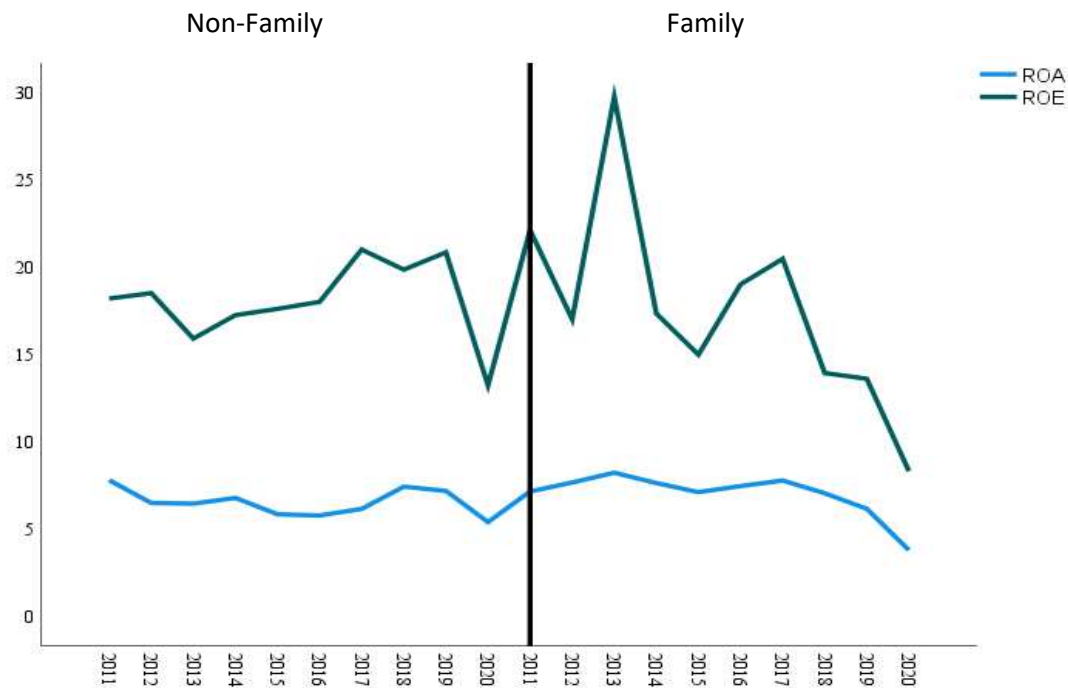
Observing Figure 1 it seems these series were stationary, as it appears they have a constant trend behavior over time.

The Dickey-Fuller test is used to check whether series have a unit root and to ascertain whether the process is stationary or not, so, Dickey-Fuller (DF) tests were performed, considering a constant and a trend, which leads to the models:

Model 1: $ROA_t = \alpha + \beta t + \gamma ROA_{t-1} + \varepsilon_t$
H_0: γ =1 ($ROA_t \sim$ I(1), no stationarity) vs H_1: γ<1 ($ROA_t \sim$ I(0), stationarity)
Model 2: $ROE_t = \alpha + \beta t + \gamma ROE_{t-1} + \varepsilon_t$
H_0: γ =1 ($ROE_t \sim$ I(1), no stationarity) vs H_1: γ<1 ($ROE_t \sim$ I(0), stationarity)

Besides, the stationarity of all scale predictors was also verified, leading to similar equations for each scale predictors. Results of DF tests are presented in Table 5.

Table 5. DF tests results

	Test Statistic	Sig**
DF test ROA	335,835	0,000
DF test ROE	290,298	0,000
DF test GPS	276,710	0,000
DF test DBIS	262,189	0,000
DF test DBSM	307,235	0,000
DF test DBS	398,977	0,000
DF test DBCEO	284,711	0,000
DF test CV	347,230	0,000
DF test FGPS	271,836	0,000
DF test FDBIS	245,055	0,000
DF test FDBSM	295,473	0,000
DF test FDBS	350,286	0,000
DF test FDCEO	271,095	0,000
DF test FCV	238,636	0,000

**Probabilities for DF test are computed using an asymptotic Chi-Square distribution

All hypotheses were rejected, which led to the conclusion that both ROA and ROE were stationary, and also all predictor series.

To estimate the regression models, one to explain ROA and the other to explain ROE, it was used both the Random Effect model and the Fixed Effects model along with the Hausmann test to decide which was the adequate model. If the omitted variables in the model, present in the error term, are uncorrelated with the predictors, then a random effects model is preferable, but if those omitted variables are related to the predictors present in the model, then fixed effects model is better, because it controls for omitted variable bias.

So, in the Random Effects model, the individual specific effect (error term) is a random variable that is uncorrelated with the predictors of all past, current, and future time periods of the same individual and has constant variance. In that model, the difference between intercepts is adjusted by the error terms of each firm and the advantage of using it is to eliminate heteroscedasticity. This model is also called the Error Component Model (ECM) or Generalized Least Square (GLS) model. In principle, the random effect model is different from the Fixed Effect model, especially since this model does not use the principle of Ordinary Least Squares (OLS), but uses the Maximum Likelihood or General Least Square estimation process.

In the fixed effects model, the error term is considered to be related to any of the predictors, so, an endogeneity problem arises, which affects OLS estimators, however, it is assumed that the behavior of the firms is the same across time.

The regression equation of panel data is as follows:

$$Y_{it} = \alpha + \gamma^T Family_i + \beta^T X_{it} + u_i + \varepsilon_{it}$$, i=1,.., 208 (firms) ; t=1,…,10 (years)

And Y_{it} being ROA or ROE, and X_{it} the time varying predictors, Family the time invariant predictor, α the intercept, γ and β the predictors´ coefficients, u_i the error term (individual specific effect) and ε_{it} the idiosyncratic error, which is supposed to be uncorrelated with u_i, and that both changes over time and across firms (Wooldridge, 2010).

The following regression models, only with the control variable scores CV and with all predictors, were estimated using panel data estimation methods:

$$ROA_{it} = \alpha + \beta_1 CV_{it} + u_i + \varepsilon_{it}$$ i=1,..,208; t=1,…,10 (Model 1)

$$ROE_{it} = \alpha + \beta_1 CV_{it} + u_i + \varepsilon_{it}$$ i=1,..,208; t=1,…,10 (Model 2)

$$ROA_{it} = \alpha + \beta_1 Family_i + \beta_2 GPS_{it} + \beta_3 DBIS_{it} + \beta_4 DBSM_{it} + \beta_5 DBS_{it} + \beta_6 DBCEO_{it} + \beta_7 CP_{it} + \beta_8 SQEV_{it} + \beta_9 CV_{it} + \beta_{10} FGPS_{it} + \beta_{11} FDBIS_{it} + \beta_{12} FDBSM_{it} + \beta_{13} FDBS_{it} + \beta_{14} FDCEO_{it} + \beta_{15} FCP_{it} + \beta_{16} FSQEV_{it} + \beta_{17} FCV_{it} + u_i + \varepsilon_{it}$$, i=1,..,208; t=1,…,10 (Model 3)

$$ROE_{it} = \alpha + \beta_1 Family_i + \beta_2 GPS_{it} + \beta_3 DBIS_{it} + \beta_4 DBSM_{it} + \beta_5 DBS_{it} + \beta_6 DBCEO_{it} + \beta_7 CP_{it} + \beta_8 SQEV_{it} + \beta_9 CV_{it} + \beta_{10} FGPS_{it} + \beta_{11} FDBIS_{it} + \beta_{12} FDBSM_{it} + \beta_{13} FDBS_{it} + \beta_{14} FDCEO_{it} + \beta_{15} FCP_{it} + \beta_{16} FSQEV_{it} + \beta_{17} FCV_{it} + u_i + \varepsilon_{it}$$, i=1,..,208; t=1,…,10 (Model 4)

The Haussmann test has a null hypothesis that the model is random effects and in the alternative that the model is fixed effects. However, the Haussmann test is only valid under homoscedasticity and cannot include time fixed effects, like the predictor Family. But the estimation by GLS assures

homoscedasticity. The results of the Haussmann test for the two estimated random effects model are presented in Table 6.

Table 6. Haussmann tests results

	Test Statistic	Sig
Haussmann test ROA – model 1	1,4099	0,2351
Haussmann test ROE – model 2	0,2988	05847
Haussmann test ROA – model 3	28,1683	0,0009
Haussmann test ROE – model 4	17,2791	0,0445

The models with only control variables (models 1 and 2) are random effects, models 3 and 4 are fixed effects.

In the Fixed Effects model, it was assumed that differences between firms (cross section) can be accommodated from different intercepts. The regression equation of fixed effects model panel data is as follows:

$$Y_{it} = \alpha_i + \gamma^T Family_i + \beta^T X_{it} + \varepsilon_{it} \text{ , i=1,..,208 (firms) ; t=1,...,10 (years)}$$

And Y_{it} being ROA or ROE, and X_{it} the predictors of each dimension, α_{it} the intercepts, γ and β the predictors´ coefficients, and ε_{it} the idiosyncratic error. To estimate the model, the dummy variable technique is used as it is often referred as Least Squares dummy Variable technique (LSVD), where the variation of the error term can be rewritten as a regression model containing n-1 dummy predictors, one for each firm, and a constant.

Results of the estimated models are presented in Table 7 and in Appendix 12 and 13 and the estimation of the Fixed effects model is presented in Appendix 13.

Table 7. Results of the regression models estimation

Models	ROA		ROE	
	1	3	2	4
Intercept	6,641***	5,640	17,201***	20,055*
	(0,224)	(3,434)	(0,631)	(10,850)
Family		0,814**		-0,789
		(0.376)		(5,296)
GPS		0.006		-0.023
		(0.009)		(0.029)
DBIS		-1,178***		-1,944***
		(0,171)		(0,541)
DBSM		0,320		2,050*
		(0,336)		(1,063)
DBS		-0,153		1,922***
		(0,221)		(0,698)
CP		2,285		-0,815
		(3,221)		(10,179)
DBCEO		0,010		1.229**
		(0,189)		(0,599)
SEQV		-1,765		-1,503
		(1,098)		(3,471)
CV	-0,191	0,300*	1,750***	2.845***
	(0,138)	(0,177)	(0.441)	(0.559)
FGPS		-0,006		0,089
		(0,022)		(0,070)
FDBIS		1,878***		5,246***
		(0,375)		(1,184)
FDBSM		0,153		-1,505
		(0,383)		(1,211)

FDBS		0,802		0,321
		(0,438)		(1,384)
FDCEO		0,162		-0,005
		(0,282)		(0,890)
FSEQV		1,260		-0,914
		(1,325)		(4,187)
FCV		-1,235***		-4,902***
		(0,418)		(1,320)

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

The estimated fixed models follow:

$$\widehat{ROA}_{it} = 5,640 + 0,814^{***}Family_i + 0,006GPS_{it} - 1,178^{***}DBIS_{it} - 0,320DBSM_{it} - 0.153DBS_{it} + 2,285\,CP_{it} + 0,010\,DBCEO_{it} - 1,765\,SQEV_{it} + 0,300^*CV_{it} - 0,006FGPS_{it} + 1,878^{***}FDBIS_{it} + 0,153FDBSM_{it} + 0,802FDBS_{it} + 0,162\,FBCEO_{it} + 1,260\,FSQEV_{it} - 1,235^{***}CV_{it}$$ i=1,..,208; t=1,...,10

$$\widehat{ROE}_{it} = 20,055^* - 0,789Family_i - 0,023GPS_{it} - 1,944^{***}DBIS_{it} + 2,050DBSM_{it} + 1,922^{***}DBS_{it} - 0,815\,CP_{it} + 1,229\,DBCEO^*_{it} - 1,503\,SQEV_{it} + 2,845^{***}CV_{it} + 0,089FGPS_{it} + 5,246^{***}FDBIS_{it} - 1,505FDBSM_{it} + 0,321FDBS_{it} - 0,005\,FBCEO_{it} - 0,914\,FSQEV_{it} - 4,902^{***}CV_{it}$$ i=1,..,208; t=1,...,10

Where *** was used to variables significant at 1% ; ** for variables significant at 5% and * for variables significant at 10%.

Also, the redundant fixed effects tests were made, which are the standard tests for the redundant variables, which happen to be the introduced dummies predictors to distinguish among firms. Results provided in Appendix 13 showed that there were in fact differences between firms.

It can be noticed that on ROA, keeping other variables constant:

- Family firms have on average more 0,814 percentual points than non-Family firms.
- Having an Audit Committee Independence and a Succession Plan seems to impact ROA negatively with an average of 1,178 percentual points in non-Family firms, but in Family firms the impact was more 1,878 percentual points than in non-Family firms, on average, so in Family firms the impact on ROA from having Independence and Succession Plan was positive and 0,7 percentual points on average while in Non-Family firms was negative and 1,178 percentual points on average.

- The control variables have an average positive impact on ROA of 0,300 percentual points in non-Family firms, but in Family firms it decreases 1,235 percentual points, on average, compared to non-Family firms, so in Family firms the average impact on ROA from the control variables was negative and 0,935 percentual points on average.

In conclusion, Family firms impact the values of ROA positively along with Directors Board functioning, but the control variables negatively.

Also, it can be noticed that on ROE that, keeping other variables constant:

- Family firms have on average less 0,789 percentual points on ROE than non-Family firms, even this variable is not significant, then there was no statistical evidence that, in ROE, Family and Non-Family firms differ.

- Having an Audit Committee Independence and a Succession Plan seems to impact negatively on ROE by 1,944 percentual points, on average, in non-Family firms, but in Family firms the impact is more 5,246 percentual points than in non-Family firms, on average, so it is of particular importance that Family firms have an Audit Committee Independence and a Succession Plan , because in those firms the impact on ROE was 3,302 percentual positive points.

- Having a CEO Board Member had a positive impact on ROE of more than 1,229 percentual points in non-Family firms, but it did not show any difference between Family and non-Family firms.

- Having Directors Board Structure has a positive impact on ROE of more than 1,922 percentual points in non-Family firms, but it did not show any difference between Family and non-Family firms.

- The control variables have a positive impact on ROE 2,845 percentual points, on average, in non-Family firms, but in Family it decreases 4,902 percentual points, on average, compared to non-Family firms, then in Family firms the impact on ROE from the control variables is negative and 2,057 percentual points on average.

- Having a large board of directors that meets frequently has a positive impact on ROE of more than 2,050 percentual points in non-Family firms, but it did not show any difference between Family and non-Family firms.

In conclusion, Family firms impact the values of ROE positively in the Directors Board functioning and Directors Board Structure, but negatively on control variables.

To analyze the validity of the research questions by the models estimated above:

RQ1: Which type of company has better financial performance? Family-owned companies, or non-family-owned companies?

Once again it can be noted that Family firms have a higher Return on Asset than non-Family firms, but in terms of Return on equity they are, in mean, identical. (**RQ1 is verified**)

RQ2: How does governance pillar score affect financial performance?

Governance pillar score seemed to directly affect ROA positively and ROE negatively, but in both cases, this was not a significant variable, perhaps, because Governance Pillar score is a comparative index among firms, not directly affecting the financial health of the firm, so Governance Pillar Score did not affect neither ROA nor ROE. **(RQ2 is not verified)**

RQ3: How does the functioning of the board of directors affect financial performance?

The variable Directors´ Board Size and Meetings (DBSM) has a direct impact on ROA and ROE, yet not significant in ROA, but it has a slight effect on ROE. However, in non-family businesses, Audit Committee Independence and Succession Plan Existence (DBIS) has an inverse significant impact, both on ROA and ROE, but in family businesses has a significant direct impact, both on ROA and ROE, and finally, has the greatest impact among all predictors in firms´ financial performance both in Family and non-Family firms.

Then:

H1: The board size affects the financial performance of a company. **(verified in ROE)**

H2: The number of board meetings affect the financial performance of a company. **(verified in ROE)**

H3: The board meeting attendance average affects the financial performance of a company. **(verified in ROE)**

H4: The presence of an independent audit committee affects the financial performance of a company. **(verified in ROA and ROE and between Family and non-Family firms)**

H5: The existence of a succession plan affects the financial performance of a company. **(verified in ROA and ROE and between Family and non-Family firms)**

RQ4: How does the composition of the board of directors affect financial performance?

None of the variables were significant in ROA.

H1: The presence of independent board members affects the financial performance of a company. **(verified in ROE)**

H2: The presence of non-executive board members affects the financial performance of a company. (**verified in ROE)**

H3: The presence of women on the board affects the financial performance of a company. **(verified in ROE)**

H4: The presence of a CEO on the board affects the financial performance of a company. **(verified in ROE)**

H5: The average board tenure affects the financial performance of a company. **(verified in ROE)**

RQ5: How does compensation policy affect financial performance?

None of the variables were significant neither on ROA nor in ROE.

H1: The executive compensation policy affects the financial performance of a company. **(not verified neither in ROA or ROE)**

H2: The executive individual compensation affects the financial performance of a company. **(not verified neither in ROA or ROE)**

RQ6: How does shareholder rights affect financial performance?

None of the variables were significant neither on ROA nor in ROE.

H1: The policy of equal voting rights affects the financial performance of a company. **(not verified neither in ROA or ROE)**

H2: The shareholder rights policy affects the financial performance of a company. **(not verified neither in ROA or ROE)**

5. Conclusions and Recommendations

This chapter highlights the conclusions of this study, summarizes the research that has been performed, linking the results with the literature. Then, limitations identified within this study will be discussed, and recommendations for mitigating them in future studies are also presented.

5.1. Main findings and Conclusions

The present study provides secondary research as a mean to understand the assessment of Corporate Governance in family businesses and non-family businesses. Regarding the research questions, many literature studies were taken into consideration before selecting the variables to the statistical model. Then, through the model it was possible to confirm or to reject the proposed hypothesis constructed based on the literature review.

The first research question (RQ1) shows that when comparing financial short-term performance, Family firms have a higher Return on Asset (ROA) than non-Family firms (corroborating Palma et al., 2021), but in terms of Return on equity (ROE) they are, on average, identical. The regression model estimated to explain the firms' short-term financial performance showed that family firms have, on average, more 0,814 percentual points than non-Family firms. Family companies are much more dependent on funds made internally and prefer to not issue equity as previously said in literature, as family businesses do not want to lose control over the business. Moreover, the desire to pass on succession to future family generations, having a more long-term perspective, and management's concern for reputation may reinforce family firms' aversion to debt (Vieira, 2017). Furthermore, in family firms there is an alignment between shareholders and managers interests, which allows these companies to benefit from a lower cost of debt compared to non-family firms because they are associated with a lower agency cost of debt (Anderson, Mansi & Reeb, 2003). For this reason, ROA may be higher in family businesses because family firms use more internal funds, prefer a more sustainable growth and have a lower cost of debt than non-family firms.

The second research question (RQ 2) proposes that governance pillar score (GPS) affects performance. Results showed that GPS directly affects ROA positively and ROE negatively, but in both cases, this variable is not significant, perhaps, because the governance pillar score is a comparative index across firms, not directly affecting the financial health of the firm.

Regarding the third research question (RQ 3), it is intended to find out whether the functioning of the board of directors has an impact on a company's financial performance. In this dimension, there are two variables in study, DBIS (Independence and Succession Plan Existence) and DBSM (Directors

Board Size and Meetings). About DBIS, the regression model estimated to explain the firm's short-term financial performance showed that having a Succession Plan and an Audit Committee Independence negatively impacts ROA and ROE in non-Family firms; but positively impacts, on average, in 1,878 percentual points more (difference between Family and non-Family business) on ROA and 5,246 (difference between Family and non-Family business) percentual points more on ROE for Family firms. As already mentioned in the literature, an independent audit committee brings many more advantages to a family company than to a non-family company, as it allows mitigating the type 2 agency cost risks in which the family control can take advantage of the non-family shareholders' investment for its own benefit, devaluing the company. Having said this, internal auditing in family companies will result in a great improvement of financial performance because it allows to mitigate risks and, in this way, decreasing agency costs through a greater alignment between family and non-family shareholders, reporting transparent and real results. On the other hand, as already stated in the literature, ROA and ROE, as accounting financial measures, can easily be manipulated by shareholders to appear to be better than the real result and non-family companies tend to report less transparent data. Therefore, an independent audit committee may lead to the non-family companies having to report real data that are less attractive and overvalued (Srinidhi, He & Firth, 2014). Still about DBIS and FDBIS, when the transgenerational succession component is considered by family businesses, profitability (ROE) shows significant differences compared to family businesses that do not consider this variable (Diéguez-Soto, López-Delgado and Rojo-Ramíre, 2014). Thus, it can be concluded that indeed the succession plan in family businesses is very important. In order to have a prosperous business future it is necessary to train and transmit knowledge to the future board of directors of the family business, since they are often elected not by meritocracy, but for family reasons. Yet, in non-family businesses the top executives are often replaced when they perform badly, or do not meet the expectations. Planning takes years, not months and, although a succession plan is beneficial in both family and non-family businesses, it must be well planned and long-term oriented, otherwise it can have a negative effect if the succession fails.

On the other hand, about DBSM, having a large board of directors that meets frequently has a positive impact on ROE of more than 2,050 percentual points in non-Family firms, but it did not show any difference between Family and non-Family firms. Companies that have a large board of directors are likely to have effective supervision that can improve company performance, since a large board of directors is likely to have executives with specialized skills which are beneficial to company performance (Kyere & Ausloos, 2020). Board meetings are important as well, since they give board members the opportunity to meet, and to discuss results and exchange ideas about how they want to

control strategy and managers. Thus, the more frequent the meetings, provided they are held assiduously, the more control over strategy and managers there is, which results in better business performance (Andres & Vallelado, 2008).

So, about the functioning of the board we may conclude that Directors Board Size and Meetings (DBSM) has a direct significant impact on ROE points in non-Family firms, but it did not show any difference between Family and non-Family firms. However, in non-family businesses, Audit Committee Independence and Succession Plan Existence (DBIS) has an inverse significant impact, both on ROA and ROE, but in family businesses has a significant positive impact, both on ROA and ROE.

The fourth research question (RQ4), which is related to the composition of the board, shows that Directors Board Structure (DBS) and Directors' Board CEO member (DBCEO) positively impacts ROE. Regarding Directors Board Structure (DBS), it has a positive impact on ROE of more than 1,922 percentual points in non-Family firms, but it did not show any difference between Family and non-Family firms. As stated in literature, independent and non-executive directors are considered experts in control and monitoring decisions. They help reduce agency costs by monitoring the appointment, evaluation and expulsion of top executives, including the CEO. In addition, they also help in forming corporate strategies, and when the company performs poorly, they may be against the strategy in place. Their primary role is to provide judgment and the greatest incentive for non-executive directors to exercise good decision control is to protect their reputation. Non-executive directors can improve company performance due to their ability to control managers. Moreover, some researchers also argue that female presence on the board of directors has a positive impact on company performance. Gulati, Gupta and Gupta (2020) say that female presence on the board of directors increases the company's social performance and, consequently, its reputation through donations to noble causes. In addition, studies say that women are willing to take fewer risks and are less self-centered and therefore companies with more women on a board of directors are less leveraged. In addition, the appointment of female board members, specially to the audit committee, leads to less earning management because it improves the quality of financial reporting. Furthermore, Bonini et al. (2015) found that companies with longer-tenured board members have a better firm performance and have a higher market because board is better at tracking management actions since they collect and store valuable information and know-how about the company. This information and know-how, when shared, helps independent directors to do their job. Livnat, Smith, Suslava and Tarlie (2019) also says that experienced boards are in better place to examine managers' actions and are less susceptible to peer pressure, which improves board independence.

On the other hand, having a CEO board member has a positive impact on ROE of more than 1,229 percentual points in non-Family firms, but it did not show any difference between Family and non-

Family firms. When CEO serves as board member this leads to a positive impact on company performance because it allows a clear leadership direction and a perfect alignment between strategy formulation and its implementation, which is optimal for business. Also, being a board member gives the CEO more credibility and authority and improves communication and the relationship between those who govern and those who manage. In addition, since the decision-making power is concentrated in the board, the uncertainty about which decision will be favorable is reduced, which strengthens the decision-making process and allows the company to act faster than the competition, thus obtaining a better performance.

The fifth research question (RQ5) proposes that Compensation Policy (CP) has an impact on the performance of the company. Some researchers say that executive compensation has a positive influence on company performance. Moreover, some researchers go further and argue that perks paid to the CEO directly affects ROA. Even so, literature is controversial and inconclusive on this topic. The results showed that ROA is indeed positively affected by CP, but this variable is not significant on ROA. Regarding ROE, CP has a negative impact, but it is also not significant.

Finally, the sixth research question (RQ6) studies if the shareholder rights (SQEV) have an impact on financial performance of companies. Shareholder rights are the company's ability to attract, ensure equal treatment and retain minority shareholders, by promoting shareholder engagement and limiting the use of anti-takeover devices. According to Bebchuk, Cohen and Ferrell (2008), stock returns of companies with stronger shareholder rights outperform. Voting is increasingly seen as one of the most powerful tools available to shareholders to engage with the board of directors. They should not ignore the shareholder vote, as they risk getting negative press and being downgraded by governance rating companies. When shareholders exercise their protected rights and engage with companies, overall risks can be mitigated, and long-term sustainable business performance can be achieved. Even so, the results showed that SEQV is not significant in ROA, nor in ROE.

The control variables Total Assets (TA), Number of Employees (E) and Net Sales or Revenues (R) were significantly related. But TA was inversely related both with ROA and ROE. Number of Employees has a significant direct impact both on ROA and ROE. So, those features affect both ROA and ROE. By the estimated models, see Table 7, the control variables, represented by their scores in the factor analysis performed earlier, showed to be extremely significant in ROE, and significant in ROA. The effect of Family and non-Family firms through the control variables had also a very significant impact both in ROA and ROE, affecting inversely the control variables, which means that family firms with a great number of employees and higher net sales revenue tend to see their Return on Assets and Return on Equity decrease, comparing with the non-Family firms in the same situation.

Then, it can be concluded that the functioning of the Board of Directors is the most important in Corporate Governance because it has a direct impact on the management of the company, especially in Family firms (corroborating Pereira et al., 2014). Moreover, Composition of the Board is also important and affects ROE but does not affect ROA. Furthermore, Compensation policies and shareholder rights are not important to explaining short term performances of firms. Gupta & al (2020) had already claimed that in literature the influence of Compensation policies may be controversial and/or inconclusive. In addition, shareholder rights should have more influence in the long-term performance (Mallin & al., 2010) than in the short term.

This study may have promising implications for practitioners, policy makers, and academics. First, the results are informative for practitioners on how Corporate Governance mechanisms modulate the financial performance of firms. Second, this paper can help encourage policy makers to recommend and implement best Corporate Governance practices that companies should follow.
Finally, this paper adds to the fertile field of academic research on the factors that affect Corporate Governance, especially those that have the greatest impact on family and non-family firms and which type of firm performs best financially.

5.2.   Limitations

This dissertation has some limitations and restrictions that must be considered for future research. First, one of the major limitations in this dissertation is that it is specifically focused on US Companies. The current study about Corporate Governance in Family and non-Family firms reflects the US reality. More specifically, in terms of financial performance, this paper allows to extract conclusions only about the US firms. Therefore, the achieved conclusions are country biased.

Additionally, it is impossible to ignore the effects of the COVID-19 pandemic crisis in this study. 2020 was a year in study and it was an atypical year in terms of financial performance. The pandemic effects may have led to unconscious acts and change of necessities, since people's lives were restricted in that period. Even though the research is not meant to be restricted to these circumstances, it cannot be disregarded that this may happen, although the mean and standard deviation values of the variables in study did not change much between 2020 (Appendix 14) and the remaining years (Appendix 15).

The fact that several dimensions of Corporate Governance were studied allows for a broader view on this subject, however, if there were fewer dimensions, each one could be investigated further.

Finally, in terms of financial variables, the study was limited to short-term variables such as ROA and ROE because long-term variables were not available on the Refinitiv Eikon platform. In addition, the companies were collected in a non-probabilistic technique because they were not chosen randomly, which can lead to biased results.

These limitations of the used sample hinder the conclusions which may not be generalized for statistical reasons.

5.3.   Further Research

Regarding further research, it would be notable to test other measures of financial performance, more specifically long-term oriented, such as Tobin's Q. Afterwards, it would be relevant to compare the results between the two models, short and long term oriented.

It would also be relevant to experiment the model in different countries and with a larger sample and to compare different countries' results, as it has been done for other models in the past. Gathering studies from other countries and finding the differences of Corporate Governance measures would be an important step forward. Further research with firms over the world should be followed to analyze if features not impacting US firms could have an effect in other continents. Moreover, Family firms in

some religious or more traditional countries have perhaps different business organizations and that may influence firms' performance differently than in US.

Finally, given the above-mentioned exceptional times, it would be important to test the conclusions of this paper in the future, after the pandemic crisis is overcome. And even if the conclusions differ at some point in time, it will still be a pertinent study because Corporate Governance will continue to be relevant in the long run, as the world is becoming more global and concerned about these topics with the growth of the ESG movement.

References

Al-Ghamdi, M., & Rhodes, M. (2015). Family Ownership, Corporate Governance And Performance: Evidence From Saudi Arabia. International Journal Of Economics And Finance, 7(2). Doi: 10.5539/Ijef.V7n2p78

Anderson, R., & Reeb, D. (2004). Board Composition: Balancing Family Influence In S&P 500 Firms. Administrative Science Quarterly, 49(2), 209-237. Https://Doi.Org/10.2307/4131472

Anderson, R., Mansi, S., & Reeb, D. (2003). Founding family ownership and the agency cost of debt. Journal Of Financial Economics, 68(2), 263-285. doi: 10.1016/s0304-405x(03)00067-9

Andres, P., & Vallelado, E. (2008). Corporate Governance In Banking: The Role Of The Board Of Directors. Journal Of Banking &Amp; Finance, 32(12), 2570-2580.
Doi: 10.1016/J.Jbankfin.2008.05.008

Balachandran, B., & Faff, R. (2015). Corporate Governance, Firm Value And Risk: Past, Present, And Future. Pacific-Basin Finance Journal, 35, 1-12. Doi: 10.1016/J.Pacfin.2015.07.002

Banca March (2019). Corporate Governance In Publicly Traded Family Firms. [Online] Available At: Https://Www.Ie.Edu/Business/Centros/Proyectos/Informe%20gobierno%20corporativo_En_Ultimo. Pdf [Acedido 20 Agosto 2020].

Barber, B., & Lyon, J. (1996). Detecting Abnormal Operating Performance: The Empirical Power And Specification Of Test Statistics. Journal Of Financial Economics, 41(3), 359-399. Doi: 10.1016/0304-405x(96)84701-5

Bebchuk, L., Cohen, A., & Ferrell, A. (2008). What Matters in Corporate Governance?. Review Of Financial Studies, 22(2), 783-827. doi: 10.1093/rfs/hhn099

Bettinelli, C. (2011). Boards of Directors in Family Firms: An Exploratory Study of Structure and Group Process. Family Business Review, 24(2), 151-169. doi: 10.1177/0894486511402196

Bhagat, S., & Bolton, B. (2008). Corporate governance and firm performance. Journal Of Corporate Finance, 14(3), 257-273. doi: 10.1016/j.jcorpfin.2008.03.006

Bhagat, S., & Bolton, B. (2019). Corporate Governance And Firm Performance: The Sequel. Journal Of Corporate Finance, 58, 142-168. Doi: 10.1016/J.Jcorpfin.2019.04.006

Bonini, S., Deng, J., Ferrari, M., & John, K. (2015). Til death do us part: The long tenured directors' puzzle. EFMA. Accessed May.

Bouteska, A., & Mefteh-Wali, S. (2021). The Determinants Of Ceo Compensation: New Insights From United States. Journal Of Applied Accounting Research, 22(4), 663-686.

Brown, L., & Caylor, M. (2008). Corporate Governance And Firm Operating Performance. Review Of Quantitative Finance And Accounting, 32(2), 129-144. Doi: 10.1007/S11156-007-0082-3

Clearlas – Economic Notes (2020). Sectors Of The Economy: Primary, Secondary, Tertiary, Quartenary And Quinary. Https://Www.Clearias.Com/Sectors-Of-Economy-Primary-Secondary-Tertiary-Quaternary-Quinary

Core, J., Guay, W., & Rusticus, T. (2006). Does Weak Governance Cause Weak Stock Returns? An Examination Of Firm Operating Performance And Investors' Expectations. The Journal Of Finance, 61(2), 655-687. Doi: 10.1111/J.1540-6261.2006.00851.X

Council on Foundations. (2010). Should CEOs Be on the Board? https://cof.org/sites/default/files/documents/files/CEOs%20On%20Boards.pdf

David, P., Kochhar, R., & Levitas, E. (1998). The Effect Of Institutional Investors On The Level And Mix Of Ceo Compensation. Academy Of Management Journal, 41(2), 200-208. Doi: 10.5465/257102

de Haan, J., & Vlahu, R. (2015). CORPORATE GOVERNANCE OF BANKS: A SURVEY. Journal Of Economic Surveys, 30(2), 228-277. doi: 10.1111/joes.12101

Diéguez-Soto, J., López-Delgado, P., & Rojo-Ramírez, A. (2014). Identifying and classifying family businesses. Review Of Managerial Science, 9(3), 603-634. doi: 10.1007/s11846-014-0128-6

Donckels, R., & Lambrecht, J. (1999). The Re-emergence of Family-Based Enterprises in East Central Europe: What Can Be Learned from Family Business Research in the Western World?. Family Business Review, 12(2), 171-188. doi: 10.1111/j.1741-6248.1999.00171.xf

Gillan, S. (2006). Recent Developments In Corporate Governance: An Overview. Journal Of Corporate Finance, 12(3), 381-402. Doi: 10.1016/J.Jcorpfin.2005.11.002

Gillan, S., & Starks, L. (1998). A Survey Of Shareholder Activism: Motivation And Empirical Evidence. Ssrn Electronic Journal. Https://Doi.Org/10.2139/Ssrn.663523

Gomez-Mejia, L., Cruz, C., Berrone, P., & De Castro, J. (2011). The Bind That Ties: Socioemotional Wealth Preservation In Family Firms. Academy Of Management Annals, 5(1), 653-707. Https://Doi.Org/10.5465/19416520.2011.593320

Gómez-Mejía, L., Haynes, K., Núñez-Nickel, M., Jacobson, K., & Moyano-Fuentes, J. (2007). Socioemotional Wealth and Business Risks in Family-controlled Firms: Evidence from Spanish Olive Oil Mills. Administrative Science Quarterly, 52(1), 106-137. doi: 10.2189/asqu.52.1.106

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate Governance And Equity Prices. The Quarterly Journal Of Economics, 118(1), 107-156.

Gulati, K., Gupta, S., & Gupta, C. (2020). The Transformation Of Governance System: A Decade Long Experience Of Corporate Governance Using Meta-Analysis. Global Journal Of Flexible Systems Management, 21(3), 233-262. Doi: 10.1007/S40171-020-00244-8

Harrell, E. (2016). Succession planning: what the research says. Harvard Business Review, 94(12), 70-74.

Jensen, M. (1993). Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. SSRN Electronic Journal. doi: 10.2139/ssrn.93988

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal Of Financial Economics, 3(4), 305-360. doi: 10.1016/0304-405x(76)90026-x

Jiang, F., & Kim, K. (2020). Corporate Governance in China: A Survey. SSRN Electronic Journal. doi: 10.2139/ssrn.3571247

Khan, H., (2011). A Literature Review Of Corporate Governance. In International Conference On E-Business, Management And Economics, 25: 1-5).

Kyere, M., & Ausloos, M. (2020). Corporate governance and firms financial performance in the United Kingdom. International Journal Of Finance &Amp; Economics, 26(2), 1871-1885. doi: 10.1002/ijfe.1883

Livnat, J., Smith, G., Suslava, K., & Tarlie, M. (2019). Do directors have a use-by date? Examining the impact of board tenure on firm performance. American Journal of Management, 19(2), 97-125.

Mallin, C., & Melis, A. (2010). Shareholder Rights, Shareholder Voting, And Corporate Performance. Journal Of Management &Amp; Governance, 16(2), 171-176. Doi: 10.1007/S10997-010-9138-1

Palma, M., Lourenço, I.C. & Branco, M. C. (2021). Web-Based Sustainability Reporting By Family Companies: The Role Of The Richest European Families. Taylor &Francis Online. Https://Doi.Org/10.1080/01559982.2021.1979331

Pereira, V. & Filipe, J. (2014). The Board´S Attributes And Their Influence In Company´S Performance. A Review Over Recent Literature. International Journal Of Latest Trends In Finance & Economic Sciences, 4 (1), 691- 702.
Doi: Https://Doi.Org/10.2047/Ijltfesvol4iss1-691

Rahman, M., & Khatun, N. (2017). Quality of Corporate Governance: A Review from the Literature. The Journal Of Asian Finance, Economics And Business, 4(1), 59-66. doi: 10.13106/jafeb.2017.vol4.no1.59

Schulze, W., Lubatkin, M., Dino, R., & Buchholtz, A. (2001). Agency Relationships in Family Firms: Theory and Evidence. Organization Science, 12(2), 99-116. doi: 10.1287/orsc.12.2.99.10114

Shailer, G. (2004). An Introduction To Corporate Governance In Australia. Sydney, Australia: Pearson Education.

Shleifer, A., & Vishny, R. (1997). A Survey Of Corporate Governance. The Journal Of Finance, 52(2), 737-783. Https://Doi.Org/10.1111/J.1540-6261.1997.Tb04820.X

Siddiqui, S. (2015). The Association Between Corporate Governance And Firm Performance – A Meta-Analysis. International Journal Of Accounting And Information Management, 23(3), 218-237. Doi: 10.1108/Ijaim-04-2014-0023

Srinidhi, B., He, S., & Firth, M. (2014). The Effect Of Governance On Specialist Auditor Choice And Audit Fees In U.S. Family Firms. The Accounting Review, 89(6), 2297-2329. Doi: 10.2308/Accr-50840

Vieira, E. (2017). Debt policy and firm performance of family firms: the impact of economic adversity. International Journal Of Managerial Finance, 13(3), 267-286. doi: 10.1108/ijmf-03-2016-0062

Williams, R. (2018). Panel Data 4: Fixed Effects Vs Random Effects Models. University Of Notre Dame, Https://Www3.Nd.Edu/~Rwilliam/Stats3/Panel04-Fixedvsrandom.Pdf

Wooldridge, J. M. (2010). Econometric Analysis Of Cross Section And Panel Data. Mit Press, Cambridge, 2nd Edition. Isbn: 0-262-23258-8

Zata Poutziouris, P. (2001). The Views of Family Companies on Venture Capital: Empirical Evidence from the UK Small to Medium-Size Enterprising Economy. Family Business Review, 14(3), 277-291. doi: 10.1111/j.1741-6248.2001.00277.x

Appendices

Appendix 1. Kolmogorov-Smirnov Test results

		Statistic	df	Monte Carlo Sig*
ROA	non-Family	0,092	1660	0,000
	Family	0,082	420	0,000
ROE*	non-Family	0,129	1660	0,000
	Family	0,155	420	0,000

*Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000

Appendix 2. Descriptive Statistics and Mann-Whitney U test Results

	Family	N	Mean	Std. Deviation	Test Statistic (Sig)
ROA	non-Family	1660	6,550	6,442	-2,300
	Family	420	6,999	5,533	(0,021)
ROE	non-Family	1660	17,257	19,826	0,663
	Family	420	16,980	21,526	(0,507)

Appendix 3. Correlation Analysis of Directors' Board functioning

		BS	BM	BMAT	BF	SUC
BM	Pearson Correlation	0,081***	---			
	Sig	0,000				
BMAT	Pearson Correlation	0,123***	0,016	---		
	Sig	0,000	0,459			
BF	Pearson Correlation	0,004	0,001	0,044**	---	
	Sig	0,880	0,973	0,046		
SUC	Pearson Correlation	0,132***	0,062***	0,045**	0,267***	---
	Sig	0,000	0,005	0,043	0,000	
ROA	Pearson Correlation	-0,074***	-0,154***	-0,026	0,033	0,051**
	Sig	0,000	0,000	0,230	0,120	0,019
ROE	Pearson Correlation	0,073***	-0,110***	0,024	0,038	0,05***
	Sig	0,000	0,000	0,268	0,085	0,024

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 4. Exploratory Factor Analysis of Directors' Board functioning

	Factor 1 - Independence and Succession Plan Existence (DBIS)	Factor 2 - Directors´ Board Size and Meetings (DBSM)	(KMO=0,709)
BF	0,820		
SUC	0,769		
BS		0,743	
BMAT		0,579	
BM		0,486	
% of variance explained	31,381%	23,398%	Total=54,779%

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

Appendix 5. Correlation Analysis of Directors' Board composition

		BSEI	BSNE	BSD	BSE	CEO
BSNE	Pearson Correlation	0,663***	---			
	Sig	0,000				
BSD	Pearson Correlation	0,282***	0,236***	---		
	Sig	0,000	0,000			
BSE	Pearson Correlation	-0,280***	-0,275***	-0,132***	---	
	Sig	0,000	0,000	0,000		
CEO	Pearson Correlation	0,056**	0,010	0,000	-0,068***	---
	Sig	0,010	0,660	0,990	0,002	
ROA	Pearson Correlation	-0,004	-0,028	-0,005	0,034	0,015
	Sig	0,844	0,203	0,804	0,117	0,489
ROE	Pearson Correlation	0,078***	0,093***	0,070***	-0,006	0,074***
	Sig	0,000	0,000	0,001	0,791	0,000

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 6. Exploratory Factor Analysis of Directors' Board composition

	Factor 1 - Directors' Board Structure (DBS)	Factor 2 - Directors' Board CEO member (DBCEO)	(KMO=0,824)
BSEI	0,855		
BSNE	0,843		
BSE	-0,531		
BSD	0,513		
CEO		0,960	
% of variance explained	39,737%	23,530%	Total=63,267%

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

Appendix 7. Correlation Analysis of Compensation policy

		CP	CPI
CPI	Pearson Correlation	-0,126***	---
	Sig	0,000	
ROA	Pearson Correlation	0,016	-0,003
	Sig	0,460	0,892
ROE	Pearson Correlation	0,005	-0,021
	Sig	0,832	0,341

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 8. Correlation Analysis of Shareholders'- rights

		SEQV	SR
SR	Pearson Correlation	0,058***	---
	Sig	0,008	
ROA	Pearson Correlation	-0,018	0,012
	Sig	0,419	0,581
ROE	Pearson Correlation	0,021	0,009
	Sig	0,336	0,679

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 9. Correlation Analysis of the control variables

		ln(TA)	ln(E)	ln(R)
ln(E)	Pearson Correlation	0,508***	--	
	Sig	0,000		
ln(R)	Pearson Correlation	0,749***	0,800***	---
	Sig	0,000	0,000	
ROA	Pearson Correlation	-0,211***	0,081***	0,029
	Sig	0,000	0,000	0,179
ROE	Pearson Correlation	-0,056**	0,156***	0,120***
	Sig	0,011	0,000	0,000

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 10. Exploratory Factor Analysis of control variables

	Factor 1 – Control variables	(KMO=0,715)
ln(TA)	0,841	
ln(E)	0,867	
ln(R)	0,960	
% of variance explained	79,352%	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

Appendix 11. Correlation Analysis of the predictors and Family predictors

		GPS	DBIS	DBSM	DBS	DBCEO	CV
DBIS	Pearson Correlation	0,197***	---				
	Sig	0,000					
DBSM	Pearson Correlation	0,312***	0,000	---			
	Sig	0,000	1,000				
DBS	Pearson Correlation	0,541***	0,233***	0,311***	---		
	Sig	0,000	0,000	0,000			
DBCEO	Pearson Correlation	-0,029	0,027	0,063***	0,000	---	
	Sig	0,189	0,212	0,004	1,000		
CV	Pearson Correlation	0,286***	0,398***	0,127***	0,275***	-0,002	---
	Sig	0,000	0,000	0,000	0,000	0,936	
ROA	Pearson Correlation	-0,010	-0,125***	0,061***	-0,025	0,008	-0,033
	Sig	0,664	0,000	0,005	0,261	0,729	0,128
ROE	Pearson Correlation	0,058***	0,011	0,059***	0,089***	0,057**	0,086***
	Sig	0,008	0,629	0,007	0,000	0,010	0,000

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

		Family	FGPS	FDBIS	FDBSM	FDBS	FDCEO	FCP	FSEQV	FCV
FGPS	Pearson Correlation	0,884***	---							
	Sig	0,000								
FDBIS	Pearson Correlation	-0,117***	-0,032	---						
	Sig	0,000	0,148							
FDBSM	Pearson Correlation	-0,196***	0,028	0,007	---					
	Sig	0,000	0,202	0,755						
FDBS	Pearson Correlation	-0,557***	-0,229***	0,288***	0,476***	---				
	Sig	0,000	0,000	0,000	0,000					
FDBCEO	Pearson Correlation	-0,128*	-0,126***	0,036	0,088***	0,078***	---			
	Sig	0,000	0,000	0,101	0,000	0,000				
FCP	Pearson Correlation	0,994***	0,885***	-0,125***	-0,193***	-0,547***	-0,127***	---		
	Sig	0,000	0,000	0,000	0,000	0,000	0,000			
FSEQV	Pearson Correlation	0,639***	0,666***	-0,100***	0,013	-0,249***	0,036	0,643***	---	
	Sig	0,000	0,000	0,000	0,562	0,000	0,102	0,000		
FCV	Pearson Correlation	-0,254***	-0,154***	0,320***	0,243***	0,304***	-0,017	-0,269***	-0,121***	---
	Sig	0,000	0,000	0,000	0,000	0,000	0,441	0,000	0,000	---
ROA	Pearson Correlation	0,029	0,041	0,036*	0,053**	0,023	0,008	0,031	0,037*	-0,015
	Sig	0,192	0,064	0,099	0,016	0,286	0,731	0,163	0,093	0,483
ROE	Pearson Correlation	-0,006	0,027	0,080***	0,045**	0,071***	0,039*	.0,005	0,020	-0,008
	Sig	0,801	0,221	0,000	0,042	0,001	0,075	0,818	0,357	0,717

***. Sig<0,01 ; **. Sig<0,05 ; *. Sig<0,10

Appendix 12. Estimation of random Effects models 1 and 2

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)

Sample: 1 2080
Periods included: 208
Cross-sections included: 10
Total panel (balanced) observations: 2080
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.640722	0.223850	29.66591	0.0000
CV	-0.191261	0.137475	-1.391240	0.1643

Effects Specification				
			S.D.	Rho
Cross-section random			0.560015	0.0080
Idiosyncratic random			6.244541	0.9920

Weighted Statistics			
R-squared	0.000930	Mean dependent var	4.061875
Adjusted R-squared	0.000450	S.D. dependent var	6.246561
S.E. of regression	6.245157	Sum squared resid	81046.12
F-statistic	1.935167	Durbin-Watson stat	2.019977
Prob(F-statistic)	0.164343		

Unweighted Statistics			
R-squared	0.001108	Mean dependent var	6.640722
Sum squared resid	81659.53	Durbin-Watson stat	2.004803

Dependent Variable: ROE
Method: Panel EGLS (Cross-section random effects)

Sample: 1 2080
Periods included: 208
Cross-sections included: 10
Total panel (balanced) observations: 2080
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.20088	0.631334	27.24530	0.0000
CV	1.750424	0.441477	3.964928	0.0001

Effects Specification				
			S.D.	Rho
Cross-section random			1.431734	0.0051
Idiosyncratic random			20.06689	0.9949

Weighted Statistics				
R-squared	0.007511	Mean dependent var		11.98782
Adjusted R-squared	0.007033	S.D. dependent var		20.13444
S.E. of regression	20.06351	Sum squared resid		836487.1
F-statistic	15.72596	Durbin-Watson stat		2.067017
Prob(F-statistic)	0.000076			

Unweighted Statistics				
R-squared	0.007360	Mean dependent var		17.20088
Sum squared resid	840024.7	Durbin-Watson stat		2.058312

Appendix 13. Estimation of the Fixed Effects models 3 and 4

Dependent Variable: ROA
Method: Panel Least Squares

Sample: 1 2080
Periods included: 208
Cross-sections included: 10
Total panel (unbalanced) observations: 1994

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.639875	3.433517	1.642594	0.1006
FAMILY	0.814084	0.376096	2.164564	0.0152
GPS	0.005804	0.009114	0.636890	0.5243
DBIS	-1.178381	0.171205	-6.882852	0.0000
DBSM	0.319946	0.336494	0.950822	0.3418
DBS	-0.152829	0.220950	-0.691693	0.4892
CP	2.284654	3.221291	0.709236	0.4783
DBCEO	0.010072	0.189441	0.053169	0.9576
SEQV	-1.765271	1.098435	-1.607078	0.1082
CV	0.300037	0.176998	1.695147	0.0902
FGPS	-0.005945	0.022041	-0.269718	0.7874
FDBIS	1.877997	0.374618	5.013092	0.0000
FDBSM	0.152588	0.383338	0.398051	0.6906
FDBS	0.802391	0.437975	1.832047	0.0671
FDCEO	0.162053	0.281588	0.575495	0.5650
FSEQV	1.259891	1.324915	0.950922	0.3418
FCV	-1.234725	0.417756	-2.955612	0.0032

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.054983	Mean dependent var	6.692742
Adjusted R-squared	0.042978	S.D. dependent var	6.345395
S.E. of regression	6.207541	Akaike info criterion	6.502360
Sum squared resid	75834.05	Schwarz criterion	6.575352
Log likelihood	-6456.853	Hannan-Quinn criter.	6.529165
F-statistic	4.580076	Durbin-Watson stat	2.023007
Prob(F-statistic)	0.000000		

Redundant Fixed Effects Tests
Equation: Model 3
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.312893	(9,1968)	0.0138
Cross-section Chi-square	20.980283	9	0.0127

Dependent Variable: ROE
Method: Panel Least Squares

Sample: 1 2080
Periods included: 208
Cross-sections included: 10
Total panel (unbalanced) observations: 1994

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.05478	10.84963	1.848431	0.0647
FAMILY	-0.789091	5.296323	-0.148988	0.8816
GPS	-0.022545	0.028799	-0.782863	0.4338
DBIS	-1.943928	0.540995	-3.593248	0.0003
DBSM	2.050247	1.063293	1.928204	0.0540
DBS	1.922044	0.698182	2.752926	0.0060
CP	-0.815254	10.17901	-0.080092	0.9362
DBCEO	1.229148	0.598617	2.053314	0.0402
SEQV	-1.502668	3.470965	-0.432925	0.6651
CV	2.844943	0.559298	5.086628	0.0000
FGPS	0.088566	0.069648	1.271622	0.2037
FDBIS	5.246489	1.183763	4.432044	0.0000
FDBSM	-1.505078	1.211316	-1.242515	0.2142
FDBS	0.320651	1.383965	0.231690	0.8168
FDCEO	-0.005222	0.889795	-0.005869	0.9953
FSEQV	-0.913829	4.186621	-0.218274	0.8272
FCV	-4.901678	1.320075	-3.713183	0.0002

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.046951	Mean dependent var	17.17439
Adjusted R-squared	0.034845	S.D. dependent var	19.96625
S.E. of regression	19.61531	Akaike info criterion	8.803451
Sum squared resid	757208.6	Schwarz criterion	8.876443
Log likelihood	-8751.041	Hannan-Quinn criter.	8.830256
F-statistic	3.878102	Durbin-Watson stat	2.088971
Prob(F-statistic)	0.000000		

Redundant Fixed Effects Tests
Equation: Model 4
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.958902	(9,1968)	0.0403
Cross-section Chi-square	17.070271	9	0.0476

Appendix 14. Descriptive of 2020

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
TREND(ROA)	208	-21,75	41,48	5,0933	7,90345	,334	4,155
TREND(ROE)	208	-100,00	100,00	12,7210	29,40921	-,349	4,383
TREND(BS)	208	5,0	18,0	11,140	2,0465	,273	,902
TREND(BM)	208	1,0	41,0	9,537	5,2959	2,588	10,047
TREND(BMAT)	208	75,00	100,00	81,9106	10,23413	,915	-1,051
TREND(BF)	208	50,0	100,0	98,915	5,0025	-6,379	49,904
TREND(BSEI)	208	37,50	94,44	82,7044	11,78828	-1,752	2,747
TREND(BSNE)	208	60,00	94,44	85,3242	7,72860	-1,318	1,339
TREND(BSD)	208	,00	54,55	28,1243	8,87248	-,178	,655
TREND(BSE)	208	1,25	23,50	9,1619	3,50799	1,227	2,520
TREND(lnTA)	208	14,41	21,94	17,2893	1,47833	,562	,307
TREND(lnE)	208	5,35	14,65	10,1264	1,41410	-,237	,975
TREND(lnR)	208	13,86	20,14	16,4272	1,26596	,464	-,188
Valid N (listwise)	208						

Appendix 15. Descriptive of 2011 to 2019

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
TREND(ROA)	1872	-20,63	41,36	6,8127	6,04042	,617	4,073
TREND(ROE)	1872	-77,59	100,00	17,6986	18,81838	1,279	5,665
TREND(BS)	1872	4,0	19,0	11,142	2,2162	,339	,586
TREND(BM)	1872	1,0	37,0	8,179	3,5764	1,891	6,215
TREND(BMAT)	1872	7,00	100,00	79,9741	8,89696	1,018	2,444
TREND(BF)	1872	33,3	100,0	99,136	5,3240	-8,950	93,261
TREND(BSEI)	1872	10,00	100,00	81,6293	11,35048	-1,783	4,796
TREND(BSNE)	1872	50,00	100,00	85,1804	7,56505	-1,392	2,497
TREND(BSD)	1872	,00	62,50	20,6215	9,46613	,496	,635
TREND(BSE)	1872	,25	24,08	9,4516	3,28004	1,012	1,899
TREND(lnTA)	1872	13,64	21,71	16,9400	1,52820	,551	,167
TREND(lnE)	1872	4,42	15,58	10,0128	1,43933	-,283	,931
TREND(lnR)	1872	12,95	20,08	16,2765	1,30223	,275	-,321
Valid N (listwise)	1872						