



**The effect of the quality of national institutions on the
effectiveness of corporate governance**

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Abstract

The main goal of this thesis is to examine the effect of independent board members on ROA and the moderation effect of the quality of national institutions. Prior literature finds different outcomes for the effectiveness of independent board members as a corporate governance mechanism and argues that the presence and quality of different types of institutions complement this relationship. This means that the quality of legal, economic and political institutions strengthens the relationship between independent board members and ROA due to the different functions performed by these types of institutions. The study aims to give an answer to the following central question of this thesis: What is the effect of independent board members on ROA, and how is this effect influenced by the quality of national institutions? Panel data including 453 companies across 14 European countries resulted in a significant and positive linear relationship between independent board members and ROA. This means that when the amount of independent board members increases within a board, the average mean of the ROA is increasing as well. There is no evidence found to support the positive moderation effect of the quality of different types of national institutions. This thesis finds evidence for a negative moderation effect, implying that the presence and quality of institutions weaken the relationship between independent board members and ROA.

Preface

This thesis is written in order to obtain my master in International Management, both at LUISS university and Tilburg University. At both universities, the subject of corporate governance was part of the curriculum and it was one of my favourite subjects to follow. Therefore, I knew from the beginning that I wanted to write my thesis about corporate governance. This current research explores the relationship between independent board members and firm performance. Furthermore, I focus on the influence of the quality of national institutions to see how different institutions across countries influences the effectiveness of independent board members.

The most difficult part of writing this thesis has been the actual writing and structuring of the thesis. It takes more time and attention to write a well-founded thesis than I expected before. Nevertheless, I enjoyed writing this thesis and in my opinion, it strengthened my writing abilities as well as other professional skills such as planning and coordination of a process.

I would like to thank my two supervisors, Alessandro Zattoni and Miranda Bodo, for their time and feedback. The knowledge and feedback of both supervisors have helped me to improve the quality of my thesis. Also, many thanks to all the people of the international office at LUISS, who answered all my questions and made me feel at home in Rome. Furthermore, I would like to thank my family and friends, in particular, my parents and boyfriend, for supporting me through the whole thesis process.

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Chapter 1: Introduction

This chapter explains the problem indication and the problem statement of this thesis. After the central research question will be explained. Next, the research method and the used data of this thesis will be discussed. This chapter concludes with the relevance and structure of this thesis.

1.1 Problem indication

Corporate governance aims to help firms to reduce agency problems and minimizing agency costs, subsequently leading to better firm performance such as higher financial results and/or other performance improvements such as a higher level of innovation within the firm (Hart, 1995). The agency problem is the problem of a manager acting in self-interest instead of maximizing the value for shareholders. This problem is caused by bounded rationality, opportunistic behaviour of managers and incomplete contracts and results in different agency costs such as monitoring costs or costs of losing residual income (Fama, Jensen, 1983; Hart, 1995; Jensen and Meckling, 1976; Klein, 1983). Different internal and external corporate governance mechanisms exist to help firms implement corporate governance in order to reduce agency problems within the firm. Firms can either decide for themselves or are forced to have certain corporate governance mechanisms implemented within their firm. This results in a wide variety of different structures and forms of corporate governance realized within companies (Jensen, 1993; Walsh and Seward, 1990). Since corporate governance mechanisms help to avoid different corporate governance issues such as bad decision making, corruption and other violations, these mechanisms make sure that value for shareholders as well as other stakeholders is maximized. Hence, the effect of corporate governance on firm performance has been an important topic in management research.

Most governance mechanisms are studied separately in governance literature since different governance mechanisms have different implications and outcomes. It is argued that studying corporate governance as a whole would be too general and it would be hard to draw conclusions from this kind of research (Hart, 1995). This current study will focus on one specific element of the composition of the board. The composition of the board is an internal corporate governance mechanism and entails, for example, the size of a board, the structure of independent and dependent directors within a board, board diversity, CEO duality and the creation of different committee within the company. This thesis focuses on the aspect of independent board members, which have the main task to control and advise the company. Furthermore, independent directors contribute to the board by bringing valuable knowledge and experience gained outside the firm (Daily, Ellstrand and Johnson 1996; Huse, 2005; Stiles and Taylor, 2001; Zattoni, 2010). It is argued by literature that ‘truly’ independent directors, which are independent of the firm’s general management, can represent the shareholders’ interest in a good way.

This means that the independent directors represent the interest of the shareholders and control the firm so that the firm makes the right decisions with shareholders goal in mind (Fama and Jensen, 1983). In summary, it is argued that independent board members introduce a balance of power and represent shareholder interests better than dependent board members because of their outside gained knowledge and independence of the company and CEO. Therefore, different types of research argue that a higher proportion of independent directors within a board leads to a more effective board and better representation of shareholders expectations, subsequently leading to better firm performance.

Various studies are conducted on the effect of independent board members on firm performance, but outcomes about this relationship are inconsistent and contradicting. A number of studies find a positive linear relationship (Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Pfeffer and Salancik, 1978; Mizruchi, 1983; Zahra and Pearce, 1989). Others also predicted this relationship but found no significant results (Baysinger & Butler, 1985; Bhagat & Bernard Black, 2002; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). However, most research that shows non-significant results is conducted with US data. The results of this kind of research may, therefore, not hold outside the US. Furthermore, researchers try to find reasons for contradicting results with regards to the independent board members in literature about governance bundles. Institutional and comparative corporate governance studies argue that other factors on firm and country-level could complement or substitute the effect of corporate governance mechanisms. This type of research argues that the effectiveness of corporate governance mechanisms differs across countries due to the involvement of other factors at firm and country-level (Filatotchev, Jackson and Nakajima, 2013; Globberman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998).

Literature argues that the quality of national institutions is a country-level factor that could have an effect on the effectiveness of corporate governance. More specifically, research argues that the presence and quality of different national institutions across countries can strengthen the relationship between corporate governance and firm performance (Filatotchev, Jackson and Nakajima, 2013; Globberman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998). Institutions have the function to standardise transaction costs by defining the choice set and, hence, the profitability and feasibility of the economic activity. In other words, institutions provide different market participants with information and rules to support a good market structure for a given economy (Binmore, 2010; Mirowski, 1986; North, 1991; Schotter, 2008). Different types of institutions arise in an economy and since they have a different function and ways of influencing the effectiveness of corporate governance, it is important to find distinctive explanations on how certain types of institutions influence the effectiveness of corporate governance. This thesis will explain the moderation effect of legal, economic and political institutions.

Legal institutions can be defined as the rules that govern relationships between agents of society (North, 1991). Legal institutions support economic transaction and protection of these actions by allowing for contracts and the enforcement of these contracts. Economic institutions can be seen as an extension of legal institutions since they also have the task to enforce laws on society. However, economic institutions are more presence on a decentralized level. Furthermore, economic institutions have the task to help to secure a properly working market (North, 1991). Economic institutions make the law and regulation more understandable, less costly, beneficial and less time-consuming for companies so that they promote private sector development. Political institutions have the main task to create laws and create a good political environment. Research argues that political institutions have a strong influence on firms, as the political process includes making laws and this leads to a certain level of economic welfare in a country (Pagano and Volpin, 2005). The quality of political institutions includes their ability to create a stable environment in a country with free and fair elections and respect for subjects such as political freedom and political participation of firms and individuals (Boddy-Evans, 2018). It is argued that, in an environment with good quality of legal, economic and political institution, companies can rely on better enforcement and control of laws and regulation, improved access of information about corporate governance mechanisms and lower costs of monitoring as well as lower costs for implementing and maintaining corporate governance mechanisms (Kaufmann et al., 2009). Therefore, it can be argued that different types of institutions have a positive moderation effect on the effectiveness of corporate governance and strengthen the relationship between independent board members and ROA (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Coase, 1961; Davies and Schlitzter, 2008; Deakin and Singh, 2008; Dyck and Zingales, 2003; Filatotchev, Jackson and Nakajima, 2013).

In summary, this thesis will explain the effect of independent board members on ROA and how the quality of different national institutions influences this relationship. The central research question is stated as the following:

“What is the effect of independent board members on ROA, and how is this effect influenced by the quality of national institutions?”

This central research question results in two sub-questions, and are stated as follows:

1. What is the effect of independent board members on ROA?
2. How does the quality of national institutions influence the relationship between independent board members and ROA?

1.2 Research design

Several hypotheses are formulated in order to answer the central research question. The data used for testing these hypotheses include a short-balanced panel dataset for the period of 2015 until 2017 and includes 453 companies. This data contains only European companies, this is due to data quality and availability. Furthermore, it is interesting to see if even with a small difference in the quality of national institutions, the moderation effect is already visible. The fixed effect model is used to test the data and results in showing a positive linear relationship between independent board members and ROA. Furthermore, it showed a negative moderation effect for all type of institutions on the relationship between independent board members and ROA. This means that higher quality of institutions is lowering the effectiveness of the corporate governance mechanisms of independent board members.

This thesis contributes to the existing literature by testing the relationship of independent board members and firm performance in European countries. So far, research on this topic is mainly conducted in the US. Also, this study includes a third moderating variable, which is the quality of different types of national institutions, to advance the current models studying the effectiveness of corporate governance. Furthermore, prior research focused only on companies from advanced countries which were active in the manufacturing industry. This thesis includes companies from different industries so that conclusions about the different relationships can be drawn over a wide variety of industries. This thesis is relevant from a managerial point of view because it shows that a strategic decision to introduce independent board members into a firm is influenced by the presence and quality of national institutions in a particular country. More specifically, managers should consider that institutions weaken the effectiveness of independent board members. However, they should also keep in mind that this effect is relatively small and that the moderation effect will not change the positive relationship between independent board members and ROA in a negative relationship.

This thesis is organized as follows: Chapter 2 provides a literature review on the concepts of corporate governance, independent board members, institutions and the influence of institutions on the effectiveness of corporate governance. The literature review will result in several hypotheses. In chapter 3, the used statistical methods will be described. In chapter 4, the results of the tested hypotheses will be presented and discussed. In the last chapter, the discussion, conclusion and the recommendations and implications for future research will be given.

Chapter 2: Literature review

This chapter includes a literature review of the most important concepts of this thesis. First, it explains the concept of corporate governance and independent board members. Next, the quality of national institutions, divided into legal, economic and political institutions, and their moderation effect on the effectiveness of independent board members will be explained. This chapter concludes with a conceptual model for this thesis.

2.1 Corporate governance

Corporate governance is a worldwide studied phenomenon and a popular topic in research. In general, there are two definitions of corporate governance, which are developed due to different opinions and literature streams in the field of corporate governance research. The narrow definition of corporate governance is as follows:

“Corporate governance deals with the ways suppliers of finance to corporations assure themselves of getting a return on their investment” (Shleifer, Vishny, 1997).

As can be observed, the narrow view focuses mainly on shareholders and defines corporate governance as a method to pursue the interest of these shareholders (Jensen, 1993; Shleifer, Vishny, 1997; Walsh and Seward, 1990). Over time, other researchers developed the idea that corporate governance should not only focus on shareholders but should also consider stakeholders. These researchers created a broader definition of corporate governance which includes stakeholders and shareholders. The broader definition defines corporate governance as a set of corporate governance mechanisms and includes an interaction between the firm and all kinds of different stakeholders such as employees, suppliers, customers and governments (Allen, 2005; Jensen, 1993; Walsh & Seward, 1990) The broader definition can be stated as follows:

“Corporate governance refers to the whole set of legal, cultural, and institutional arrangements that determine what publicly traded corporations can do, who controls them, how that control is exercised, and how risks and return from the activities they undertake are allocated” (Blair, 1995).

However, both definitions are different, both make use of corporate governance mechanisms to introduces corporate governance within a company. Good corporate governance mechanisms minimize agency costs within the firm, given a certain ownership structure and given a certain context and input in which the firm operates (Hart, 1995). The decision to introduce certain types of governance mechanisms is decided by the firm or its environment. For example, a firm may state its own policies on how it deals with executive payments, but is forced by law to have a certain structure of the board of directors.

Not only lawmakers force companies to take certain actions with regards to corporate governance, but also other share- and stakeholders such as employees or governments can pressure, advice or force companies to implement certain corporate governance mechanisms. Different governance structures and combinations of corporate governance mechanisms across companies can be explained by the difference in share- and stakeholders, environments and structures within companies.

2.1.1 Corporate governance mechanisms

Corporate governance mechanisms can be divided into internal and external corporate governance mechanisms. Internal corporate governance mechanisms are, for example, executive incentives schemes and the composition and structure of the board of directors. External corporate governance mechanisms are, for example, large shareholding or institutional investors (Jensen, 1993; Walsh and Seward, 1990). Both types of mechanisms can be implemented by the firm or the firm is forced to implement these mechanisms by its share- and stakeholders or environment as explained before.

As mentioned before, it can be argued that companies can have different ways to introduce corporate governance into their company. Different corporate governance mechanisms have different implications and lead to different outcomes, as explained above different environment and structures within companies are responsible for these different outcomes (Hart, 1995). Furthermore, it is argued by the theory that corporate governance mechanisms on firm and country-level can complement and substitute each other. Complementarity means that the adoption of one corporate governance mechanism increases the outcomes on the performance of another corporate governance mechanism and vice versa (Milgrom and Roberts, 1990). The substitutability effect means that one mechanism can be replaced by another corporate governance mechanism without a change in performance (Aguilera et al., 2011). This underlines the fact that a different mix of corporate governance mechanisms can have different effects on firm performance. Therefore, research argues that the best approach to study corporate governance is to take one or a few independent corporate governance mechanisms under consideration instead of studying corporate governance as a whole. The reason for this approach is explained by the fact that different corporate governance mechanisms have different implications and outcomes for firms. Therefore, studying corporate governance as a whole would be too general to draw in-depth conclusions about implications and outcomes of specific corporate governance mechanisms.

In this thesis, independent board members, an aspect of board composition and structure will be studied as an internal corporate governance mechanism. This thesis focuses on an internal governance mechanism because, as compared to external governance mechanisms, it is expected that firms have a larger influence on the choice to implement internal mechanisms than they have when implementing external mechanisms.

Furthermore, as explained later in this chapter, the theory of governance bundle theory explains the complementary and substitution effect of corporate governance mechanisms on firm-level and country-level. On a country-level, this type of research focuses on explaining the effect of national corporate governance mechanisms, such as institutions proposed in this thesis, on the relationship between internal corporate governance mechanisms and firm performance on the firm-level. As external corporate governance mechanisms are more linked to the outside environment of a firm, it is harder to distinguish these effects from the effects that are influenced by the quality of national institutions. When combining internal mechanisms with institutions the division of firm-level effect and country-level effect is more straight-forward. Therefore, this thesis will include an internal corporate governance mechanism namely independent board members. This thesis focuses on independent board members because it is one of the most studied topics of the internal corporate governance mechanisms. However, in a relationship with different types of institutions, the literature is quite limited. Therefore, it is interesting to try to complement this literature with new insights.

2.1.2 Agency problem

Although researchers use different definitions of corporate governance, both definitions are developed under the theoretical argument of the central problem of corporate governance: the ‘principal-agent’ problem or agency problem. This problem explains the importance and existence of corporate governance mechanisms in firms and, therefore, it is important to explain this phenomenon.

In most governance literature, the relationship between shareholder and manager is considered to be an agency relationship (Ross, 1973), where a separation between ownership and control exists (Fama, Jensen, 1983; Hart, 1995; Jensen and Meckling, 1976; Klein, 1983). In most public companies, managers have the ownership right and the right to make daily decisions within the firm. The board of directors has the control right and power to control the decisions and actions made by the managers. This relationship would be in perfect balance if the members of the organization would have the same interest or if contracts would be sufficient to state conditions completely. In this situation, managers (agent) would pursue an action or decision benefiting the goal of maximizing value for the shareholders (principal), which are mostly represented by the board of directors.

Unfortunately, this is not the case in the ‘real’ world because of bounded rationality, opportunistic behaviour of managers and incomplete contracts (Forker, 1992; Hart, 1995). In other words, the manager is not always maximizing the value for shareholders but is acting in self-interest to maximize his own value. In this situation, corporate governance issues such as bad decision making, corruption and other violations arise in companies and decrease value for shareholders (Hart, 1995). Companies do want to avoid this kind of behaviour and would like to minimize the costs attached to these unfavourable actions.

When stating complete contracts is too complex or costly, introducing corporate governance mechanisms can be a good option to solve corporate governance issues. As stated before, good corporate governance mechanisms should reduce agency problems and, subsequently, lowering the costs attached to agency problems.

In literature, costs resulting from bad decision making due to the principal-agent problem, are called agency costs. Agency costs are the costs of losing residual income, monitoring the agent (manager), and the costs of bonding the expenditures by the agent (Hart, 1995; Jensen and Meckling, 1976). The purpose of the principal (shareholder) is to minimize the agency costs by introducing corporate governance structures or so-called corporate governance mechanisms to control and minimize these agency costs and to avoid corporate governance issues.

However, in (large) public companies corporate governance issues tend to be more present than in other types of companies. Public firms tend to have more issues due to the larger number of small shareholders, which makes the corporate governance issues concerning the separation of ownership and control more visible. These issues are less visible in a (small) private company because of two features. The first feature is the fact that in public firms, shareholders are often too small and have no significant influence to control day-to-day business. Literature defined this phenomenon as dispersed shareholders. The second feature is that in public firms, dispersed shareholders have little to no incentive to fulfil their monitoring task, since this is an agency cost and, therefore, shareholders will free-ride in hope to profit from other shareholders doing the monitoring for them. Both features lead to a large group of small shareholders in public firms, who tend to be a more passive shareholder which do not make full use of their right to control. These two features are giving bigger importance to the separation of ownership and control and the relationship between principal and agent in public firms in public firms (Hart, 1995).

2.1.3 Board of directors

Economic theory suggests that the board of directors as a corporate governance mechanism is an important part of the governance structure in public organisations (Fama and Jensen, 1983). The board of directors, which has the power to hire, fire and compensate the management team within a company, serves to control the actions of the company and manage the conflicting interest of shareholders and management (Baysinger and Butler, 1985). The board has the decision control rights and helps to ensure separation of decision management and control within the organization, which should lead to better decision making and better firm performance in the end (Fama and Jensen, 1983). As long as the board of directors succeeds to perform their control function in a good way, shareholders are willing to put their funds at risk.

In other words, the board of directors is responsible to control the firm in order to make sure that the firm makes the right decision with shareholders goals in mind (Baysinger and Butler,1985).

However, the importance of the board and its control function would be difficult to underline if the firm would operate in a properly working market for corporate control and a properly working market for management talent. In this situation, bad managers would be replaced easily and market power would force managers to align with shareholder goals. Therefore, the board of directors and its control function would not be needed to align managers actions. However, the board of directors finds its value in the differentiation of manager-shareholder contracts in large corporations, which cannot directly be solved by the market. In other words, the board of directors is a direct solution to problems resulting from the interaction between managers and shareholders. Contract theory states that when shareholders are not satisfied with the performance of the company, they can make use of their right of limited liability and the ability to sell their interests in the firm. However, in reality, this is not always a satisfying option or even a possibility. Therefore, the shareholders need another way to influence the firm and reduce opportunistic behaviour or unfavourable decision making by managers. The board of directors can be a good corporate governance mechanism to fulfil this role of controlling the managers on behalf of the shareholders (Baysinger and Butler,1985, Williamson, 1984).

2.1.4 Composition of the board of directors

The board is mostly viewed as a legally constituted body, which acts collectively. So that the board is viewed as a body controlled by majority rule rather than individuals who serve different functions (Baysinger and Butler,1985). A board composition can be split into different smaller aspects which all together define the composition of the board and the influence on firm performance (Fama and Jensen, 1983). The aspects influencing the total board composition are, for example, the size of a board, the structure of independent and dependent directors within a board, board diversity, CEO duality and the creation of different committee within the company. A general board includes dependent and independent board members, which have the duty to control the firm. Paragraph 2.1.5 will give more in-depth information about the role and division of the dependent and independent directors. Mostly, one of the dependent board members is the chair of the board of directors. If there is CEO duality, this means that the chair of the board is also the CEO of the company. The chair of the board makes sure that all processes and meeting are conducted in a good way. Furthermore, the board mostly select certain groups of individual board members to perform selected duties. Literature refers to different committee such as the audit committee, remuneration committee, executive committee and nomination committee (Baysinger and Butler,1985; Hongcharu, 2006).

Despite the fact that most board around the world have the function to fulfil the control task, the structure of the board may differ. In most common law countries, the board consists of a unitary board where decisions are made jointly by the dependent and independent directors, which is called a one-tier board. In other countries, such as Northern European countries, the board is characterized by a supervisory board who advises, nominates and controls a management board. This last situation is called a two-tier board structure and formally separates the right of control and decision making. As mentioned before, this does not change the goal of the board of directors to represent the stakeholders and fulfil their control function. Also, both types of boards represent the shareholders of the company and are chosen by the same shareholders in an assembly meeting (Jungmann, 2006).

2.1.5 Independent board members

In general, a board is consisting of insiders and outsiders, so-called executive and non-executive or as we refer to in this thesis: the dependent and independent directors. The dependent board members have strong relationships with the company and they mainly focus on leading the firm towards its firm goals. The independent directors have preferably no direct linkage with the company and their task is mainly controlling the firm and its management, which is mostly composed of dependent board members (Fama and Jensen, 1983). The independent directors have the duty to perform the controlling task such as monitoring of firm performance, control of firms activities, judging CEO behaviour and so on (Daily, Ellstrand and Johnson 1996; Huse, 2005; Stiles and Taylor, 2001). Independent board members are also in place to provide managers with advice, according to the resource dependence theory (Pferrer and Salancik, 1978). Also, independent board members participate in the strategic decision-making process of the firm and define together with the dependent board members the strategic context of the firm (Demb and Neubauer, 1992; Lorsch and Maciver, 1989; Styles and Taylor, 2001).

However, without a high degree of independence, the independent directors would not be likely to perform their monitoring task in a good way. The basic assumption in literature is that when independent directors are ‘truly’ independent from a firm’s management, they can represent the shareholders’ interest in a good way. Despite independence being of high importance, literature has not established a common definition for this feature. The most used approach is to define the independent directors as a person without a family or business relationship that conflicts with the interest of the corporation. This means that an independent director cannot be an employee of the company, a person with an economic relationship with the company (such as lawyers or bankers) or a person with family ties with firms management or shareholders (Borowski, 1984; Brudney, 1982; Dalton et al., 1998; Zattoni, 2010).

If independent board members are ‘truly’ independent, they could be of great value for the company. Independent board members are valuable for a company because they can provide the firm with new experiences and competencies (Roberts, McNulty and Stiles, 2005). Preferably, independent board members bring not only functional knowledge and skills of traditional areas of management but also from areas useful for managing the environment in which the firm moves such as law or IT (Forbes and Milliken, 1999). The skills and knowledge of independent directors are crucial for the board effectiveness and the performance of a company (Hendry, 2005). Not only do independent directors bring new knowledge and skills in the board, but also, they contribute with external legitimacy and networking (Stiles and Taylor, 2001). The firm could benefit from the contacts of an independent director and grow their network. In summary, companies can benefit highly from independent directors because of their outside gained experiences and skills (Zattoni, 2010).

Although the board of directors is a good corporate governance mechanism to solve some problems of the interaction between the company and shareholders, the board of directors could be creating another kind of agency problem. In this situation, firms cannot make effective use of the knowledge, experiences and skills of independent directors. To be effective, independent board members should be engaged in the firm and actively carry out their responsibilities (Roberts, McNulty and Stiles, 2005). This means that the independent board members should spend time and effort to know the firm and to understand and solve problems in the firm or give proper advice. However, research shows that this is not always the case and that independent directors do not devote enough attention or time to their board duties (Carter and Lorsch, 2004; Lorsch and MacIver, 1989; Mace, 1971). In fact, most independent board members are very busy and have more responsibilities that only engaging in the board of a particular company. This could lower the effectiveness of boards and could even create an agency problem between the board members and shareholders. Therefore, independent board members might need an extra incentive to represent shareholders goals in a good way. This explains the use of other corporate governance mechanisms such as incentive payment schemes to give incentives to independent board members to engage more and, subsequently, solve the agency problem between board members and shareholders (Jensen, 1989).

Although less effective independent board members are existing, general research claims that the ratio between independent and dependent board members is an important corporate governance mechanism when looking toward board composition (Daily and Dalton, 1993; Bonna et al., 2004; Kang, Cheng and Gray, 2007; Kesner and Dalton, 1985; Orser, 2000; Steinberg, 2000). Independent board members are better in fulfilling their monitoring task and can benefit the company with outside gained experience and skills as well as broaden the network of the company.

It is also argued by Hambrick and Mason (1984) that independent directors introduce a balance of power and represent shareholder interests better because of their independence of the company and CEO.

2.1.6 Independent board members and firm performance

The literature is divided about the effect of independent board members on firm performance. Some researchers argue that a higher proportion of independent directors is leading to effective boards and, subsequently, will lead to higher firm performance (Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Pfeffer and Salancik, 1978; Mizuchi, 1983; Zahra and Pearce, 1989). Other research argues that the governance mechanism of independent board members is not related to firm performance, since this research did not result in a significant result between the two variables (Baysinger & Butler, 1985; Bhagat & Bernard Black, 1999; Bhagat & Bernard Black, 2002; Hermalin & Weisbach, 1991; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). Very few studies find a negative relationship (Bozec, 2005; Klein, 1998; Yemack, 1996).

2.1.7 Positive linear effect

Kang, Cheng and Gray (2007), Lefort and Urzúa (2008), Liu et al., (2015), Mizuchi (1983), Pfeffer and Salancik (1980) and Zahra and Pearce (1989), all found a positive linear relationship between the ratio of independent board members within a board and firm performance. They propose that a higher percentage of independent board members at a board will lead to a more effective board because they can fulfil their monitoring task better, therefore, decreasing the agency problem between a company and its shareholders. This will subsequently lead to better firm performance.

2.1.8 Non-significant results

Other research finds that the results of testing the relationship between independent board members and firm performance are not significant (Baysinger & Butler, 1985; Bhagat & Bernard Black, 1999; Bhagat & Bernard Black, 2002; Hermalin & Weisbach, 1991; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). Although most of this research proposed a positive relationship at the beginning of their research, no significant results are being found. This kind of research argues that research with a positive linear effect tends to forget about the complementary and substitution effects on firm-level and country-level. The idea of the complementary and substitution effects, called the theory of “bundle of governance mechanisms”, proposes that, on the firm-level, different corporate governance mechanisms can complement or substitute each other. This complementary effect on firm-level means that the adoption of one corporate governance mechanism increases the outcomes on the performance of another corporate governance mechanism and vice versa (Milgrom and Roberts, 1990).

The substitutability effect means that one mechanism can be replaced by another corporate governance mechanism without changes in performance (Aguilera et al., 2011). As this theory explains, this effect is not only visible on firm-level but is also present at a country-level. This means that the power of other corporate governance mechanisms such as the capital markets, managerial talent, corporate law or national institutions as proposed in this thesis could have a complementary or substitution effect on firm-level corporate governance mechanisms. Research resulting in non-significant results argue that the effect of complementation and substitution might create different outcomes for research about the relationship between independent board members and firm performance and its, therefore, an important factor to consider in research (Judge et al., 2015; Schiehl, Ahmadjian and Filatotchev, 2014).

Another explanation for research with non-significant outcomes might be found in the reason that most of this research is conducted using US data and older data from the period 1885-1995. The generalisability of the non-significant outcomes might not be the same across different nations or in other continents. For example, the study of Kang, Cheng and Gray (2008) including an Australian sample shows a positive relationship between board independence and firm performance. The same holds for research about this relationship in Chile (Lefort and Urzúa, 2008) and China (Liu et al., 2015). The non-significant results of various studies might be questionable outside the US and further research is needed to determine the relationship for individual countries or for European companies as proposed in this thesis.

To investigate the relationship between the ratio of independent board members and firm performance in this thesis, the following hypothesis is formulated:

H1: The ratio of independent directors within a board is positive linear related with ROA, which means that a higher proportion of independent directors will lead to higher ROA and a lower proportion of independent directors will lead to lower ROA.

2.2 Institutions

Institutions have the function to reduce uncertainty in exchange and to create order when conducting economic activities. Most research uses the definition of North (1991) to describe institutions. This definition is stated as follows:

“Institutions are the human device that constrains the structure of political, economic and social interactions”

The function and importance of institutions can be found in game theory literature (Binmore, 2010; North, 1991; Schotter, 2008). Game theory explains that when conducting an economic transaction, individuals will mostly seek for wealth maximisation. For creating this wealth, cooperation with another player is needed in most economic transactions. When the game is repeated many times, players will gain trust in the other player and will find it easier to cooperate with each other. In this theoretical situation, both players possess complete information about the other player. However, in real economics, players will not always possess this information or have the time to search for information, since this information is not available or is costly to collect. In this situation, the transaction costs are higher. Therefore, it is less likely that the player will cooperate or play the game again under the same conditions. The function of institutions is to standardise the transaction costs by defining the choice set and hence the profitability and feasibility of a particular economic activity. Therefore, together with standard economic constraints, institutions provide an incentive structure for the economy, humans and companies. In other words, institutions provide players with information and, therefore, institutions make conducting an economic transaction easier and less costly (Binmore, 2010; Mirowski, 1986; North, 1991; Schotter, 2008).

Although most institutions have a common goal to provide economic with an incentive structure, different type of institutions arise in an economy. In literature, there can be found two ways to classify institutions: subject category classification and degree of formality classification. Research underlines that regardless of the classifications of institutions, groups of institutions will often show some overlap between the different classifications chosen. This is because the work of certain institutions can fit in different categories and are highly related to each other (Kuncic, 2014). The subject category classification divides institutions into four categories: legal, economic, political and social institutions (Joskow, 2008). The degree formality theory makes a distinction between two categories: formal and informal institutions (North, 1991). Formal institutions are focusing on formal constraints such as constitutions, laws and property rights. Informal institutions are focusing on informal constraints such as sanctions, taboos, customs, traditions and code of conduct. Although this classification is quite strict, in reality, the boundaries between formal and informal institutions are less visible meaning that an institution classified as formal will also influence an economy on an informal level and vice-a-versa. The two classifications will be combined to explain the different type of institutions.

Following the classification of North (1991), legal institutions can be mainly classified as formal institutions. This is because all constraints such as property rights, legal systems, legislation are formal of nature. Legal institutions are a subset of the overall institutional framework and can be defined as rules that govern relationships between different agents of the society such as individuals, firms and governments. At a central level, legal institutions support market-transactions by practising and enforcing property rights, which allow for economic transactions and the protection of these actions. Furthermore, legal institutions allow for contracts and enforcement of contracts between agents. Therefore, the most important role of legal institutions is the enforcement of laws and making sure that the law is accountable, transparent, clear and accessible. In other words, making sure that every member of society is equally subjected to legal codes and processes (Rubin, 2005). When discussing legal institutions within this thesis, legal institutions entail all enforcement institutions that focus on punishment as a consequence of violating laws such as courts, regulatory agencies and ancillary judicial services. The difference with political institutions is that legal institutions only focus on enforcement of the law and not on making the law. This is part of the function of political institutions.

Economic institutions or so-called market institutions have the main task to enforce laws on society on a decentralized level and help to secure a properly working market (North, 1991). This means that economic institutions can be seen as an extension of legal institutions. However, economic institutions are not only classified as formal institutions but represent a mix of formal and informal constraints. On the one hand, economic institutions support the legal system and enforcement of property rights, on the other hand, economic institutions also help companies to implement this kind of regulations on a more informal level. Examples of economic institutions are banks or reputational agents such as financial analysts and accountants, which control companies and give advice. Also, economic institutions like Central Banks, OECD, World Bank and EBRD are helping companies to gain successful by offering information and help, subsequently leading towards the goal of securing a properly working market (Postma and Hermes, 2003).

Political institutions are classified as formal institutions and have the main task to create laws and create a good political environment where there is political stability. A good political environment is defined as having fair and free competitive elections, political freedom, political participation and a well-functioning government (Boddy-Evans, 2018). Political institutions involve voters, electoral rules, governments and political parties, which are mostly classified as formal institutions. The biggest difference with legal institutions is that political institutions are involved in the process of defining laws and rules for society. In this sense, laws are outcomes of a political process and enforced by legal institutions on a central level and by economic institutions on a decentralized level.

The last group is the social institutions. The social institutions include concepts such as beliefs, trust and cooperation, largely classified as informal institutions. Helmke and Levitsky (2003) add to the classification of North that social institutions are defined by unwritten rules that shape incentives in systematic ways. It is argued that social institutions constrain or boost formal institutions. This means that social institutions have a problem-solving role in social coordination and interacting with the goal to improve the performance of formal institutions. Although research underlines the importance of social institutions, it has been less conceptualized into studies of institutions which tend to focus more on formal institutions. The reason can be found in the nature of informal institutions because these types of institutions mostly entail only unwritten rules. Therefore, research finds it more difficult to connect these kinds of institutions with good measurements to perform statistical analyses.

In this thesis, only legal, political and economic institutions will be considered, meaning that social institutions will be excluded. Legal, political and economic institutions are more homogeneous in the sense that they all are classified as formal institutions. Furthermore, as explained before, it is more difficult to connect and find good measurements of informal institutions and, therefore, social institutions will not part of this thesis. In general, the measurements of formal institutions are of better quality and more available, resulting in indicators that can be found across countries and over different time periods (Kuncic, 2014).

2.2.1 Institutions and corporate governance

As described before, various research about the effect of independent board members and firm performance gives contradicting outcomes. A number of studies show a positive linear relationship, others find no proof for this relationship. As explained before, researchers try to explain this difference in the effectiveness of corporate governance by using the complementarity and substitution perspectives on firm-level and country-level. This so-called research about “governance bundles” provide relevant insight about why different combinations of corporate governance mechanisms at firm-level and country-level lead to different performance outcomes. In this thesis, there will be a focus on the effect of governance bundles on country-level, more specifically the effect of the quality of national institutions, and their complementary effect on the relationship between independent board members and firm performance on firm-level (Schiehll, Ahmadjian and Filatotchev, 2014). A complementary country-level effect of institutions means that the quality of institutions is a factor that positively influences the strength of the relationship between independent board members and firm performance. A growing number of literatures in the field of institutional and comparative corporate governance studies tries to explain this positive moderation effect and argues that the quality of different national institutions creates a different set of incentives for the effectiveness of corporate governance mechanisms (Filatotchev, Jackson and Nakajima, 2013; Globberman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998).

As Globerman, Peng and Shapiro (2011) explain:

“One needs to understand the institutional framework in which organizations operate in order to understand the rationale for and consequences of specific corporate governance models, as well as the likelihood that specific governance reforms will be adopted and prove effective”

Research in the field of institutional research and (comparative) corporate governance highlights the importance of understanding how differences in the effectiveness of corporate governance mechanisms around the world are influenced by the different quality of institutions within countries. This type of research argues that the agency theory and traditional research about corporate governance ignore the influence of how institutions on country-level shape actors within corporate governance such as identities, interests and interactions (Aguilera and Jackson, 2003). So far, agency theory mainly focused upon two actors, which are the shareholders and the managers (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000). Though, traditional research does not explain how institutions influence the effectiveness of corporate governance mechanisms and which particular aspects of institutions strengthen or weaken the relationship between corporate governance and firm performance. Rather than only focusing on the agent-principle relationship, the institutional theory focuses on the shape of interest and identities of a wider set of stakeholders and environments in which the corporate governance relationship is visible (Aoki, 2001).

Institutional research argues that the agency theory is too narrow to explain the effectiveness of corporate governance mechanisms in different institutional settings and that complementary effects of national institutions should be considered. For example, Aguilera et al. (2008) argue that the effectiveness of these mechanisms strongly correlates with the quality of the broader organizational environment. This means that the quality of legal, political and economic institutions can create differences in the effectiveness of corporate governance mechanisms. In particular, this kind of research argues that the effect of institutions may complement the effectiveness of corporate governance mechanisms. This means that higher quality of institutions will strengthen the relationship between corporate governance and firm performance. The institutional theory argues that corporate governance research should have a more holistic context of value creation and protection, rather than only focusing on the agency relationship and agency costs. The institutional theory argues that research has to move beyond focusing on only the agent-principle relationship towards a wider view of how legal, economic and political factors shape the cross-national differences of effectiveness levels of corporate governance mechanisms (Aguilera and Jackson, 2010; Filatotchev, Jackson and Nakajima, 2013).

However, the institutional theory and other research explain the existence of institutions as a moderation variable, empirical evidence on the moderation effect of institutions is very limited (Berglöf and Claessens, 2006; Aguilera and Jackson, 2010). For example, research makes use of very small samples of advanced industrialized nations and this method makes it less generalizable to other countries or industries. Furthermore, Aguilera and Jackson (2010) explain that most research focuses on distinctive explanations from law, political or economic perspective to explain the variation of the effectiveness of corporate governance mechanisms across countries. This means that most studies only focus on explaining one type of institution in their research, instead of including all type of institutions to draw conclusions on the total system of institutions. Nevertheless, it is argued that no single institution explains the cross-national differences among the effectiveness of corporate governance completely. In this study, an attempt is made to explain a couple of institutions to see which type of institutions have a significant influence on the relationship between independent board members and ROA. It is, therefore, interesting to compare the different outcomes, so that conclusions can be drawn about which specific type of institutions have an influence on the effectiveness of independent board members and if a difference can be observed.

Since, legal, political and economic institutions have different consequences and outcomes on the relationships between corporate governance and firm performance, this thesis will separately explain these relationships. Furthermore, this thesis makes use of a European dataset. In general, it is argued that the quality of institutions in European countries is high and that this level of quality will not vary a lot across European countries. Though, it is interesting to see if with this dataset the influence of institutions is already visible. This would mean that even small differences in the quality of national institutions would matter for the effectiveness of corporate governance mechanisms such as independent board members a proposed in this thesis.

2.2.2 Legal institutions

As explained before, legal institutions have the main task to enforce laws on society and make sure that the law is accountable, transparent, clear and accessible. In recent years, a lot of research is published about the role of legal origins, common versus civil law, which influences the levels of investor protection. Subsequently resulting in different power balances between shareholders and the board, as well as different power balances between small and large shareholders (La Porta et al., 2000). Nevertheless, understanding legal institutions in terms of origins has been criticised, as it would be too simple on theoretical and empirical grounds, as it only focuses on the agent-principle relationship and does not include external factors that might play a role in the relationship between corporate governance and firm performance. Also, it does not explain the difference in effectiveness in countries with the same legal origins such as most European countries (Armour et al., 2009; Coffee, 2001).

A deeper view of legal institutions is to examine why the difference in the effectiveness of corporate governance, or more specifically, the effectiveness of independent board members due to the higher quality of legal institutions exists. This explanation can be found in the different extensions in which law is enforced by courts or regulatory agencies across countries. This means that when legal institutions are present and are of good quality, agents in a country have confidence in the quality of contract enforcement, property rights, police and courts and their ability to enforce the law on society (Kaufmann et al., 2009). In this situation, the law is accountable because legal rules exist under which a claim or theory can be made to sentence an agent for committing a violation of the law. The law is transparent because it is clear to every agent in a society that law exists and the agent knows which action and procedures are followed regarding enforcing the law in a given society. The law is to some extent clear to agents of society so that they know what is allowed and forbidden. Furthermore, the law is accessible, so that every agent has an opportunity to reach out to court if needed. The presence of legal institutions with good quality, therefore, results in low costs, efficient law enforcement and sufficient availability of courts and other legal agencies.

In this situation, the complementary perspective is visible, meaning that the quality of legal institutions positively moderates the relationship between independent board members and firm performance. In other words, the quality of legal institutions in a country can strengthen the relationship between independent board members and firm performance so that the coefficient representing this relationship will be higher. This is explained by the fact that companies in an environment with legal institutions can rely more on the enforcement of courts and legal agencies to solve the agency problem so that the quality of legal institutions complement and strengthen the basic relationship between independent board members and firm performance. This means that in countries with the absence of legal institutions or legal institutions with bad quality, the relationship between independent board members and firm performance is weakened. This is explained by the reason that the absence of legal institutions or bad quality of legal institutions could result in institutional barriers such as ineffective law enforcement, leading to high costs and insufficient availability of courts, judges and lawyers. Bad quality of legal institutions may even result in corruption or a situation where the law is subjected to high political pressures so that it loses its accountability, transparency, clearness and accessibility (Heritage Foundation, 2017). In this situation, a principle can rely less on legal institutions for solving the agency problem. Therefore, in countries with less legal institutions and/or bad quality of these legal institutions the effectiveness of a corporate governance mechanism is weakened by the quality of legal institutions so that in these countries, companies need more independent board members to reach the same level of firm performance in comparison with companies in countries where good legal institutions are present (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Coase, 1961; Filatotchev, Jackson and Nakajima, 2013).

In summary, literature argues that the quality of legal institutions and their enforcement function greatly matters for the effectiveness of independent board members. It is argued that legal institutions can complement the relationship between independent board members and firm performance. This argues for a positive moderation effect of the presence of national legal institutions and is leading towards the following hypothesis:

H2: The relationship between the ratio of independent board members in a board and ROA is strengthened by the quality of legal institutions.

2.2.3 Economic institutions

As explained before, economic institutions can be seen as an extent of legal institutions and are needed to secure a properly working market. The difference with legal institutions is that economic institutions work more at a decentralized level and legal institutions on a central level. This means that legal institutions are mainly focusing on enforcement of the law on a country as a whole and economic institutions are more focused on enforcing and applying the law in companies or specific sectors. Furthermore, economic institutions also have the function of securing a properly working market. It could be argued that economic institutions have the same way of influencing the effectiveness of independent board members through enforcing the law on society as explained before. However, economic institutions are different in a sense that, also, they have the task to secure a properly working market, such that law and regulation are beneficial to companies instead of only giving them restrictions (North, 1991).

Economic institutions act on a formal and informal level with companies to make law and regulation understandable, less costly, beneficial and less time-consuming for companies to, subsequently, support a properly working market. A properly working market should permit and promote private sector development and helps people to start a business more easily. In regard to corporate governance, economic institutions have the function to enforce but also advice and help companies to implement corporate governance within their companies and make corporate governance mechanisms more effective (Kauffmann et al., 2010; The world bank, 2017). For example, economic institutions could help industries to create their own regulation by adding social norms and values and support the use of effective corporate governance mechanisms. An example more specific to this thesis would be the introduction of a regulation that requires a certain ratio of independent board members into a board. Another example is that economic institutions could advise companies on how to make effective use of independent board members or giving advise on how companies can secure the independence of independent board members. Various examples of these type of (voluntary) regulations or norms of transparency and accountability of (independent) directors can be found in national codes of good governance such as the Dutch Corporate Governance Code (2016) and Italian Corporate Governance Code (2015)(Zattoni and Cuomo, 2008).

Higher quality of economic institutions results in a situation where enforcement and control on corporate governance issues improve and it promotes firm access to information about this topic as well as lowering the costs of monitoring. In other words, economic institutions strengthen the relationship between independent board members and firm performance by performing their enforcement, information and control function. In this situation, regulation is less costly, understandable and beneficial for companies. Therefore, the same level of independent board members will result in higher firm performance due to the moderation effect of economic institutions. This means that the quality of economic institutions positively influences the effectiveness of independent board members (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Dyck and Zingales 2003). In other words, the quality of economic institutions complements the relationship between independent board members and firm performance. This is leading towards the following hypothesis:

H3: The relationship between the ratio of independent board members in a board and ROA is strengthened by the quality of economic institutions.

2.2.4 Political institutions

As explained before, political institutions mainly focus on the political process and the creation of new laws and policies. Research about political theory in relation to corporate governance is limited. However, this type of research argues that over time a government and other political institutions of a country have a strong influence on firms, as the political process includes making laws and this leads to a certain level of economic welfare in a country (Pagano and Volpin, 2005). In other words, the effectiveness of governance mechanisms depends on how a certain governance mechanism is translated into legal options available to the company. This means that for example if the governance mechanism of independent board members is not well translated in the law, companies will be less likely to profit from this mechanism. Also, with the presence of good political institutions, firms can rely more on these institutions to solve the agency problem to strengthen the relationship between independent board members and firm performance. Likewise, political institutions and their quality vary among countries, leading to different laws and, subsequently explaining the different levels of effectiveness with regard to corporate governance (Davies and Schlitzer, 2008; Deakin and Singh, 2008; Filatotchev, Jackson and Nakajima, 2013).

The ability of political parties to translate corporate governance into good laws is depending on the quality of the political institutions. Research explains that political institutions minimize social and economic conflicts within a country. Hence, political institutions can create a stable legal, political, economic and social environment, where growth and prosperity are existing (Kauffmann et al., 2010). Political institutions with good quality will include free and fair competitive elections and respecting related subjects such as political freedom and political participation of people and firms (The Economist Intelligence Unit, 2017).

This will result in a good working political system in a country, which is reliable, stable and involves a high degree of democracy. This means that society can rely on political parties to solve country-related issues, as well as that a firm can rely on political parties to make good laws in regard to corporate governance issues. In other words, the quality of political institutions strengthens the relationship between corporate governance and firm performance. This means that political institutions have a complementary function with regards to the effectiveness of corporate governance. (Aguilera and Jackson, 2010; Gourevitch and Shinn, 2005).

More specifically, research argues that through the creation of law, politics can raise the costs for a particular governance mechanism, making it less effective to use for companies (Aguilera and Jackson, 2010; Hawley and Williams, 1996; Roe, 2003). This statement is underlined by the research of scholars such as sociology, political science and law. For example, Fligstein (1990) showed that major anti-trust legislation such as the Sherman Act and Clayton in the US changed the market and, subsequently, caused for firms to change their strategies and corporate structures. In other words, politics changes the policies around corporate governance and attached costs influence the firm to change its corporate governance because the effectiveness of particular governance mechanism changes. The most well-known research which supports this statement is written by Roe (1994). The main point of Roe (2013) is that politics influence the managerial agency costs by influencing the degree and form of competition and by influencing managerial loyalties to different stakeholders. An example more specific to this thesis would be that political parties raise the costs of introducing independent board members into the board by requiring a higher fixed salary for these independent board members or introducing a required proportion of independent board members to be included in the board. This would lead to higher costs of this particular corporate governance mechanism and would mean that it is less efficient for companies to make use of independent board members as a corporate governance mechanism.

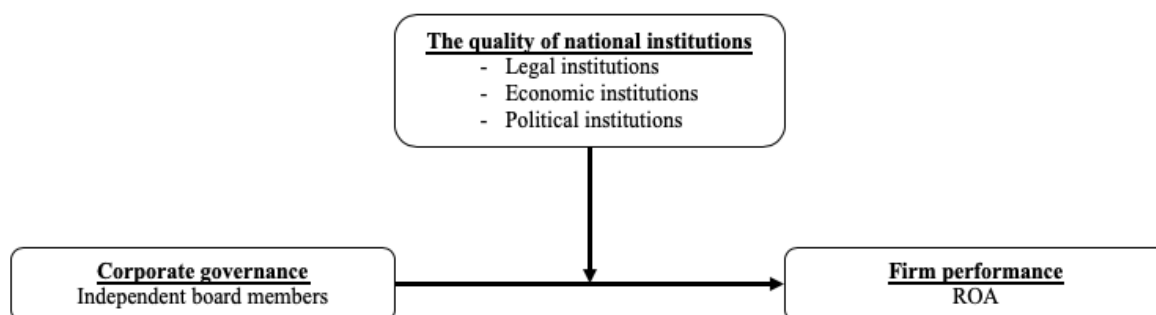
In summary, political institutions can create good economic and political environments in countries. Companies can then rely on political institutions to make good laws to solve corporate governance issues and promote effective use of corporate governance issues by influencing the costs of using these mechanisms. More specifically, this means that political institutions can strengthen the relationship between independent board members and firm performance so that the quality of political institutions improves the effectiveness of using this corporate governance mechanism. This is leading towards the following hypothesis:

H4: The relationship between the ratio of independent board members in a board and ROA is strengthened by the quality of political institutions.

2.3 Conceptual model

This chapter explained the theoretical foundations for this thesis. The different concepts and the underlying effect of these concepts have been discussed. Hypotheses were made for each expected relationship between the concepts. This chapter will conclude with the visualisation of the conceptual model shown in figure 1. This thesis will lead to answering the central research question, stated as follows: *What is the effect of independent board members on ROA, and how is this effect influenced by the quality of national institutions?*

Figure 1: Visualisation of conceptual model of this thesis



Chapter 3: Methodology

In this chapter, the research methodology will be explained. First, a description of the sample and used data will be given. Next, the variables used to measure certain concepts will be discussed. This chapter will conclude with the used statistical methods and formulated statistical models.

3.1 Sample and data collection

This study uses a balanced short dataset for the period of 2015 until 2017 and includes 453 companies. The sample only includes firms which meet certain characteristics. First, companies must have their headquarters in Europe. Secondly, information about the characteristics of corporate governance, for the years 2015 until 2017, must be available at Thomson Reuters (ASSET4Environment, Social & Corporate Governance data). The last characteristic is company size. To be included, companies need to have more than 250 employees, following the European Commission (2005) who set this minimum of employees for large companies. Thomson Reuters generally presents results in USD and, therefore, countries with different currency could be included. Applying the certain characteristics resulted in a sample of 453 large companies having their headquarters situated in one of the countries in Europe as shown in table 1. The companies are active in a wide range of different industries as can be seen in appendix 1. Furthermore, the sample is a good reflection of the European economy, meaning that the dataset includes firms from a wide set of sectors and countries in Europe.

Eikon Thomson Reuters and Worldscope (provided by Thomson Reuters) are the two secondary sources providing this dataset. Thomson Reuters platform can be used to conduct research and analysis of financial data such as market indices, shares, bonds, macroeconomic data and other financial data. It also contains data of environmental, social and corporate governance subjects, which is called ASSET4Environment, Social & Corporate Governance (ESG) data. Furthermore, data from Worldscope is also used, which is provided by Datastream which can be accessed through Thomson Reuters (Thomson Reuters, 2019).

Table 1: Descriptive data table including country characteristics of firms included in the sample

Country	Number
Austria	12
Belgium	20
Finland	25
France	77
Germany	62
Ireland	25
Italy	38
Luxembourg	8
Netherlands	33
Norway	15
Portugal	6
Spain	33
Sweden	49
Switzerland	50
Total	453

3.2 Variables

3.2.1 Dependent variable

The dependent variable of this thesis is firm performance. The data of this variable is collected via Datastream - Worldscope. Return on asset (ROA) will be used as the measurement of firm performance in this thesis. Annual accounting data, available at Worldscope, is used to calculate the ROA as follows: net income divided by total assets. The reason to use this accounting profit ratio as a measurement for firm performance lies in the fact that it is a widely used measurement in the relationship with corporate governance in various kinds of corporate governance literatures (Bhagat and Bolton, 2008; Dahya and McConnell, 2007; Shan and McIver, 2011).

3.2.2 Independent variable

The independent variable of this thesis is independent directors, data for measuring this concept is obtained from Thomson Reuters database. The following measurement represents independent directors: percentage of independent board members within a board. Thomson Reuters retrieves this data from company reports or collected surveys filled in by companies. This measurement represents the percentage of independent board members within a board (Thomson Reuters, 2019).

3.2.3 Moderation variable

The moderation variable in this thesis is the quality of national institutions. As defined in the literature review, this thesis will explore the following institutions: legal, economic and political institutions. In literature, there are two often-used ways to measure the quality of institutions, namely the one of Sali-i-Martin and Kaufmann (Sala-i-Martin, 2002; Kaufmann et al., 2009). In this thesis, a modified version of the conceptualisation of institutions, proposed by both researchers, will be used. As explained already, the quality of institutions is divided into three groups. More precisely, this thesis uses (i) rule of law and protection of property rights as a proxy for legal institutions, (ii) political stability and democracy as a proxy for political institutions, (iii) regulatory quality and time required to start a business as a proxy for economic institutions (Tebaldi and Alda, 2017). This thesis uses measurements of Kauffman with other research, to keep a balance between parsimony and inclusiveness. Despite the fact that it is argued by a few researchers that these kinds of measures of institutions are too aggregated, less detailed and could contain large standard errors, they also admit that, at the moment, better proxies and data is not available (Arndt, 2008; Thomas, 2010).

Table 2 shows the name, the description and measurement scale of the various moderation variable. As can be observed in the table, the different measurements use different ranges to state their outcome. For the convenience of this thesis, all the measurements are transformed to a range between 0 and 100. Then, the average number of the two measurements of the corresponding type of institution calculated and represents the final proxy for the different institutions. The higher the score for a particular measurement, the better the quality of a particular institution.

Table 2: Descriptive data table including name, description and measurement scale of moderation variable

	Name	Description	Scale	Adapted scale
Legal institutions	Rule of law	“It measures the perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence” (Kauffmann et al., 2010).	Range between -2,5 and 2.5	Range between 0 and 100
	Protection property	“It measures the degree to which a country’s laws protect private property rights and the degree to which its government enforces those laws. It also assesses the likelihood that private property will be expropriated and analyses the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts” (Heritage Foundation, 2017).	Range between 0 and 100	
Political institutions	Political stability	“It measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism” (Kauffmann et al., 2010).	Range between -2,5 and 2.5	Range between 0 and 100
	Democracy	“It measures having free and fair competitive elections, satisfying related aspects of political freedom, political participation, political culture and functioning of government” (The Economist Intelligence Unit, 2017).	Range between 0 and 10	Range between 0 and 100
Economic institutions	Regulatory quality	“It measures the perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development” (Kauffmann et al., 2010).	Range between -2,5 and 2.5	Range between 0 and 100
	Start a business	“It measures what time, costs, paid-in minimum capital and number of procedures are needed to get a local limited liability company up and running” (The world bank, 2017).	Range between 0 and 100	

3.2.4 Control variables

In line with previous studies about the effect of corporate governance, the following control variables are included: firm size, the age of the firm, board size and the total debt. The size of the firm will be measured by the natural log of total asset of the firm and is expected to be negative correlated with firm performance (Core, Holthausen and Larcker, 1999; Core, Guay and Rusticus, 2005; Erhardt, Werbel and Charles, 2003; Gillan, Hartzell and Starks, 2003; Vafeas and Theodorou, 1998). The age of the firm will be positively correlated with firm performance and represents the number of years a firm is existing (Bhagat and Bernard, 2002). The size of the board is the number of board members included in a board. This variable is expected to negatively correlate with firm performance (Eisenberg et al., 1998; Guest, 2009). The debt to asset ratio is included to represent the amount of debt within a company. It is expected that the amount of debt negatively correlates with firm performance (Vafeas and Theodorou, 1998).

3.3 Method of analysis

The purpose of this thesis is to test the influence of independent board members on firm performance and to test for the moderation effect of different institutions on this relationship. These relationships will be tested by using statistical methods in STATA. More specifically, since this thesis uses a balanced short dataset, panel data analyses will be conducted. Panel data is characterised by observations of the same unit over several time periods. Panel data can be long or short depending on the time observations. Short panel data will be used in this thesis because there are only three years included. Furthermore, the multiple company IDs ($i=1,2,3\ldots 453$) are the units and the years ($t=2015,2016,2017$) are the time periods or so-called time dimensions. The data in this thesis is balanced, which means that all units have the same measurements over the same time period. Panel data analyses allow researchers to compare different companies over multiple years (Park, 2011).

Panel data examines group effects, time effects or both in order to deal with individual effects or heterogeneity, which may not be observed. Before panel data analysis can be conducted it is important to determine if a fixed or random model needs to be used for analysing the hypotheses. The fixed effect model examines if intercepts vary across the group and can be used in research that is interested in analysing the impact of variables that vary over time. If research assumes that variation across entities is random and/or uncorrelated with the predicting variable than it is preferred to use a random model, which examines the differences in an error of variance components across individuals or time periods (Park, 2011). In order to determine the type of model for this thesis, the Hausman test was conducted in STATA (Hausman, 1978). The results of the Hausman test show that the fixed effect model needs to be used. The details of this test can be found in appendix 2.

The following regression equations are needed to test the formulated hypothesis in this thesis. The regression equations are without the control variables included.

$$1: ROA_{it} = \alpha + \beta_1 \text{independentdirector} + e_{it}$$

$$2: ROA_{it} = \alpha + \beta_1 \text{independentdirector} + \beta_2 \text{legal inst.} + \beta_3 \text{independentdirector} \times \text{legal inst.} + e_{it}$$

$$3: ROA_{it} = \alpha + \beta_1 \text{independentdirector} + \beta_2 \text{economic inst.} + \beta_3 \text{independentdirector} \times \text{economic inst.} + e_{it}$$

$$4: ROA_{it} = \alpha + \beta_1 \text{independentdirector} + \beta_2 \text{political inst.} + \beta_3 \text{independentdirector} \times \text{political inst.} + e_{it}$$

$$5: ROA_{it} = \alpha + \beta_1 \text{independentdirector} + \beta_2 \text{legal inst.} + \beta_3 \text{economic inst.} + \beta_4 \text{political inst.} + \beta_5 \text{independentdirector} \times \text{legal inst.} + \beta_6 \text{independentdirector} \times \text{economic inst.} + \beta_7 \text{independentdirector} \times \text{political inst.} + e_{it}$$

Chapter 4: Results

This chapter explains the results of this thesis. First, the descriptive statistics and methods used for detecting and solving the problem of outliers are given. Next, the correlation matrix and variance inflation factor analysis are explained. This chapter concludes with the regression results of this thesis.

4.1 Descriptive statistics

The number of observations, mean, standard deviation, minimums and maximums of the variables, used in this thesis, are stated in table 3.

Table 3: Descriptive data table including variable name, observations, standard deviation, minimum and maximum

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Year	1359	2016	.8167972	2015	2017
ROA	1359	.0392997	.0629119	-.4381405	.720259
Independent board members	1359	.4871415	.2949371	0	1
Legal institutions	1359	82.1816	9.451646	53.3	90.6
Economic institutions	1359	85.01138	4.661487	76.2	92.6
Political institutions	1359	75.37178	6.576276	63.6	86.6
Age	1359	52.01104	51.85425	1	534
Leverage	1359	.243113	.1577147	.0000842	1.054299
Size (log)	1359	23.24099	1.760705	18.81967	28.48073
Board size	1359	11.67329	4.055119	3	30

Note: (log) = variable is log transformed

As can be seen in table 3, all used variables for this thesis have 1359 observations during the period of 2015 – 2017. This means that there are no missing data points in this dataset and, therefore, no statistical methods are undertaken to complement missing data points. Furthermore, the table shows that the quality of institutions is overall high and ranges between 53.3 – 92.6 with means close to 80. This is in line with the explanation that the quality of institutions in European countries is high and this level will not vary much across European countries.

4.2 Outliers

It is important to test if the results of the research are driven by outliers. Outliers are a minority of extreme values that deviate from the pattern that most observations in the dataset tend to follow (Hadi et al., 2009). This can indicate errors in research and, therefore, in most research outliers are minimized by various techniques such as winsorizing and the log transformation function. In this thesis, the univariate method is used to detect outliers. This test yields the simple application of the use of box plots in STATA. A box plot graphically shows the distribution of the data and makes use of the median and the lower and upper quartiles of a singular variable (Bacon-Shone and Fung, 1987). The univariate method did not detect any outliers for this current research, except for the variable firm size as can be seen in appendix 3.

In prior research (Gillan et al., 2003), the log transformation function is solving the problem of outliers within the variable firm size. Using this function results in a decrease in the variability of data and makes the data more normally distributed, which in general leads to better results in the regression and correlation matrix. As shown in appendix 4, a skewness test was performed and shows that the variable size shows a skewness of 5.616805, which indicates that the data is skewed to the right. It shows a mean of $7.52e+10$ and a standard deviation of $2.29e+11$. Using the log transformation function the mean of the variable is 23.24099 and the standard deviation is 1.760705. The minimum value is transformed from $1.49e+08$ to 18.81967 and the maximum value is transformed from $2.34e+12$ to 28.48073. A visualisation of this transformation can be found in appendix 4.

4.3 Correlation matrix

Table 4: Table including the correlation results between variables

Variables	ROA	Independent board members	Legal institutions	Economic institutions	Political institutions	Age	Leverage	Size (log)	Board size
ROA	1.0000								
Independent board members	0.0256	1.0000							
Legal institutions	0.0937**	-0.0316	1.0000						
Economic institutions	0.0770**	0.0993**	0.8300**	1.0000					
Political institutions	0.0646*	0.0005	0.7082**	0.7645**	1.0000				
Age	0.0384	-0.0923**	-0.0752**	-0.0938**	-0.0849**	1.0000			
Leverage	-0.1578**	0.0422	-0.1154**	-0.0649*	-0.0980**	-0.1143**	1.0000		
Size (log)	-0.2132**	0.1630**	-0.1389**	-0.1571**	-0.1766**	0.0412	-0.0834**	1.0000	
Board size	-0.0879*	-0.0772*	-0.3375*	-0.4546*	-0.4221*	0.1299*	-0.0304	0.4619*	1.0000

Note:

* Correlation is significant at the 0.05 level, two-tailed tests.

** Correlation is significant at the 0.01 level, two-tailed tests.

Table 4 shows the Pearson product-moment correlation coefficient or the so-called Pearson correlation. This matrix shows the relationship between two measurements, more specifically the strength and direction of the relationship. The values can range between -1, which indicates a perfect negative linear relationship, to +1, which indicates a perfect positive linear relationship. A value of 0 means that there is no relationship between variables. Variables with high correlation values have observations with similar or close positions. In order to use these kinds of variables in statistical models, some adaption is needed. A high correlation between independent variables can result in large standard errors, which makes the corresponding regression coefficient less significant and unstable. This could point out a problem of multicollinearity in which one independent variable is highly correlated with one or more other independent variables in a research model. This could, subsequently, lead to underestimation of the statistical significance of the independent variable (Allen, 1997, Dohoo et al., 1997).

As concluded from table 4, the variables of legal institutions, economic institutions and political institutions show a higher correlation coefficient than other variables, also this correlation is significant at a significance level of 0.01. As can be observed in the table, the coefficients of legal, economic and political institutions show positive values between the range of 0.7082 and 0.8300. This could point at a multicollinearity problem between different type of institutions. In order to conclude with certainty that a multicollinearity problem exists between the three variables, both the correlation matrix and variance inflation factor analysis (VIF) need to be conducted. In the next paragraph, the VIF analysis is discussed. Other variables in this thesis, with regards to the correlation matrix, show no signs of multicollinearity and can be used in this thesis without further adaption.

4.4 Variance inflation factor analysis (VIF)

Table 5: Table including the variance inflation factor scores of individual variables

Variables	VIF	1/VIF
Independent board members	1.12	0.891972
Legal institutions	3.54	0.282267
Economic institutions	4.52	0.221203
Political institutions	2.60	0.384786
Age	1.04	0.961445
Leverage	1.05	0.955221
Size (log)	1.35	0.738941
Board size	1.65	0.607104
Mean VIF	2.11	

The VIF analysis measures the amount of multicollinearity between a set of independent variables (Freund, Littell & Creighton, 2003). The VIF analysis quantifies how much the variance is inflated due to the existence of multicollinearity in a model. Some papers argue that a variable with a VIF value larger than 10 could point out multicollinearity (Hair et al., 1995). Others refer to a maximum level of 5 for the VIF score (Ringle et al., 2015). A value of 1 means that a variable is statistically independent (Belsley, Kuh, & Welsch, 1980). A second check is the score of the 1/VIF indicator. This shows the tolerance value and could be used to compare

the VIF values, which exceed 10. A tolerance level lower than 0.1 could indicate multicollinearity. As can be observed in table 5, the variables in this thesis do not exceed a VIF value of 5 or 10.

Though, it can be observed that the variables of legal, economic and political institutions are close to the score of 5 and higher than the scores of other variables. Together with the high correlation scores in the correlation matrix, this thesis made some adaptations to solve the expected problem of multicollinearity of the variables: legal, economic and political institutions. These variables will be separately introduced into the statistical models to prevent that these variables can lead to underestimation of the statistical significance of the independent variable. This will lead to three separate models to test the influence of the different type of institutions on the relationship between corporate governance and firm performance.

4.5 Regression results

Table 6 shows the regression results of the different models tested in this thesis. As shortly explained in chapter 3, panel data can be analysed with a fixed effect model or a random effect model. The Hausman test for this thesis shows that the fixed effect model is preferred. The fixed effect model is useful to examine the impacts of variables changing over time. The fixed effect model tends to remove time-invariant variables from the regression models and replaces these variables with a term that represents a unique value for each group in the panel (Baltagi, 2008). This means that the fixed effect model allows for control of variables that not change over time without adding the variables directly into the model. The advantage of using the fixed effect model is that the time-invariance characteristics of companies cannot bias the statistical model because the fixed effect model will automatically control for this. However, this also means that the model cannot be used to investigate the time-invariant characteristics of the dependent variable. Fixed effect models are designed to investigate the causes of changes within an entity or companies as used in this thesis and cannot investigate time-invariant characteristics because if these variables are constant for each entity (Baltagi, 2008; Torres-Reyna, 2007).

Table 6: Table including the regression results of the tested models

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IBM		.0612646** (.0202148)	.4874193*** (.1262271)	.9666756*** (.2606439)	.6400624*** (.1732203)	1.110207*** (.2692802)
Legal inst.			.0027946** (.0008845)			.0015981 (.0010776)
Economic inst.				.0053374* (.0024788)		.0039791 (.0025979)
Political inst.					.0043359** (.0013389)	.0019430 (.0016350)
Interaction IBM x legal inst.			-.0053140*** (.0015584)			-.0030522 (.0018533)
Interaction IBM x economic inst.				-.0106530*** (.0030571)		-.0065478 (.0034620)
Interaction IBM x political inst.					-.0078025*** (.0023245)	-.0033441 (.0028470)
Age	.0042430** (.0014688)	.0028623 (.0015315)	.0038200* (.0015474)	.0020452 (.0017618)	.003444* (.0015535)	.0028271 (.0017979)
Leverage	-.2634032*** (.0312403)	-.2620905*** (.0311026)	-.2603375*** (.0309403)	-.2602827*** (.0309817)	-.2620363*** (.0310699)	-.2609167*** (.0310377)
Size (log)	-.0317255*** (.0088518)	-.0322968*** (.0088140)	-.0327583*** (.0087935)	-.0282707** (.0089071)	-.0324838*** (.0088097)	-.0298786*** (.0089556)
Board size	-.0025090* (.0011954)	-.0026253* (.0011907)	-.0025388* (.0011946)	-.0022327 (.0011917)	-.002398* (.0011867)	-.0022677 (.0012008)
Constant	.6492767*** (.1835416)	.7055554*** (.1836557)	.4400451* (.1985796)	.1972781 (.2746866)	.3547078 (.2095848)	.0364585 (.2839400)
R-squared (within)	0.1034	0.1124	0.1243	0.1242	0.1238	0.1315
Observations	1359	1359	1359	1359	1359	1359

Note: The absolute value of standard error is in parentheses.

*** Correlation is significant at the 0.05 level, two-tailed tests.**

**** Correlation is significant at the 0.01 level, two-tailed tests.**

***** Correlation is significant at the 0.001 level, two-tailed tests.**

IBM: Independent board members

Inst.: institutions

Table 6 shows the corresponding coefficient of every variable in a particular model. The coefficient indicates the change in the mean of the dependent variable when one unit of the independent variable changes while keeping other predictors in the model constant. The corresponding p-values are added in the visualisation of a star (*) and tests the null hypothesis which says that the coefficient is equal to zero. This means that there is no significant effect, a p-value smaller than 0.05 means that you can reject the null hypotheses and that the tested relationship is significant. The standard error is added in parentheses and indicates the distribution of the sample, which means that a smaller standard error is more representative with respect to the total population. The r-squared indicates how close the data of the measurement is to a fitted regression line. The outcome of the r-squared represents the percentage of the corresponding variable variation that is explained by the linear model.

Table 6 shows the regression results of different models tested in this thesis. In model 1 the basic relationship between dependent variable ROA and control variables is tested. Model 2 shows the tested linear relationship between independent board members and ROA as argued in hypothesis 1. As explained earlier in this chapter, the variables of the different institutions will be added separately due to detected problems of multicollinearity. Models 3 till 5 represent the separate moderation effects of the individual institutions on the basic relationship between independent board members and ROA. More specifically, model 3 tests the moderation effect of legal institutions on the relationship between independent board members and ROA as argued in hypothesis 2. The third hypothesis is tested in model 4 and test the moderation effect of economic institutions on the relationship between independent board members and ROA. Model 5 tests hypothesis 4, which argues for a moderation effect of political institutions on the relationship between independent board members and ROA. The last model shows the result of all moderation variables included and tests the influence of these variables on the relationship between independent board members and ROA.

By analysing the results of model 2, it can be concluded that there is enough evidence to support a linear relationship between independent board members and ROA as argued in hypothesis 1. The model shows that the coefficient of independent board members is 0.0612646 and the corresponding p-value is 0.01. This means that when the percentage of independent board members within a board goes up with 1%, the mean of the dependent variable ROA goes up with 0.0612646 when holding all other variables constant. In other words, this could be explained as follows: given that independent board members within a board go up with 1%, the average ROA goes up with 0.06%. It can be concluded that although a significant positive linear relationship between the variables exist, the effect size is relatively small. In other words, the mean change of ROA is only affected a little by the increase of independent board members. Furthermore, the model 2 shows that the control variable leverage, size and board size are significant and negatively correlated with ROA, as proposed before.

No significant positive relationship between the age of the firm and ROA is being found, meaning that the p-value is too low to support this relationship.

The main goal of this thesis is to test the moderation effect of legal, economic and political institutions on the basic relationship between independent board members and ROA. A moderation effect can be tested by adding an interaction effect in the models in which the independent variable and the moderation variable are multiplied. A model representing a significant interaction effect indicates that the effect of one independent variable on the dependent variable is different at different values of the moderation variable. In other words, by adding an interaction term the effect of the independent variable is different for different values of the moderation variable so that the effect of the independent variable effect is not unique but is also dependent on the value of the moderation variable. As explained before, due to the multicollinearity problem, the variable of institutions will be added separately.

Model 3 shows the outcomes of the tested moderation effect of legal institutions on the basic relationship of independent board members on firm performance. The coefficient of independent board members in model 3 is 0.4874193. This means that when there are no legal institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.49% in ROA. In comparison with the tested effect in model 2, the effect of independent board members on ROA is much larger. As argued in hypothesis 2, it is expected to have a positive value for the interaction term which would imply that higher quality of legal institutions, would lead to a greater or more positive effect of independent board members on ROA. However, in the regression result table, a negative coefficient of -.0053140 is observed for the interaction effect of legal institutions. This means that higher quality of legal institutions weakens the relationship between board members and ROA. However, it can be argued that this effect is relatively small because of the small number of the interaction coefficient in comparison to the coefficient of independent board members in the same model. This means that the moderation effect of legal institutions will have only a small decreasing effect on the positive basic relationship. In other words, the effect is not strong enough to change the sign of the basic relationship into a negative sign but will weaken the positive relationship slightly.

Model 4 tests hypothesis 3, which argues that economic institutions have a positive moderation effect on the relationship between independent board directors and ROA. The coefficient of independent board members in model 4 is 0.9666756, this means that when there are no economic institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.97% in ROA. Model 4 finds no proof for the proposed moderation effect since the interaction effect of economic institutions is negative with a value of -.0106530. In line with legal institutions, the negative moderation is significant and, therefore, weakens the basic relationship. It can be argued, that the moderation effect of economic institutions is having

slightly more impact than legal institutions since it shows a higher coefficient. Though the overall moderation effect of economic institutions is relatively small since the moderation coefficient is smaller than the coefficient of the independent variable.

The moderation effect will, therefore, only weaken the positive relationship between independent board members but will not have the effect to change the basic relationship to a negative one.

Model 5 tests the proposed moderation effect of political institutions on the relationship between independent board members and ROA. The coefficient of independent board members is model 5 in 0.6400624, this means that when there are no economic institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.64% in ROA. In line with the previous institutions, political institutions show also a significant and negative interaction value of -0.0078025. This means that political institutions will weaken the basic relationship between independent board members and ROA. Though it will not change this basic relationship into a negative linear relationship because the interaction coefficient is too small to exceed the positive value of the coefficients of independent board members.

Chapter 5: Conclusion

This chapter provides a discussion and conclusion of this thesis, which is founded on the information provided in previous chapters. The last topic explained in this chapter are the limitations of this thesis and the corresponding suggestions for future research.

5.1 Discussion

After a literature review about corporate governance and independent board members, a positive linear relationship between independent board members and ROA was proposed. Literature about this relationship explains that a higher proportion of independent board members within a board leads towards a more effective board, which is better in performing their controlling task and representing the goals of the shareholders. More effective boards will eventually lead to more firm performance and, therefore, literature refers to a positive linear relationship between independent board members and firm performance (Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Pfeffer and Salancik, 1978; Mizruchi, 1983; Zahra and Pearce, 1989). Other researchers, also, propose a positive linear relationship but do not find significant results to support this relationship (Baysinger & Butler, 1985; Bhagat & Bernard Black, 2002; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). This kind of research argues that studies which find a positive linear relationship might not consider the effects of the theory of governance bundles, which focuses on the complementary and substitution effects of corporate governance mechanisms on firm and country-level. This means that other factors on firm and country-level may complement or substitute firm-level corporate governance mechanisms, which could lead to different outcomes about the relationship between independent board members and firm performance (Judge et al., 2015; Schiehl, Ahmadian and Filatotchev, 2014). Furthermore, the non-significant result could be influenced by the fact that most research with non-significant results is conducted with US data. Therefore, the results of this type of research might not be generalizable to other countries, or to European countries as proposed in this thesis.

In this thesis, hypothesis 1, which proposed a positive linear relationship between independent board members and ROA, is supported. More specifically, the model finds that when independent board members within a board go up with 1%, the average ROA goes up with 0.06%. Although the results are significant the effect size of the impact of independent board members on ROA is relatively small, meaning that the mean change of ROA is only affected a little by the increase of independent board members within a board.

In this thesis, it is proposed that legal, economic and political institutions are a country-level complementarity factor which positively moderates the relationship between independent board members and ROA. In other words, the quality of legal, economic and political institutions strengthens the relationship between independent board members and firm performance (Milgrom and Roberts, 1990). Prior literature explains that legal institutions have a positive moderation effect on the effectiveness of independent board members, mainly because of their ability to enforce laws and regulations on firms. This is explained by the fact that companies in an environment with legal institutions can rely more on the enforcement of courts and legal agencies to solve the agency problem (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Coase, 1961; Filatotchev, Jackson and Nakajima, 2013). Prior literature on the positive moderation effect of economic institutions suggests that economic institutions have the function to support a properly working market and to enforce laws on regulations on companies on a decentralized level. In other words, economic institutions should permit and promote private sector development by advising and helping current and new companies to make effective use of corporate governance mechanisms such as independent board members. This means that the higher quality of economic institutions results in an environment where enforcement and control on corporate governance issues improve by promoting firms access to information about this phenomenon, as well as lowering the costs of monitoring. This leads to a positive moderation effect of economic institutions, where economic institutions strengthen the basic relationship between independent board members and ROA (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Dyck and Zingales 2003). Literature on the positive moderation effect of political institutions suggests that political institutions have a strong influence on the effectiveness of corporate governance since their main task is to create good laws and create a good political environment. This means that, in a country where political institutions are present, which respects political freedom and participation, political institutions will be able to create good laws concerning corporate governance. This will result in an environment in which companies can rely partly on political institutions to solve the agency problem (Davies and Schlitzer, 2008; Deakin and Singh, 2008; Filatotchev, Jackson and Nakajima, 2013; Pagano and Volpin, 2005).

From the literature review, it can be argued that the existence of legal, economic and political institutions strengthens the relationship between independent board members and ROA. Furthermore, it is argued that these institutions will have the same effect on the effectiveness of corporate governance and move together. This expected positive moderation effect of the different institutions is proposed in hypotheses 2, 3 and 4. The tested models show a significant but negative result of the moderation effect. More specifically, legal institutions show a negative coefficient of -0.0053140 , economic institutions show a negative coefficient of -0.0106530 and political institutions show a negative coefficient of -0.0078025 . This means that all institutions have the same effect on the effectiveness of independent board members, namely when institutions are involved it weakens the relationship between independent board members and ROA.

The impact of the negative moderation effect of institutions, however, is small. This means that institutions only weaken the positive relationship between independent board members and ROA a little, but do not have the effect of changing the positive relationship into a negative relationship. And so, as it appears that institutions have the same moderation effect on the effectiveness of independent board members, it can be concluded that the proposed hypotheses 2, 3 and 4 are rejected.

A possible explanation for the contradicting results of the moderation effect of the quality of the different type of institutions can be found in the theory about the substitutability effect of institutions. This theory states that institutions not only have a complementary effect but also the effect of substitutability. This substitutability effect refers to the direct replacement of a corporate governance mechanism by another firm or country factor, while the overall functionality of the systems stays the same (Aguilera, Desender and Castro Kabbach, 2011). In other words, literature argues that institutions could have a substitution effect, which leads to institutions replacing the function of the corporate governance mechanism of independent board directors instead of complementing this function. Therefore, institutions could be seen as an alternative for introducing corporate governance mechanisms such as independent board members. This gives a possible explanation for the negative moderation effect of institutions, which weakens the relationship between independent board members and firm performance due to the substitution function of institutions. Although the majority of previous research explains the complementary perspective with regards to institutions, this research shows that, also, the substitution perspective should be considered as a possible explanation for the difference in the effectiveness of independent board members across countries.

5.2 Conclusion

The main goal of this thesis is to make contributions to the existing literature about the relationship between corporate governance and firm performance. More specifically, the relationship between independent board members and ROA. Furthermore, this study includes a third moderating variable, which is the quality of different types of institutions, to advance the current models studying the effectiveness of independent board members. This current study is aimed at answering the following central research question:

“What is the effect of independent board members on ROA, and how is this effect influenced by the quality of national institutions?”

In order to answer this central question, the study used a short-balanced panel dataset for the period of 2015 until 2017 and includes 453 companies. The literature review of this thesis resulted in the formulation of four hypotheses. These hypotheses were tested using a fixed-effect model. These used research models find enough evidence to support hypothesis 1 but does not find enough evidence to support hypothesis 2, 3 and 4.

This thesis concludes that there is enough evidence to support a linear relationship between independent board members and ROA. This means that when the number of independent board members within a board increases, the mean of ROA will increase as well. Though this relationship is significant, the effect size of the relationship is relatively small. In contradiction to the expected positive moderation effect of the quality of institutions, this thesis shows that the quality of all institutions (legal, economic and political) have a negative moderation effect on the relationship between corporate governance and firm performance. This suggests that national institutions weaken the relationship between independent board members and ROA. However, these findings find support in the substitution effect as explained in the discussion above.

From a managerial point of view, this thesis is relevant because it shows that the strategic decision to introduce independent board members as governance mechanism into a firm should be influenced by the quality of different types of institutions in a particular country. This is because the ability of this particular corporate governance mechanism leading to firm performance is influenced by the quality of national institutions. More specifically, managers should consider that institutions weaken the effectiveness of the corporate governance mechanism of independent board members but that this mechanism is still in a positive relationship with firm performance due to the relatively small negative moderation effect of institutions. From a governmental point of view, this thesis is relevant because it shows that the quality of institutions influences the effectiveness of corporate governance mechanisms such as independent board members. In other words, since governments, regulators and other types of governmental institutions can influence the extent to which institutions are present and the quality levels of these institutions, they can (in)directly change the effectiveness of corporate governance mechanisms and have an influence on firm performance outcomes.

5.3 Limitations and future research

In this part, the limitations of this thesis are described so they may give input for future research. The first limitation is about the current quality of the measurements used to measure the quality of different institutions. Gleaser et al. (2004) argue that the majority of studies focus on measuring institutions using measurements of outcomes rather than measuring the real quality of institutions. Furthermore, various measurements of institutions are very highly correlated and datasets are too aggregated, making it difficult to separate the effect of different institutions (Woodruff, 2006; Voigt 2013). Though, it is explained in these studies that measurements, measuring direct effects of one institution only is hard to find in current databases. Future research should focus on unbundling institutions by identifying distinctive and separable measurements. Also, it is suggested that future research should focus on building new datasets which include objective measurements so that this better represents the quality of national institutions.

This should result in a database with which research can focus on the specific effect of different types of institutions so that reliable and consistent conclusions can be drawn about the influence of the quality of national institutions (Gleaser et al., 2004; Woodruff, 2006). In general, it can be concluded that a lot more research is needed to determine how the quality of institutions can be measured in a better way.

The second limitation of this thesis is the use of a fixed-effect model, which controls for factors not changing over time but does not directly allow to insert these variables in the statistical models. In this thesis, it means that no specific conclusions can be drawn about the basic and moderation relationships with regards to different industries. Although this thesis is already considering a wide variety of industries in comparison with former studies which only focus on manufacturing companies, no conclusion about these industries can be drawn specifically due to the use of the fixed-effect model. This thesis proposes that further research tries to use other types of models to include industry variables and other not changing variables over time to draw relevant conclusions on non-changing variables.

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Appendix

Appendix 1

Table 7: Table including the industry characteristics of firms in the sample

Industry	Number
Basic material	52
Consumer Cyclicals	65
Consumer Non-Cyclicals	33
Energy	31
Financials	78
Healthcare	33
Industrials	91
Technology	29
Telecommunications Services	21
Utilities	20
Total	453

Appendix 2

Figure 2: Figure including the results of the Hausman test

	Coefficients			
	(b) fixed	(B) random	(b-B) Difference	$\sqrt{\text{diag}(V_b - V_B)}$ S.E.
Ind_BMember	.0598273	.0243624	.035465	.0186685
Age_of_firm	.003106	.0000388	.0030672	.00153
Debt_to_asset	-.2645083	-.1058463	-.158662	.0277099
lSize	-.0334613	-.0094643	-.0239971	.0087069

b = consistent under H_0 and H_a ; obtained from xtreg
B = inconsistent under H_a , efficient under H_0 ; obtained from xtreg

Test: H_0 : difference in coefficients not systematic

$\chi^2(4) = (b-B)'[(V_b - V_B)^{-1}](b-B)$
= 54.82
Prob> χ^2 = 0.0000

Appendix 3

Figure 3: Figure about the visualization of the distribution of size variable before log transform function

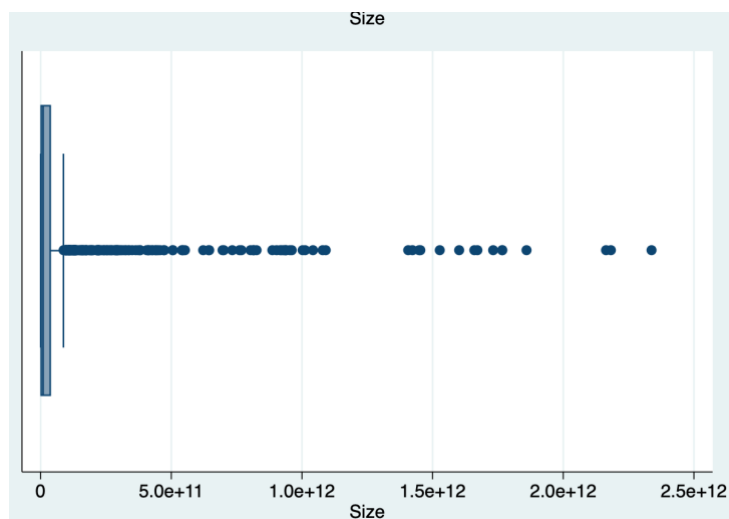
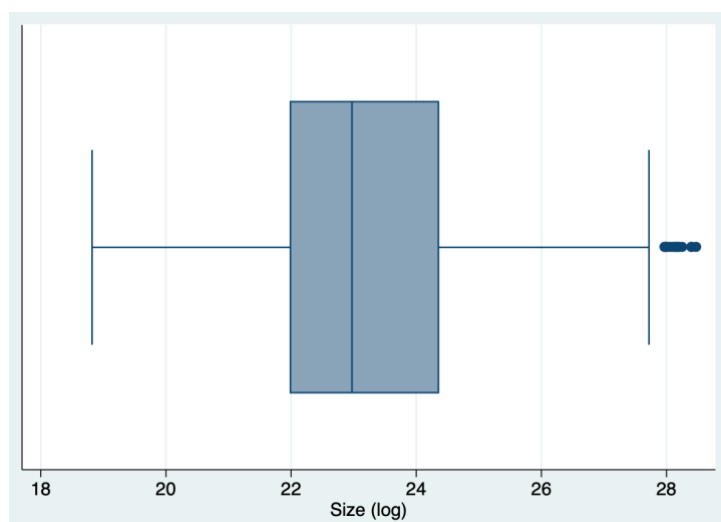


Figure 4: Figure about the visualization of the distribution of size variable after log transform function



Appendix 4

Figure 5: Figure including the results of the skewness-test of the size variable

Size				
	Percentiles	Smallest		
1%	4.34e+08	1.49e+08		
5%	1.03e+09	2.23e+08		
10%	1.60e+09	2.85e+08	Obs	1359
25%	3.55e+09	2.91e+08	Sum of Wgt.	1359
50%	9.49e+09		Mean	7.52e+10
		Largest	Std. Dev.	2.29e+11
75%	3.80e+10	1.86e+12		
90%	1.51e+11	2.17e+12	Variance	5.25e+22
95%	3.66e+11	2.18e+12	Skewness	5.616805
99%	1.42e+12	2.34e+12	Kurtosis	39.95145

Figure 6: Figure including the results of the skewness-test of log size variable

Size (log)				
	Percentiles	Smallest		
1%	19.88968	18.81967		
5%	20.75121	19.22219		
10%	21.19478	19.46712	Obs	1359
25%	21.98948	19.48999	Sum of Wgt.	1359
50%	22.97299		Mean	23.24099
		Largest	Std. Dev.	1.760705
75%	24.36166	28.2523		
90%	25.74025	28.40376	Variance	3.100081
95%	26.62529	28.41196	Skewness	.581698
99%	27.98443	28.48073	Kurtosis	3.017553



**The effect of the quality of national institutions on the
effectiveness of corporate governance**

Summary

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Supervisor: Prof. Alessandro Zattoni

Submission date: 24-09-2019

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Summary

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Chapter 1: Introduction

Corporate governance aims to help firms to reduce agency problems and minimizing agency costs, subsequently leading to better firm performance such as higher financial results and/or other performance improvements such as a higher level of innovation within the firm (Hart, 1995). The agency problem is the problem of a manager acting in self-interest instead of maximizing the value for shareholders. This problem is caused by bounded rationality, opportunistic behaviour of managers and incomplete contracts and results in different agency costs such as monitoring costs or costs of losing residual income (Fama, Jensen, 1983; Hart, 1995; Jensen and Meckling, 1976; Klein, 1983). Different internal and external corporate governance mechanisms exist to help firms implement corporate governance in order to reduce agency problems within the firm. Since corporate governance mechanisms help to avoid different corporate governance issues such as bad decision making, corruption and other violations, these mechanisms make sure that value for shareholders as well as other stakeholders is maximized. Hence, the relationship between corporate governance and firm performance has been an important topic in management research.

This current research will focus on independent board members, which is an element of the composition of the board and is defined as an internal corporate governance mechanism. Independent board members have the main task to control and advise the company. Furthermore, independent directors contribute to the board by bringing valuable knowledge and experience from the outside of the firm (Daily, Ellstrand and Johnson 1996; Huse, 2005; Stiles and Taylor, 2001; Zattoni, 2010). It is argued by literature that ‘truly’ independent directors, which are independent of the firm’s general management, can represent the shareholders’ interest in a good way (Fama and Jensen, 1983). In summary, it is argued that independent board members introduce a balance of power and represent shareholder interests better than dependent board members because of their outside gained knowledge and independence of the company and CEO. Therefore, different types of research argue that a higher proportion of independent directors within a board leads to a more effective board and better representation of shareholders expectations, subsequently leading to better firm performance (Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Pfeffer and Salancik, 1978; Mizruchi, 1983; Zahra and Pearce, 1989). Others, also, predicted this positive relationship but find no significant results (Baysinger & Butler, 1985; Bhagat & Bernard Black, 2002; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). This type of research argues that the effectiveness of corporate governance mechanisms differs across countries due to the involvement of other factors at firm and country-level, which is explained by the theory about governance bundles (Filatotchev, Jackson and Nakajima, 2013; Globberman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998).

Literature argues that the quality of national institutions is a complementary country-level factor that could have a positive effect on the effectiveness of corporate governance mechanisms. More specifically, research argues that quality of different national institutions across countries can strengthen the relationship between corporate governance and firm performance (Filatotchev, Jackson and Nakajima, 2013; Globerman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998). Institutions have the function to standardise transaction costs by defining the choice set and hence the profitability and feasibility of the economic activity. In other words, institutions providing different market participants with information and rules to provide a good market structure for a given economy (Binmore, 2010; Mirowski, 1986; North, 1991; Schotter, 2008). Different types of institutions arise in an economy and since they have different functions and ways of influence the effectiveness of corporate governance, it is important to find distinctive explanations about how certain types of institutions influence the effectiveness of corporate governance. This thesis will explain the moderation effect of legal, economic and political institutions.

In summary, this thesis will explain the effect of independent board members on ROA and how the quality of different national institutions influences this relationship. The central research question is stated as the following:

“What is the effect of independent board members on ROA, and how is this effect influenced by the presence of national institutions?”

This central research question results in two sub-questions, and are stated as follows:

1. What is the effect of independent board members on ROA?
2. How does the quality of national institutions influence the relationship between independent board members and ROA?

Several hypotheses are formulated in order to answer the central research question. The data used for testing these hypotheses include a short-balanced panel dataset for the period of 2015 until 2017 and includes 453 companies. This data contains only European companies, this is due to data quality and availability. Furthermore, it is interesting to see if even with a small difference in the quality of national institutions, the moderation effect is already visible. The fixed effect model is used to test the data in STATA and results in showing a positive linear relationship between independent board members and ROA. Furthermore, it results in showing a negative moderation effect for all type of institutions on the relationship between independent board members and ROA. This means that higher quality of institutions is lowering the effectiveness of the corporate governance mechanisms of independent board members and is in contradiction with the proposed effect of the quality of national institutions as proposed in the literature review.

Chapter 2: Literature review

2.1 Board of directors

Economic theory suggests that the board of directors as a corporate governance mechanism is an important part of the governance structure in public organisations (Fama and Jensen, 1983). The board of directors, which has the power to hire, fire and compensate the management team within a company, serves to control the actions of the company and manage the conflicting interest of shareholders and management (Baysinger and Butler, 1985). The board has the decision control rights and helps to ensure separation of decision management and control within the organization, which should lead to better decision making and better firm performance in the end (Fama and Jensen, 1983). As long as the board of directors succeeds to perform their decision control function in a good way, shareholders are willing to put their funds at risk. In other words, the board of directors is responsible to control the firm in order to make sure that the firm makes the right decision with shareholders goals in mind (Baysinger and Butler, 1985). However, the importance of the board and its control function would be difficult to underline if the firm would operate in a properly working market for corporate control and a properly working market for management talent. In this situation, bad managers would be replaced easily and market power would force managers to align with shareholder goals. However, the board of directors finds its value in the differentiation of manager-shareholder contracts in large corporations, which cannot directly be solved by the market. In other words, the board of directors is a direct solution to the problematic aspects of a particular set of manager-shareholders interaction, which can't be solved by shareholder practising their right of limited liability or selling their shares. In this situation, shareholders need another way to influence the firm and reduce opportunistic behaviour or unfavourable decision making by managers. The board of directors can be a good mechanism to fulfil the role of controlling management on behalf of the shareholders (Baysinger and Butler, 1985, Williamson, 1984).

2.2 Composition of the board of directors

The board is mostly viewed as a legally constituted body, which acts collectively. So that the board is viewed as a body controlled by majority rule rather than individuals who serve different functions (Baysinger and Butler, 1985). The aspects influencing the total board composition are, for example, the size of a board, the structure of independent and dependent directors within a board, board diversity, CEO duality and the creation of different committee within the company (Fama and Jensen, 1983).

2.3 Independent board members

In general, a board is consisting of insiders and outsiders, so-called dependent and independent directors. The dependent board members have strong relationships with the company and they mainly focus on leading the firm towards its firm goals. The independent directors have preferably no direct linkage with the company and

their task is mainly controlling the firm and its management (Fama and Jensen, 1983). The independent directors have the duty to perform the controlling task such as monitoring of firm performance, control of firms activities, judging CEO behaviour and so on (Daily, Ellstrand and Johnson 1996; Huse, 2005; Stiles and Taylor, 2001). Independent board members are also in place to provide managers with advice and participate in the strategic decision-making process of the firm (Demb and Neubauer, 1992; Lorsch and Maciver, 1989; Pferrer and Salancik, 1978; Styles and Taylor, 2001). However, without a high degree of independence, the independent directors would not be likely to perform their monitoring task in a good way. The basic assumption in the literature is that when independent directors are ‘truly’ independent from a firm’s management, they can represent the shareholders’ interest in a good way. The most used approach in literature to define independent directors as a person is as follows: a person without a family or business relationship that conflicts with the interest of the corporation (Borowski, 1984; Brudney, 1982; Dalton et al., 1998; Zattoni, 2010). Truly independent board members are valuable for a company because they can provide the firm with new experiences and competencies (Forbes and Milliken, 1999; Roberts, McNulty and Stiles, 2005). Also, they contribute with external legitimacy and networking (Stiles and Taylor, 2001). In summary, companies can benefit highly from independent directors because of their experiences and skills gained outside the firm leading to more effective boards (Hendry, 2005; Zattoni, 2010). Although the board of directors is a good corporate governance mechanism to solve various problems of the interaction between the company and shareholders, the board of directors could create another kind of agency problem. To be effective, independent board members should be engaged in the firm and actively carry out their responsibilities (Roberts, McNulty and Stiles, 2005). This means that the independent board members should spend time and effort to know the firm and its business in order to give proper advice. However, research shows that this is not always the case and that independent directors do not devote enough attention or time to their board duties (Carter and Lorsch, 2004; Lorsch and MacIver, 1989; Mace, 1971). This could lower the effectiveness of boards and could even create an agency problem between the board members and shareholders. Other mechanisms might be needed to give an extra incentive to independent board members to represent shareholders goals, an example is the use of incentive payment schemes (Jensen, 1989).

2.4 Positive linear effect

Although less effective independent board members are existing, general research claims that the ratio between independent and dependent board members is an important corporate governance mechanism when looking toward board composition. Independent board members are better in fulfilling their monitoring task and can benefit the company with outside gained experience and skills as well as broaden the network of the company. It is also argued by Hambrick and Mason (1984) that independent directors introduce a balance of power and represent shareholder interests better because of their independence of the company and CEO. Therefore, many kinds of studies argue that a higher proportion of independent directors within a board is leading to a

more effective board and better representation of shareholders expectations and, subsequently towards better firm performance (Daily and Dalton, 1993; Bonn et al., 2004; Kang, Cheng and Gray, 2007; Kesner and Dalton, 1985; Orser, 2000; Steinberg, 2000).

2.5 Non-significant results

Other research, which also proposed a positive linear relationship between independent board members and firm performance, resulted in no significant results (Baysinger & Butler, 1985; Bhagat & Bernard Black, 2002; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). This kind of research argues that research with a positive linear effect tends to forget about the complementary and substitution effects on firm-level and country-level. The idea of the complementary and substitution effects, called the theory of “bundle of governance mechanisms”, proposes that, on the firm-level and the country-level, different corporate governance mechanisms can complement or substitute each other. The complementary effect means that the adoption of one corporate governance mechanism increases the outcomes on the performance of another corporate governance mechanism and vice versa (Milgrom and Roberts, 1990). The substitutability effect means that one mechanism can be replaced by another corporate governance mechanism without changes in performance (Aguilera et al., 2011). An effect on country-level means that the power of other corporate governance mechanisms such as the capital markets, managerial talent, corporate law or national institutions as proposed in this thesis could have a complementary or substitution effect on firm-level corporate governance mechanisms. Research resulting in non-significant results argue that the effect of complementation and substitution might create different outcomes for traditional corporate governance research and should be considered (Judge et al., 2015; Schiehl, Ahmadjian and Filatotchev, 2014). In summary, the literature review about independent board member is leading to the following hypothesis:

H1: The ratio of independent directors within a board is positive linear related with firm performance, which means that a higher proportion of independent directors will lead to higher firm performance and a lower proportion of independent directors will lead to lower firm performance.

2.6 Function of institutions

Institutions have the function to reduce uncertainty in exchange and to create order when conducting economic activities. Game theory explains that when conducting an economic transaction, individuals will mostly seek for wealth maximisation. For creating this wealth, cooperation with another player is needed in most economic transactions. When the game is repeated many times, players will gain trust in the other player and will find it easier to cooperate with each other. In this theoretical situation, both players possess complete information about the other player. However, in real economics, players will not always possess this information or have the time to search for information, since this information is not available or is costly to collect. Therefore, it is less likely that the player will cooperate or play the game again under the same conditions. The function of institutions is to standardise the transaction costs by defining the choice set and hence the profitability and

feasibility of a particular economic activity. Therefore, together with standard economic constraints, institutions provide an incentive structure for the economy, humans and companies. In other words, institutions provide players with information and, therefore, institutions make conducting an economic transaction easier and less costly (Binmore, 2010; Mirowski, 1986; North, 1991; Schotter, 2008).

2.7 Institutions and corporate governance

Literature tried to explain the difference in the effectiveness of corporate governance mechanisms by complementarity and substitution perspectives on firm-level and country-level. In this thesis, there will be a focus on the effect of the quality of national institutions on country-level and the complementary effect of these national institutions on the relationship between independent board members and firm performance on firm-level (Schiehll, Ahmadjian and Filatotchev, 2014). A growing number of literatures in the field of institutional and (comparative) corporate governance studies tries to explain the positive moderation effect and argues that the quality of different national institutions creates a different set of incentives for the effectiveness of corporate governance mechanisms. Institutional research argues that the agency theory is too narrow to explain the effectiveness of corporate governance mechanisms in different institutional settings and that complementary effects of national institutions should be considered. The institutional theory argues that research has to move beyond focusing on only the agent-principle relationship towards a wider view of how legal, economic and political factors shape the cross-national difference of effectiveness levels of corporate governance mechanisms (Aguilera and Jackson, 2010; Globberman, Peng and Shapiro, 2011; La Porta, Lopez-de-Silanes et al., 2004; Shleifer and Vishny, 1998).

2.8 Legal institutions

Following the classification of North (1991), legal institutions can be defined as rules that govern relationships between different agents of the society such as individuals, firms and governments. At a central level, legal institutions support market-transactions by practising and enforcing property rights, which allow for economic transactions and the protection of these actions. The most important role of legal institutions is the enforcement of laws and making sure that the law is accountable, transparent, clear and accessible. In other words, making sure that every member of society is equally subjected to legal codes and processes (Rubin, 2005). The explanation for the positive moderation effect of legal institutions can be found in the different extensions in which law is enforced by courts or regulatory agencies across countries. This means that when legal institutions are of good quality, agents in a country have confidence in the quality of contract enforcement, property rights, police and courts and their ability to enforce the law on society (Kaufmann et al., 2009). In this situation, the law is accountable, transparent, clear and accessible (Heritage Foundation, 2017). The presence of good quality legal institutions, therefore, results in low costs, efficient law enforcement and sufficient availability of courts and other legal agencies. In this situation, the complementary perspective is

visible, meaning that the presence of legal institutions positively moderates the relationship between independent board members and firm performance. This is explained by the fact that companies in an environment with legal institutions can rely more on the enforcement of courts and legal agencies to solve the agency problem so that the presence of legal institutions with of good quality complement and strengthen the basic relationship between independent board members and firm performance (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Coase, 1961; Filatotchev, Jackson and Nakajima, 2013). This is leading towards the following hypothesis:

H2: The relationship between the ratio of independent board members in a board and firm performance is strengthened by the presence of legal institutions.

2.9 Economic institutions

Economic institutions have the main task to enforce laws on society on a decentralized level and help to secure a properly working market (North, 1991). Examples of economic institutions are banks, reputational agents such as financial analysts and accountants or organisations like OECD and EBRD, which control companies, give advice and are helping companies to gain successful by offering information and help, subsequently leading towards the goal of securing a properly working market (Postma and Hermes, 2003). This means that economic institutions can be seen as an extension of legal institutions and have the same way of influencing the effectiveness of independent board members through enforcing the law on society as explained before. However, economic institutions also help companies to implement laws and regulations at a more informal level. This means that economic institutions also have the task to secure a properly working market, such that law and regulation are beneficial to companies instead of only giving them restrictions (North, 1991). Economic institutions act on a formal and informal level with companies to make law and regulation understandable, less costly, beneficial and less time-consuming for companies. A properly working market should permit and promote private sector development and helps people to start a business more easily. In regard to corporate governance, economic institutions have the function to enforce but also advise and help companies to implement corporate governance within their companies and make corporate governance mechanisms more effective (Kauffmann et al., 2010; The world bank, 2017). An example specific to this thesis would be the introduction of a regulation that requires a certain ratio of independent board members into a board. Another example is that economic institutions could advise companies on how to make effective use of independent board members or giving advice on how companies can secure the independence of independent board members. The presence of economic institutions results in a situation where enforcement and control on corporate governance issues improve and where firm can access information about corporate governance as well as lowering the costs of monitoring. In other words, economic institutions strengthen the relationship between independent board members and firm performance by performing their enforcement,

information and control function (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Dyck and Zingales 2003). This is leading towards the following hypothesis:

H3: The relationship between the ratio of independent board members in a board and firm performance is strengthened by the presence of economic institutions.

2.10 Political institutions

Political institutions have the main task to create laws and create a good political environment. A good political environment is defined as having fair and free competitive elections, political freedom, political participation and a well-functioning government (Boddy-Evans, 2018). Political institutions involve voters, electoral rules, governments and political parties, which are mostly classified as formal institutions. Political institutions are involved in the process of defining laws and rules for society. In this sense, laws are outcomes of a political process and enforced by legal institutions on a central level and by economic institutions on a decentralized level. The effectiveness of governance mechanisms depends on how a certain governance mechanism is translated into legal options available and the attached costs to these options. This means that, for example, if the governance mechanism of independent board members is not well translated in the law, companies will be less likely to profit from this mechanism. In other words, political institutions change the policies around corporate governance and attached costs influencing the effectiveness levels of governance mechanisms. An example specific to this thesis would be that political institutions raise the costs of introducing independent board members into the board by requiring a higher fixed salary for these independent board members or introducing a required proportion of independent board members to be included in the board. The ability of political parties to translate corporate governance and attached costs into good laws is depending on the quality of the political institutions. Research explains that political institutions minimize social and economic conflicts within a country. Hence, political institutions can create a stable legal, political, economic and social environment, where growth and prosperity are existing (Kauffmann et al., 2010). Political institutions with good quality will include free and fair competitive elections and respecting related subjects such as political freedom and political participation of people and firms (The Economist Intelligence Unit, 2017). This will result in a good working political system in a country, which is reliable, stable and involves a high degree of democracy. This means that firms can rely on political parties to make good laws in regard to corporate governance issues. In other words, the presence of good quality political institutions strengthens the relationship between corporate governance and firm performance. In other words, this means that political institutions have a complementary function with regards to the effectiveness of corporate governance. (Aguilera and Jackson, 2010; Davies and Schlitzer, 2008; Deakin and Singh, 2008; Filatotchev, Jackson and Nakajima, 2013; Gourevitch and Shinn, 2005). This is leading towards the following hypothesis:

H4: The relationship between the ratio of independent board members in a board and firm performance is strengthened by the presence of political institutions.

Chapter 3: Methodology

This study uses a balanced short dataset for the period of 2015 until 2017 and includes 453 companies. The companies are active in a wide range of different industries and are a good reflection of the European economy. The different hypotheses will be tested in STATA. More specifically, since this thesis uses a balanced short dataset, panel data analyses will be conducted. Panel data is characterised by observations of the same unit over several time periods. Short panel data will be used in this thesis because there are only three years included. The data in this thesis is balanced, which means that all units have the same measurements over the same time period (Park, 2011). In order to determine the right type of model for this thesis, the Hausman test was conducted in STATA (Hausman, 1978). The results of the Hausman test show that the fixed effect model need to be used. The fixed effect model is useful to examine the impacts of variables changing over time. The fixed effect model tends to remove time-invariant variables from the regression models and replaces these variables with a term that represents a unique value for each country in the panel (Baltagi, 2008). This means that the fixed effect model allows for control of variables that not change over time without adding the variables directly into the model. The advantage of using the fixed effect model is that the time-invariance characteristics of companies cannot bias the statistical model because the fixed effect model will automatically control for this (Baltagi, 2008; Torres-Reyna, 2007).

Table 6: Descriptive data table including variable name, type of variable, definition, data-source and sources op previous research

Variable name	Type of variable	Definition	Data-source	Sources of previous research
ROA	Dependent variable	Net income divided by total assets	Worldscope datastream	(Bhagat and Bolton, 2008; Dahya and McConnell, 2007; Shan and McIver, 2011)
Independent directors	Independent variable	Percentage of independent board members within a board	Eikon Thomson Reuters	(Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Mizruchi, 1983; Pfeffer and Salancik, 1980; Zahra and Pearce, 1989)
Legal institutions	Moderation variable	Rule of law and protection of property rights	Kauffmann and Heritage Foundation	(Kaufmann et al., 2009; Sala-i-Martin, 2002; Tebaldi and Alda, 2017).
Economic institutions	Moderation variable	Regulatory quality and time required to start a business	Kauffmann and The world bank	(Kaufmann et al., 2009; Sala-i-Martin, 2002; Tebaldi and Alda, 2017).
Political institutions	Moderation variable	Political stability and democracy	Kauffmann and Economist Intelligence Unit	(Kaufmann et al., 2009; Sala-i-Martin, 2002; Tebaldi and Alda, 2017).
Firm size	Control variable	Natural log of total asset of the firm	Eikon Thomson Reuters	(Core et al., 1999; Core, Guay and Rusticus, 2006; Erhardt et al., 2003; Gillan et al., 2003; Vafeas and Theodorou, 1998)
Age of the firm	Control variable	The number of years a firm is existing	Eikon Thomson Reuters	(Bhagat and Bernard, 2002)
Size of the board	Control variable	Number of board members included in a board	Eikon Thomson Reuters	(Eisenberg et al., 1998; Guest, 2009)
Amount of debt	Control variable	Debt to asset ratio	Worldscope datastream	(Vafeas and Theodorou, 1998)

Chapter 4: Results

Table 2: Table including the correlation results between variables

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
IBM		.0612646** (.0202148)	.4874193*** (.1262271)	.9666756*** (.2606439)	.6400624*** (.1732203)	1.110207*** (.2692802)
Legal inst.			.0027946** (.0008845)			.0015981 (.0010776)
Economic inst.				.0053374* (.0024788)		.0039791 (.0025979)
Political inst.					.0043359** (.0013389)	.0019430 (.0016350)
Interaction IBM x legal inst.			-.0053140*** (.0015584)			-.0030522 (.0018533)
Interaction IBM x economic inst.				-.0106530*** (.0030571)		-.0065478 (.0034620)
Interaction IBM x political inst.					-.0078025*** (.0023245)	-.0033441 (.0028470)
Age	.0042430** (.0014688)	.0028623 (.0015315)	.0038200* (.0015474)	.0020452 (.0017618)	.003444* (.0015535)	.0028271 (.0017979)
Leverage	-.2634032*** (.0312403)	-.2620905*** (.0311026)	-.2603375*** (.0309403)	-.2602827*** (.0309817)	-.2620363*** (.0310699)	-.2609167*** (.0310377)
Size (log)	-.0317255*** (.0088518)	-.0322968*** (.0088140)	-.0327583*** (.0087935)	-.0282707** (.0089071)	-.0324838*** (.0088097)	-.0298786*** (.0089556)
Board size	-.0025090* (.0011954)	-.0026253* (.0011907)	-.0025388* (.0011946)	-.0022327 (.0011917)	-.002398* (.0011867)	-.0022677 (.0012008)
Constant	.6492767*** (.1835416)	.7055554*** (.1836557)	.4400451* (.1985796)	.1972781 (.2746866)	.3547078 (.2095848)	.0364585 (.2839400)
R-squared	0.1034	0.1124	0.1243	0.1242	0.1238	0.1315
Observations	1359	1359	1359	1359	1359	1359

Note: The absolute value of standard error is in parentheses.

* Correlation is significant at the 0.05 level, two-tailed tests.

** Correlation is significant at the 0.01 level, two-tailed tests.

*** Correlation is significant at the 0.001 level, two-tailed tests.

By analysing the results of model 2, it can be concluded that there is enough evidence to support a linear relationship between independent board members and ROA as argued in hypothesis 1. The model shows that the coefficient of independent board members is 0.0612646 and the corresponding p-value is 0.01. This means that when the percentage of independent board members within a board goes up with 1%, the mean of the dependent variable ROA goes up with 0.0612646 when holding all other variables constant. It can be concluded that although a significant positive linear relationship between the variables exist, the effect size is

relatively small. In other words, the mean change of ROA is only affected a little by the increase of independent board members. Furthermore, the model 2 shows that the control variable leverage, size and board size are significant and negatively correlated with ROA, as proposed before.

The performed correlation matrix and VIF analyses point out problems of collinearity between the variables representing the institutions, therefore, these variables will be separately added into the models. Model 3 shows the outcomes of the tested moderation effect of legal institutions on the basic relationship of independent board members on firm performance. The coefficient of independent board members in model 3 is 0.4874193. This means that when there are no legal institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.49% in ROA. As argued in hypothesis 2, it is expected to have a positive value for the interaction term which would imply that higher quality of legal institutions, would lead to a greater or more positive effect of independent board members on ROA. However, in the regression result table, a negative coefficient of -.0053140 is observed for the interaction effect of legal institutions. This means that higher quality of legal institutions weakens the relationship between board members and ROA. However, it can be argued that this effect is relatively small because of the small number of the interaction coefficient in comparison to the coefficient of independent board members in the same model. This means that the moderation effect of legal institutions will have only a small decreasing effect on the positive basic relationship. In other words, the effect is not strong enough to change the sign of the basic relationship into a negative sign but will weaken the positive relationship slightly. Model 4 tests hypothesis 3, which argues that economic institutions have a positive moderation effect on the relationship between independent board directors and ROA. The coefficient of independent board members in model 4 is 0.9666756, this means that when there are no economic institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.97% in ROA. Model 4 finds no proof for the proposed moderation effect since the interaction effect of economic institutions is negative with a value of -.0106530. In line with legal institutions, the negative moderation is significant and, therefore, weakens the basic relationship. Though the overall moderation effect of economic institutions is relatively small since the moderation coefficient is smaller than the coefficient of the independent variable. The moderation effect will, therefore, only weaken the positive relationship between independent board members but will not have the effect to change the basic relationship to a negative one. Model 5 tests the proposed moderation effect of political institutions on the relationship between independent board members and ROA. The coefficient of independent board members is model 5 in 0.6400624, this means that when there are no economic institutions involved an increase of 1% in independent board members within a board will lead to an increase of 0.64% in ROA. In line with the previous institutions, political institutions show also a significant and negative interaction value of -0.0078025. This means that political institutions will weaken the basic relationship between independent board members and ROA but not change the basic relationship into a negative relationship.

Chapter 5: Conclusion

5.1 Discussion

After a literature review about corporate governance and independent board members, a positive linear relationship between independent board members and ROA was proposed. Literature about this relationship explains that a higher proportion of independent board members within a board leads towards a more effective board, which is better in performing their controlling task and representing the goals of shareholders. More effective boards will eventually lead to more firm performance and, therefore, literature refers to a positive linear relationship between independent board members and firm performance (Kang, Cheng and Gray, 2007; Lefort and Urzúa, 2008; Liu et al., 2015; Pfeffer and Salancik, 1978; Mizruchi, 1983; Zahra and Pearce, 1989). Other researchers, also, propose a positive linear relationship but do not find significant results to support this relationship (Baysinger & Butler, 1985; Bhagat & Bernard Black, 2002; MacAvoy et al, 1983; Schellenger, 1989; Weisbach & Hermalin, 2000). This kind of research argues that studies which find a positive linear relationship might not consider the effects of the theory of governance bundles, which focus on the complementary and substitution effect of corporate governance mechanisms on firm and country-level. This means that other factors on firm and country-level may complement or substitute firm-level corporate governance mechanisms, which could lead to different outcomes about the relationship between independent board members and firm performance (Judge et al., 2015; Schiehl, Ahmadjian and Filatotchev, 2014).

In this thesis, hypothesis 1 which proposed a positive linear relationship between independent board members and ROA is supported. More specifically, the model finds that when independent board members within a board go up with 1%, the average ROA goes up with 0.06%. Although the results are significant the effect size of the impact of independent board members on ROA is relatively small, meaning that the mean change of ROA is only affected a little by the increase of independent board members within a board.

In this thesis, it is proposed that legal, economic and political institutions are country-level complementarity factor which positively moderates the relationship between independent board members and ROA (Milgrom and Roberts, 1990). Prior literature explains that legal institutions have a positive moderation effect on the effectiveness of independent board members, mainly because of their ability to enforce laws and regulations on firms. This is explained by the fact that companies in an environment with legal institutions can rely more on the enforcement of courts and legal agencies to solve the agency problem (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Coase, 1961; Filatotchev, Jackson and Nakajima, 2013). Prior literature on the positive moderation effect of economic institutions suggests that economic institutions have the function to support a properly working market and to enforce laws on regulations on companies on a decentralized level. In other words, economic institutions should permit and promote private sector development by advising and

helping current and new companies to make effective use of corporate governance mechanisms such as independent board members. This means that the presence of economic institutions results in an environment where enforcement and control on corporate governance issues improve by promoting firms access to information about this phenomenon as well as lowering the costs of monitoring. This leads to a positive moderation effect of economic institutions, where economic institutions strengthen the basic relationship between independent board members and ROA (Aguilera and Jackson, 2010; Berglöf and Claessens, 2006; Dyck and Zingales 2003). Literature on the positive moderation effect of political institutions suggests that political institutions have a strong influence on the effectiveness of corporate governance since their main task is to create good laws and create a good political environment. This means that in a country where political institutions are present, which respects political freedom and participation, political institutions will be able to create good laws concerning corporate governance. This will result in an environment in which companies can rely partly on political institutions to solve the agency problem (Davies and Schlitzer, 2008; Deakin and Singh, 2009; Filatotchev, Jackson and Nakajima, 2013; Pagano and Volpin, 2005).

From the literature review, it can be argued that the existence of legal, economic and political institutions strengthens the relationship between independent board members and ROA. Furthermore, it is argued that these institutions will have the same effect on the effectiveness of corporate governance and move together. This expected positive moderation effect of the different institutions is proposed in hypotheses 2, 3 and 4. The tested models show a significant but negative result of the moderation effect. More specifically, legal institutions show a negative coefficient of -0.0053140 , economic institutions show a negative coefficient of -0.0106530 and political institutions show a negative coefficient of -0.0078025 . This means that all institutions have the same effect on the effectiveness of independent board members, namely when institutions are involved it weakens the relationship between independent board members and ROA. Though the impact of the negative moderation effect of institutions is small, meaning that institutions weaken the positive relationship between independent board members and ROA a little but not have the effect of changing the positive relationship into a negative relationship. Although it appears that institutions have the same moderation effect on the effectiveness of independent board members, it can be concluded that the proposed hypotheses 2, 3 and 4 are rejected.

A possible explanation for the contradicting results of the moderation effect of the presence of the different type of institutions can be found in the theory about the substitutability effect of institutions. This theory states that institutions not only have a complementary effect but also the effect of substitutability. This substitutability effect refers to the direct replacement of a corporate governance mechanism by another firm or country factor, while the overall functionality of the systems stays the same (Aguilera et al., 2011). In other words, literature argues that institutions could have a substitution effect, which leads to institutions replacing

the function of the corporate governance mechanism of independent board directors instead of complementing this function. Therefore, institutions could be seen as a kind of alternative for introducing corporate governance mechanisms such as independent board members. This gives a possible explanation for the negative moderation effect of institutions, which weakens the relationship between independent board members and firm performance due to the substitution function of institutions. Although the majority of previous research explains the complementary perspective with regards to institutions, this research shows that, also, the substitution perspective should be considered as a possible explanation for the difference in the effectiveness of independent board members across countries.

5.2 Conclusion

The main goal of this thesis is to make contributions to the existing literature about the relationship between corporate governance and firm performance. More specifically, the relationship between independent board members and ROA. Furthermore, this study includes a third moderating variable, which is the presence of different types of institutions, to advance the current models studying the effectiveness of independent board members. This current study is aimed at answering the following central research question:

“What is the effect of independent board members on ROA, and how is this effect influenced by the presence of national institutions?”

In order to answer this central question, the study used a short-balanced panel dataset for the period of 2015 until 2017 and includes 453 companies. The literature review of this thesis resulted in the formulation of four hypotheses. These research models find enough evidence to support hypothesis 1 but does not find enough evidence to support hypothesis 2, 3 and 4. This thesis concludes that there is enough evidence to support a linear relationship between independent board members and ROA. This means that when the number of independent board members within a board increases, the mean of ROA will increase as well. Though this relationship is significant, the effect size of the relationship is relatively small. In contradiction to the expected positive moderation effect of the presence of institutions, this thesis shows that the quality of all institutions (legal, economic and political) have a negative moderation effect on the relationship between corporate governance and firm performance. This suggests that national institutions weaken the relationship between independent board members and ROA. However, these findings find support in the substitution effect as explained in the discussion above.

From a managerial point of view, this thesis is relevant because it shows that the strategic decision to introduce independent board members as governance mechanism into a firm should be influenced by the quality of

different types of institutions in a particular country. This is because the ability of this particular corporate governance mechanism leading to firm performance is influenced by the quality of national institutions. More specifically, managers should consider that institutions weaken the effectiveness of the corporate governance mechanism of independent board members but that this mechanism is still in a positive relationship with firm performance due to the relatively small negative moderation effect of institutions. From a governmental point of view, this thesis is relevant because it shows that the quality of institutions influences the effectiveness of corporate governance mechanisms such as independent board members. In other words, since governments, regulators and other types of governmental institutions can influence the extent to which institutions are present and the quality levels of these institutions, they can (in)directly change the effectiveness of corporate governance mechanisms and have an influence on firm performance outcomes.

5.3 Limitations and future research

In this part, the limitations of this thesis are described so they may give input for future research. The first limitation is about the current quality of the measurements of the presence of institutions measured by the quality of these different institutions. Gleaser et al. (2004) argue that the majority of studies focusing on measuring institutions using measurements of outcomes rather than measuring the real quality of institutions. Furthermore, various measurements of institutions are very highly correlated and datasets are too aggregated, making it difficult to separate the effect of different institutions (Woodruff, 2006; Voigt 2013). Though, it is explained in these studies that measurements measuring direct effects of one institution only is hard to find in current databases. Future research should focus on unbundling institutions by identifying distinctive and separable measurements. Also, it is suggested that future research should focus on building new dataset which includes objective measurement so that this better represents the quality of national institutions. This should result in a database with which research can focus on the specific effect of different type of institutions so that reliable and consistent conclusions can be drawn about the influence of the quality of national institutions (Gleaser et al., 2004; Woodruff, 2006).

The second limitation of this thesis is the use of a fixed-effect model, which controls for factors not changing over time but does not directly allow to insert these variables in the statistical models. In this thesis, it means that no specific conclusions can be drawn about the basic and moderation relationships with regards to different industries. Although this thesis is already considering a wide variety of industries in comparison with former studies which only focus on manufacturing companies, no conclusion about these industries can be drawn specifically due to the use of the fixed-effect model. This thesis proposes that further research tries to use other types of models to include industry variables and other not changing variables over time to draw relevant conclusions on non-changing variables.

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