



Universidade de Aveiro
Ano 2021

**João Carlos da
Silva Nogueira**

**Corporate Governance e o desempenho das
empresas: Evidência na Euronext Lisbon**

**Corporate Governance and Firm's Performance:
Evidence from Euronext Lisbon**



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Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Finanças, realizada sob a orientação científica da Professora Elisabete Fátima Simões Vieira, Professora Coordenadora com Agregação do Instituto Superior de Contabilidade e Administração da Universidade de Aveiro.

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palavras-chave

Governo das Sociedades, Conselho de Administração, Desempenho, Empresas cotadas, Portugal

resumo

Esta dissertação procura examinar a relação entre diversas características de Governo das Sociedades e o desempenho das empresas portuguesas cotadas em bolsa. Este estudo baseou-se numa amostra de empresas portuguesas com títulos cotados em bolsa para o período compreendido entre 2010 e 2020. Os principais resultados sugerem que os gestores que são acionistas e diversidade de género conduzem a um aumento do desempenho das empresas. No entanto, não foi detetada evidência de que uma representação de três ou mais mulheres no conselho de administração conduza a um aumento no desempenho da empresa das empresas. Adicionalmente, os resultados sugerem uma relação negativa entre o endividamento das empresas e a rentabilidade, quando esta é medida através de um rácio de desempenho de mercado. Finalmente, foi encontrada evidência de que a pandemia COVID-19 teve um impacto negativo no desempenho empresarial.

keywords

Corporate Governance, Board of Directors, Performance, Listed Companies, Portugal

abstract

This dissertation aims to examine the relationship between several Corporate Governance (CG) characteristics and performance in Portuguese listed companies. This study is based on a sample of Portuguese listed firms for a period between the years of 2010 to 2020. The main results show that higher level of managerial ownership and gender diversity may drive to a higher level of performance. However, no evidence was found that a representation of three or more female directors leads to an increase in performance. Additionally, the results suggest there is a negative relationship between leverage and performance when this is analysed with a market-based performance measure. Finally, we found evidence that the COVID-19 pandemic had a negative impact on corporate performance.

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1. Introduction

The Corporate Governance (CG) concept came to light since the use of the corporate form, however, the subject gained more traction during the last decades of the twentieth century (Cheffins, 2012). CG is the mechanism to protect investors in the markets around the world (Vieira and Neiva, 2019) and it has gained a lot a international relevance after the Cadbury's report. CG is usually described as "the system by which companies are directed and controlled" (Cadbury, 1992, p. 14).

Following several financial scandals of American and European giants, such as BCCI, Enron, Worldcom, Parmalat , during the 1980's and 1990's, it became obvious that there was a need to start assigning responsibilities and tightening control measures and financial reports, since concerns regarding the apparent low level of confidence in the company's financial reporting and the inability of auditors to provide a protection for the stakeholders had been growing (Cadbury, 1992). The first steps towards creating basic regulations and control in Portugal were taken when the Commercial Company Code was first introduced in 1986. Considering the effects of economic and financial globalization, there is an increasing need to combat fraud and mitigate risk, which, consequentially, makes CG a key element for safety, stability, and confidence of investors.

It is apparent that CG variables may play a role in the firm's performance. In this context, this work addresses this question, looking into the Portuguese listed company's data. Consequently, we made the following research questions: How does the ownership structure influence firm's performance? Do board characteristics and gender diversity have influence in the performance of a company?

Results suggest that managerial ownership and gender diversity have a positive relationship with firms' performance. However, when looking into the representation of three or more female directors, our results do not find support to the assumption that a higher representation of women on board will lead to a positive impact on performance.

This thesis is divided into five sections, the introduction, the literature review, the methodology and data, research results and findings, and the conclusion. In the literature review section, it is provided an overview on CG, its history and evolution on the national and international context. Also, it is presented a brief Portuguese corporate governance legal framework and the theories related with CG. Lastly, it is debated the possible relationship between CG and performance and, consequentially, the hypothesis to test are formulated. In the third section, the sample and methodology are exposed, mainly comprised by the description of dependent and independent variables, and the statistical approach used in this dissertation. The fourth section presents the research results and analyses the results of prior statistical tests and models. Finally, the final section highlighted the main conclusions of this work, the limitations of the study and several recommendations for future research.

2. Literature Review

2.1 Corporate Governance: concept and evolution

Since the last decades of the 20th century, Corporate Governance (CG) became a crucial field of activity and research for corporations, government, investors, academics, and financial institutions across the world. The global economy opened their door to new capital investors, and with that followed corruption scandals that broke good management practices, ethic, and moral principles, driving different countries to reform and restructure their judicial system. There is also a lack of consensus about how corporate governance should be defined and understood (Steger, 2015), being often characterized by vague terminologies (Grundeis and Kaehler, 2018).

The most widely used definition is the one established by the UK's Cadbury Committee on CG. The Committee on the Financial Aspects of Corporate Governance (1992, p. 14) described corporate governance as "the system by which companies are directed and controlled".

The Organisation for Economic Co-operation and Development (OECD, 2004 p. 11) builds on the definition of CG providing the following information: "*Corporate Governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate Governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined*".

Grundeis and Kaehler (2018, p. 589) provide a more integrative definition, adding non-managerial behaviour since, while of a similar nature, it is not covered by the governance framework: "*Corporate governance is the internal and external behaviour framework for multiple actors' direction (management, leadership) and control (supervision, surveillance, monitoring) of a corporation and its units that consists of formalized norms and is itself the result of multiple stakeholders' constitutive influence*".

Although there is a wide range of definitions of the concept of CG, they all emphasize the need for alignment between managers, auditors and shareholders

(Vieira and Neiva, 2019). Consequently, these identities must always be present when we work on corporate governance.

The theoretical roots of CG stem from the early thirties, with the work of Berle and Means (1932). The authors explored the evolution of big companies, showing grave concern about the gap between ownership and control, defying the concept of property in this context. The authors argue that the dilution of ownership, occurring during several decades in some of the largest and most influential companies in the US, gave strength to those who have managerial positions, opening the door for those “men in control of a corporation” operating in their own interests.

Berle and Means (1932) state that, in a corporation, the controlling group and its shareholders do not share the same interests. The controlling group prefer to directly benefit from positive results diverting some of the profits as opposed to dividend distribution. Moreover, the authors suggest that the concentration of economic power, guided by few managing agents, compete on equal terms as those of political power and may as well be superseding it, making the modern corporation the dominant institution of the modern world.

In the decades 1980's and 1990's, the stock market kept growing and increasing shareholder wealth. However, cases of financial fraud surfaced with regularity throughout the 1980's and early 1990's (Coffee Jr., 2001), which causes concern about the need to protect investors and other shareholders.

The starting movements to salvage the reputation of the corporate system and create regulations on matters of corporate governance had its roots on Anglo-Saxon countries (Costa and Santos, 2011). The first step was taken by the US in 1987 with the Treadway Report. This committee composed by several American organisation and institutions, and led by James C. Treadway Jr., proposed 11 recommendations for Audit Boards following principles of resource, authority and information control, vigilance and inspection of financial information.

Following the US's footsteps, and after suffering a string of corporate debacles in the late 1980's and early 1990', including the collapse of BCCI, Maxwell group of

companies and Polly Peck (Marnet, 2007), the United Kingdom organized The Committee of Financial Aspects of Corporate Governance, directed by Sir Adrian Cadbury, which focused on the responsibility of external auditors, control, and financial reporting of board of directors. The reasoning behind it was to address financial aspects of CG since, at the time, there were growing concerns regarding the perceived low level of confidence in the company's financial reporting and the inability of auditors to provide a safeguard for the users of its reports. There was an apparent lack of accounting standards, absence of clear framework and rise of competitive pressures that led to a low level of trust on financial reporting (Cadbury, 1992).

In the late 1990's, the Asian financial crisis happens, derived from firm's mismanagement and lack of supervision. After that, several corporate scandals followed, such as WorldCom, Parmalat and Germany's Neuer Markt revealing something rotten in the state of the corporate world (Marnet, 2007), but no one could predict what it would follow. Enron, one of the largest energy commodities and services company in the US, with billions in claimed revenue, would become one of the biggest corporate scandals in history. The corporate bankruptcy also dragged the main auditor of Enron's, the Arthur Andersen accounting firm.

In response to those scandals, the Sarbanes-Oxley Act of 2002 was born on June of 2002. Several very strict regulatory measures covering financial reports and their preparation, board responsibility and behaviour and auditing. All this is in order to assure more security and transparency, staving off a repeat of similar debacles.

2.2 Corporate Governance in Portugal

Regarding Portugal, the first steps towards creating basic rules and control over all types of corporations was taken when it was introduced the "Código das Sociedades Comerciais" (Commercial Company Code) in 1986. This code suffered several revisions during its inception, and today it builds on legislation which refrains from imposing a strict and homogenous governance model. This was an important achievement since it covered the way to the standardization of a directive model

regarding the corporate governance in Portugal, developing several instruments and practices to oppose the corruption and economic risk mitigation.

Some years later, in May, 1991, the Decreto-Lei (legislative decree) n.º 142-A of 10th April, was created by the Comissão do Mercado de Valores Mobiliários (CMVM, Portuguese Securities Market Commission) with the purpose of regulating and supervising the financial markets as well as its direct agents and promoting the efficiency, equity, safety and security of the shareholders through several recommendations and regulations. CMVM's focus, regarding Corporate Governance, are: (a) disclosure of information; (b) the exercise of voting rights and representation by shareholders; (c) corporate rules; (d) board of directors and; (e) institutional investors.

Two years after its first package of recommendations, the CMVM issues the regulation n.º 7/2001, which proved to be a stepping stone towards the reform of the national corporate governance setting. This regulation required more transparency regarding the ownership structure, introducing the “comply or explain” philosophy for their listed firms issuing them to disclose annual information on several matters connected to their corporate governance. This method of disclosure regarding their degree of compliance pushes firms to either address the recommended disclosures in their annual reports (comply) or a non-compliance position and the reasons thereof (explain).

The Instituto Português de Corporate Governance Portuguese (Portuguese Institute of Corporate Governance, IPCG), funded in 2003, was created to answer the call of several companies and other intervenients in the field of corporate governance (IPCG, 2018), providing more research and theoretical knowledge regarding the practical implementation of core principles of the Corporate Governance. Following those guidelines, in 2006, the IPCG published the White Book for Corporate Governance, which was mainly addressed at listed companies, to help them improve their corporate governance mechanisms addressing some of the main subjects concerning the Board of Directors, the General Meeting, internal and external audits, the shareholders, institutional investors and the corporate conduct (IPCG, 2006).

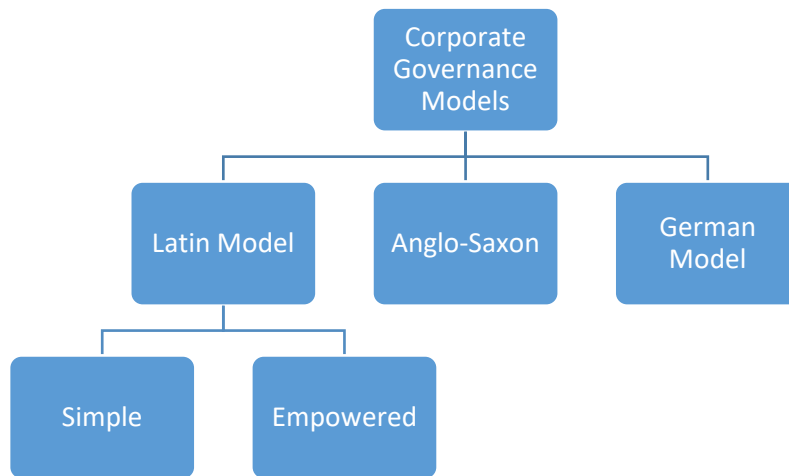
Since its first set of recommendations to the several regulations, from 1999 to 2017, the CMVM was responsible for regulating the Corporate Governance in Portugal. In 2007, CMVM issued the Código do Governo das Sociedades (Corporate Governance Code), composed of 43 recommendations marking the first Corporate Governance Code. This code was revised in 2010, with its adoption being mandatory for listed companies. However, and for the first time, those companies could adopt other corporate governance codes that would abide by to a strict set of requirements:

- Obey to the principles and good practices which could, globally, assure a high level of protection regarding the interests of the shareholders and a level of transparency not inferior with the ones presented in the CMVM code;
- Tackle, at least, the topics present in the CMVM code;
- The alternative code would be issued by an entity composed of specialists on the field of corporate governance and that could function independently of any particular interests.

An important milestone was achieved in 2012 with the introduction of the first Corporate Governance Code written by IPCG (IPCG, 2018), as the first viable alternative to the CMVM code. From 2014 to 2017, listed companies could adopt whichever code best suited them, provided it obeyed the requirements presented by CMVM.

The CMVM code was revoked in the end of 2017, after a drawn Protocol of cooperation between the CMVM and IPCG. The IPCG code of 2018 started to be the only governance code in effect, encompassing recommendations about corporate control, managers, supervision, remunerations, risk management, financial information and auditing. Its purpose was to ensure transparency, equality and liability between the firm and its stakeholders.

Figure 1 – Corporate Governance Models



Source: Based on Código das Sociedades Comerciais (2011)

Concerning the legal framework in Portugal, which can be viewed in Código das Sociedades Comerciais (Commercial Companies Code, 2011), Article 278^o, there are 3 distinct Corporate Governance models that can be adopted by Portuguese firms. These models are the Classic model (Latin model), the Anglo-Saxon model and the German model, as can be seen in Figure 1.

The Latin model (also known as the Classic model) establishes a single management body corresponding to a sole director or a board of directors (with a flexible range of members but not below two). As such, this model is considered a one-tier system. Regarding the auditing body of the model, the legal framework foresees the existence of a single structure or a reinforced (empowered) structure. This division is characterized by the appointment of a sole auditor (statutory auditor) or a supervisory board (with a minimum of three members, one being a statutory auditor).

The Anglo-Saxon model, like the Classic model, establishes a single management body. Unlike the Classic model, the single director is not admissible in this model, leaving only the board of directors, which include an audit committee. In what concerns the auditing body, the audit committee is composed of at least three directors with non-executive powers and includes an external chartered accountant. These members are responsible for supervising the activities of the executive

committee. Similar to the Classic model, this model can also be classified as a one-tier structure.

Under the **German model** (also known as Dualistic model), the management of the company is placed upon a board of directors or a sole director. The directors may be selected by the general and supervisory board or by the shareholder's general meeting. In this model, there is a clear separation between management and the owners of capital, therefore, this model is a two-tier system and, following the two last models, the auditing body includes an external chartered accountant.

The first models of Corporate Governance implemented by the Portuguese companies were the classic models, which is based on the concentration of power in a single entity, with executive and supervision tasks. There was a clear lack of independence in what concerns the supervision and a deficit of protection regarding the small shareholders and other stakeholders.

Table 1 – CG Model adopted by the PSI20 companies in 2020

PSI20 Companies	Corporate Governance Model
1 ALTRI, SGPS, SA	Latin Model
2 BCP, SA	Anglo-Saxon Model
3 CORTICEIRA AMORIM, SGPS, SA	Latin Model
4 CTT, SA	Anglo-Saxon Model
5 EDP, SA	German Model
6 EDP RENOVAVEIS, SA	Anglo-Saxon Model
7 GALP ENERGIA, SGPS, SA	Latin Model
8 IBERSOL, SGPS, SA	Latin Model
9 JERÓNIMO MARTINS, SGPS, SA	Anglo-Saxon Model
10 MOTA ENGIL, SGPS, SA	Latin Model
11 NOS, SGPS, SA	Latin Model
12 NOVABASE, SGPS, SA	Latin Model
13 PHAROL, SGPS, SA	Latin Model
14 RAMADA, SA	Latin Model
15 REN, SA	Anglo-Saxon Model
16 SEMAPA, SGPS, SA	Latin Model
17 SONAE, SGPS, SA	Latin Model
18 THE NAVIGATOR COMPANY, SA	Latin Model

Source: Corporate Governance report of 2020

The CG model adopted by Portuguese listed companies has suffered some alterations throughout the years. However, the classic model continues to be the most used by these firms. Table 1 shows the CG model adopted by the firms that compose the PSI20¹ index in 2019.

As we can see, 12 of the 18 firms adopt the Latin model (about 67%), 5 adopt the Anglo-Saxon Model, and just one choose the German model.

2.3 Theories related with Corporate Governance

Corporate Governance is seen as a fundamental tool for every company to help them generate wealth and value for all its stakeholders and ensure their sustained longevity. There are several theories associated with Corporate Governance. Although, the most prominent ones are the Agency Theory, the Stewardship Theory, the Resource Dependence Theory and the Stakeholder Theory.

2.3.1 Agency Theory

One of the main theories referred in the context of corporate governance is the Agency Theory. This theory was developed by Jensen and Meckling (1976, p. 308), who defined an agency relationship as a *“contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent”*. In this theory, agents are hired to perform work and ultimately direct the decision-making process of the shareholders while acting on their name and interest.

In a perfect scenario, the agent would make optimal decisions from the principal's viewpoint, contributing to the value of firm maximization, and, consequently, to the maximization of the shareholder wealth. However, the agent may fall into an opportunistic behaviour, driven by their self-interest, breaking apart from the aspirations of the principal. Also, a contract which specifies exactly what

¹ Although the Portuguese Index PSI20 has the number 20 in its designation, nowadays it has only 18 firms in its composition.

they could do and how profits would be allocated is unfeasible due to the difficulty of predicting future contingencies.

The actions shareholders have in order to convey the interest of managers and of themselves results in agency costs, which can be seen as the sum of: (1) monitoring expenditures (by the principal); (2) the bonding expenditures (by the agent); and (3) the residual loss. The basic premise of the Agency Theory is that managers possess the capability of expropriate value to themselves, making the maximization of value of the firm unachievable.

2.3.2 Stewardship Theory

In the opposing spectrum we have the Stewardship Theory, developed by Donaldson and Davis (1991), which stems from psychological and sociological theories, especially from McGregor's (1960) theory Y, who proposed two opposite approaches of how managers perceive their employees (Theory X and Theory Y). On the other hand, the Stewardship Theory focuses solely on the managerial behaviour, where the satisfaction of a job well done is the major motivational reason. The steward's individualistic behaviour will collapse under the notion that a pro-organizational and collectivist behaviour will provide a superior utility on the pursuit of organizational goals.

According to Donaldson and Davis (1994), the Stewardship Theory assumes that managers are good stewards of corporations and diligently work to attain high levels of corporate profit and shareholders returns (Donaldson and Davis, 1994, p. 159) argue that "Managers are principally motivated by achievement and responsibility needs" and "given the needs of managers for responsible, self-directed work, organizations may be better served to free managers from subservience of non-executive director dominated boards".

The single biggest difference between the Agency Theory and the Stewardship Theory is its own approach on motivation. In the Agency Theory, the agent's sole motivation stems from a financial reasoning, mainly resulting from the necessity to line up agent behaviour with shareholder's interests. In contrast, in the Stewardship

Theory, the motivational factor is guided by higher needs, such as achievements, responsibility and progress.

2.3.3 Resource Dependence Theory

The Resource Dependence Theory is brought to light by Selznick (1949) and his research on the Tennessee Valley Authority. Selznick discovered that the Tennessee Valley Authority would include members of the opposition on its governing board when faced with a strong resistance. With this strategy, the Tennessee Valley Authority minimized the external uncertainty by exerting some control over its uncertainty source.

Resource Dependency Theory states that organizations act in ways associated with their level of reliance upon various resources (Pfeffer and Salancik, 1978). Hillman, Canella and Paetzold (2000) added that Resource Dependency Theory focuses on the role that directors partake in providing or ensuring essential resources to an organization via their connections to the external environment.

The Resource Dependence Theory identifies directors of organizations as the primary channel of communication with external sources providing access to information, skills, access to key elements such as suppliers or buyers, legal advice enhancing the perceived legitimacy of the organization. Therefore, a board of director that can provide their organization with relationships, knowledge or information that reduce the uncertainty adds power and stability to the organization.

Organizational power, from this perspective, stems from the capability to deal with uncertainty and minimize doubt for other organizations, the control over scarce resources, and the substitutability of the controlled resources (Pfeffer and Salancik, 1978).

2.3.4 Stakeholder Theory

The Stakeholder Theory (Freeman, 1984) revolves around the issues concerning the stakeholders in an institution. This theory was born to build a framework capable to answer to the concerns of managers during times of change and turmoil. Freeman (1984, p. 5) states that "*Current theories are inconsistent with*

both the quantity and kinds of change that are occurring in the business environment of the 1980's. [...] A new conceptual framework is needed".

In defining the Stakeholder Theory, Clarkson (1994), as cited in Turnbull (2005, p. 30) states that *"the firm is a system of stake holders operating within the larger system of the host society that provides the necessary legal and market infrastructure for the firm's activities. The purpose of the firm is to create wealth or value for its stake holders by converting their stakes into goods and services."*

Supporting this view, Blair (1995, p. 322) added that *"... the goal of directors and management should be maximizing total wealth creation by the firm. The key to achieving this is to enhance the voice of and provide ownership-like incentives to those participants in the firm who contribute or control critical, specialized inputs (firm specific human capital) and to align the interests of these critical stakeholders with the interests of outside, passive shareholders."*

While the Agency Theory states that managers work and serve stakeholders, the Stakeholders Theory proposes that managers in the organizations serve a network of internal (employees, managers, the board of directors, owners or investors) and external (customers, suppliers, business partners and society) relationships.

The Stakeholder Theory gained some momentum due to the recognition by many researchers of the activities of a corporate entity and their impact on the external environment, requiring accountability of the entity, not only to its shareholders, but also to a broader audience. McDonald and Puxty (1979) suggested that companies are no longer the instrument of shareholders alone but exist within society and, therefore, have obligations to that society. However, other researchers like Sternberg (1996) do not support the claim that publicly traded corporations should be "responsive to the rights and wishes of stakeholders". Sternberg (1996) also states that the stakeholder theory undermines private property, agency, and wealth of its shareholders, providing an unfounded responsibility due to its misguided nature.

Figure 2 – Corporate Governance Models

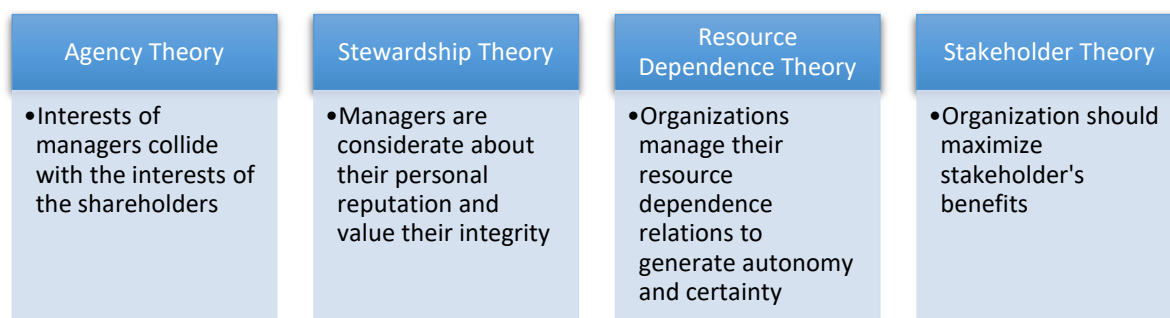


Figure 2 shows the main argument of each theory.

2.4 Corporate Governance and Performance

The firm's performance is strictly related with CG practices to mitigate risk associated with the agency conflicts and their consequential costs. The fundamental insight into this paradigm was provided by Berle and Means (1932). They believed the diffusion of ownership would result in a decrease in firm performance. Their argument builds on the notion that the management's incentives to maximize corporate efficiency is reduced by the separation of ownership and control. Also, Jensen and Meckling (1976) based the agency theory on the assumption that less separation between ownership and control could lead to a closer alignment between the interests of shareholders and managers. There have been several studies trying to identify the optimal ownership structure and its link to the firm's financial performance. It is evident that ownership concentration may play a very contrasting role in helping influence the corporate performance. The proprietary concentration can provide a better alignment between shareholders and managers, as the size of the ownership stake and the incentive to monitor may be positively correlated which would, consequently, improve firm performance and benefit all the shareholders. However, large shareholders may use their power to expropriate wealth from the minority shareholders.

Morck et al. (1988), for example, by examining Fortune 500 firms for the year 1980 and using piecewise linear regression (a type of linear regression which is useful when data follows different trends over different regions, being separated by

breakpoints), found a positive relationship between ownership structure and Tobin's Q (a market measure of performance) for 0 - 5% ownership range. Kapopoulos and Lazaretou (2007), verified that the greater the degree to which shares are concentrated in the hands of outside or inside shareholders, the more effectively management behaviour is monitored and disciplined, thus resulting in better performance. Moreover, Gaur et al. (2015), while sampling all the listed firms on the New Zealand Stock Exchange between 2004 and 2007, found that a lack of ownership concentration leads to agency problems resulting in inferior firm performance. Although these findings are aligned with Jensen and Meckling (1976) agency theory, Morck et al. (1988), Claessens et al. (2002) and Gaur et al. (2015) show that, at first, when ownership increases, firm value increases as well, which may be related to the benefits of a better monitoring, but when ownership is too concentrated, the value of the firm starts to decrease.

Lehmann and Weigand (2000), theorized a positive correlation between ownership concentration and performance. They based their assumptions on the possible flow of information between owners and managers, as well as between companies and external investors. Utilizing data from German mining and Industrial companies from 1991 to 1996, and contrary to what was argued, the authors found a significant negative impact of ownership on profitability. Their result shown that concentration had a negative influence on the Return on Assets (ROA). Moreover, Demsetz and Villalonga (2001) found no significant relationship between ownership structure and firm performance, which is not in agreement with the agency theory.

Considering the possibility of a positive correlation between ownership concentration and firm's performance, we formulate the first hypothesis as follows:

H₁. There is a positive relationship between the ownership concentration and the firms' performance.

According to the agency model, Jensen and Meckling (1976) argue that there is a convergence of interests between shareholders and managers as the managers' ownership increases, and thus higher managerial ownership should reduce agency costs and hence increase firm performance. Managerial ownership

is measured as the percentage of equity shares owned by directors' and their immediate families at the accounting year end (Short and Keasey, 1999). Fauzi and Locke (2012) found that managerial ownership exhibits a positive and significant relationship with firm performance, suggesting the higher managerial ownership increases firm performance. Following the Fauzi and Locke's (2012) work, managerial ownership may impact the firm's performance, which will be tested as a second test hypothesis:

H₂. Financial and market base performance have a positive impact when managerial ownership increases.

The board of directors is an essential control mechanism. Thus, it should align itself with the best interests of the shareholders, influencing the success of a firm (Hsu and Wu, 2014; Allam, 2018). The board of directors represents the head of internal control, limiting or eliminating behaviours that deviate from the firm's self-interest by the management (Donaldson and Davis, 1991). CG literature shows that there are several characteristics that should be present in the board to perform their roles effectively. According to Allam (2018), these characteristics significantly affect the board performance, such as board size, board composition, the presence of supportive committees and the need of separating the CEO and chairman posts.

The Board Size refers to the total number of directors' (executive and non-executive directors) on the board of the organisation. The board of directors acts as a representative of the various stakeholders and has the function of monitoring and advising and its size has several implications on how it operates. Larger boards may suffer from problems of flexibility and are less likely to become involved in strategic decision-making process (Eisenberg, Sundgren, and Wells, 1998). Moreover, they may not be able to act successfully as a controlling body as they may possibly have difficulties in coordinating their efforts (Fernandes et al. 2016). From this point of view, a small number of board members produces a more effective control mechanism. However, a smaller board may be more easily swayed by the CEO and, also, a larger board tends to offer a wider range of knowledge, skills and different views and allows the inclusion of multiple viewpoints on corporate strategy. Eisenberg et al. (1998) found evidence of a negative relation between board size

and performance in small firms with small boards in Finland and, on the same vein, Hirvelä (2019) found a negative relationship between board size and firm performance, measuring the firms performance by the Tobin's Q. In contrast to these results, Minton, Taillard, and Williamson (2009) found that board size is not significantly related to the firm's stock performance.

Based on the empirical evidence of larger boards having a negative effect on the firm's performance, the third hypothesis is formulated as follows:

H₃. There is a negative relationship between board size and the firms' performance.

The Corporate Governance code (Instituto Português de Corporate Governance, 2018) that is actually in force states that "*each company should include a number of non-executive directors that corresponds to no less than one third, but always plural, who satisfy the legal requirements of independence. For the purposes of this recommendation, an independent person is one who is not associated with any specific group of interest of the company, nor under any circumstance likely to affect his/her impartiality of analysis or decision*".

The board composition critically influences the success of a firm (Hsu and Wu, 2014) since they are crucial in developing a strategy, advising top management, evaluating their performance and ensure that key resources are available. Fama and Jensen (1983) argue that independent directors with no economic interest are better suited to monitor management decisions. Corporate governance reformers are generally adopting an agency perspective and place substantial emphasis on the board's monitoring function, thus the most common response to the recent corporate scandals appear to be the board independence (Hsu and Wu, 2014). Liu et al. (2015) studied the effect of board independence on the performance of Chinese listed firms and found that the degree of board independence is positively and significantly related to firm's performance. Theory and conventional wisdom suggest that a board dominated by outsiders is optimal for monitoring managers (Upadhyay and Öztekin, 2020).

However, several studies found no evidence of a convincingly positive effect of greater board independence on firm performance. Bhagat and Black (1998) found that greater board independence may worsen firm performance on a long term, meaning there is no evidence supporting a positive association between board independence and firm performance. Furthermore, Hsu and Wu (2014) compared the board composition of 117 failed firms and found a significant and positive relationship between independent directors and corporate failure. Nevertheless, Vieira (2018) found no relation between board independence and firm performance in Portugal, considering a sample of family firms. Considering the agency theory and following the some empirical studies, such as the work of Liu et al. (2015), the last hypothesis is:

H4. There is a positive relationship between board independence and the firms' performance.

Gender equality and social inclusion represent one of the biggest challenges for the corporate world and ethical issues regarding these subjects are often raised. The inclusion of women on top positions has been promoted by the action of some countries, which have enacted different laws and good governance codes with the aim of increasing the presence of women on the board of listed companies (Turrent, 2019), drawing the attention of the academic world. Although most of the legislation being pushed to create a better environment for the presence of women on boards, their influence on firm performance is not consensual among the empirical studies since different authors have shown different positions on the effect of their presence in top positions on firm's performance. It has been suggested that there are several advantages in having women on boards. Women are not part of the "old boys" network, which allows them to be more independent and have a better understanding of customer behaviour, their needs and opportunities for companies in meeting those needs (Fauzi and Locke, 2012). Moreover, other arguments for the appointment of female non-executive directors are that this will increase diversity of opinion, enhance decision making and leadership styles and provide a competitive advantage by improving the company's image among stakeholder groups and through women's distinctive set of skills (Burgess and Tharenou, 2002; Carter,

Simkins, and Simpson, 2003). Liu et al. (2014), examining the effect of gender diversity and firm performance on China's listed companies from 1999 to 2011, observed a positive and significant relationship between board gender diversity and firm performance. On the same vein, Brahma et al. (2020), examining the relationship between gender diversity and firm performance of FTSE 100 firms in the UK, observed a positive and significant relationship between gender diversity and financial performance.

However, other authors support a contrary view regarding the involvement of female directors. Adams and Funk (2012) show that female directors are more prone to take risks than male directors are. In the same vein, Adams and Ferreira (2009) defend a negative effect of female board representation on profitability and value, suggesting it is due to their engagement in excessive monitoring, which decreases shareholder value. Organizations may also be facing an increasing stakeholder pressure to elevate more women into senior positions not due to their work performance but instead to comply with the stakeholder expectations concerning gender equality (Kaehler and Grundei, 2019).

Nevertheless, gender diversity on the board may present advantages not only on an economic dimension but also on an ethical dimension. The impact of female participation on non-economic performance measures such as corporate social responsibility and transparency links a more gender diverse environment with a positive association with the extent of corporate social reporting information disclosed in annual reports (Rodrigues, Tejedo-Romero, and Craig, 2017).

Given the high number of studies on gender diversity of board members and firms performance, the fifth hypothesis is formulated as follows:

H₅. There is a positive relationship between the presence of women on the board and the firms' performance.

Following the studies of Liu et al. (2014) and Brahma et al. (2020), both observed a positive and significant impact on firm's performance on companies with greater gender diversity on their board composition. Additionally, these findings suggest that three or more female directors have a stronger impact on firm's

performance, supporting the critical mass theory (which refers loosely to a group big enough to accomplish change) since “one is a token, two is a presence, and three is a voice.” (Liu et al., 2014).

Based on the works of Brahma et al. (2020) and Liu et al. (2014), we formulated the following hypothesis:

H6. A representation of three or more female directors will lead to an increase in firm’s performance.

Table 2 presents a summary of the expected relationship between CG determinants and the firm’s performance, according to the formulated hypotheses.

Table 2 - Summary Research Hypotheses

Hypothesis	CG Determinants	Performance
1	Ownership Concentration	+
2	Managerial Ownership	+
3	Board Size	-
4	Board Independence	+
5	Women Representation	+
6	Number of Women above 3	+

It is anticipated a negative relationship between board size and firm’s performance. All the other CG determinants are expected to have a positive influence on the firm’s performance.

3. Methodology and Data

In this section it will be discussed the variables as well as the sample and methodology adopted.

3.1 Variables

3.1.1 Dependent variable

To analyse the influence of CG determinants in the firm’s performance, the dependent variable adopted is firm performance (PERF), which will be measured by

two accounting performance measures and one market performance measure. The two accounting performance measures consist of Return on Assets (ROA) and Return on Equity (ROE). These two financial measures were adopted to add robustness to the analysis. The market performance measure adopted was the Tobin's Q. All the three performance measures were widely used by corporate governance researchers on their studies (Liu et al., 2015; Allam, 2018; Vieira, 2018; Mohamad et al., 2020; Brahma et al., 2020).

ROA is calculated as the net income divided by the total assets. This ratio can expose the capability of firm's assets to generate operational results, which means the profit being produced in comparison to its own assets.

Regarding the ROE, it involves the ratio between the net income and equity, which reflects the firm's ability to turn equity investment into profit.

Lastly, Tobin's Q consists of the ratio between the market value and replacement value of the same physical asset, as a proxy to q. In several studies, since the estimation of the replacement values of a company's assets is hard, most researchers compare the market value of a company's equity with its corresponding book value.

3.1.2 Independent variables

As independent variables, it was used the following variables in order to measure the proposed corporate governance characteristics: ownership concentration (OWN), managerial ownership (MAN), board size (BSIZE), independent board members (BIM) and gender diversity (WOMEN). It was also included a dummy variable when three or more female directors are present in the board (D_WOMEN).

Regarding the two ownership variables, OWN is percentage of shares held by the biggest shareholder and MAN is the ratio of the number of managers as equity shareholders. For board characteristics, BSIZE is the total number of members of the board and BIM is the proportion of independent members of the board to the total number of members on the board. Lastly, concerning gender

diversity and representation, we have WOMEN, which is ratio of women on the board to the total number of directors and D_WOMEN that takes the value of 1 if the board is composed by three or more female directors, and zero otherwise.

Following previous empirical literature (Hsu and Wu, 2014; Liu et al., 2014; Rodrigues et al., 2017; Vieira, 2018; Brahma et al., 2020; Hermuningsih, Kusuma, and Cahyarifida, 2020; Mohamad et al., 2020), as for control variables, it was included the firm's age (AGE) represented by the natural logarithm of the difference between incorporation year and fiscal year, firm's size (SIZE) which is the natural logarithm of the total assets of the firm, leverage (LEV) which represents the ratio between total debt to total assets and it was also added a dummy variable for COVID-19 (COVID), which takes the value of 1 when we are addressing financial information regarding the year 2020, and zero otherwise. We expect a positive relationship between both firm's age and size with firm performance. Additionally, we expect a positive relationship between leverage and firm performance, following free cash flow theory (Jensen, 1986) or a negative relationship following the pecking order theory (Myers and Majluf, 1984).

Table 3 presents the definition of the variables used in this study.

Table 3 – Definition of Variables

Type of Variable	Variable		Definition
Dependent	Return on Assets	ROA	Net income divided by total assets
	Return on Equity	ROE	Net income divided by equity
	Tobin's Q	TOBINQ	The ratio between the market value and replacement value of the same physical asset, as a proxy to Q
Independent	Ownership concentration	OWN	Percentage of shares held by the biggest shareholder
	Managerial ownership	MAN	Percentage of equity shares owned by directors' and their immediate families at the accounting year end
	Board size	BSIZE	Total number of members of the board
	Independent board members	BIM	Proportion of independent members of the board to the total number of members on the board
	Gender diversity	WOMEN	Proportion of women on the board divided to the total number of directors
	Number of women	D_WOMEN	Diversity is a dummy variable that takes a value of 1 if there are three or more female directors in the board and 0 otherwise.
Control	Firm Age	AGE	Natural logarithm of the difference between incorporation year and fiscal year
	Size	SIZE	Natural logarithm of total assets
	Leverage	LEV	Ratio of total debt to total assets
	COVID	COVID	Dummy variable, takes the value 1 for 2020 and 0 otherwise

3.2 Methodology

The methodology used was based on the work conducted by Vieira (2018). The relationship between firm's performance and corporate governance was assessed using the following regression model:

$$\begin{aligned}
 PERF_{i,t} = & \alpha + \beta_1 AGE_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LEV_{i,t} + \beta_4 COVID_{i,t} + \\
 & \beta_5 OWN_{i,t} + \beta_6 MAN_{i,t} + \beta_7 BSIZE_{i,t} + \beta_8 BIM_{i,t} + \beta_9 WOMEN_{i,t} + \\
 & \beta_{10} D_WOMEN_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{1}$$

PERF consists of three different measures of performance mentioned above, α is the constant, and $\varepsilon_{i,t}$ represents the stochastic error term for i firm observation on period t . The other variables are presented in Table 3.

For each regression, adequate tests were done to assess which model is most appropriate among the pooled ordinary least squares (OLS), the fixed effects model (FEM) and the random effects model (REM) as the selection of the estimation method can deliver more efficient estimators. The F-test was applied to determine which of the OLS or the FEM estimation models is more appropriate, being the null hypothesis for the F-test the unobserved heterogeneity or the nonexistence of fixed effect. The Hausman test was done to check the appropriateness of random effects estimation where the insignificant Hausman test statistic suggested that the assumptions for random effects estimation are not rejected. We also added the Breusch-Pagan which was used in order to decide between a Random Effects estimator or a simple OLS.

The previously described tests were conducted on gretl software. Complementary tests such as descriptive statistics, Pearson correlation matrix and t test were conducted, when appropriate, on IBM SPSS statistical package version 26.

3.3 Sample

The sample is composed by the non-financial Portuguese firms listed in the Euronext Lisbon for the period between 2010 and 2020, resulting in an unbalanced panel data. The data was collected using a private database provided by Bureau van Dijk (SABI). For some CG variables information, we needed to analyse the firms' annual management and governance reports. This data collection was conducted between April and May of 2021.

The final sample consisted of 17 non-financial firms, corresponding to 187 firm-year observations.

4. Research Results

Table 4 presents the summary descriptive statistics for the variables mentioned before for the period of 2010-2020.

Table 4 - Descriptive Statistics of the several variables previously mentioned regarding the 17 non-financial Portuguese indexed in the Euronext Lisbon between 2010 and 2020

2010-2020					
Variables	Mean	Median	Minimum	Maximum	SD
SIZE	21.67	22.00	18.79	24.51	1.55
LEV	0.64	0.67	0.04	0.97	0.16
OWN	0.41	0.39	0.05	0.86	0.22
MAN	0.06	0.00	0.00	0.69	0.15
BSIZE	11.96	11.00	3.00	24.00	5.29
BIM	0.25	0.26	0.00	0.78	0.23
WOMEN	0.16	0.17	0.00	0.50	0.12
ROA	0.04	0.03	-0.29	0.27	0.05
ROE	0.12	0.12	-0.35	0.54	0.11
TOBINQ	0.54	0.38	0.06	1.93	0.38

Regarding the performance variables, ROA varied between -0.29 and 0.27, with a mean of 0.03. For ROE, it varied between -0.35 and 0.54 with a mean of 0.11 suggesting that firms present a higher ROE than ROA. Tobin'Q shows a mean of 0.38, varied from 0.06 to 1.93.

Table 5 presents the summary descriptive statistics for the variables mentioned previously, divided into two timeframes – 2010-2017 and 2018-2020.

Table 5 - Descriptive Statistics divided into two periods – 2010-2017 and 2018-2020

Variables	2010-2017					2018-2020				
	Mean	Median	Minimum	Maximum	SD	Mean	Median	Minimum	Maximum	SD
SIZE	21.68	22.03	18.94	24.51	1.54	21.66	21.85	18.79	24.48	1.59
LEV	0.65	0.66	0.04	0.90	0.15	0.63	0.67	0.09	0.97	0.19
OWN	0.41	0.39	0.07	0.86	0.22	0.41	0.48	0.05	0.83	0.21
MAN	0.06	0.00	0.00	0.64	0.14	0.06	0.00	0.00	0.69	0.17
BSIZE	11.91	11.00	3.00	24.00	5.32	12.08	13.00	3.00	21.00	5.27
BIM	0.24	0.25	0.00	0.78	0.22	0.27	0.26	0.00	0.78	0.25
WOMEN	0.13	0.11	0.00	0.40	0.11	0.24	0.24	0.00	0.50	0.08
ROA	0.04	0.04	-0.29	0.18	0.05	0.04	0.03	-0.08	0.27	0.05
ROE	0.13	0.12	-0.30	0.53	0.10	0.11	0.11	-0.35	0.54	0.12
TOBINQ	0.52	0.35	0.06	1.93	0.42	0.58	0.54	0.07	1.53	0.36

For this statistical analysis (e.g., descriptive statistics and t test), the data set was divided in two periods - before and after 2018, corresponding to the release of the latest CG code and its recommendations on board characteristics, as well as the law decree 62/2017 article 5º.

Following the recommendations present in the current CG code (IPCG, 2018), regarding gender diversity, companies should establish standards and requirements of new members of their governing bodies, with particular attention to gender diversity, since it may improve the performance of the governing body and balance its composition. Currently, companies that are publicly traded in the stock market need to follow the law decree 62/2017 article 5º, which states that gender proportion present in the board of directors cannot be inferior to 20% after the first general meeting in 2018 and 33,3% after the first general meeting in 2020. We can observe that, currently, the gender diversity mean (WOMEN) is below the 20% threshold established in 2018. We can observe, in the period of 2018 to 2020, that there was an increase in women representation on boards, from 13% to 24%, which shows the effects of the measures to assure a bigger female representation on governing bodies, although there are still board of directors with 0,00% representation, as we can see in the minimum of the variable WOMEN. There is a significant increase in women representation on boards after 2018 ($t=-7.045$, $p<0.001$), indicating that progress is being made to ensure the gender diversity quota.

Concerning board independence, the current CG code (IPCG, 2018) states that companies should include a number of non-executive directors to no less than one third, but always plural, who satisfy the legal requirements of independence. We can see that, similar to the gender diversity mean, there is a slight increase of the mean referred to the variable BIM from 24% to 27%. However, this margin is still below the threshold of one third that is stated in the current CG code which indicates that there are a few companies that still are not following this recommendation. Moreover, this increase is not statistically significant ($t=-1.085$, $p=0.280$), meaning that more effort is needed to increase BIM in order to reach the one third threshold recommendation.

Table 6 shows the Pearson correlations among the variables employed in this study and their significance level.

Table 6 – Correlation Matrix of the independent variables of 17 non-financial Portuguese indexed in the Euronext Lisbon between 2010 and 2020

Correlation Matrix											
		AGE	SIZE	LEV	COVID	OWN	MAN	BSIZE	BIM	WOMEN	D_WOMEN
AGE	PC	1	-0.028	0.054	-0.709**	-0.006	0.003	-0.057	-0.101	-0.460**	-0.495**
	Sig		0.711	0.473	0.000	0.936	0.966	0.453	0.180	0.000	0.000
SIZE	PC	-0.028	1	0.376**	0.020	0.268**	-0.430**	0.638**	0.555**	-0.377**	0.224**
	Sig	0.711		0.000	0.791	0.000	0.000	0.000	0.000	0.000	0.003
LEV	PC	0.054	0.376**	1	0.030	-0.058	0.039	0.189 [†]	0.028	-0.090	0.191 [†]
	Sig	0.473	0.000		0.693	0.447	0.613	0.011	0.708	0.234	0.011
COVID	PC	-0.709**	0.020	0.030	1	-0.021	0.020	0.040	0.048	0.292**	0.326**
	Sig	0.000	0.791	0.693		0.789	0.790	0.596	0.527	0.000	0.000
OWN	PC	-0.006	0.268**	-0.058	-0.021	1	-0.393**	0.072	-0.074	-0.107	0.065
	Sig.	0.936	0.000	0.447	0.789		0.000	0.346	0.334	0.161	0.399
MAN	PC	0.003	-0.430**	0.039	0.020	-0.393**	1	-0.347**	-0.312**	0.141	-0.179 [†]
	Sig	0.966	0.000	0.613	0.790	0.000		0.000	0.000	0.065	0.018
BSIZE	PC	-0.057	0.638**	0.189 [†]	0.040	0.072	-0.347**	1	0.459**	-0.348**	0.399**
	Sig	0.453	0.000	0.011	0.596	0.346	0.000		0.000	0.000	0.000
BIM	PC	-0.101	0.555**	0.028	0.048	-0.074	-0.312**	0.459**	1	-0.144	0.158 [†]
	Sig	0.180	0.000	0.708	0.527	0.334	0.000	0.000		0.056	0.035
WOMEN	PC	-0.460**	-0.377**	-0.090	0.292**	-0.107	0.141	-0.348**	-0.144	1	0.406**
	Sig	0.000	0.000	0.234	0.000	0.161	0.065	0.000	0.056		0.000
D_WOMEN	PC	-0.495**	0.224**	0.191 [†]	0.326**	0.065	-0.179 [†]	0.399**	0.158 [†]	0.406**	1
	Sig	0.000	0.003	0.011	0.000	0.399	0.018	0.000	0.035	0.000	

PC: Pearson correlation; Sig – significance, two tailed. * - $\alpha=0,01$, ** - $\alpha=0,05$, *** - $\alpha=0,10$

The correlation results for the independent variable reveal low correlation coefficients, being the highest between the variables SIZE and BSIZE, with a value of 0.638, suggesting that multicollinearity does not pose an issue in this study. None of the variance inflation factors (VIF) exceeds 4.453, well below the recommended threshold (Hsu and Wu, 2014), which reinforces the idea that the independent variables do not suffer from multicollinearity problems.

Table 7 reports the regression model results considering the dependent variables ROA, ROE and TOBINQ. For all the regressions we present the efficient Model (pooled OLS, FEM, REM) based on the F statistic, the Breusch-Pagan statistic and the Hausman test.

Table 7 – Regression model of the 3 performance measures (ROA, ROE, and Tobin's Q) of 17 non-financial Portuguese indexed in the Euronext Lisbon between 2010 and 2020

Regression						
Variables	ROA (pooled OLS)		ROE (FEM)		TOBINQ (FEM)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	-0.1960	-1.702***	-0.4077	-0.821	0.6421	0.480
AGE	-0.0240	-2.207**	-0.0151	-0.877	-0.1280	-2.740*
SIZE	0.0137	2.188**	0.0265	1.069	0.0480	0.714
LEV	0.0465	1.363	0.0305	0.266	-1.1344	-3.678*
COVID	-0.0649	-2.930*	-0.1229	-3.987*	-0.1796	-2.146**
OWN	0.0225	0.861	-0.0714	-0.785	-0.3548	-1.437
MAN	0.1065	2.843*	-0.2556	-1.844***	0.4995	1.357
BSIZE	-0.0034	-1.967***	0.0004	0.107	0.0000	0.006
BIM	-0.0751	-2.827*	-0.0286	-0.394	-0.5548	-2.902*
WOMEN	0.0039	0.064	0.1251	1.018	0.6578	1.982**
D_WOMEN	-0.0116	-0.695	-0.0084	-0.304	-0.2273	-3.064*
F-test	1.08537		3.39567*		16.8794*	
Breusch-Pagan test	0.542098		8.62028*		191.506*	
Hausman test	12.0087		13.8994		17.9404***	
Adjusted R ²	0.2332		0.1935		0.3364	
N	170		170		170	

* - $\alpha=0,01$, ** - $\alpha=0,05$, *** - $\alpha=0,10$

The results show some differences between the accounting performance measures and the market performance measure, which is in line with the notion that accounting and market measures of performance have little empirical overlap since the value of a firm on the stock market is a reflection of its future value while the accounting measures of a firm are a reflection of its past performance (Gentry and Shen, 2010). Looking at the adjusted R², it is suggested that the market-based measure (Tobin's Q) is most appropriate as a proxy to performance, instead of the accounting measures (ROA and ROE).

The effect of LEV is statistically significant for the market-based measure. We can see that the LEV negatively influences the performance based on market performance measure, which is consistent with the pecking order theory (Myers and Majluf, 1984).

Regarding the OWN variable, the coefficient is not statistically significant for none of the performance measures used. Consequently, we find no evidence to support hypothesis 1. The variable MAN shows a positive relationship between the managerial ownership and the firms' performance, with a high confidence level, when looking at the accounting measure ROA, which is in line with Fauzi and Locke's (2012) work and supports hypothesis 2. When we have an increase of 1% in managerial ownership, ROA will also increase close to 0,11 units, meaning that when managers own company's shares, it helps performance and can be an incentive to achieve better results, which is in line with the Agency Theory. However, the hypothesis 2 is not supported by the performance measured by ROE with a confidence level of 90%, since MAN influences negatively the firms' performance. In what concerns the dependent variable, the results show that MAN variable does not have a significant impact on firms' performance. Consequently, the hypothesis 2 is only supported when we consider the dependent variable ROA. This may indicate that the results depend on the performance measured used.

Looking at the BSIZE variable, it presents significant p-values for the ROA performance measure, indicating a negative relationship between board size and firms' performance, which is in agreement with the results of Eisenberg et al. (1998), giving support to the hypothesis 3. However, the results do not give support to hypothesis 3 when we consider the dependent variables ROE or Tobin's Q.

In what concerns the BIM variables, the results show that this variable is statistically significant for both ROA and Tobin's Q performance metric with the same confidence level. However, we can observe an opposite effect of the one suggested in hypothesis 4, meaning that an increment of BIM leads to a decrease in performance. With a confidence level of 99%, a 1% increase in BIM we have a negative 0.08 and 0.55 units' impact on performance measured by ROA and Tobin's Q, respectively. This evidence suggest that the monitoring and advisory services

provided by independent directors may not lead to efficiency improvements and may conspire to intensify agency problems (Vieira, 2018). In addition, the variable is not statistically significant for the case where the dependent variable is the ROE. Consequently, we find no support for the hypothesis 4.

Considering the variable WOMEN, it presents a positive and significant coefficient for the market performance measure, showing a positive relationship between the presence of women on the board and the firms' performance (based on Tobin's Q). This result is in line with the ones of Burgess and Tharenou (2002), Carter et al (2003), Liu et al (2014) and Vieira (2018), as it gives support to the hypothesis 5 . However, this hypothesis is not supported when the dependent variable is a finance measure of performance (ROA or ROE).

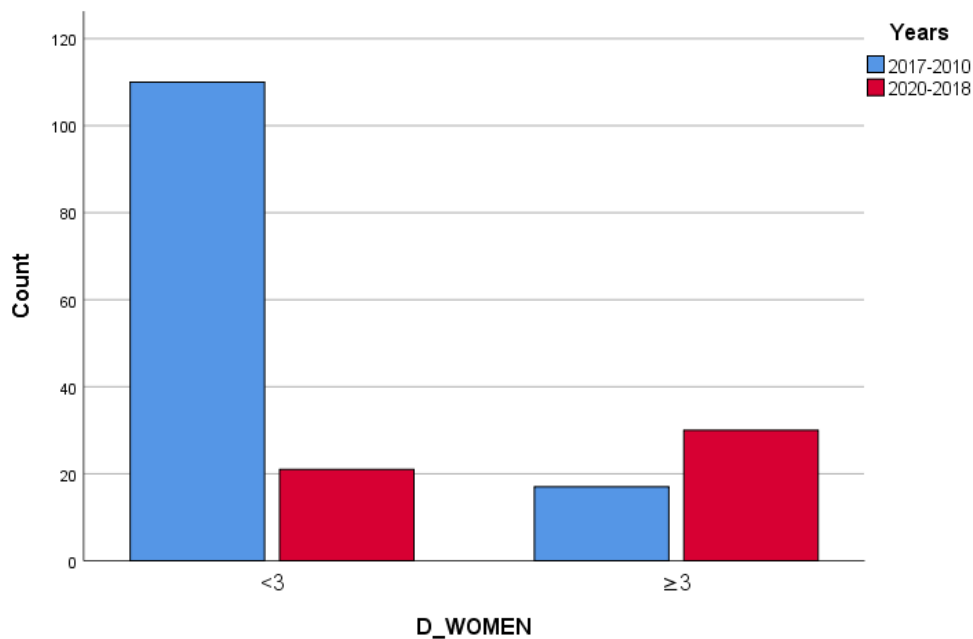
The variable D_WOMEN is only statistically significant for the regression that considers Tobin's Q as dependent variable. However, the signal is contrary to the expected one. Consequently, we find no support for hypothesis 6.

The opposite effect of WOMEN and D_WOMEN on Tobin's Q raises some questions regarding the mandatory quota for gender diversity in boards, requiring further analysis.

Finally, the COVID variable presents a statistically significant negative impact on performance for all the accounting and market-based measures, with a confidence level of 99% for both accounting measures and a confidence level of 95% for the market-based measure, showing that COVID-19 causes a decrease in firms' performance.

Figure 3 displays the variable D_WOMEN, sectioned between the years of 2017-2010 and 2020-2018.

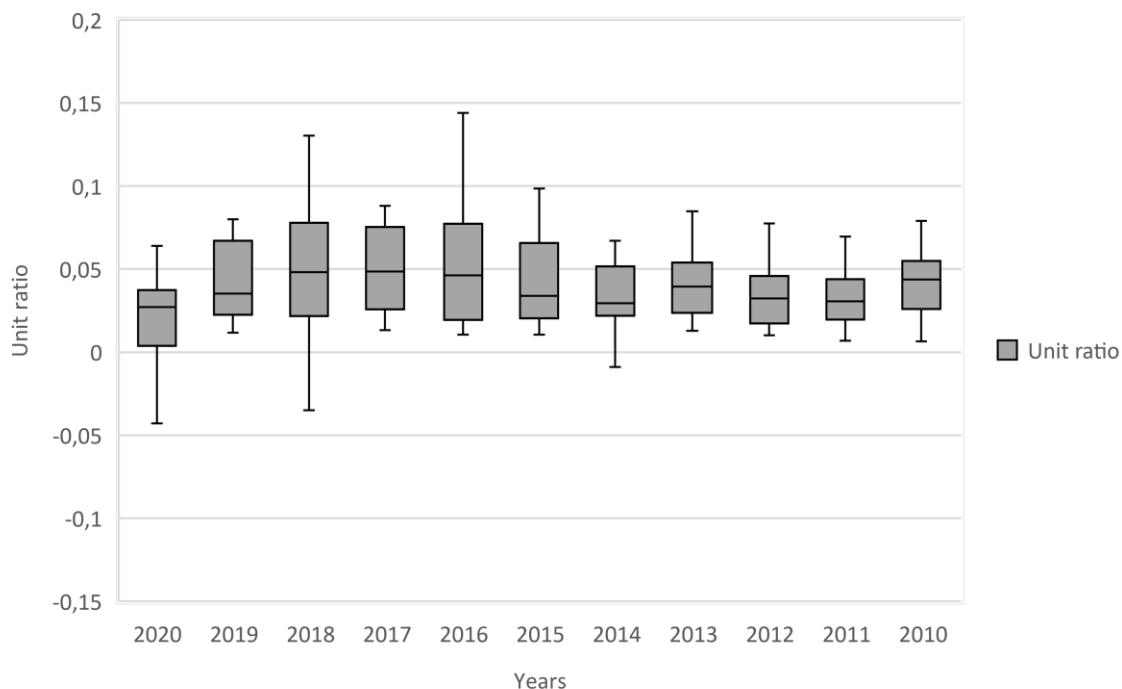
Figure 3 – D_WOMEN variable sectioned between years 2017-2010 and 2020-2018 of 17 non-financial Portuguese indexed in the Euronext Lisbon \geq



As depicted in Figure 3, it is evident that efforts are being made to comply with the law decree 62/2017 article 5^o regarding the gender diversity ratios, and this might be the root cause of such contrasting effects shown in Tobin's Q. For instance, in Norway, following similar mandatory quotas imposed as an instrument for exogenous changes to corporate boards, it was observed that the quota caused a significant drop in the stock price and a large decline in Tobin's Q in the following years (Ahern and Dittmar, 2011). The authors also argue that these measures led to younger and less experienced boards, an increase in leverage and acquisitions, and deterioration in operating performance. These promotions may be explained by the fast and hasty of promotions to meet quotas required by law that could have led to younger and less experienced board members.

Figure 4 shows a boxplot of the yearly ROA ration for the 17 non-financial Portuguese firms indexed in the Euronext Lisbon between 2010 and 2020.

Figure 4 –Boxplots of yearly ROA ratio of 17 non-financial Portuguese firms indexed in the Euronext Lisbon between 2010 and 2020



As portrayed in figure 4, the median dropped from 0,035 in 2019 to 0,027 in 2020. We can conclude that, for the Portuguese firms listed on the Euronext Lisbon, COVID had, on average, a significant negative impact, when we consider the performance measured by the ROA ratio. The evidence that COVID-19 affects firms' performance are in line with the results of Golubeva (2021) and Khatib and Nour (2021).

Table 8 presents a summary of the results obtained.

Table 8 - Summary of Research Results

Hypotheses	ROA	ROE	TOBINQ
There is a positive relationship between the ownership concentration and the firms' performance	N/A	N/A	N/A
Financial and market base performance have a positive impact when managerial ownership increases	+	-	N/A
There is a negative relationship between board size and the firms' performance	-	N/A	N/A
There is a positive relationship between board independence and the firms' performance	-	N/A	-
There is a positive relationship between the presence of women on the board and the firms' performance	N/A	N/A	+
A representation of three or more female directors will lead to an increase in firm's performance	N/A	N/A	-

No statistically significant relationship was observed for ownership concentration, which does not give support to H₁. As we can observe, there is a positive relationship between managerial ownership and firm's performance, thus we find support for H₂, but only for the case of ROA measure of performance. Additionally, it was also observed evidence to support H₃, in the case of ROA dependent variable. Additionally, we found no evidence to support H₄ since we have observed a negative relationship with firm performance for ROA and Tobin's Q measures of performance. In what concerns women representation, we find evidence supporting H₅, but only for the Q-Tobin regression. Finally, we found no evidence to support H₆, since we witnessed a negative relationship between both board independence and representation of three or more female directors with firms' performance.

Summarizing, we find evidence supporting hypotheses 2 and 3 for the dependent variable ROA and hypothesis 5 for the dependent variable Tobin's Q.

5. Conclusions

The objective of this thesis was to provide an overview of the Corporate Governance topic, which reached the spotlight due to several global financial scandals and, since then, has been through a lot of integral changes and revisions in the past few years. This study examined the relationship between some CG determinants and their impact on the Portuguese firms listed on the Euronext Lisbon.

Regarding ownership concentration (OWN), the results show no statistically significant relationship for all performance measures, which provided no support for the existence of a positive relationship between ownership concentration and the firm's performance. On the other hand, managerial ownership (MAN) appeared to have a positive impact on performance measured by ROA. The managerial ownership may provide a better alignment between shareholders and managers by reducing agency costs. Thus, results support the hypothesis that there is a positive

relationship with the firm's performance for managerial ownership for the dependent variable ROA.

Concerning board size (BSIZE) and board independence (BIM), the results show that both present a negative, statistically significant, relationship with the accounting performance measure ROA. In addition, regarding board independence, it also shows a negative relationship with the market-based performance measure, Tobin's Q. These results provide support to the hypothesis that there is a negative relationship between board size and firm's performance for the ROA measure of performance. However, they do not give support to the assumption that there is a positive relationship between board independence and the firms' performance and raises the question on the true independence of this kind of board members, as they may be classified as independent but may be selected through personal contacts or influenced by management (Vieira, 2018).

Regarding gender diversity and its representation on the board (WOMEN and D_WOMEN respectively), they have presented contrasting effects involving their relationship with the performance measure Tobin's Q. It is evident that gender diversity has a positive impact on firm performance, through a market-based measure, supporting the hypothesis that the presence of women positively influences firm's performance, when we consider a market performance measure. However, there is indication that a representation of three or more females in the board of directors leads to a decrease in firm's performance, which gives no support for the hypothesis that three or more female directors will lead to an increase in firm's performance. The latter may be explained by the fast and hasty of promotions to meet quotas required by law that could have led to younger and less experienced board members.

These conclusions should not disregard the limitations of this research. Firstly, there are several measures connected to CG that could influence firm's performance, making this a more complex interrelation system. Secondly, another limitation of this research is the small sample size due to the size of the Portuguese stock market and its data availability constrains.

For future research, we consider important to extend this analysis to include other non-listed companies that present a distinct structures and characteristics, which may lead to other findings. It would also be important to test novel performance variables, such as business measures. Finally, it would be also interesting to look at the influence of the COVID-19 on firm performance for a longer period, since it may have a long-term effect.

References

- Adams, R. B., and Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291–309. <https://doi.org/10.1016/j.jfineco.2008.10.007>
- Adams, R. B., and Funk, P. (2012). Beyond the glass ceiling: Does gender matter? *Management Science*, 58(2), 219–235. <https://doi.org/10.1287/mnsc.1110.1452>
- Ahern, K. R., and Dittmar, A. K. (2011). The Changing of the Boards: The Impact on Firm Valuation of Mandated Female Board Representation. *The Quarterly Journal of Economics*. <https://doi.org/10.2139/ssrn.1364470>
- Allam, B. S. (2018). The impact of board characteristics and ownership identity on agency costs and firm performance: UK evidence. *Corporate Governance (Bingley)*, 18(6), 1147–1176. <https://doi.org/10.1108/CG-09-2016-0184>
- Berle, A. A., and Means, G. C. (1932). The modern corporation and private property.
- Bhagat, S., and Black, B. S. (1998). The Non-Correlation Between Board Independence and Long-Term Firm Performance. *Stanford Law and Economics Olin Working Paper No. 185*, 1–44. <https://doi.org/10.2139/ssrn.133808>
- Blair, M. M. (1995). *Ownership and control: Rethinking corporate governance for the twenty-first century*. Washington, D.C: Brookings Institute.
- Brahma, S., Nwafor, C., and Boateng, A. (2020). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance and Economics*, (June 2018), 1–16. <https://doi.org/10.1002/ijfe.2089>
- Briano Turrent, G. del C. (2019). Women on the board and the ethical behaviour: The case of Latin American listed companies. In *New challenges in corporate governance: Theory and practice* (pp. 81–84). https://doi.org/10.22495/ncpr_22
- Burgess, Z., and Tharenou, P. (2002). Women board directors: Characteristics of the few. *Journal of Business Ethics*, 37(1), 39–49. <https://doi.org/doi.org/10.1023/A:1014726001155>
- Cadbury, A. (1992). *The Report of the Cadbury Committee on The Financial Aspects of Corporate Governance: The Code of Best Practice. REPORT OF THE COMMITTEE*

- ON THE FINANCIAL ASPECTS OF CORPORATE GOVERNANCE. Retrieved from <https://ecgi.global/sites/default/files/codes/documents/cadbury.pdf>
- Carter, D. A., Simkins, B. J., and Simpson, W. G. (2003). Corporate Governance, Board Diversity, and Firm Value. *The Financial Review*, 38(1), 33–53. <https://doi.org/10.1111/1540-6288.00034>
- Cheffins, B. R. (2012). The History of Corporate Governance. *OXFORD HANDBOOK OF CORPORATE GOVERNANCE*, (January). <https://doi.org/10.2139/ssrn.1975404>
- Claessens, S., Djankov, S., Fan, J. P. H., and Lang, L. H. P. (2002). Disentangling the incentive and entrenchment effects of large shareholdings. *Journal of Finance*, 57(6), 2741–2771. <https://doi.org/10.1111/1540-6261.00511>
- Clarkson, M. (1994). A risk-based model of stakeholder theory. *Proceedings of the 2nd Toronto Conference on Stakeholder Theory, Centre for Corporate Social Performance and Ethics, University of Toronto, Toronto, April.*
- Código das Sociedades Comerciais.* (2011).
- Coffee Jr., J. C. (2001). The Acquiescent Gatekeeper: Reputational Intermediaries, Auditor Independence and the Governance of Accounting. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.270944>
- Committee on the Financial Aspects of Corporate Governance. (1992). *Report of the Committee on the Financial Aspects of Corporate Governance.*
- Costa, F., and Santos, J. (2011). Corporate Governance: Marcos Históricos e a Actualidade em Portugal, 1–26.
- Demsetz, H., and Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7(3), 209–233. [https://doi.org/10.1016/S0929-1199\(01\)00020-7](https://doi.org/10.1016/S0929-1199(01)00020-7)
- Donaldson, L., and Davis, J. H. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management*, 16(1), 49–64. <https://doi.org/10.1177/031289629101600103>
- Donaldson, L., and Davis, J. H. (1994). Boards and company performance: Research

- challenges the conventional wisdom. *Corporate Governance: Values, Ethics and Leadership*, 2(3), 319–328.
- Eisenberg, T., Sundgren, S., and Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, 48(1), 35–54. [https://doi.org/10.1016/s0304-405x\(98\)00003-8](https://doi.org/10.1016/s0304-405x(98)00003-8)
- Fama, E. F., and Jensen, M. C. (1983). Separation of Ownership and Control. *The Journal of Law and Economics*, 26(2), 301–325. <https://doi.org/10.1086/467037>
- Fauzi, F., and Locke, S. (2012). Board structure, ownership structure and firm performance: A study of New Zealand listed-firms. *Asian Academy of Management Journal of Accounting and Finance*, 8(2), 43–67.
- Fernandes, C., Farinha, J., Martins, F. V., and Mateus, C. (2016). Determinants of European Banks' Bailouts Following the 2007-2008 Financial Crisis. *Journal of International Economic Law*, 19(3), 707–747. <https://doi.org/10.1093/jiel/jgw060>
- Freeman, R. E. (1984). *Strategic Management: A stakeholder Approach*. Cambridge University Press.
- Gaur, S. ., Bathula, H., and Singh, D. (2015). Ownership Concentration, Board Characteristics and Firm Performance. *Management Decision*, 53(5), 911–931.
- Gentry, R. J., and Shen, W. (2010). The relationship between accounting and market measures of firm financial performance: How strong is it? *Journal of Managerial Issues*, 22(4), 514–530.
- Golubeva, O. (2021). Firms' performance during the COVID-19 outbreak: international evidence from 13 countries. *Corporate Governance: The International Journal of Business in Society*, ahead-of-p(ahead-of-print). <https://doi.org/10.1108/cg-09-2020-0405>
- Grundei, J., and Kaehler, B. (2018). Corporate Governance: Zur Notwendigkeit einer Konturschärfung und betriebswirtschaftlichen Erweiterung des Begriffsverständnisses. In *HR Governance* (pp. 585–592).
- Hermuningsih, S., Kusuma, H., and Cahyarifida, R. A. (2020). Corporate Governance and Firm Performance: An Empirical Study from Indonesian Manufacturing Firms. *Journal*

- of Asian Finance, Economics and Business*, 7(11), 827–834.
<https://doi.org/10.13106/jafeb.2020.vol7.no11.827>
- Hillman, A., Cannella, A. A., Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management Studies*, 37(2), 235–255.
- Hirvelä, J. (2019). *Relation between board composition and firm performance Empirical evidence from Nordics Bachelor ' s Thesis Finance Fall 2019*.
- Hsu, H. H., and Wu, C. Y. H. (2014). Board composition, grey directors and corporate failure in the UK. *British Accounting Review*, 46(3), 215–227.
<https://doi.org/10.1016/j.bar.2013.12.002>
- Instituto Português de Corporate Governance. (2006). *White Book on Corporate Governance in Portugal*. Lisboa.
- Instituto Português de Corporate Governance. (2018). *Código de Governo das Sociedades*. Lisboa.
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *The American Economic Review*, 76(2), 323–329.
- Jensen, M. C., and Meckling, W. H. (1976). Racial diversity and its asymmetry within and across hierarchical levels: The effects on financial performance. *Journal of Financial Economics*, 305–360.
- Kaehler, B., and Grundei, J. (2019). HR Governance as a Part of the Corporate Governance Concept. In *HR Governance* (pp. 27–50). https://doi.org/10.1007/978-3-319-94526-2_3
- Kapopoulos, P., and Lazaretou, S. (2007). Corporate Ownership Structure and Firm Performance: evidence from Greek firms. *Corporate Governance: An International Review*, 15(2), 144–158. <https://doi.org/10.1111/j.1467-8683.2007.00551.x>
- Khatib, S., and Nour, I. (2021). The Impact of Corporate Governance on Firm Performance During The COVID19 Pandemic: Evidence from Malaysia. *Journal of Asian Finance, Economics and Business*, 8(2), 943–952.

- Lehmann, E., and Weigand, J. (2000). Does the governed corporation perform better? Governance structures and corporate performance in Germany. *European Finance Review* 4, 157–195. <https://doi.org/10.1023/A:1009896709767>
- Liu, Y., Miletkov, M. K., Wei, Z., and Yang, T. (2015). Board independence and firm performance in China. *Journal of Corporate Finance*, 30, 223–244. <https://doi.org/10.1016/j.jcorpfin.2014.12.004>
- Liu, Y., Wei, Z., and Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, 28, 169–184. <https://doi.org/10.1016/j.jcorpfin.2013.11.016>
- Marnet, O. (2007). History repeats itself: The failure of rational choice models in corporate governance. *Critical Perspectives on Accounting*, 18(2), 191–210. <https://doi.org/10.1016/j.cpa.2005.11.010>
- McDonald, D., and Puxty, A. G. (1979). An inducement-contribution approach to corporate financial reporting. *Accounting, Organizations and Society*, 4(1–2), 53–65. [https://doi.org/10.1016/0361-3682\(79\)90007-2](https://doi.org/10.1016/0361-3682(79)90007-2)
- McGregor, D. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- Minton, B. A., Taillard, J., and Williamson, R. G. (2009). Board Composition, Risk Taking and Value: Evidence from Financial Firms. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1455997>
- Mohamad, S., Pantamee, A. A., Keong, O. C., and Garrett, K. W. C. (2020). Corporate Governance and Firm Performance: Evidence from Listed Malaysian Firms. *International Journal of Psychosocial Rehabilitation*, 24(02), 3668–3678. <https://doi.org/10.37200/ijpr/v24i2/pr200690>
- Morck, R., Shleifer, A., and Vishny, R. W. (1988). Management ownership and market valuation. An empirical analysis. *Journal of Financial Economics*, 20(C), 293–315. [https://doi.org/10.1016/0304-405X\(88\)90048-7](https://doi.org/10.1016/0304-405X(88)90048-7)
- Myers, S. C., and Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)

- OECD. (2004). *OECD Principles of corporate governance*. https://doi.org/10.1007/978-4-431-30920-8_10
- Pfeffer, J., and Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- Rodrigues, L. L., Tejedo-Romero, F., and Craig, R. (2017). Corporate governance and intellectual capital reporting in a period of financial crisis: Evidence from Portugal oa. *International Journal of Disclosure and Governance*, 14(1), 1–29. <https://doi.org/10.1057/jdg.2015.20>
- Selznick, P. (1949). *TVA and the grass roots*. University of California Press.
- Short, H., and Keasey, K. (1999). Managerial ownership and the performance of firms: Evidence from the UK. *Journal of Corporate Finance*, 5(1), 79–101. [https://doi.org/10.1016/s0929-1199\(98\)00016-9](https://doi.org/10.1016/s0929-1199(98)00016-9)
- Steger, T. (2015). Corporate Governance. In *Wiley Encyclopedia of Management* (pp. 1–4).
- Sternberg, E. (1996). *Stakeholder Theory Exposed*. *Economic Affairs* (Vol. 16). <https://doi.org/10.1111/j.1468-0270.1996.tb00539.x>
- Turnbull, S. (2000). Corporate Governance: Theories, Challenges and Paradigms. *Gouvernance: Revue Internationale*, 1, 11–43. <https://doi.org/10.2139/ssrn.221350>
- Upadhyay, A., and Öztekin, Ö. (2020). What Matters More in Board Independence? Form or Substance? *Journal of Corporation Law*, 1–50. <https://doi.org/http://dx.doi.org/10.2139/ssrn.3678355>
- Vieira, E., and Neiva, J. (2019). Board of directors specificities in the context of Portuguese corporate governance and corporate law. *Corporate Law and Governance Review*, 1(1), 41–57. <https://doi.org/10.22495/clgrv1i1p5>
- Vieira, E. S. (2018). Board of directors characteristics and performance in family firms and under the crisis. *Corporate Governance (Bingley)*, 18(1), 119–142. <https://doi.org/10.1108/CG-01-2017-0010>