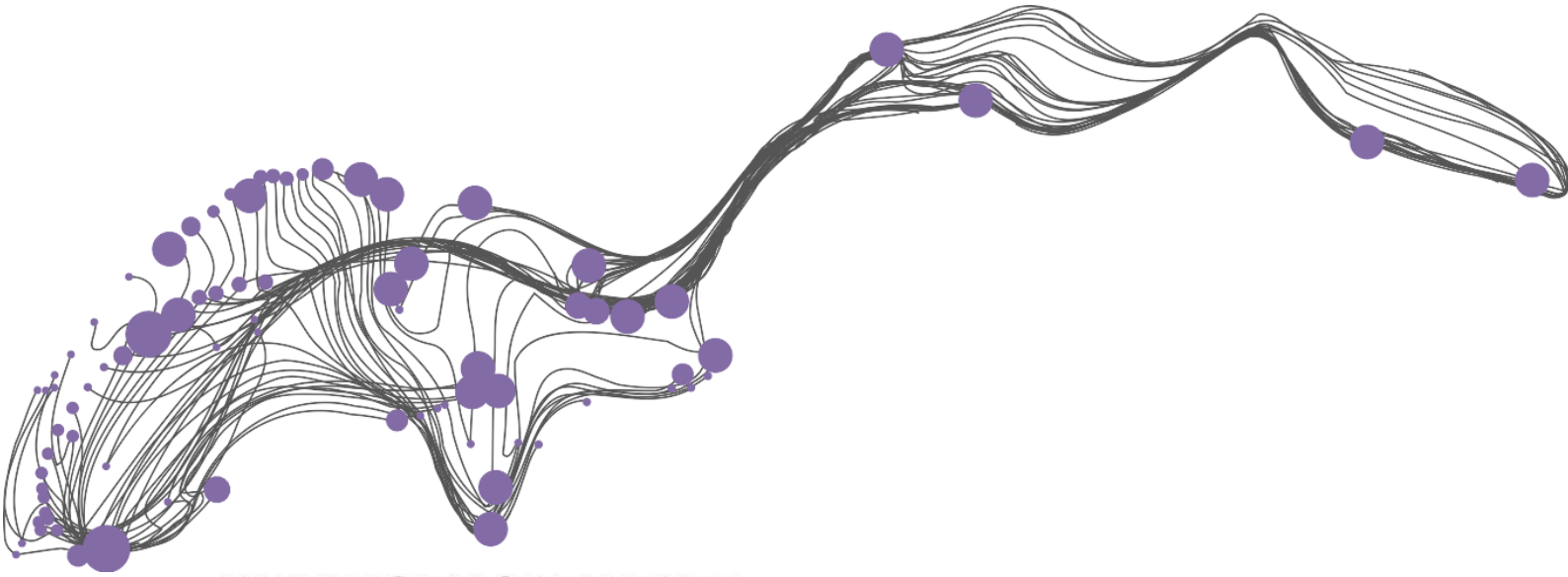

UNIVERSITY OF TWENTE.

The influence of employee ownership and employee board representation on firm performance

Evidence from French listed firms

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Abstract

In this study, the relationship between employee ownership, employee (shareholder) board representation and firm performance is examined in a French context. Based on a sample of 129 firms listed on the CAC All-Tradable for the period 2014 to 2016, ordinary least squares (OLS) regression analysis is conducted. The results show a positive impact of employee ownership on the accounting-based measures of firm performance. On the other hand, there is no consistent evidence that the presence of employee representatives and employee shareholder representatives on the board influences firm performance. Furthermore, this study finds no evidence that employee shareholder board representation moderates the relationship between employee ownership and firm performance. To test the endogeneity problem, an additional regression with one-year lagged independent and control variables is conducted. The results are consistent with those of the other regression, suggesting that employee ownership influences firm performance and not vice versa.

Keywords: employee ownership, employee shareholders, employee board representation, firm performance, France.

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1 Introduction

This thesis focuses on the impact of employee ownership, employee board representation and employee shareholder board representation on firm performance in France. This first chapter gives an introduction about the background of employee ownership, employee board representation, employee shareholder board representation and their impact on firm performance. Furthermore, it discusses the theoretical and practical relevance and it introduces the research objective and research question of this study. The last section of this chapter gives a short overview of this thesis.

1.1 Background

Employee ownership has become a widespread phenomenon in the last two decades (Kim & Patel, 2017). It is a form of financial participation that occurs in many countries. It is widely believed that giving employees shares in their company is not only beneficial for employees themselves, but also for the companies. Aubert, Kern and Hollandts (2017) suggest that employee stock ownership can increase employees' wealth and it makes them more linked to the firm's success. The idea behind employee ownership is that when employees are owners too, higher stock prices and more dividends result in more income for employees and this can motivate employees to work harder (Winther & Marens, 1997). The wealth and pay of employees is directly connected to workplace or firm performance (Kruse, Freeman, & Blasi, 2010).

Previously, there has been a lot of research done in the field of employee ownership. However, findings about the influence of employee ownership on firm performance remain mixed (Kim & Patel, 2017). Some authors (Jones & Kato, 1995; Kim & Ouimet, 2014; Richter & Schrader, 2017) find a positive effect and others (Cole & Mehran, 1998; Faleye, Mehrotra, & Morck, 2006) find a negative effect on firm performance. Aubert, Garnotel, Lapied and Rousseau (2014) argue that managers can promote employee ownership to incentivize employees, which should result in higher firm performance, or to use it as an entrenchment tool to keep the manager's position, which can result in lower firm performance. The lower firm performance can be explained by the potential collusion between employee shareholders and managers, employees receive higher rewards from the CEO when the employee shareholders support the managers decisions (Pagano & Volpin, 2005), and this could decrease the firm performance because this decisions could be only in favor of the managers (Chaplinsky & Niehaus, 1990). Guedri and Hollandts (2008) conclude in their research that employee ownership has a curvilinear, an inverted u-shape, impact on firm performance. An inverted u-shape means that it has a positive impact until an inflection point, after which the impact will become negative.

Employee ownership is growing in all European countries. According to the European Federation of Employee Share Ownership Report 2016 (Mathieu, 2017), 94% of the largest European companies, based on a stock market capitalization of €200 million and more, had employee share ownership. In Europe there are around 8 million employee shareholders, France is the leading country in terms of number employee shareholders (around 3 million) before the

United Kingdom (more than 2 million). France is also the leading country according to the stake held by all employee shareholders without top executives.

In France, the law mandates that employees of publicly listed firms have the right to elect board members for three reasons (Ginglinger, Megginson, & Waxin, 2011). The first reason is that employees have, by right of employment, the right to elect two or three board members, dependent on the board-size, in privatized, publicly listed companies. The second reason is that employees have the right in share-based companies with at least 5,000 employees worldwide or 1,000 in France, to elect one or two representatives, dependent on the board size. These two reasons are mentioned as employee board representation. The third reason is that employees who are also shareholder in any publicly listed firm, have the legal right to elect a board-member when they hold at least 3% of the outstanding shares as a group in total. This form is mentioned as employee shareholder board representation.

There are two main reasons to examine French firms. The first reason is that France is the leading country in terms of number employee shareholders and the stake held by all employee shareholders. The second reason is that the French law provides a unique institutional setting: the law mandates two forms of employees on the board.

1.2 Theoretical and practical relevance

Employee ownership and employee board representation are part of the internal corporate governance mechanisms. Examples of internal corporate mechanisms are ownership structure, board characteristics and executive compensation (Tian & Twite, 2011). The influence of different forms of ownership on firm performance is an often studied phenomenon in academic research. Common research topics that focus on the influence of a specific form of ownership on firm performance are institutional ownership (Cornett, Marcus, Saunders, & Tehranian, 2007; Lin & Fu, 2017), managerial ownership (Cheng, Su & Zhu, 2011; Mehran, 1995), foreign ownership (Douma, George & Kabir, 2006; Ferreira, Matos, Pereira, & Pires, 2017) and family ownership (Barontini & Caprio, 2006; Maury, 2006). The influence of employee ownership on firm performance is less frequently investigated and has become more popular in the last two decades.

Blasi, Conte and Kruse (1996) examine the relationship between employee ownership and firm performance for public companies in the United States and they find a non-significant effect. Pendleton, Wilson and Wright (1998) did research on the effects of employee ownership on commitment and satisfaction of employees for firms in the United Kingdom. They find higher levels of commitment and satisfaction when employee ownership is introduced, these higher levels of commitment and satisfaction result in an increase in firm performance. Ginglinger et al. (2011) focus on the influence of employee ownership on firm performance for French listed firms. They find that employee ownership of less than 3% increases firm performance and that levels exceeding 10% employee ownership decrease firm performance. These results show that there is still no consensus about the impact of employee ownership on firm performance.

As already mentioned in the background, one form of employees on the board in France is employee board representation. Ginglinger et al. (2011) find in their study for French listed firms that employee board representation has no impact on firm performance. But their study

was before the introduction of the law of employment security in 2013, which mandates firms with at least 5,000 employees worldwide or 1,000 in France to include employee representatives on the board. This research is the first, to the best of my knowledge, that studies the impact of employee board representation after the introduction of this law. In studies for Germany (Fauver & Fuerst, 2006), Norway (Bøhren & Strøm, 2010) and Sweden (Berglund & Holmén, 2016), the results remain mixed.

The other form is employee shareholder board representation and this form is less often studied. Faleye et al. (2006) conclude that employee shareholder board representation negatively influences firm performance for American listed companies and Ginglinger et al. (2011) find a positive impact of employee shareholder board representation for French listed firms. Therefore, there is still no consensus about the impact of employee shareholder board representation on firm performance.

The moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance is rarely studied. When there is both employee shareholder board representation and employee ownership, employee shareholders receive an additional voice and it is likely that managerial entrenchment is facilitated by the friendly part of ownership (Faleye et al., 2006; Gordon & Pound, 1990; Pugh, Jahera, & Oswald, 1999) what could result in lower firm performance. Guedri and Hollandts (2008) test the moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance, but they find no significant results.

1.3 Research objective and question

According to previous research, there is still no consensus about the effect of employee ownership and employee (shareholder) board representation on firm performance and about the moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance. Therefore, the main objective of this research is to examine the impact of employee ownership on firm performance for French listed firms on the CAC All-Tradable in the years 2014 to 2016 using ordinary least squares (OLS) regression. Furthermore, it will test the impact of the two different forms of employees on the board on firm performance and lastly it will test the moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance. Therefore, the following research questions are formulated:

> *RQ1: What is the impact of employee ownership and employee board representation on the firm performance of listed companies in France?*
> *RQ2: What is the moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance?*

This study contributes to the literature in three ways. Firstly, there is not much research done for employee ownership in France, only Ginglinger et al. (2011) and Guedri and Hollandts (2008) did research to the impact. Secondly, the impact of both employee board representation and employee shareholder board representation on firm performance will be tested. Only Ginglinger et al. (2011) tested the impact of both forms of board representation, but this study

is different from their research because it investigates the impact of employee board representation after the introduction of the law of employment security in 2013, which mandates firms with a certain number of employees to elect employee representatives on the board. Thirdly, the moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance will fill the gap if the unique French institutional environment has an effect. Therefore, this study will contribute to more extensive knowledge about this topic.

1.4 Study structure

The structure of this research is organized as follows. In the following chapter the literature review is presented. The literature review discusses corporate governance mechanisms. Furthermore, the literature review discusses what employee ownership and employee (shareholder) board representation are about and what their influence on firm performance is. The third chapter introduces the different hypotheses formulated for this study. The fourth chapter of this research focuses on the research methodology. The research design, models and the measurement of variables are explained in this chapter. The fifth chapter focuses on the sample and data used in this study. The sixth chapter discusses the results of this study. Finally, chapter 7 gives the conclusions and limitations of this study and recommendations for future research.

2 Literature review

This chapter reviews existing academic literature concerning employee ownership and employee representation on the board. Firstly, corporate governance is explained. Secondly, the relevant literature for employee ownership and employee representation on the board is discussed. Third, the impact of employee ownership on firm performance and attitudes and behavior is explained. Furthermore, the impact of employee (shareholder) board representation on firm performance is discussed and finally, the moderating effect of employee shareholder board representation is explained.

2.1 Corporate governance

Corporate governance can be defined as the way in which a business entity is directed and controlled (Krivogorsky, 2006). It is important to give direction and control to the managers of a company when ownership and control are separated. Shleifer and Vishny (1997) note that corporate governance deals with the way suppliers of finance assure themselves of getting return on their investments.

According to Weir, Laing and McKnight (2002), governance mechanisms can be split into two categories: internal and external mechanisms. Internal mechanisms include components such as ownership structure, board characteristics and executive compensation (Tian & Twite, 2011) and are used to ensure that managers make decisions in interest of the shareholders and in this way, mitigate the agency problem. External mechanisms include informal governance, regulation and stakeholder pressure (Huson, Parrino, & Starks, 2001) and are mechanisms that companies use to keep their relations with external parties well. In this study, employee ownership and employee representation on the board are studied and these are part of the internal mechanisms; therefore, the internal mechanisms are described.

2.1.1 Ownership structure

Ownership structure consists of two distinctive factors: ownership identity and ownership concentration (Thomsen & Canyon, 2012). Ownership identity can be split up in insider and outsider owners (Jensen & Meckling, 1976) and ownership concentration is about the fraction of shares owned by a single shareholder or a group of shareholders (Demsetz & Lehn, 1985).

Insider owners are the officers and managers of the firm and their families who are not affiliated with financial institutions or other corporations (Bauguess, Moeller, Schlingemann, & Zutter, 2009). Different studies investigate the effects of different types of insider ownership on firm performance, for example to the impact of employee ownership (Ginglinger et al., 2011; Richter & Schrader, 2017), managerial ownership (Benson & Davidson, 2009; Mehran, 1995) and family ownership (Maury, 2006; Villalonga & Amit, 2006).

Outside owners are the owners who have never been employed by the company (Thomsen & Canyon, 2012). Different studies focus on the impact of types of outsider ownership and firm performance, for example to the impact of institutional ownership (Craswell, Taylor, & Saywell, 1997; Cornet et al., 2007) and state ownership (Ng, Yuce & Chen, 2009; Wei & Varela, 2003).

As mentioned above, ownership concentration is about the fraction of shares owned by a shareholder. Ownership concentration can be dispersed, in hands of many owners, or

concentrated, in hands of a few large investors. Sánchez-Ballesta and García-Meca (2007) conclude that large block holders are likely to be active monitors. But when ownership is dispersed, the smaller owners are more sensitive for the free-rider problem. The free-rider problem occurs when the link between an individual's effort and reward shrinks and this results in less attraction to work harder.

2.1.2 Board characteristics

There are two main board structures, these are one-tier and two-tier boards (Millet-Reyes & Zhao, 2010). A two-tier board exists of a separated management board and supervisory board. The advantage of a two-tier board is that the internal, management board always will be controlled by the external, supervisory board. A one-tier board consists of internal, executive directors and external, non-executive directors (Millet-Reyes & Zhao, 2010). A one tier-board exists of only one board and this has a positive impact on the communication within the board what results in less information asymmetry.

Datta, Musteen and Herrmann (2009) conclude that board composition plays an important role in influencing strategic decisions. Important factors are board size, board independence and board diversity. The first factor is board size. A smaller board has better communication (Cheng, Evans, & Nagarajan, 2008), but others argue that a larger board results in better monitoring (Coles, Daniel, & Naveen, 2008). Another important factor of board composition is independency. Board independence is represented by the number of outside directors relative to the total directors (Mehran, 1995). A more independent board can result in more long-term investments in favor of the shareholders. But it also could have a dark side, independent directors have by nature less information about the firm and have difficulties to obtain it. Board diversity is the last factor of board composition. Board diversity is about the demographic background of the board members. It can be measured on gender, age, nationality, educational background, ethnicity, industrial experience and organizational membership (Campbell & Minguez-Vera, 2008).

2.1.3 Executive compensation

Another corporate governance mechanism is executive compensation. According to agency theory, compensation contracts should be designed to align the interests of managers (agents) with those of shareholders (principals). A stronger relationship between executive pay and performance should align their interest with these of the shareholders. According to Hartzell and Starks (2003), executive compensation could consist of salary, bonus, option and stock grants, and long-term incentive plan payouts.

2.2 Employee ownership

The goal of this section is to summarize the knowledge what employee ownership is about. Firstly, a number of definitions of employee ownership are discussed. Furthermore, different forms of employee ownership and employee participation are discussed. Lastly, the link with the underlying theories of employee ownership is described.

2.2.1 What is employee ownership?

Employee ownership is a form of shared capitalism. Shared capitalism refers to the relation where the pay or wealth of workers is directly tied to the workplace or firm performance (Kruse et al., 2010). They distinguish firms in the United States in four broad categories of shared capitalism: employee ownership, profit sharing, gainsharing, and stock options. Employee ownership can be defined as the percentage of company stocks owned by employees in their company (Kim & Patel, 2017). Profit sharing links compensation to firm performance (Oyer & Schaefer, 2005), but it is different with employee ownership because employees do not get shares when they participate in profit sharing. Gainsharing ties employee's costs to a typical operational measure, such as costs or customer satisfaction. Stock options are a popular and effective shared capitalism mechanism to link employees' compensation with firm performance (Call, Kedia, & Rajgopal, 2016). These options are the rights to buy the stock at a set price for several years but employees do not own the stock, they only own the right to buy.

Poutsma, Hendrickx and Huijgen (2003) present in their research an overview of participation schemes in European companies. They find that there are two main financial participation forms which are typical for the profit sector: employee ownership and profit sharing. Kruse (1996) argues that both employee ownership and profit sharing are promoted to decrease workplace conflict and improve firm performance. He also concludes that employee ownership is promoted to broaden the distribution of wealth, namely distribute across all employees who own some shares in the company.

Kruse (2002) adds to the definition of Kim and Patel (2017) that top managers' shares are not included in employee ownership, he defines employee ownership as the ways in which employees other than top managers own stock in their firm. Rousseau and Shperling (2003) describe employee ownership as the way in which employees get a right to share in the company's profit, get rights to participate in the management of the company and get access to information about the company's operations and finance. Kaarsemaker and Poutsma (2006) define employee ownership as the amount of shares that employees own directly or indirectly through some kind of trust in their employing company. Ben-ner and Jones (1995) conclude that the extent to which employees have rights to participate in profit sharing, gather information and possess participation rights varies considerably. This ensures that there is not one clear definition of employee ownership. In this research the definition of Ginglinger et al. (2011) is used, they define employee ownership as the percentage of company shares owned by non-executive employees, relative to the total amount of company shares.

Poulain-Rehm and Lepers (2013) conclude that shares often are purchased or subscribed on preferential terms like discounted prices or additional contribution paid by the company. Governments and companies both support the use of employee ownership. Governments in most countries encourage the development of employee ownership with substantial tax advantages for both firms and workers (Baghdadi, Bellakhal, & Diaye, 2016). Firms often offer shares to employees at a discounted price and these conditions are costly for companies and governments (2011). They offer these advantages to employee ownership because they think that when employees get compensation linked to performance, they have an incentive to work harder.

2.2.2 Forms of employee ownership

Employee ownership is a concept that covers different forms. Kaarsemaker, Pendleton and Poutsma (2010) argue that employee ownership can take a variety of forms, some give employees more rights than others do. These forms can be divided in the degree of ownership, the way they participate and the control the employees have in the organization they work for. According to Kruse and Blasi (1997), there are four important dimensions of employee ownership:

1. The percentage of employees who participate in ownership;
2. The percentage of ownership held within the company by employees;
3. The inequality of ownership stakes among employee owners;
4. The prerogatives and rights that ownership confers upon employees.

The first dimension refers to the percentage of employees who participate, for example 60 percent of the employees can participate but they together can still hold 1 percent of the total ownership. In this case employees still will have little rights to profit, little access to information and little influence in the decision-making process. This dimension is not important for this research since only the percentage of total ownership is used in this research.

The second dimension, the percentage of ownership held within the company by employees, is the most important one for this research since the percentage of shares held by employees is used to analyze the relationship between employee ownership and firm performance. Three forms of ownership can be distinguished related to the percentage of ownership held by employees: minority employee ownership, significant employee ownership and controlling employee ownership. The first form is minority employee ownership, this form occurs when employees own less than 5% of the total shares (Kaarsemaker et al., 2010). The second is significant employee ownership, which is defined as the percentage of ownership exceeding 5% of the total market value of the equity (Kruse & Blasi, 1997). The last form is controlling ownership; one speaks of controlling employee ownership when all employees together have 51% of the total shares or more.

The third dimension focuses on the difference in ownership between the employees. One employee can own a majority of the shares within the total shares held by employees and this employee can have relative to the other employees more influence. However, this dimension has no influence in this research since this research focuses on the total amount of shares held by all employees related to the total shares.

The fourth dimension focuses on the way whether ownership is direct or indirect. Direct means that employees can buy and sell company shares whenever they want and they are registered as individual shareholders. This means that the employees have the rights of a shareholder and will have financial reward and voting rights themselves. However, this way is less usual since employees often have liquidity constraints (Kaarsemaker et al., 2010). Indirect means that the shares are held by an employee trust or a cooperative. An example of indirect participation is an employee stock ownership plan (ESOP). An ESOP is a mechanism by which employees can acquire shares by a trust functioning on behalf of the employees (Pendleton & Robinson, 2010).

2.2.3 Forms of employee participation

When employees own some shares in a company, it does not mean that the employees can influence the company's policies and participate in the decision-making process of the company. Strauss (2006) argues that financial participation does not give workers a real voice in companies. There are two ways on which employees can participate in companies. These ways are indirect (or representative) participation and direct participation (Poole, Lansbury, & Wailes, 2001).

Indirect participation is the way employee decision making right is given to a representative (Morgan & Zeffane, 2003). A representative can be a work council, trade union or a worker director who is involved in the decision-making process. Using indirect participation, employees do not participate directly in the decision-making process, but their representative participate as a delegate to them. Indirect representation is more found in larger companies and in places where unions have influence (Poutsma et al., 2003).

Under direct participation, employees can directly participate in decision making in their organization themselves (Looise, Torka, & Wigboldus, 2011). This kind of participation occurs often in small companies, because in large companies there are a lot of employees and direct participation will become ineffective.

Mygind (2012) identifies three core owner rights for six main forms of employee participation: the right to control, the right to surplus and the right to company wealth. The main forms of employee participation are controlling ownership, employee stock ownership plans, minority employee ownership, worker cooperatives, employee representation on board and profit-sharing. The core owner rights for each form of employee participation are summarized in Table 1.

Table 1 Different forms of employee participation in different owner rights (Mygind, 2012)

Type	Right to control	Right to surplus	Right to wealth
Controlling employee ownership	Yes	Yes	Yes
Employee stock ownership plans	Often limited	Yes	Yes
Minority employee ownership	Limited	Yes	Yes
Worker cooperatives	Yes	Yes	Limited
Employee representation on board	Minority	No	No
Profit-sharing	No	Yes	No

When employees have a controlling employee ownership, they all together have 51% of the total shares or more. When they meet this requirement, they have the right to control, the right to surplus and the right to wealth. This is the only form of employee participation wherein employees have all the three rights, but this type does not occur often.

Another form of employee ownership is an employee stock ownership plan (ESOP). In an ESOP employees do not pay directly for the shares with their wages or savings, but acquire it through a loan that is paid back through company profits (Caramelli, 2011). This form of employee ownership is more popular. The right to control is often limited because shares held

in this form of employee ownership are often exercised by a representative (Chang & Mayers, 1992). But sometimes employees exercise the right to control themselves (Mygind, 2012). When the loan is paid back through the share in company profits on which the trust has the rights, the shares are released from the trust to the employees (Kaarsemaker et al., 2010). An advantage of this arrangement is that employees are not directly involved and that they do not bear financial risk. In addition to this advantage, an ESOP has the disadvantage that employees do not have the full ownership responsibilities.

Minority employee ownership occurs when employees own less than 5% of the total shares (Kaarsemaker et al., 2010). The employees have the right to surplus and wealth, but their right to control is limited because they own just a small percentage of all shares and their influence in the decision-making process will be small.

Worker cooperatives are based on classic cooperative principles of one vote per member and new employees have the opportunity to become member (Mygind, 2012). All members have influence to control and right to surplus, but there is limited right to wealth because the sales value of the shares is limited.

Employee representation on board has only a minority right to control. In some countries employees have the right to elect directors by law, when the company is publicly traded (Ginglinger et al., 2011). In this case, employees have no right to surplus or wealth. This is because employees only have the right by law to elect directors which best pursue their ideas. Employee representation on board is further explained in chapter 2.3.

When employees only participate in profit-sharing, they have no right to control and wealth. The only right they have is the right to surplus. Employees can not participate in the decision-making process because they do not own shares. The right to surplus gives the employees the probability to own some of the profit the company gains.

2.2.4 Motives for employee ownership

There are three main motives for firms to introduce employee ownership (Kim & Ouimet, 2014). These motives are improving productivity by enhancing worker incentives, conserving cash and forming worker-management alliances.

The first motive, the most important one, is to enhance worker incentive. Requiring employees to hold shares can help align the employee incentives with shareholder value (Kim & Ouimet, 2014). Employee ownership is designed to increase productivity by linking employee compensation to company performance and by giving the company's employees a role through voting rights as shareholders (Beatty, 1995). It refers to the fact that employees are also owners in the company they work for. The idea behind employee ownership is that when employees are owners too, higher stock prices and more dividends mean more income for employees and this can motivate employees to work harder (Winther & Marens, 1997).

The second motive for managers to introduce employee ownership is to conserve cash. Chaplinsky, Niehaus and Van de Gucht (1998) argue that companies that are cash-constrained are more likely to reduce labor costs in exchange for issuing shares to employees. This results in more available cash when there is limited access to other forms of financing (Kim & Ouimet, 2014). Cash conservation is an important motive for cash-constrained firms.

The third motive to introduce employee ownership is a worker-management alliance (Pagano & Volpin, 2005), when employees are owner of a company they can be used as an anti-takeover defense. Managers bribe employees with higher wages to receive support in voting against takeover bids. Rauh (2006) shows that employee ownership reduces the probability of a hostile takeover and Kim and Ouimet (2014) conclude that forming worker-management alliances thwarts takeover bids.

2.2.5 Underlying theories of employee ownership

In order to identify why firms introduce employee ownership, theories that explain employee ownership are discussed. In the existing literature there are three main theories that explain employee ownership. These theories are agency theory, resource based theory and stakeholder theory.

2.2.5.1 Agency theory

One theory to explain employee ownership is the agency theory. According to Hashi and Hashani (2013), employee ownership is a form of employee financial participation and has become increasingly popular to reduce agency problems. Jensen and Meckling (1976) describe the agency theory as a contract in which one or more persons, principals, engage another person, the agent, to perform some service on their behalf which involves delegating some decision-making authority to the agent.

Bloom and Milkovitch (1998) argue that the agency theory is the most common explanation for discussions of employee ownership and conditional rewards. In the case of employee ownership, the employees are the agents and the owners are the principals. When the goals between the principals and agents are misaligned, this can result in incentive and monitoring costs (Eisenhardt, 1989). The issue is how the principal gets the agents to do what the principal wants (Jensen & Meckling, 1976). When employees become owners, the agency problem gets less by increasing motivation and incentives that aligns employees' interests with those of the owners (Wagner, Parker, & Christiansen, 2003). Macias and Pirinsky (2015) agree that employee ownership aligns the interest of the owners and employees, since employee ownership entitles employees to the residual cash flows generated by the firm. The better alignment between the goals of the employees and owners will lead to a higher firm performance. Oyer (2004) concludes that employee ownership provides the necessary incentives to improve the performance and that it will reduce the agency problems.

2.2.5.2 Resource based theory

Another theory to explain employee ownership is resource based theory. This theory addresses that the basis of an enterprise's competitiveness and economic rent is the accumulation of valuable, rare, inimitable and non-substitutable resources (Lin & Wu, 2014). These unique resources can result in competitive advantage and this is related to firm performance. Barney (1991) argues that it is important to focus on the specific resources that give the firm a sustainable competitive advantage.

According to Wright, Dunford and Snell (2001), one of the resources that can result in sustainable competitive advantage is human capital. Employee ownership is an important factor in developing complex human resources that are difficult to imitate that can result in a

sustainable competitive advantage. Employee ownership gives employees a greater control over their job tasks, let them participate in the decision-making process, promotes favorable attitudes, stimulates good behavior and results in psychological ownership (Wagner et al., 2003). Employees with greater sense of ownership are more concerned about their firm's long-term goals and objectives and work harder to improve their job performance (Kim & Patel, 2017). These employees are also more devoted to the company and are less likely to change employer (Blasi, Freeman, & Kruse, 2016).

2.2.5.3 Stakeholder theory

The stakeholder theory (Freeman, 1984) suggest that a company has the responsibility to satisfy the interests of various stakeholders and not only to search for profit. Examples of stakeholders are customers, employees, investors, local communities and governments. The stakeholder theory states that all stakeholders play an important role on the long term.

Freeman (1984) states that a company that fails to motivate its employees is likely to fail in the future. Oyer (2004) suggests that employee ownership is an instrument to motivate the employees. Blair et al. (2000) conclude that employee ownership is a correct way to empower the employees. In this way, employees would be more involved, they would be more productive and they are more encouraged to monitor their efforts and those of the other employees what is in the interest of the company (Hansmann, 2009). This is how Freeman (1984) had the stakeholder theory in mind, guaranteeing the long-term success of the firm better.

2.3 Employee representation on the board

The goal of this section is to summarize the knowledge about what employee representation on the board is about. First, it is explained what employee representation on the board is. Furthermore, the different forms of employee representation on the board in the French context are explained.

2.3.1 What is employee representation on the board?

Employee representation on the board is a common feature of the continental European corporate governance (Shleifer & Vishny, 1997)**.** Several countries of the most productive economies in the world, including Germany and France, define the role of stakeholders in a company within their corporate governance system (Schmidt & Tyrell, 1997). In Germany, the representation of employees on boards is fixed by law and very high (Fauver & Fuerst, 2006). In the French context, there are intermediate levels of legally mandated and voluntary representation of employees on the board (Guedri & Hollandts, 2008).

Employees represented on the board of a company is another form of employee participation (Mygind, 2012) and it is about giving employees a voice in corporate governance (Guedri & Hollandts, 2008). Giving employees a voice can result in positive and negative effects. Freeman and Lazear (1995) argue that that employee representation on the boards will increase the information sharing between the employees and the board what will result in better decisions for the employees. Other researchers (Furubotn, 1988; Hansmann, 2009) argue that board members representing employees result in conflicts in the board room and in a less efficient decision-making process.

Employee representatives can have a seat in the supervisory board or board of directors (Bøhren & Strøm, 2010). In Europe, the use of a one-tier or a two-tier board differs per country. For example, listed firms in France can choose between them. In the Netherlands, a two-tier board is mandated for listed firms and listed firms in Spain are mandated to have a one-tier board (Krivogorsky, 2006).

The French law allows but does not mandate that listed firms adopt a two-tier board (Ginglinger et al., 2011). A two-tier board exists of a supervisory board, with external and non-executive directors, and a management board, with internal and executive directors. A two-tier board structure strengthens the supervisory board's independence (Rose, 2005). The supervisory board has a controlling function and the management board a directing function. A one-tier structure can be defined as a structure with one board of directors for both the directing and controlling function.

2.3.2 Forms of employee representation on the board in France

In France there are two forms in which employee representatives can be board members with full rights. They can be elected by all employees, employee board representation, or as representatives of employees who are also shareholders, employee shareholder board representation (Ginglinger et al., 2011). These directors are different in the way they are appointed and the way they behave during the meetings of the board. Under French law, companies may nominate employees as directors up to one third of the total number of seats on the board. In France, the employee (shareholder) representatives are seated on the board of directors when there is a one-tier board. When there is a two-tier board, they are seated on the supervisory board.

2.3.2.1 Employee board representation

Seats on the board of directors for representatives of employees must be reserved in privatized companies as right of employment (Ginglinger et al., 2011). The law (Article L225-27 of the Commercial Code) mandates that employee representatives have two or three seats on the board of these privatized firms. This number of required seats on the board of directors depends on the size of the board. If the board of directors is made up or less than 15 members, two seats must be reserved for directors elected by employees by right of employment. If the board consists of more than 15 members, three seats must be reserved for directors elected by employees. However, it is not obligated to keep employee representatives at the board. Any company can amend its statutes through a resolution at a shareholders' meeting. Privately held firms that were never state owned can also elect employees as directors, but they rarely do (Ginglinger et al., 2011).

In addition to Article L225-27, the French government mandated in 2013 that large French companies must have at least one employee representative at the board. Large companies for this law are firms with at least 10,000 employees worldwide or 5,000 in France. In 2015 this law was revised and the thresholds became 5,000 employees worldwide or 1,000 in France. The number of employee board representatives is dependent on the board size. When the board size is up to 12 members, one employee representative should be on the board. When the board size is more than 12, there should be two employee board representatives.

Employee board representatives, other than employee shareholder representatives, are elected by all employees. First the candidates must be nominated by one of the five union confederations that are representative at national level or candidates must have the support of 5% of the employees. When there is one place available for an employee representative, there will be two election rounds. A candidate will be elected when he receives a majority of the votes in the first round or with the largest number of votes in the second. When there are two or more seats available for employee representatives, the candidates will be elected on a list system.

2.3.2.2 Employee shareholder board representation

Directors on the board can also be elected by right of ownership. The French corporate governance code mandates that employee shareholders in any publicly listed firm, have the right to elect one director when total employee ownership exceeds 3% of the total shares (Ginglinger et al., 2011). However, when the board of directors of a company already includes one or more directors who are member of the employees' mutual fund (FCPE) or one or more employees, the employee shareholders are not obliged to nominate another employee representative.

Employee shareholder board representatives can be chosen in two ways. The first way is by the employee shareholders themselves. The second way is by the supervisory board of the FCPE. Normally, candidates proposed in these ways are twice the number of seats available for employee shareholder representatives. The shareholders' meeting chooses between the candidates.

2.4 Influence of employee ownership on firm performance

Employee ownership has been investigated in several studies since the expectation that employee ownership can influence firm performance. Findings about the influence of employee ownership on firm performance remain mixed (Kim & Patel, 2017). According to Aubert et al. (2017) there are two sides of employee ownership, namely the bright side, which will increase corporate performance, and a dark side which leads to management entrenchment and decreased shareholder value. Aubert et al. (2014) agree that employee ownership can have two sides, it can affect corporate performance through enhanced job attitude and it also can have a negative effect on corporate governance.

2.4.1 The bright side of employee ownership

Scholes and Wolfson (1990) argue that agency theory suggests that when employees' actions are not observable, incentive contracts may be used to avoid moral hazard and shirking behavior. Gamble, Culpepper and Blubaugh (2002) conclude in their study that when management is committed to employee ownership, the employees are more satisfied, have greater job satisfaction and job involvement and this can be used to avoid the moral hazard and shirking behavior what can result in better firm performance. These above mentioned attitudes increase the effort and motivation of the employees what can result in better firm performance.

Park and Song (1995) argue that stock markets positively react on employee ownership announcements only when there are large outside shareholders. This can be explained with the argument that large outside shareholders have the capability to counterbalance a potential

managerial entrenchment. The stock markets react only positive when there are large outside shareholders present since they are better in monitoring management and can predict managerial entrenchment. Large outside shareholders also have the power to reduce the influence of the employees. When employees are about to take a decision that is not in favor of other shareholders, the large outside shareholder can intervene (Chaplinsky et al., 1998) and undo the decision that puts the shareholders in disadvantage.

Employee ownership has as result that employees are more stimulated to monitor other employees. When employee ownership is widespread in the workplace, employees can use social pressure on other employees to improve their efforts in the workplace (Blair, Kruse, & Blasi, 2000). Russell (1985) concludes that when employees are owners of the company they regularly monitor other employees and they punish members who do not perform conform the standards of the group. When employees are monitoring the others, they stimulate each other to perform better and this will result in higher workplace and firm performance.

Employee ownership results in a lower turnover rate (Sengupta et al., 2007). The lower turnover rate enhances the performance by maximizing the return from existing investments in human capital and encouraging greater investment in capital, this is in line with the resource based theory. Human capital relates strongly to performance (Crook, Todd, Combs, Woehr, & Ketchen Jr., 2011). When the turnover rate reduces and the human capital remains in the organization, the firm performance will increase.

2.4.2 The dark side of employee ownership

Employees are more likely to press to maximize their wages and salaries than the residual claims like dividends and stock growth (Faleye et al., 2006). Jensen and Meckling (1979) argue that employee owners are focused on maximizing the fixed claims rather than the residual claim. This arises from the usually low residual claims for employees compared to their fixed salary. This can result in corporate policies that lower shareholder value.

Aubert et al. (2014) show that employee ownership is not only used as a reward tool, but also as a management entrenchment mechanism that results in poor corporate governance because of the potential collusion between management and employee owners what will result in agency conflicts. Beatty (1995) argues that employee ownership is a good entrenchment tool because it reduces the probability of a takeover. Managers can issue shares to employees and this can make a block against takeover threats. Macias and Pirinsky (2015) argue that employee ownership is associated with voting power and this can be an important factor against takeovers. This is due to the fact that employees and managers can ally against takeovers to protect their wages because takeovers are often associated with layoffs (Pagano & Volpin, 2005).

According to Pendleton and Robinson (2010), employee ownership can cause a free-rider problem. Blair et al. (2000) argue that any group-incentive system is likely to be subject to this problem. The free-rider problem occurs when the link between an individual's effort and reward shrinks and this results in less attraction to work harder. This occurs mostly when the percentage of shares owned by employees is larger. Oyer (2004) argues that the free-rider problem weakens the incentive effects of collective remuneration. This is due to the idea that employees think that other employees work harder to improve the firm performance and that the effort of an individual employee does not make sense. The increase in firm performance

results in higher rewards for the employees. But when employees are free-riding, they nullify the extra efforts of the other employees and this can negatively influence firm performance.

2.4.3 Empirical evidence

Jones and Kato (1995) show in their research that in companies having employee ownership the productivity increases with four till five percent, three or four years after introducing employee ownership. Park and Song (1995) find a positive relation between employee ownership and firm performance but only in the presence of large shareholders. Kim and Ouimet (2014) conclude that there is a positive relation between employee ownership and firm performance, but this holds only for small fractions of employee ownership. O'Boyle, Patel and Gonzalez-Mulé (2016) conclude in their meta-analysis of 102 studies representing 56,984 firms from around the world that employee ownership has a small, but significant positive effect on firm performance. Their results show that a firm with $1 million in profits could increase this with $40,000. They conclude that small fractions allow improved team incentives to reduce the free-rider problem. Richter and Schrader (2017) show that employee ownership results in significantly higher levels of firm performance for European listed firms. However, these results are declining when the fraction of employee ownership increases.

Cole and Mehran (1998) conclude in their research a negative link between the percentage stock owned by the firms' employee ownership plan and firm performance for American listed firms. They find that when the portion of stock owned by the employee stock ownership plan increases, this results in a lower firm performance. Faleye et al. (2006) show that when employees control more than 5% of the shares in a company, the firm performance is significantly lower than in firms with lower employee ownership for American listed companies. Guedri and Hollandts (2008) find a non-linear relation between employee ownership and firm performance and they conclude for a sample of French firms, that there is an inverted U-shaped relation between employee ownership and firm performance, measured as ROA. Ginglinger et al. (2011) find for French listed firms that employee ownership increases firm performance when employee ownership is less than 3%, and that employee ownership exceeding 10% negatively influences firm performance.

2.5 Influence of employee ownership on attitudes and behavior

Employee ownership has been investigated in several studies since the expectation that employee ownership can influence firm performance. This influence can be explained by changes in employees' work attitudes and behaviors (Ben-Ner & Jones, 1995). This side of research is often called the psychology and human resource side of employee ownership (Caramelli & Briole, 2007).

2.5.1 Influence of employee ownership on attitudes

Klein (1987) identifies three perspectives to explain the relationship between employee ownership and attitudes, these are extrinsic satisfaction, instrumental satisfaction and intrinsic satisfaction.

The first is extrinsic satisfaction and this dimension suggests that employee ownership increases commitment and motivation by providing financial rewards to the employee. Employees who will get a higher financial reward will be more motivated to perform better

when they are owners of the company (Klein, 1987). Employees will be more motivated to perform better because they expect that additional efforts will lead to higher rewards. The number of shares and the value of the shares the employees own are more important than the ownership itself (French, 1987).

The second perspective is instrumental satisfaction. This perspective suggests that employee ownership will result in higher job commitment because it increases employee influence in company decision-making (Klein, 1987). As employees become owner of the company too, they get a feeling that they own the company with the larger shareholder. It is not the ownership itself, but the associated increase in influence and the perceived control that influence employee attitudes and behavior.

Intrinsic satisfaction suggests the fact that ownership increases the commitment to the company and the satisfaction with their job (Klein, 1987). However, in his study and in other studies there is found little or no evidence that employee ownership increases the commitment and satisfaction of employees. According to Pierce, Rubenfeld and Morgan (1991) it will be necessary that employees feel like owners and that employees believe that they can influence what happens in the organization and receive information. When employees feel like owners, this can increase commitment and satisfaction. They conclude that employee ownership and its associated characteristics may lead to a "sense of ownership", which leads to an increase in commitment and satisfaction. Pendleton et al. (1998) agree with them, and they add that feelings of ownership only support intrinsic and instrumental models of ownership.

2.5.2 Influence of employee ownership on behavior

Pierce et al. (1991) suggest that employee ownership can affect some important behaviors of employees in companies. These behaviors are job performance, absenteeism and turnover. They tested the influence of employee ownership on work performance and they find that employee ownership results in a greater incentive to increase performance for employees. This will result in a higher investment from employees in the firm specific human capital (Robinson & Zhang, 2005). When employees develop their firm specific human capital, this can lead to a better performance at work because of the better knowledge. Buchko (1992) suggests that employee ownership increases the involvement at work and this will result in an increase in work performance.

Aubert and Hollandts (2015) argue that employee ownership is negatively related with absenteeism. In their study the absenteeism rate decreases when employee ownership increases significantly. Brown, Flakhfakh and Sessions (1999) also conclude that employee ownership has a negative influence on absenteeism. In their research they find that the presence of an employee ownership plan is associated with a reduction in employee absenteeism of approximately 14%.

Employee ownership has also a negative influence on turnover. Turnover means the voluntary exit of employees out of the company. Forms of employee ownership are associated with lower voluntary turnover (Blasi et al., 2016). Sengupta, Whitfield and McNacc (2007) find also a negative relation between employee ownership and turnover. The above mentioned attitudes all contribute to the lower turnover in companies with employee ownership.

2.6 Influence of employee board representation

In the literature, there are different arguments about the impact of employee board representation on firm performance. These arguments are discussed in the next section. First, the positive impact is described, thereafter the negative impact and conclusively empirical evidence is given.

2.6.1 Positive impact of employee board representation

The main idea behind employee board representation is that a collective voice of the employees, increases the chance that their complaints are taken into account and that their interests are served (Hirschman, 1970). This boosts their job commitment, firm commitment and satisfaction which will result in higher productivity and a lower turnover rate. This will result in an increase in firm performance.

One of the most important arguments for the positive relation between employee board representation and firm performance, is the more efficient and effective transfer of information from the board to the employees (Freeman & Lazear, 1995). Employees on the board improve the sharing of information between the top managers and the ordinary employees on the work floor. The top managers inform the represented employees with detailed information in a timely manner and the acceptance of decisions made by the board rises under the employees. More efficient and effective use of information will make employees more ready to cooperate and work hard when needed and this will result in higher firm performance.

Another argument why employee board representation may increase firm performance is that it results in better information transfer from employees to the board. Acharya, Myers and Rajan (2011) argue that highly productive, non-executive employees can bring detailed, company specific information to the boardroom. These employees can play the critical monitoring role in constraining the self-serving actions by senior managers. This will result that the company is managed in a sustainable manner and to an increase in the firm performance.

2.6.2 Negative impact of employee board representation

Alchian and Demsetz (1972) use basic assumptions about efficient decision making and Furubotn (1988) transfers these to the case of employee board representation. Furubotn (1988) argues that employees earn their wages and these are quite independent of the performance of the company, so they will not be affected by bad decision making. When employees are part of the board, they can use this position to lobby for decisions in favor of their own interest instead of the interest of all stakeholders. This can also result in management entrenchment, as mentioned by Aubert et al. (2014). However, shareholders bear the costs of these decisions and shareholders should have total control so they can make decisions which are in their interest. But when employees will be represented on the board, this could result in lower firm performance.

Another argument against employee board representation is that it is advantageous neither for the overall company, nor the shareholders because otherwise it would be introduced voluntarily (Jensen & Meckling, 1979). Because employee board representation occurs only when it is mandatory by law, it can be only advantageous for the employees at a higher cost to the owners what result in lower firm performance.

Tirole (2001) shows that in a society where all stakeholders have a say in corporate governance, it is very difficult to create consensus because there are too much conflicting interests. Too much employee involvement has a negative influence on productivity because when ill-qualified employees are involved in the decision-making process, this results in a lower quality and speed of the decision-making process (Blair et al., 2000). When too much employees are involved in this process, this can result in diverse and conflicting interests in the management processes. Hansmann (2009) argues that when employees are involved in the decision-making process, this can result in lower firm performance by including unqualified personnel to decision-making, which will result in delay in the decision-making process, and the difficulties of reconciling competing employee interests.

2.6.3 Empirical evidence

Empirical research gives mixed results about the impact of employee board representation on firm performance. Most studies about the impact of employee board representation on firm performance has been conducted for German samples. In Germany, a supervisory board is mandatory and the law subscribes that one-third or one-half of the seats in the supervisory board have to be received by employees (Fauver & Fuerst, 2006).

Fitzroy and Kraft (1993) conclude in their study of German listed firms that employee board representation declines the return on equity and productivity in the years after introducing employee board representation in the firm. Gorton and Schmid (2000) argue that a switch from one-third to one-half representation on the supervisory board leads to a reduction in the firm performance in a sample of large public limited companies. In a study of publicly held firms in Germany, Fauver and Fuerst (2006) find that prudent levels of employee representation on supervisory boards are significantly positively related to firm performance. They also find that employee board representation has the highest impact on firm performance when it is slightly lower than 50%, the level often mandated for German listed companies.

Bøhren and Strøm (2010) find a negative relation between employee representation on board level and firm performance for a sample of Norwegian listed firms. They conclude that employee directors successfully defend the interests of employees in the board room at the expense of stockholders. In Norway there are only unitary boards and employees have the right to be represented on the board.

Berglund and Holmén (2016) conclude for a sample of listed non-financial Swedish firms that employee board representation does not influence firm performance, neither positively nor negatively. In Swedish firms there is a unitary board of directors and employees have the legal right to be represented on the board but this option is often not exercised.

Ginglinger et al. (2011) find a positive relation between employee shareholder board representation and firm performance for French listed firms. For employee board representation, they find no significant effect.

Faleye et al. (2006) test the impact of employee directors, who are elected due their shareholdings, on firm performance among listed US firms. They find that in firms where employee shareholder directors have a seat on the board, the firm performance is significant lower.

2.7 The moderating impact of employee shareholder board representation

In France employees have the legal right, when they hold at least 3% of the shares in the firm they work for, to elect a board member (Ginglinger et al., 2011). In literature, there are arguments that the higher percentage of shares held by employees in combination with the employee shareholder board representation could have a negative impact on firm performance.

2.7.1 Negative moderating impact of employee shareholder board representation

A consequence of employee ownership in France, when it exceeds 3%, is that employee shareholders receive an additional voice since they can be offered seats on the board (Ginglinger et al., 2011). When employee ownership is coupled with employee shareholder board representation, non-executive employee shareholders can have an influence in the decision-making process at board level and it provides an extra tool for management entrenchment (Gordon & Pound, 1990; Pugh, Jahera, & Oswald, 1999) and this pushes corporate policies away from, rather than toward, shareholder value maximization (Faleye et al., 2006). In contrast to employee board representatives, employee shareholder board representatives are more likely to collude with the CEO (Pagano & Volpin, 2005).

From the perspective of the CEO, the alliance between employees and CEOs mentioned by Pagano and Volpin (2005), foster the contracts with employee shareholders and this can result in protection from employee shareholder representatives in the board of directors (Guedri and Hollandts, 2008; Ginglinger et al., 2011). When employee shareholders receive better rewards from the CEO, they are more likely to support the CEO in the board of directors.

From the perspective of employee shareholders, they can use their position to maximize their own interest instead of the interest of all shareholders (Faleye et al., 2006) because they can lobby in the boardroom in favor of their own interest with their representative. In exchange for the support of the employee owners, CEOs would implement policies that are in favor of the employee shareholders (Cronqvist, Heyman, Nilsson, Svaleryd, & Vlachos, 2009).

Because employee shareholders have the right to elect one member in the boardroom when they possess at least 3% of the shares, contracts can be established between employee shareholders and CEOs to protect each other's interests (Guedri & Hollandts, 2008), the employee shareholders are not completely independent what can decrease the efficiency of the board as internal mechanism of control (Chaplinsky & Niehaus, 1990). In this case, the interests of the stakeholders are not aligned and the shareholders wealth could suffer (Chang & Mayers, 1992).

2.7.2 Empirical evidence

The moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance is rarely examined. Only Guedri and Hollandts (2008) test the moderating impact of employee shareholder board representation for French listed firms, but they find no significant impact.

3 Hypotheses development

The hypotheses of this research are presented in this chapter. The first hypothesis tests the impact of employee ownership on firm performance. The second hypothesis is about the impact of employee board representation on firm performance and the third is about the impact of employee shareholder board representation on firm performance. The last hypothesis is about the moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance.

3.1 Employee ownership on firm performance

As mentioned in the literature review, there are two sides of employee ownership: the bright side and the dark side. The bright side has a positive impact on firm performance, associated with increased commitment, satisfaction, motivation and productivity. The dark side has a negative influence on firm performance by managerial entrenchment and the free rider problem (Aubert et al., 2014).

Empirical studies find positive, negative and curvilinear relations between employee ownership and firm performance. Cole and Mehran (1998) find a negative impact of employee ownership on firm performance. Similar to this, Faleye et al. (2006) find a negative relation between employee ownership and firm performance, but only when employee ownership exceeds 5%. Guedri and Hollandts (2008) find a curvilinear impact of employee ownership on firm performance. At lower levels it increases firm performance and at higher levels it has a negative impact on firm performance. Ginglinger et al. (2011) find results similar to this: when employee ownership is less than 3%, it has a positive impact on firm performance, but when employee ownership exceeds 10%, it has a negative impact on firm performance. However, most empirical studies find a positive impact of employee ownership on firm performance. Kim and Ouimet (2014) and Richter and Schrader (2017) find a positive relation between employee ownership and firm performance, but only for small fractions of employee ownership. Jones and Kato (1995), Park and Song (1995) and O'Boyle et al. (2016) find a positive impact of employee ownership on firm performance.

Therefore, the following hypothesis is formulated:

H1: Employee ownership has a positive impact on firm performance

3.2 Employee (shareholder) board representation on firm performance

Employee board representation could have a positive and a negative impact on firm performance. Employee board representation can increase firm performance by better information sharing, job commitment, firm commitment and satisfaction which will result in higher productivity and a lower turnover rate. It can have a negative impact on firm performance by a less efficient decision-making process and conflicting interests.

Empirical studies find positive, negative and insignificant impacts of employee board representation on firm performance. Fauver and Fuerst (2006) find that prudent levels of employee representation on supervisory boards have a significant positive impact on firm performance. Other studies (Berglund & Holmén, 2016; Ginglinger et al., 2011) find no significant impact of employee board representation on firm performance. But most empirical

studies find a significant and negative relation between employee board representation and firm performance. Fitzroy and Kraft (1993), Gorton and Schmid (2000) and Bøhren and Strøm (2010) find a negative relation between employee representation on board level and firm performance.

According to the empirical evidence, the following hypothesis is formulated:

H2: Employee board representation has a negative impact on firm performance.

Employee shareholder board representation is a form of employees on the board that is mandated by the French law when employee ownership reach 3%. The influence of employee shareholder board representation on firm performance is less often studied.

Ginglinger et al. (2011) find a positive impact of employee shareholder board representation on firm performance and Faleye et al. (2006) find a negative impact of employee shareholder board representation on firm performance.

Because there are varying results about the impact of employee shareholder board representation on firm performance, the following hypothesis is formulated:

H3: Employee shareholder board representation has a no clear-cut impact on firm performance.

3.3 The moderating effect of employee shareholder board representation

When employee ownership reaches the level of 3%, French law mandates that employee shareholders can appoint a board member, what results in an additional voice for the employee shareholders in the boardroom. The employee shareholder board representative could have a moderating effect on the relation between employee ownership and firm performance.

When there is both employee shareholder board representation and employee ownership, it is likely that managerial entrenchment is facilitated by the friendly part of ownership (Faleye et al., 2006; Gordon & Pound, 1990; Pugh, Jahera, & Oswald, 1999). Employee shareholders receive higher rewards from the CEO when the employee shareholder board representatives support the CEO's decisions in the board (Pagano & Volpin, 2005), and this decreases the efficiency of the monitoring and controlling function of the board of directors (Chaplinsky & Niehaus, 1990). In this case, the interests of the stakeholders are not aligned and the shareholders wealth could suffer (Chang & Mayers, 1992).

Guedri and Hollandts (2008) test the moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance, but they find no significant results.

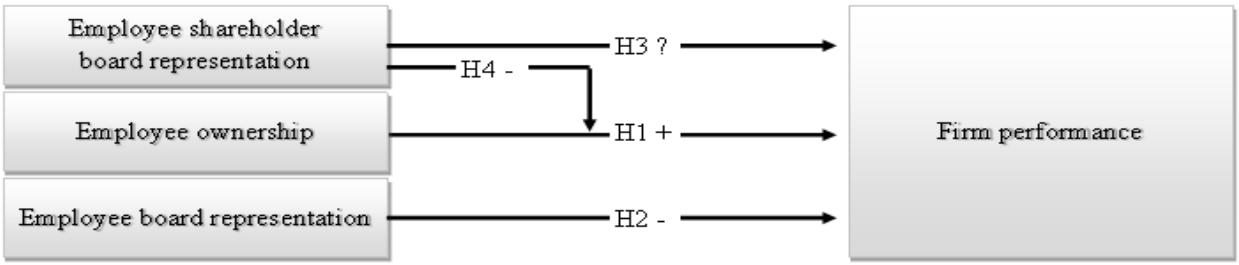
According to the management entrenchment theory, it can be suggested that employee shareholder representation on the board has a negative moderating impact on the relation between employee ownership and firm performance. Therefore, the following hypothesis is formulated:

H4: Employee shareholder board representation weakens the relation between employee ownership and firm performance.

3.4 Hypotheses summary

Figure 1 gives an overview of the relations that are tested in this study.

Figure 1 Hypothesized relations



4 Research methodology

The research methodology of this study is presented in this chapter. Firstly, the different research methods used in prior studies to analyze the impact of ownership structure on firm performance are presented. Secondly, the model to test the hypotheses is explained. Finally, the measurement of the variables is presented.

4.1 Methodology

This empirical research examines the effect of employee ownership and employee (shareholder) board representation on firm performance and the moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance. Methods used by prior researches are structural equation modelling and regression analysis (e.g. Barontini & Caprio, 2006; Tam & Tan, 2007). However, regression analysis is the most common method used in studies investigating the relation between ownership and firm performance (e.g. Cornett et al., 2007; Douma et al., 2006; Ginglinger et al., 2011). On top of that, studies examining moderating mechanisms in the effect of ownership on firm performance show that regression analysis is an appropriate method (Cornett et al., 2007; Guedri & Hollandts, 2008). To be in line with prior studies, regression analysis seems to be the most appropriate method for this study.

4.1.1 Regression analysis

Hair, Black, Babin and Anderson (2004) point out that regression analysis enables to conduct analysis of causes and measures dependency and is by far the most used method, applicable in every facet in business decision making. Regression analysis uses independent variables to make predictions for dependent variable Y. When there is only one independent variable that explains Y, the regression is known as a simple regression. When the regression involves two or more independent variables, it is known as a multiple regression. Within regression analysis, there are different models that can be used to predict a dependent variable. Four models are most used in studies of this nature, these are probit, logistic, non-linear and linear regression.

Probit and logistic regression are mostly used when there is a non-metric dependent variable. The difference between the two regression models is that using probit regressions, there is a dichotomous variable and in logistic regression the dependent variable is multichomous. Dichotomous means that the variable can take only two values and multichomous means that it can take more than two values. In studies investigating employee ownership, these methods are used to determine if a firm has introduced employee ownership. The dependent variable will take a value of 1 if a company has employee shareholders and 0 if there are no employee owners. In this study there is a metric dependent variable, firm performance, so these methods are less appropriate.

A non-linear regression can be used when the observational data is modeled by a non-linear function. Forms of non-linear regressions are quadratic, exponential, power and cubic regressions. Guedri and Hollandts (2008) and McConnel and Servaes (1990) use non-linear regressions in studies to the impact of ownership on firm performance.

Linear regressions are used when the dependent variable is metric and measured on an interval or ratio scale. The simplest and most common form of linear regression is the ordinary

least squares (OLS) method. OLS regression estimates the dependent variable, with the goal to minimize the sum of squares of the differences between the actual dependent variable and the predicted values. Because firm performance, measured as ROA (using ebit and net income), Tobin's Q and RET, is a metric variable, OLS regression seems to be appropriate. Other researches that test the relation between ownership and firm performance also have used OLS regression (e.g. Barontini & Caprio, 2006; Cornet et al., 2007; Ginglinger et al., 2011; Krivogorsky, 2006; Mehran, 1995).

OLS regression has some advantages and disadvantages. The most important advantages are that it is relatively easy to implement, easier to analyze than many other regression techniques, not too difficult to understand and the parametric form makes solutions that are relatively easy to interpret. An important disadvantage of OLS regression is the endogeneity problem (Detthamrong, Chancharat, & Vithessonthi, 2017). Demsetz and Lehn (1985) propose that this is a key issue in studying the relation between ownership and firm performance. Endogeneity can arise from measurement error, auto regression, omitted variables, simultaneous causality and reverse causality.

Ginglinger et al. (2011) use a two-stage least squares (2SLS) regression to reduce endogeneity. 2SLS regression uses an instrumental variable that is correlated with the endogenous variable, and uncorrelated with the error term. The instrumental variable will only have an effect on the dependent variable through the independent variable, because it has only a correlation with the independent variable of interest and not any other variable. But in this study, there is no appropriate instrumental variable found. Another method to account for endogeneity used by other studies (Cronqvist & Nilsson, 2003; Detthamrong et al., 2017) is using lagged variables. Therefore, and similar to the study Detthamrong et al. (2017), one-year lagged variables on the righter side of the equation will be used in a robustness test to check for endogeneity.

Some other studies also made use of other regression models, namely fixed-effects model (Ginglinger et al., 2011) and random-effects model (Richter & Schrader, 2017). Fixed-effects models are most preferred in cases of balanced and long-term data. Random-effects models are most used when cross-sectional observations are random drawings of a larger sample.

4.1.2 Method applied in this study

The method used in this study is OLS regression. The reason to choose for this method is that other researches that tested the impact of ownership on firm performance show that OLS regression is an appropriate method to test the impact (e.g. Barontini & Caprio, 2006; Cornet et al., 2007; Ginglinger et al., 2011; Krivogorsky, 2006; Mehran, 1995). Other researches that have examined a moderating effect also used OLS regression (Douma et al., 2006; Ramaswamy, 2001). OLS regression determines with a t-test the impact of the independent variables on the dependent variable and if this impact is significant or not.

4.2 Models

In order to test hypotheses 1, 2 and 3, OLS regression is used to determine the impact of employee ownership and employee (shareholder) board representation on firm performance.

The OLS regression is similar to the study of Ginglinger et al. (2011). To test the hypotheses in this study, the following regression model is derived:

$$FIRMPERF_{x,t} = \alpha_0 + \beta_1 EO_{x,t} + \beta_2 EBR_{x,t} + \beta_3 ESBR_{x,t} + \beta_4 Control_{x,t} + \varepsilon_{x,t}$$

Where:

α	Constant
$FIRMPERF_{x,t}$	Firm performance for firm x in year t
$EO_{x,t}$	Employee ownership for firm x in year t
$EBR_{x,t}$	Employee board representation for firm x in year t
$ESBR_{x,t}$	Employee shareholder board representation for firm x in year t
$Control_{x,t}$	Control variables, these are ownership concentration, leverage, firm size, privatization and industry for firm x in year t
$\varepsilon_{x,t}$	Error term of firm x in year t

In order to test hypothesis 4, the moderating impact of employee shareholder board representation on the relation between employee ownership and firm performance, the moderating term of employee ownership and employee shareholder board representation is involved. In line with Guedri and Hollandts (2008), the following regression model is derived:

$$FIRMPERF_{x,t} = \alpha_0 + \beta_1 EO_{x,t} + \beta_2 ESBR_{x,t} + \beta_3 (EO_{x,t} * ESBR_{x,t}) + \beta_4 Control_{x,t} + \varepsilon_{x,t}$$

Where:

α	Constant
$FIRMPERF_{x,t}$	Firm performance for firm x in year t
$EO_{x,t}$	Employee ownership for firm x in year t
$ESBR_{x,t}$	Employee shareholder board representation for firm x in year t
$EO_{x,t} * ESBR_{x,t}$	Moderating term between employee ownership and employee shareholder board representation for firm x in year t
$Control_{x,t}$	Control variables, these are ownership concentration, leverage, firm size, privatization and industry for firm x in year t
$\varepsilon_{x,t}$	Error term of firm x in year t

An important issue that needs to be addressed when testing the effect of ownership on firm performance is that there may be an endogeneity problem. It could be that better performing firms attract greater employee ownership (Ginglinger et al., 2011). Endogeneity problems occur when there is a correlation between an independent variable and the error term.

Detthamrong et al. (2017) and Cronqvist and Nilsson (2003) use one-year lagged variables for the independent variables to test for endogeneity. Therefore, OLS regression with lagged variables on the righter side of the model is used. This regression is also used as a robustness check. The results of this regression will be compared with these of the first

regression to check the impact of endogeneity. When the results are comparable, it could be concluded that endogeneity does not seem to play a role in this study.

4.3 Variables

This section describes the measurement of the dependent, independent and control variables used in this study. An overview of the variables is presented in Table 2.

4.3.1 Dependent variable

The dependent variable in this research is firm performance. There are different measures for firm performance. Most authors (Cornet et al., 2007; Ginglinger et al., 2011; Guedri & Hollandts, 2008) use accounting-based measures and market-based measures of firm-performance. Using both accounting-based and market-based measures can have advantages. For example, ROA reflects historical information and Tobin's Q can account for this because it is a forward-looking approach.

4.3.1.1 Accounting-based measures

Accounting-based measures indicate the past performance. An accounting-based measure used in many studies is return on assets (ROA) (Ginglinger et al., 2011; Kim & Patel, 2017; Meng, Ning, Zhou, & Zhu, 2011; Park & Song, 1995). ROA gives an idea how profitable a company is relative to its assets and it indicates how efficient management is using its assets to generate earnings (Aubert et al., 2017). There are different measures of ROA: operating income divided by total assets and net income divided by total assets (Ginglinger et al, 2011). To validate the results, both measures of ROA are used.

4.3.1.2 Market-based measures

Market-based performance measures indicate the creation of wealth for shareholders, this can be measured by Tobin's Q (Faleye et al., 2006; Ginglinger et al.,2011; Meng et al., 2011). Tobin's Q can be calculated as the market value of equity at the end of the fiscal year plus the book value of assets minus the book value of equity, all divided by the book value of assets. To validate the results of Tobin's Q, an additional market-based measure, stock market return (RET), is used. RET can be measured as the stock price difference plus dividend, all divided by the stock price at the begin of the year (Kabir & Thai Minh, 2017).

4.3.2 Independent variables

The independent variables in this study are employee ownership, employee board representation and employee shareholder board representation.

4.3.2.1 Employee ownership

Employee ownership is defined as the percentage of company shares owned by non-executive employees, relative to the total amount of company shares (Aubert et al., 2017; Ginglinger et al., 2011; Guedri & Hollandts, 2008).

4.3.2.2 Employee board representation

Employee board representation can be measured as the number of directors representing employees divided by the total number of board members (Bøhren & Strøm, 2010; Ginglinger et al., 2011). This measure shows the ability of employees to influence the decision-making

process within the board. Further, in line with Ginglinger et al. (2011) a dummy variable for employee board representation is included. This dummy will be 1 if there is an employee representative on the board and 0 otherwise. Seats on the board of directors for representatives of employees must be reserved as right of employment in privatized companies or in firms with a certain number of employees.

4.3.2.3 Employee shareholder board representation

Employee shareholder board representation can be measured as the number of directors elected by employee shareholders divided by the total number of directors sitting on a company's board (Ginglinger et al., 2011; Guedri & Hollandts, 2008). In line with Ginglinger et al. (2011), a dummy variable is included for employee shareholder board representation. This dummy will be 1 if there is an employee shareholder representative on the board and 0 otherwise. This measure indicates the ability of employee shareholders to influence the decision-making process within the board. When employee ownership exceeds the 3%, they receive a voice in the board room.

4.3.3 Control variables

There are many variables that possibly can influence firm performance but which are not analyzed in this study. But for the possible influence on firm performance, we have to take these into account. The control variables in this study are ownership concentration, leverage, firm size, privatization and industry.

4.3.3.1 Ownership concentration

The ownership concentration may influence the firm performance of a company. Sánchez-Ballesta and García-Meca (2007) conclude in their research that large block holders are active monitors and that their monitoring may increase the firm performance. Therefore, in this research ownership concentration is controlled. Ownership concentration refers to the percentage of the equity hold by the first, largest shareholder (Aubert et al., 2017; Guedri & Hollandts, 2008).

4.3.3.2 Leverage

Leverage is a variable that may influence firm performance. Krivogorsky (2006) find that a higher debt-to-equity ratio negatively influences firm performance because a higher debt increases a firm's financial risk. Leverage can be measured as the sum of long-term debt and current liabilities divided by total assets (Krivogorsky, 2006) and as long-term debt divided by total assets (Ginglinger et al., 2011).

4.3.3.3 Firm size

According to Meng et al. (2011), firm size is an important factor that influences both corporate performance and incentive contracts. Beard and Dess (1981) conclude in their research that firm size is a determinant of firm performance through economies of scale and market power. Therefore, firm size has to be controlled. Firm size can be measured as the natural logarithm of the total assets (Ginglinger et al., 2011; Faleye et al., 2006) and as the natural logarithm of total sales (Guedri & Hollandts, 2008). A logarithmic function is applied to reduce the skewness.

4.3.3.4 Privatization

Privatized firms are mandated by law to maintain employee board representation. Therefore, a dummy variable is added for privatized firms (Ginglinger et al., 2011; Guedri & Hollandts, 2008). The French state is known for keeping a percentage of shares within the privatized companies. States are more likely to focus on political than financial goals (Thomsen & Pedersen, 2000). This dummy takes a value of 1 if the firm was previously owned by the French government and 0 if it was not.

4.3.3.5 Industry

Meng et al. (2011) suggest in their research that industry is an important factor that affects both firm performance and incentive contracts. According to Short, Ketchen Jr., Palmer and Hult (2007), industry effects may have influence on firm performance because industries can differ in size, growth, level of rivalry, R&D intensity and entry barriers. According to Ginglinger et al. (2011), there are six major industries which can be distinguished on the basis of SIC codes. These industries are agriculture, mining, and construction (0100-1799), manufacturing (2000-3999), transportation, communications and utilities (4000-4999), wholesale and retail trade (5000-5999), finance, insurance and real estate (6000-6799) and business and personal services (7000-8999). Dummy variables are used to indicate the industry.

Table 2 Measurement of variables

Dependent variable	
Firm performance	
ROAebit	(Operating income)/ (Total assets)
ROAnet	(Net income)/ (Total assets)
Tobin's Q	(MV equity + BV assets- BV equity)/ (BV of assets)
RET	(Stock price difference + Dividend)/ (Stock price begin of the year)
Independent variables	
Employee ownership	
EO	(Shares held by non-executive employees)/ (Total amount of company shares)
Employee board representation	
EBR	(Number of directors elected representing employees)/ (Total number of directors sitting on a company's board)
EBRdum	Dummy variable, 1 if there is an employee board representative, 0 if there is no representative.
Employee shareholder board representation	
ESBR	(Number of directors elected representing employee shareholders)/ (Total number of directors sitting on a company's board)
ESBRdum	Dummy variable, 1 if there is an employee shareholder board representative, 0 if there is no representative.
Control variables	
Ownership concentration	
Owncon	(Shares held by the largest shareholder)/ (Total amount of company shares)
Leverage	
Lev	(Total debt)/ (Total assets)
LevLong	(Long-term debt)/ (Total assets)
Firm size	
LnTA	Natural logarithm of total assets.
LnTS	Natural logarithm of total sales.
Privatization	
Priv	Dummy variable, 1 if the firm was previously owned by the French government, 0 if the firm was never owned by the French government.
Industry	
Ind	Dummy variable for the industries distinguished by Ginglinger et al. (2011).

5 Data and sample size

This chapter gives an overview of how the data is obtained and about the sample used in this study.

5.1 Data

For this study, the years 2014, 2015 and 2016 are examined. The data that is used in this research is collected from the database ORBIS, reference documents and annual reports. Reference documents are filed with the French financial markets authority and contain complete legal, business, financial and accounting information for a given financial period. The financial information of the firms and the industry information are collected from ORBIS. Information about employee ownership, employee (shareholder) board representation, ownership concentration and privatization is collected from annual reports and reference documents. In some cases, there was some missing information regarding the financial data. To get fewer missing variables and more observations, in the reference documents and annual reports was searched for the missing variables. For example, ORBIS did not publish anything for the dividend paid by Eiffage in 2016 but it could be found in their reference document. To decrease the effect of extreme outliers, all dependent variables are winsorized at the 1% and 99% levels, instead of dropping them from the sample (Douma et al., 2006).

5.2 Sample size

The sample that is used for this study consists of French firms listed on the CAC All-Tradable. The CAC All-tradable is a French stock market index that represents all sectors of the French economy. This index replaced in March 2011 the Société des Bourses Françaises (SBF) 250. The CAC All-Tradable contains all components of the stocks of the SBF120 index, which regroups the 120 largest companies by market capitalization and by trading volumes on Euronext Paris.

On 31 December, 2016, the CAC All-Tradable consists of 320 listed firms. Because this study focuses on French listed firms, the firms that have another ISIN code than 'FR' are excluded. For example, Solvay SA is a Belgium company listed on the CAC All-Tradable but is headquartered in Brussels. There are 15 companies with other ISIN codes, after excluding these companies the sample consists of 305 companies.

Finance, insurance and real estate companies are also excluded, these firms have different ownership patterns compared to that of other firms (Aubert et al., 2017). Therefore, firms with SIC codes 6000-6799 are removed from the sample. For example, Axa SA is an insurance company listed on the CAC All-Tradable with a SIC code 6311. There are 44 companies with a SIC code between 6000 and 6799. After excluding these firms, there are 261 companies in the sample.

Furthermore, firms are excluded when they do not publish annual reports or reference documents in English or there is no information about variables that are important for this study. Because a lot of smaller firms do not publish annual reports in English, for example Micropole does not publish English annual reports, 132 firms are excluded for missing variables resulting in a final sample of 129 companies. Table 3 summarizes the sample selection.

Because this study focuses on the years 2014, 2015 and 2016 there are 382 firm-year observation. 1 firm-year observation is missing in 2015 and 4 firm-year observations are missing in 2014 because some firms were not yet public listed, for example Sopra Steria Group launched an IPO in 2014. The list of firms included in this study can be found in Appendix A.

Table 3 Sample size

Sample size	Reason for excluding	Number of excluded firms
320	Other ISIN codes	15
305	Finance, insurance and real estate companies	44
261	Missing variables	132
129	Final sample size	

6 Results

This chapter discusses the results of this study. First, the descriptive statistics are presented. Second, the correlation matrix is shown. Third, the regression results for this study are presented and finally the robustness tests are shown.

6.1 Descriptive statistics

Table 4 reports the descriptive statistics of the dependent variable, independent variables and control variables. Starting with the dependent variable, financial performance, ROAebit and ROAnet are the accounting-based measures. A higher ROA means that a company earns more money relative to its total assets in a year. ROAebit, is on average 0.050 whereas the median is 0.053. This is in line with Ginglinger et al. (2011) and Aubert et al. (2017) who find an average ROAebit of 0.047 and 0.040 and a median of 0.050 and 0.040 for a sample of French listed firms. ROAnetincome has a mean of 0.024 and a median of 0.032. The market-based measures of financial performance are Tobin's Q and RET. Tobin's Q has a mean of 1.360 and a median of 1.259. This means that the market capitalization and book value of total debt is higher than the book value of the total assets. The mean is lower than in the study of Ginglinger et al. (2011) who find an average Tobin's Q of 1.85, but the median (1.341) is almost the same. The stock market return (RET) has a mean of 0.117 and a median of 0.104, this is in line with Kabir and Thai Minh (2017) who find an average of 0.13 in a developing country.

The independent variables show that EO has a mean of 0.022 and a median of 0.010. This is in line with Ginglinger et al. (2011) and Aubert et al. (2017) who find that employees hold an average of 0.020 and 0.02 of the shares with a median of 0.010 and 0.01. Employees held the highest percentage of the shares in 2014 in Eiffage: 28.1%. EBR has a mean of 0.038 and the maximum value is 0.333. This means that one third of the board consists of employee representatives and this was the case at Aeroports de Paris SA and Electricite de France SA, both privatized companies. EBRdum has a mean of 0.293 and this is higher than the 0.105 in the study of Ginglinger et al. (2011). This difference can be explained by the law introduced in 2013 that firms with a certain number of employees are obliged to introduce employee representatives. ESBR has a mean of 0.019. This is in line with Guedri and Hollandts (2008), who find a mean of 0.020. The ESBRdum has a mean of 0.212 and this is higher than the 0.112 reported by Ginglinger et al. (2011). It can be concluded that more firms have introduced an employee shareholder representative on the board, and this is in line with the increasing number of employee shareholder representatives mentioned by Ginglinger et al. (2011).

Considering the control variables, the average ownership concentration (Owncon) is 0.304 with a median of 0.261. This is in line with Aubert et al. (2017), they find a mean of 0.30 and a median of 0.27. Leverage (Lev) has a mean of 0.617 and a median of 0.616, meaning that more than half of their assets is financed with debt. This is in line with Krivogorsky (2006) who finds a mean of 0.51 for firms in continental Europe. It has to be noted that AIR FRANCE – KLM had a leverage of 1.024 in 2014. The reason for this is that AIR FRANCE – KLM had a negative total equity that year. Long-term leverage (LevLong) has a mean of 0.173 and a median of 0.160. Which means that on average 17.3% of the total assets is financed with long-term debt. The total assets (TA) are on average €15,795 million, this is in line with Aubert et al.

(2017) who find a mean of €17,000 million. The total sales (TS) are on average €9,667 million. Because the medians of both measures are much lower than the means, it can be concluded that both measures are skewed to the right. Therefore, a natural logarithm is used in regression analysis to reduce the skewness of both variables. The mean of the privatization dummy (Priv) is 0.086 and this is in line with Guedri and Hollandts (2008) who find a mean of 0.09.

Table 4 Descriptive statistics

Variable	N	Mean	SD	Min	Max	P25	P50	P75
Dependent variables								
ROAebit	382	0.050	0.060	-0.206	0.195	0.033	0.053	0.080
ROAnet	382	0.024	0.055	-0.232	0.156	0.010	0.032	0.050
Tobin's Q	382	1.360	0.448	0.755	3.047	1.044	1.259	1.559
RET	367	0.117	0.281	-0.615	0.933	-0.046	0.104	0.297
Independent variables								
EO	382	0.022	0.036	0.000	0.281	0.003	0.010	0.026
EBR	382	0.035	0.064	0.000	0.333	0.000	0.000	0.071
EBRdum	382	0.293	0.456	0.000	1.000	0.000	0.000	1.000
ESBR	382	0.019	0.041	0.000	0.214	0.000	0.000	0.000
ESBRdum	382	0.212	0.409	0.000	1.000	0.000	0.000	0.000
Control variables								
Owncon	382	0.304	0.192	0.046	0.856	0.149	0.261	0.446
Lev	382	0.617	0.137	0.231	1.028	0.513	0.616	0.723
LevLong	382	0.173	0.123	0.000	0.565	0.078	0.160	0.240
TA (mln €)	382	15,795	36,727	19	281,640	416	3,054	13,638
TS (mln €)	382	9,667	19,181	14	174,630	309	1,993	10,719
Priv	382	0.086	0.281	0.000	1.000	0.000	0.000	0.000

Notes: This table presents summary statistics of the variables used in this study. P25, P50 and P75 = 25th, 50th and 75th percentile of the variables. N is the number of observations. Variable definitions are described in table 2.

6.2 Correlation matrix

Table 5 presents the Pearson correlations for the variables in this study. Regarding the firm performance measures, all of the variables (ROAebit, ROAnet, Tobin's Q and RET) are highly correlated with each other at the 1% level. Contrary to the first hypothesis, it seems that there is no relation between employee ownership (EO) and all measures of firm performance, because all correlations are insignificant. Both measures of employee board representation (EBR and EBRdum) are highly correlated with each other (r=.858**), but there is no significant correlation between these measures and firm performance. ESBR and ESBRdum, both measures of employee shareholder board representation are highly correlated with each other (r=.896**). Only ESBRdum is significantly negatively related to Tobin's Q (r=-.143**). This suggests that employee shareholder board representation is higher in worse performing firms when Tobin's Q is the financial performance measure. Both measures of employee shareholder board representation are significantly positively correlated with employee ownership (r=.679**

and r=.638**), this means that employee shareholder board representation is higher when employee ownership is higher.

Looking to the control variables, ownership concentration (Owncon) has a significant and positive relation with ROAebit (r=.128*) and ROAnet (r=.140**), but it has a negative correlation with employee ownership (r=-.232**), this means that employee ownership is higher when there is less concentrated ownership in a company. Both measures of leverage are significantly negatively correlated with all measures of firm performance, except with RET. This suggest that that highly leveraged firms perform worse than lowly leveraged firms. The firm size measure LnTS is significantly positively related to ROAebit (r=.104*) and ROAnet (r=.149**). This suggest that larger firms perform better than smaller firms. Both measures of firm size are highly correlated with EBR (r=.545** and r=.502**) and EBRdum (r=.586** and r=.562**). This can be explained by the law which mandates firms of a certain firm size to maintain employee board representation. Both measures of firm size are positively correlated with employee ownership (r=.281** and r=.310**), suggesting that employee ownership is higher in larger firms. Privatization (Priv) has only a significant and negative correlation with Tobin's Q (r=-.144**), suggesting that privatized firms perform worse than non-privatized firms. Privatization is highly correlated with both measure of employee board representation (r=.620** and r=.457**), this can be explained by the law that mandates privatized firms to maintain employee board representation.

An additional test to study the presence of multicollinearity is performed by calculating the variance inflation factor (VIF). Multicollinearity occurs when there are high correlations between the independent variables. The VIF of the independent variables in this study is lower than the threshold of 5, this means that there is no multicollinearity problem in this study. The results are reported in Appendix B**.**

Table 5 Pearson correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ROAebit	1														
2	ROAnet	.924**	1													
3	Tobin's Q	.471**	.406**	1												
4	RET	.368**	.372**	.293**	1											
5	EO	.037	.041	-.085	.027	1										
6	EBR	.040	.075	.001	-.016	.208**	1									
7	EBRdum	.056	.095	.039	.013	.233**	.858**	1								
8	ESBR	-.008	.004	-.069	-.039	.679**	.158**	.248**	1							
9	ESBRdum	-.043	-.012	-.143**	-.034	.638**	.245**	.327**	.896**	1						
10	Owncon	.128*	.140**	.057	-.007	-.232**	.004	-.133**	-.270**	-.320**	1					
11	Lev	-.255**	-.290**	-.372**	-.053	.200**	.127*	.101*	.159**	.151**	-.042	1				
12	LevLong	-.159**	-.199**	-.238**	-.099	.113*	.106*	.080	.031	-.011	-.124*	.427**	1			
13	LnTA	.045	.096	-.070	-.096	.281**	.545**	.586**	.315**	.401**	-.284**	.222**	.291**	1		
14	LnTS	.104*	.149**	-.064	-.059	.310**	.502**	.562**	.342**	.428**	-.287**	.241**	.187**	.969**	1	
15	Priv	-.057	-.026	-.144**	-.037	.104*	.620**	.457**	.131*	.205**	.006	.217**	.103*	.313**	.289**	1

Notes: This table presents Pearson's correlation between variables used in this study. The sample consists of 382 firm-year observations from 2014 to 2016.. Correlation is significant at the 0.05 level (2-tailed) and **. Correlation is significant at the 0.01 level (2-tailed). Ln are log transformed variables. Variable definitions are described in Table 2.*

6.3 Regression results

The results of regression analysis are shown in Table 6 and 7. Industry and year dummies are included to take into account any industry- or year-specific factors that could have an impact on firm performance. Appendix C and D contain OLS regression models with some of the independent and control variables excluded to avoid collinearity because there is a high correlation between some of these variables. Table 6 shows the OLS regression models for hypothesis 1, 2 and 3 and Table 7 presents the OLS regression for hypothesis 4.

The control variables ownership concentration (Owncon), leverage (Lev) and firm size (LnTA) have most of the time a significant impact on firm performance. Suggesting that larger firms or firms with more concentrated ownership perform better and that firms with a higher leverage perform worse than lowly leveraged firms. Privatization is sometimes significantly negatively related to firm performance, suggesting that privatized firms perform worse than non-privatized firms.

6.3.1 Effect of employee ownership on firm performance

The first hypothesis states that employee ownership positively influences firm performance. Model 1 of Table 6 presents the results of the OLS regression model with employee ownership (EO) as independent variable. As can be observed in the table, the coefficient of employee ownership is positive and significant at the 1% level when ROAebit and ROAnet are the dependent variables (β=0.304***, t=3.367 and β=0.294***, t=3.647). When RET is the dependent variable, the coefficient is positive and significant at the 10% level (β=0.798*, t=1.724) and when the dependent variable is Tobin's Q, employee ownership has a non-significant positive impact on firm performance. According to model 4, the model with all independent variables included, the impact of employee ownership on ROAebit and ROAnet is still positive and significant at the 1% level (β=0.452***, t=4.106 and β=0.402***, t=4.076). The impact of employee ownership is positive and significant on Tobin's Q at the 5% level (β=2.429**, t=2.332) and on RET at the 5% level (β=1.155**, t=2.040).

Appendix C and D show the impact of employee ownership on firm performance with different combinations of independent and control variables. Employee ownership holds it positive and significant impact on the accounting-based measures of firm performance at the 1% level. When employee shareholder board representation (ESBRdum) is added to the regression, it seems that the impact of employee ownership become more significant on all measures of firm performance. This could be explained by the high correlation between the ESBRdum and EO (r=.638**).

The findings suggest that employee ownership positively affects firm performance, but only for the accounting-based measures ROAebit and ROAnet. The results of the accounting-based measures are in line with Jones and Kato (1995), Park and Song (1995) and O'Boyle et al. (2016), who find a positive impact of employee ownership on firm performance. These results support the arguments that employee ownership is associated with increased commitment, satisfaction, motivation and workplace productivity. Because employee ownership only positively influences the accounting-based measures of firm performance, hypothesis 1 is partially supported. In non-published tests there is checked for an inverted U-

shaped relation, but there is no support for a curvilinear relation between employee ownership and firm performance.

6.3.2 Effect of employee board representation on firm performance

Hypothesis 2 states that employee board representation negatively influences firm performance. Model 2 of Table 6 presents the results of the OLS regression model with employee board representation (EBRdum) as independent variable included. As can be observed, employee board representation is non-significantly related to ROAebit, ROAnet and RET. When Tobin's Q is the measure of firm performance, employee board representation has a significant and positive impact at the 1% level (β=0.166***, t=2.703). Model 4 shows that employee board representation still has a non-significant impact on ROAebit, ROAnet and RET and a positive and significant impact on Tobin's Q at the 1% level (β=0.176***, t=2.881).

Appendix C and D show the results of OLS regression analysis with different combinations of the independent and control variables. It can be concluded that after excluding firm size (LnTA), employee board representation becomes more significant. This could be explained by the high correlation between EBRdum and LnTA (r=.586**).

According to the results, employee board representation has a positive impact on firm performance measured by Tobin's Q. This is the opposite to what is expected in the hypothesis 2, which argues that employee board representation results in a less efficient decision-making process, conflicting interests in the board room and decisions that are not in favor of the interest of all stakeholders what negatively influences firm performance. The positive impact can be explained by giving the employees the feeling that their interests are served, what gives them satisfaction and motivation, and a better information sharing between the board what results in better firm performance. However, evidence for the significant relation between employee board representation and the market-based measures of firm performance does not hold when the other market-based performance measure, RET, is involved. Concluding to above, hypothesis 2 is rejected.

6.3.3 Effect of employee shareholder board representation on firm performance

The third hypothesis states that employee shareholder board representation significantly influences firm performance. Model 3 of Table 6 shows the impact of employee shareholder board representation (ESBRdum) on firm performance. According to this model, employee shareholder board representation has a non-significant and negative impact on ROAebit, ROAnet and RET but a negative and significant impact on Tobin's Q at the 10% level (β=-0.107*, t=-1.811). As can be observed in model 4, employee shareholder board representation has a non-significant impact on RET, but a negative and significant impact on ROAebit and ROAnet at the 5% level (β=-0.024**, t=-2.431 and β=-0.017**, t=-1.981) and Tobin's Q at the 1% level (β=-0.224***, t=-3.134).

In Appendix C and D, OLS regression models are shown with different combinations of independent and control variables. It can be concluded that employee shareholder board representation becomes more significant when employee ownership (EO) is added to the regression, this could be explained by the high correlation between ESBRdum and EO (r=.638**). When firm size (LnTA) is excluded from the regression, employee shareholder

board representation becomes less significant. This can be explained by the high correlation between ESBRdum and LnTA (r=.586**)

These results show that the presence of representatives of employee shareholders on the board has no conclusive impact on firm performance. This is not in line with previous studies (Faleye et al., 2006; Ginglinger et al., 2011), who find a significant impact of employee shareholder board representation on firm performance. Therefore, hypothesis 3 is rejected.

Table 6 Effect of employee ownership and employee (shareholder) board representation on firm performance

	Model 1				**Model 2**				**Model 3**				**Model 4**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.020	-0.030	1.733***	0.240*	0.029	-0.022	1.922***	0.309**	0.015	-0.030	1.685***	0.232*	0.022	-0.028	1.854***	0.287*
	(0.486)	(-1.176)	(8.279)	(1.739)	(0.971)	(-0.815)	(8.760)	(2.124)	(0.528)	(-1.155)	(8.026)	(1.667)	(0.726)	(-1.043)	(8.503)	(1.966)
EO	0.304***	0.294***	0.636	0.798*									0.452***	0.402***	1.964**	1.155**
	(3.367)	(3.647)	(0.946)	(1.724)									(4.106)	(4.076)	(2.429)	(2.040)
EBRdum					0.010	0.008	0.166***	0.069					0.009	0.007	0.176***	0.066
					(1.166)	(1.056)	(2.703)	(1.633)					(1.108)	(0.944)	(2.881)	(1.549)
ESBRdum									0.000	0.004	-0.107*	0.000	-0.024**	-0.017**	-0.224***	-0.064
									(0.034)	(0.540)	(-1.811)	(0.003)	(-2.431)	(-1.981)	(-3.134)	(-1.296)
Owncon	0.068***	0.073***	0.230*	0.021	0.056***	0.061***	0.205*	-0.010	0.056***	0.063***	0.153	-0.009	0.061***	0.068***	0.168	0.001
	(4.223)	(5.077)	(1.929)	(0.253)	(3.541)	(4.331)	(1.774)	(-0.127)	(3.440)	(4.331)	(1.279)	(-0.113)	(3.813)	(4.719)	(1.417)	(0.010)
Lev	-0.116***	-0.130***	-1.141***	-0.085	-0.104***	-0.118***	-1.068***	-0.043	-0.107***	-0.122***	-1.107***	-0.065	-0.113***	-0.128***	-1.087***	-0.065
	(-5.325)	(-6.680)	(-7.059)	(-0.770)	(-4.707)	(-6.006)	(-6.660)	(-0.387)	(-4.877)	(-6.202)	(-6.905)	(-0.585)	(-5.201)	(-6.547)	(-6.798)	(-0.586)
LnTA	0.005***	0.007***	0.024**	-0.001	0.005**	0.007***	0.007	-0.008	0.006***	0.008***	0.030**	0.001	0.005***	0.007***	0.014	-0.006
	(3.394)	(5.112)	(1.975)	(-0.115)	(2.577)	(4.119)	(0.487)	(-0.792)	(3.493)	(5.039)	(2.414)	(0.008)	(2.909)	(4.374)	(0.994)	(-0.588)
Priv	-0.017	-0.010	-0.112	0.019	-0.022*	-0.014	-0.196**	-0.015	-0.017	-0.011	-0.097	0.019	-0.018	-0.011	-0.169*	-0.004
	(-1.487)	(-0.983)	(-1.332)	(0.342)	(-1.797)	(-1.292)	(-2.206)	(-0.246)	(-1.478)	(-1.032)	(-1.160)	(0.342)	(-1.504)	(-1.023)	(-1.914)	(-0.073)
YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.146	0.199	0.166	0.052	0.124	0.173	0.180	0.051	0.120	0.171	0.171	0.044	0.157	0.204	0.198	0.057
N	382	382	382	367	382	382	382	367	382	382	382	367	382	382	382	367

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.3.4 Moderating effect of employee shareholder board representation

Hypothesis 4 states that employee shareholder board representation weakens the positive effect of employee ownership on firm performance. Table 7 presents the results of the OLS regression analysis with the moderating term (EO*ESBRdum) included. As can be observed in this table, the moderating term has a significant and negative impact on both accounting-based measures of firm performance at the 5% level (β=-0.687**, t=-2.144 and β=-0.635**, t=-2.213) while employee ownership (EO) holds its positive and significant sign. The moderating term has a non-significant and positive impact on Tobin's Q and a non-significant and negative impact on RET.

The results show that there is only support for the hypothesis that employee shareholder board representation weakens the relation between employee ownership and firm performance when there is an accounting-based measure of firm performance. Therefore, there is partial support for the arguments that employee shareholder board representatives and CEOs protect each other's interests in the board room. This could result in not completely independent employee shareholder representatives, what can decrease the efficiency of the board as control mechanism and this can result in lower firm performance. Analyzing the OLS regression results, there is only partial support for hypothesis 4.

Table 7 Moderating effect of employee shareholder board representation

	ROAebit	ROAnet	Tobin's Q	RET
Intercept	-0.001	-0.047*	1.686***	0.194
	(-0.022)	(-1.821)	(7.913)	(1.374)
EO	1.018***	0.923***	0.579	2.315
	(3.576)	(3.629)	(0.273)	(1.592)
ESBRdum	-0.008	-0.003	-0.248***	-0.029
	(-0.661)	(-0.264)	(-2.786)	(-0.480)
EO*ESBRdum	-0.687**	-0.635**	1.748	-1.373
	(-2.144)	(-2.213)	(0.732)	(-0.836)
Owncon	0.067***	0.073***	0.165	0.016
	(4.133)	(5.042)	(1.368)	(0.187)
Lev	-0.111	-0.125***	-1.163***	-0.076
	(-5.124)	(-6.455)	(-7.207)	(-0.681)
LnTA	0.006***	0.008***	0.032**	0.001
	(3.879)	(5.460)	(2.605)	(0.156)
Priv	-0.020*	-0.013	-0.067	0.016
	(-1.687)	(-1.263)	(-0.774)	(0.268)
YEAR	YES	YES	YES	YES
IND	YES	YES	YES	YES
Adj R^2	0.165	0.213	0.181	0.052
N	382	382	382	367

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.4 Robustness tests

To test the robustness of the results of this study, several robustness tests are performed. First a regression with one-year lagged independent and control variables is conducted. Thereafter, three subsample analyses are performed: a (non) SBF120 analysis, a subsample analysis with lowly leveraged versus highly leveraged firms and an analysis of the years separately. Finally, regressions with alternative measures are performed.

6.4.1 Lagged variables

An important issue that needs to be addressed when testing the effect of ownership on firm performance is the endogeneity problem (Ginglinger et al., 2011). Detthamrong et al. (2017) and Cronqvist and Nilsson (2003) use one-year lagged variables on the righter side of the equation. Therefore, a model with one-year lagged independent and control variables is used to test for endogeneity. The results of the regression with lagged variables are presented in Table 8.

As can be observed in Table 8, the outcomes are consistent with the results in Table 6. Again, employee ownership (EO_{t-1}) has a positive and significant impact on ROAebit and ROAebit at the 5% level (β=0.330**, t=2.364 and β=0.282**, t=2.213). Employee ownership has a positive and significant impact on Tobin's Q at the 10% level (β=1.849*, t=1.846) and a non-significant positive impact on RET. Employee board representation ($EBRdum_{t-1}$) holds the positive and significant impact on Tobin's Q at the 5% level (β=0.173**, t=2.200), and the non-significant impact on ROAebit, ROAnet and RET. Employee shareholder board representation ($ESBRdum_{t-1}$) still gives inconclusive results. It has a non-significant impact on ROAebit, ROAnet and RET, and a negative and significant impact on Tobin's Q at the 5% level (β=-0.196**, t=-2.144).

Using lagged variables has not much impact on the results of the regression, the directions of the relations in the regression with lagged variables are the same as those in the normal regression. So, it can be concluded that endogeneity does not seem to play a role in this research and the causality goes from the independent variables to the firm performance variables and not vice versa.

Table 8 Effect of employee ownership and employee (shareholder) board representation on firm performance with lagged variables

	ROAebit	ROAnet	Tobin's Q	RET
Intercept	-0.004	-0.071**	1.857***	0.285
	(-0.112)	(-2.033)	(6.779)	(1.466)
EO $_{t-1}$	0.330**	0.282**	1.849*	1.101
	(2.364)	(2.213)	(1.846)	(1.472)
EBRdum $_{t-1}$	0.011	0.005	0.173**	0.041
	(0.974)	(0.474)	(2.200)	(0.715)
ESBRdum $_{t-1}$	-0.016	-0.010	-0.196**	-0.015
	(-1.258)	(-0.882)	(-2.144)	(-0.229)
Owncon $_{t-1}$	0.060***	0.072***	-0.018	0.001
	(2.859)	(3.761)	(-0.116)	(0.007)
Lev $_{t-1}$	-0.064**	-0.075***	-1.088***	-0.076
	(-2.266)	(-2.905)	(-5.365)	(-0.530)
LnTA $_{t-1}$	0.005**	0.008***	0.013	-0.011
	(2.207)	(3.700)	(0.775)	(-0.897)
Priv $_{t-1}$	-0.029*	-0.019	-0.191*	-0.023
	(-1.858)	(-1.357)	(-1.697)	(-0.283)
YEAR	YES	YES	YES	YES
IND	YES	YES	YES	YES
Adj R^2	0.087	0.121	0.179	0.125
N	252	252	252	219

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.4.2 Subsample analyses

In this section it is tested if the results remain the same when the sample is divided in different subsamples. The first subsample analysis divides the sample in firms listed on the SBF120 and firms not listed on the SBF120. The second analysis divides the firms in large and small firms relative to leverage. The third subsample analysis tests if the results differ per year.

6.4.2.1 SBF120 vs non-SBF120

The sample of this study consists of 382 firm year observations. To test the robustness, the sample is divided in firms listed on the Société des Bourses Françaises (SBF) 120 and firms that are not listed on the SBF120. The SBF120 regroups the 120 largest companies by market capitalization and by trading volumes on Euronext Paris. Table 9 shows the results of the OLS regression for the subsamples.

According to the SBF120 subsample, employee ownership (EO) has a positive and significant impact on ROAebit and ROAnet at the 1% level (β=0.248***, t=2.799 and β=0.184***, t=2.272) and a non-significant impact on Tobin's Q and RET. As can be observed in the OLS regression model of the non-SBF 120 subsample, employee ownership is significantly and positively related to both ROAebit and ROAnet at the 1% level (β=0.907***, t=2.791 and β=0.771***, t=2.722), Tobin's Q at the 10% level (β=3.383*, t=2.514) and RET at the 5% level (β=3.745**, t=2.791). These results are in line with the results of Table 6.

Employee board representation (EBRdum) has only a significant and positive impact on RET at the 10% level (β=0.067*, t=1.731) for the SBF120 subsample. For non-SBF120 firms there are no significant results. These results are in line with the results of Table 6.

According to the SBF120 subsample, employee shareholder board representation (ESBRdum) is significantly negatively related to ROAebit and ROAnet at the 1% level (β=-0.027***, t=-3.402 and β=-0.022***, t=-3.096), to Tobin's Q at the 5% level (β=-0.025**, t=-2.568) and not to RET. Employee shareholder board representation has no significant impact on ROAebit and Tobin's Q for non-SBF120 firms, but a significant and negative impact on RET at the 10% level (β=-0.203*, t=-1.780). The less significant impact of employee shareholder board representation on firm performance for non-SBF120 firms can be explained by the lower level of employee shareholder board representatives in firms in the non-SBF120 sample.

Table 9 Effect of employee ownership and employee (shareholder) board representation on firm performance for subsamples SBF120 and non-SBF120

	SBF120				**Non-SBF120**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.251***	0.137***	3.310***	0.783***	-0.088	-0.128**	2.418***	-0.108
	(6.127)	(3.683)	(7.338)	(2.861)	(-1.453)	(-2.410)	(7.283)	(-0.369)
EO	0.248***	0.184**	1.536	-0.082	0.907***	0.771***	3.383*	3.745**
	(2.799)	(2.272)	(1.569)	(-0.135)	(2.791)	(2.722)	(1.906)	(2.514)
EBRdum	0.008	0.006	0.078	0.067*	-0.049	-0.042	0.157	-0.138
	(1.441)	(1.246)	(1.240)	(1.731)	(-1.352)	(-1.345)	(0.802)	(-0.835)
ESBRdum	-0.027***	-0.022***	-0.025**	-0.006	-0.007	-0.002	-0.061	-0.203*
	(-3.402)	(-3.096)	(-2.568)	(-0.114)	(-0.291)	(-0.082)	(-0.449)	(-1.780)
Owncon	-0.011	-0.009	0.272	-0.166	0.145***	0.156***	0.139	0.242*
	(-0.743)	(-0.648)	(1.614)	(-1.606)	(5.218)	(6.419)	(0.918)	(1.837)
Lev	-0.089***	-0.109***	-1.424***	-0.017	-0.136***	-0.141***	-0.698***	-0.073
	(-4.524)	(-6.037)	(-6.534)	(-0.127)	(-3.585)	(-4.252)	(-3.355)	(-0.410)
LnTA	-0.008***	-0.002	-0.058***	-0.035**	0.013***	0.014***	-0.053**	0.022
	(-2.997)	(-0.696)	(-2.044)	(-2.034)	(2.733)	(3.438)	(-2.114)	(0.987)
YEAR	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.251	0.198	0.322	0.042	0.225	0.314	0.155	0.125
N	205	205	205	200	177	177	177	167

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.4.2.2 Lowly leveraged vs highly leveraged firms

The sample of this study consists of 382 firm year observations. To test the robustness, the sample is divided in two groups, relative to leverage (Lev). The group lowly leveraged firms consists of the firms that have a lower leverage than the median of leverage and the group highly leveraged firms consists of the firms that have a higher leverage than the median. Table 10 shows the results of this subsample analysis.

According to the lowly leveraged firms, employee ownership (EO) has only a positive and significant impact on ROAebit at the 1% level (β=1.053***, t=2.668) and ROAnet at the 5% level (β=0.915**, t=2.606). Employee ownership has a positive and significant impact on all firm performance measures for the subsample with highly leveraged firms. These results are in line with the results of Table 6.

Employee board representation (EBRdum) has only a positive and significant impact on Tobin's Q for both subsamples at the 5% level (β=0.226**, t=2.109 and β=0.123**, t=2.010). The impact of employee board representation on the other firm performance measures is insignificant for both subsamples. These results are in line with the results of Table 6.

The coefficient of employee shareholder board representation (ESBRdum) is only significant and negative for the lowly leveraged firms for ROAebit and RET at the 10% level (β=-0.037*, t=-1.829 and β=-0.159*, t=-1.832). According to the highly leveraged firms, employee shareholder board representation has a significant and negative impact on ROAebit and ROAnet at the 5% level (β=-0.028**, t=-2.419 and β=-0.025**, t=-2.375) and on Tobin's Q at the 1% level (β=-0.238***, t=-3.554).

Table 10 Effect of employee ownership and employee (shareholder) board representation on firm performance for subsamples lowly leveraged and highly leveraged firms

	Lowly leveraged				**Highly leveraged**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	-0.060	-0.076	1.703***	0.121	0.070	0.051	1.808***	0.697**
	(-1.135)	(-1.617)	(3.996)	(0.509)	(1.515)	(1.226)	(6.775)	(2.362)
EO	1.053***	0.915**	4.413	2.080	0.486***	0.480***	1.899***	1.313*
	(2.668)	(2.606)	(1.388)	(1.208)	(4.128)	(4.575)	(2.806)	(1.839)
EBRdum	0.007	0.013	0.226**	0.029	0.007	-0.003	0.123**	0.097
	(0.526)	(1.120)	(2.109)	(0.501)	(0.657)	(-0.270)	(2.010)	(1.478)
ESBRdum	-0.037*	-0.026	-0.259	-0.159*	-0.028**	-0.025**	-0.238***	-0.052
	(-1.829)	(-1.477)	(-1.601)	(-1.832)	(-2.419)	(-2.375)	(-3.554)	(-0.738)
Owncon	0.112***	0.112***	0.529**	0.040	0.033	0.038**	-0.187	-0.043
	(4.175)	(4.664)	(2.442)	(0.341)	(1.626)	(2.118)	(-1.614)	(-0.350)
Lev	-0.004	-0.063	-1.817***	0.168	-0.167***	-0.218***	-0.329	-0.648**
	(-0.067)	(-1.178)	(-3.740)	(0.622)	(-3.469)	(-5.093)	(-1.190)	(-2.202)
LnTA	0.006*	0.007**	0.037	-0.005	0.006**	0.008***	-0.015	-0.006
	(1.899)	(2.539)	(1.554)	(-0.405)	(2.344)	(3.739)	(-1.115)	(-0.427)
Priv	-0.062**	-0.054**	-0.474**	-0.113	-0.004	0.009	-0.033	0.051
	(-2.413)	(-2.361)	(-2.304)	(-1.021)	(-0.299)	(0.725)	(-0.410)	(0.610)
YEAR	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.104	0.153	0.148	0.046	0.144	0.220	0.140	0.078
N	191	191	191	185	191	191	191	182

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.4.2.3 Year analysis

To test if the impact of the variables differs per year, a subsample analysis is conducted for each year. There are 129 observations for 2016, 128 for 2015 and 125 for 2014. The results for each year are shown in Table 11.

As can be observed, employee ownership (EO) is significantly positively related, in all years, to ROAebit at the 5% level (β=0.448**, t=2.117, β=0,505**, t=2.579 and β=0.450**, t=2.480) and ROAnet at the 5% level (β=0.410**, t=2.204, β=0,439**, t=2.433 and β=0.415**, t=2.623). Employee ownership has only a significant impact on Tobin's Q in the year 2016 at the 10% level (β=2.906*, t=1.889) and it has no significant impact on RET in all the years. This is in line with the main regression in Table 6, where employee ownership significantly positively influences the accounting-based measures of firm performance.

Employee board representation (EBRdum) only has a positive and significant impact on ROAnet in 2014 at the 10% level (β=0.025*, t=1.902), on Tobin's Q in 2016 and 2015 at the 10% level (β=0.182*, t=1.681 and β=0.219*, t=1.898) and on RET in 2014 at the 5% level (β=0.127**, t=2.058). Employee board representation has no significant impact on all measures of ROAebit in all the years. These results are in line with the main regression in Table 6.

The coefficient of employee shareholder board representation (ESBRdum) is negative for all years and measures of firm performance, but is only significant for Tobin's Q at the 5% level in 2016 (β=-0.272**, t=-2.163) and at the 10% level in 2015 (β=-0.240*, t=-1.812). There is no significant impact found of employee shareholder board representation on firm performance for the other measures of firm performance. These results are in line with the regression results in Table 6, the coefficient of employee shareholder board representation is negative, but not significant in all models.

The results of the year analysis for the OLS regression with the moderating term are presented in Appendix E. Only the results of the accounting-based measures of firm performance are shown, because for the market-based measures there are no significant results. The coefficient of the moderating term (EO*ESBRdum) is negative in all years for both accounting based-measures of firm performance, but it is only significant for ROAnet in 2014 at the 10% level (β=-0.951*, t=-1.829). Employee ownership (EO) has a positive and significant impact on both accounting-based measures in all the years. The results of this subsample analysis show that the significant results found in Table 7 are not robust over time.

Table 11 Year analysis effect of employee ownership and employee (shareholder) board representation on firm performance

	2016				2015				2014			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.002	-0.069	2.127***	0.612**	-0.003	-0.047	1.747***	-0.104	0.067	0.031	1.592***	0.011
	(0.041)	(-1.440)	(5.409)	(2.555)	(-0.066)	(-1.002)	(4.374)	(-0.331)	(1.312)	(0.486)	(4.430)	(0.049)
EO	0.448**	0.410**	2.906*	1.312	0.505**	0.439**	1.631	1.884	0.450**	0.415**	1.354	0.733
	(2.117)	(2.204)	(1.889)	(1.248)	(2.579)	(2.433)	(1.060)	(1.613)	(2.480)	(2.623)	(1.067)	(0.991)
EBRdum	0.003	-0.002	0.182*	-0.024	0.007	0.000	0.219*	0.096	0.019	0.025*	0.132	0.127**
	(0.221)	(-0.170)	(1.681)	(-0.349)	(0.447)	(0.014)	(1.898)	(1.079)	(1.238)	(1.902)	(1.257)	(2.058)
ESBRdum	-0.023	-0.015	-0.272**	-0.022	-0.026	-0.023	-0.240*	-0.068	-0.024	-0.015	-0.156	-0.110
	(-1.307)	(-0.973)	(-2.163)	(-0.286)	(-1.572)	(-1.498)	(-1.812)	(-0.662)	(-1.367)	(-0.991)	(-1.280)	(-1.543)
Owncon	0.062**	0.075***	0.147	-0.079	0.068**	0.075***	0.147	0.115	0.054*	0.054**	0.219	-0.006
	(2.156)	(2.958)	(0.701)	(-0.286)	(2.463)	(2.943)	(0.681)	(0.687)	(1.870)	(2.143)	(1.080)	(-0.044)
Lev	-0.136***	-0.146***	-1.183***	-0.393**	-0.119***	-0.136***	-1.086***	0.133	-0.083**	-0.096***	-1.047***	0.084
	(-3.410)	(-4.164)	(-4.095)	(-2.271)	(-3.181)	(-3.944)	(-3.680)	(0.578)	(-2.145)	(-2.855)	(-3.893)	(0.514)
LnTA	0.008**	0.011***	-0.003	-0.019	0.007**	0.009***	0.020	0.009	0.001	0.002	0.024	-0.002
	(2.243)	(3.586)	(-0.127)	(-1.290)	(2.264)	(3.053)	(0.810)	(0.486)	(0.373)	(0.675)	(1.014)	(-0.132)
Priv	-0.013	-0.007	-0.115	0.106	-0.031	-0.017	-0.242	-0.139	-0.011	-0.010	-0.145	0.003
	(-0.587)	(-0.387)	(-0.729)	(1.122)	(-1.471)	(-0.879)	(-1.479)	(-1.114)	(-0.533)	(-0.551)	(-0.980)	(0.038)
IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.109	0.190	0.182	0.112	0.182	0.210	0.141	0.032	0.085	0.150	0.148	0.005
N	129	129	129	127	128	128	128	125	125	125	125	115

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

6.4.3 Alternative measures

Another robustness test in this study includes alternative measures of employee (shareholder) board representation and firm size and leverage. This robustness test assesses if the results of hypothesis 1, 2 and 3 hold for alternative measures. Table 12 panel A shows the results of the OLS regression with the alternative measures of firm size and leverage. LnTS (the natural logarithm of total sales) and LevLong (long term debt divided by total assets) are used. Table 12 panel B shows the results of the different measures of employee (owner) board representation. Instead of the measures ESBRdum and EBRdum, ESBR (number of employee shareholder board representatives divided by total number of directors) and EBR (number of employee board representatives divided by total number of directors) are used.

The results of the OLS regression with the alternative measures of firm size and leverage included are presented in panel A. These results are in line with model 4 of Table 6. Employee ownership (EO) is significantly positively related to ROAebit and ROAnet at the 1% level (β=0.415***, t=3.754 and β=0.357***, t=3.581), Tobin's Q at the 10% level (β=1.616*, t=1.935) and RET at the 5% level (β=1.197**, t=2.129). The impact of employee board representation (EBRdum) still holds it positive and significant impact only on Tobin's Q at the 1% level (β=0.204***, t=3.271). Employee shareholder board representation (ESBRdum) has a negative and significant impact on ROAebit at the 1% level (β=-0.033***, t=-3.279), ROAnet at the 1% level (β=-0.027***, t=-2.979), Tobin's Q at the 1% level (β=-0.276***, t=-3.657) and RET at the 10% level (β=-0.084*, t=-1.685).

Panel B shows that the results are in line with the earlier findings. Employee ownership (EO) still has a positive and significant impact on the accounting-based measures, ROAebit and ROAnet, at the 1% level (β=0.390***, t=3.342 and β=0.368***, t=3.529), a significant and positive impact on RET at the 5% level (β=1.287**, t=2.147) and a non-significant impact on Tobin's Q. The impact of employee board representation (EBR) is still positive and significant only on Tobin's Q at the 5% level (β=1.166**, t=2.331), but insignificant on all other firm performance measures. Employee shareholder board representation (ESBR) has a non-significant and negative impact on all measures of firm performance. This is in line with the other results, where there are inconclusive results about the impact of employee shareholder board representation on firm performance.

The table in Appendix F shows the results of the OLS regression with the alternative measure of the moderating term (EO*EOSBR). The alternative moderating term has a non-significant negative impact on both accounting-based measures while employee ownership (EO) holds its significant and positive sign. This is not in line with the results of Table 7, where there is a significant and negative impact of the moderating term on ROAebit and ROAnet.

Table 12 Effect of employee ownership and employee (shareholder) board representation on firm performance with alternative measures

	Panel A					**Panel B**			
	ROAebit	ROAnet	Tobin's Q	RET		ROAebit	ROAnet	Tobin's Q	RET
Intercept	-0.069**	-0.106***	1.403***	0.126	Intercept	0.018	-0.034	1.904***	0.260*
	(-2.515)	(-4.383)	(6.940)	(0.914)		(0.588)	(-1.274)	(8.550)	(1.760)
EO	0.415***	0.357***	1.616*	1.197**	EO	0.390***	0.368***	0.707	1.287**
	(3.754)	(3.581)	(1.935)	(2.129)		(3.342)	(3.529)	(0.818)	(2.147)
EBRdum	0.007	0.006	0.204***	0.044	EBR	0.004	-0.018	1.166**	0.265
	(0.826)	(0.848)	(3.271)	(1.056)		(0.056)	(-0.305)	(2.331)	(0.777)
ESBRdum	-0.033***	-0.027***	-0.276***	-0.084*	ESBR	-0.118	-0.097	-0.304	-0.709
	(-3.279)	(-2.979)	(-3.657)	(-1.685)		(-1.189)	(-1.098)	(-0.414)	(-1.421)
Owncon	0.058***	0.062***	0.081	0.007	Owncon	0.066***	0.072***	0.177	-0.002
	(3.562)	(4.205)	(0.656)	(0.084)		(4.025)	(4.932)	(1.470)	(-0.027)
LevLong	-0.077***	-0.090***	-0.773	-0.158	Lev	-0.115***	-0.130***	-1.087***	-0.070
	(-3.082)	(-3.979)	(-4.084)	(-1.254)		(-5.234)	(-6.626)	(-6.691)	(-0.628)
LnTS	0.008***	0.009***	0.008	0.005	LnTA	0.006***	0.008***	0.010	-0.003
	(4.202)	(5.373)	(0.539)	(0.552)		(3.077)	(4.735)	(0.710)	(-0.314)
Priv	-0.028**	-0.023**	-0.268***	-0.009	Priv	-0.016	-0.070	-0.232**	-0.004
	(-2.387)	(-2.101)	(-2.987)	(-0.151)		(-1.233)	(-0.620)	(-2.350)	(-0.064)
YEAR	YES	Yes	YES	Yes	YEAR	YES	Yes	YES	YES
IND	YES	Yes	YES	Yes	IND	YES	Yes	YES	YES
Adj R^2	0.144	0.180	0.137	0.059	Adj R^2	0.145	0.197	0.174	0.054
N	382	382	382	367	N	382	382	382	367

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA and LnTS are log transformed variables. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

7 Conclusion

This chapter gives the conclusion of this study. First, the main findings based on the results of this study are summarized. After that, the limitations are discussed and recommendations for future researches are given.

7.1 Main findings

This study tests the impact of employee ownership and employee (shareholder) board representation on firm performance in a French context. Furthermore, the moderating effect of employee shareholder board representation on the relation between employee ownership and firm performance is tested. To test the hypotheses, an ordinary least squares (OLS) regression with industry and year controls is conducted. Several tests are performed to test the robustness. The sample consist of 129 French listed firms on the CAC All-Tradable for the years 2016, 2015 and 2014. This results in 382 firm-year observations.

In line with the expectation and the studies of Jones and Kato (1995), Park and Song (1995) and O'Boyle et al. (2016), a positive and significant relationship between employee ownership and firm performance, only for the accounting-based measures, is found in this study. When the impact of employee ownership is tested on market-based measures, there are inconclusive results. Therefore, hypothesis 1 can partially be confirmed. Suggesting that employees have higher commitment, are more satisfied, are more motivated and are more productive when they are also shareholder in the company. This results in better firm performance.

Hypothesis 2 states, based on researches of Fitzroy and Kraft (1993), Gorton and Schmid (2000) and Bøhren and Strøm (2010), that employee board representation negatively influences firm performance. In some regressions, employee board representation has a positive and significant impact on firm performance, contrary to the hypothesis. But this is not consistent in all regression. Therefore, hypothesis 2 is rejected.

The impact of employee shareholder board representation on firm performance gives no consistent results. The hypothesis states that there is a relation between employee shareholder representation and firm performance without a direction, because Faleye et al. (2006) find positive and Ginglinger et al. (2011) find negative results. In some regressions in this study employee shareholder board representation negatively influences firm performance, but this is not consistent in all regression. Therefore, hypothesis 3 is rejected.

Hypothesis 4 argues that employee shareholder board representation weakens the relation between employee ownership and firm performance. Employee shareholders could receive higher rewards from the CEO when the employee shareholder board representatives support the CEO's decisions in the board (Pagano & Volpin, 2005), and this decreases the efficiency of the monitoring and controlling function of the board of directors (Chaplinsky & Niehaus, 1990). In this case, the interests of the stakeholders are not aligned and the shareholders' wealth could suffer (Chang & Mayers, 1992). After running the main regression with the moderating term, the regression with the accounting-based measures of firm performance supports this hypothesis, but robustness tests show that the results are not robust. Therefore, hypothesis 4 is not confirmed.

Concluding to the results of this study, the research questions can be answered. Research question 1 is about the impact of employee ownership, employee board representation and employee shareholder board representation on the firm performance of listed companies in France. There is only evidence that employee ownership positively influences firm performance for accounting-based measures. The regressions testing the impact of employee board representation and employee shareholder board representation on firm performance give inconclusive results. The answer for the second research question about the moderating impact of employee shareholder representation is that there is no moderating effect found. Possible reasons for the inconclusive results can be found in the next section where the limitations of this study and the recommendations for future studies are discussed.

7.2 Limitations and recommendations

This section discusses the limitations of this study and the recommendations for future research. The first limitation regards to the limited sample size. The total number of firms in this study is only 129, after excluding missing variables, and the number of firm-year observation is 382. This is partly due to the fact many firms publish only French annual reports, and I am unable to read the French language. Other studies researching this topic had over 1000 firm-year observations (Ginglinger et al., 2011; Guedri & Hollandts, 2008; Richter & Schrader, 2017).

The second limitation is about the generalizability of the results. This sample consists of French listed firms and in France there are different laws in respect of employee ownership, employee board representation and employee shareholder board representation relative to other countries. This study only focuses on listed firms, it could be that the impact of employee ownership is different for private firms.

Another limitation relates to the measurement of employee ownership. Employee ownership is only included when companies report about it. It could also be the case, that not-reporting companies have no employee shareholders. Therefore, it could be the case that the results are not generalizable for firms without employee shareholders.

For future research it will be interesting to conduct a similar study in different countries. Future research could test if the impact of employee ownership differs per country to assess the generalizability of this results. It would also be interesting to do tests with a higher sample size; a higher sample size will result in higher reliability and validity. It could also be the case that with a larger sample size more significant results can be found.

The second recommendation is to use a lag period other than a one-year lag. This study only uses one-year lagged variables to control for endogeneity, but lags of other than a one-year period could provide more clarity about this issue.

The last recommendation is to analyze the effect of employee ownership on firm performance with another method. In this study, OLS regression is used and other studies made use of other forms of regression like 2SLS, random-effects or fixed-effects models. When other studies will use other methods, this could assess the consistency of the results.

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Appendices

Appendix A: Sample

Appendix B: Variation Inflation Factor

Appendix C: Effect of employee ownership and employee (shareholder) board representation on firm performance with two independent variables

Appendix D: Effect of employee ownership and employee (shareholder) board representation on firm performance with deleted control variables

Appendix E: Year analysis with the moderating effect of employee shareholder board representation

Appendix F: Moderating effect of employee shareholder board representation with an alternative measure

Appendix A: Sample

1 ACCOR SA
2 ADLPARTNER
3 AEROPORTS DE PARIS SA
4 AIR FRANCE - KLM
5 AKKA TECHNOLOGIES SA
6 ALBIOMA
7 ALSTOM S.A.
8 ALTEN SA
9 ALTRAN TECHNOLOGIES SA
10 ARKEMA
11 ATOS SE
12 AUBAY
13 AUFEMININ
14 AXWAY SOFTWARE SA
15 BASTIDE LE CONFORT MEDICAL SA
16 BENETEAU SA
17 BIGBEN INTERACTIVE SA
18 BIOMERIEUX SA
19 BOIRON SA
20 BOLLORE
21 BONDUELLE SA
22 BOURBON CORPORATION
23 BOUYGUES SA
24 CAPGEMINI SE
25 CARREFOUR SA
26 CASINO GUICHARD-PERRACHON SA
27 CAST SA
28 CATERING INTERNATIONAL SERVICES
29 CGG S.A.
30 COHERIS
31 COMPAGNIE DE SAINT GOBAIN SA
32 COMPAGNIE DES ALPES S.A.
33 COMPAGNIE GENERALE DES ETABLISSEMENTS MICHEL
34 CS COMMUNICATION & SYSTEMES
35 DANONE
36 DASSAULT AVIATION SA
37 DASSAULT SYSTEMES SE
38 DELTA PLUS GROUP SA
39 DERICHEBOURG
40 DEVOTEAM S.A.
41 EIFFAGE
42 ELECTRICITE DE FRANCE SA
43 ENGIE
44 ERAMET
45 ESI GROUP SA
46 ESSILOR INTERNATIONAL SA
47 ESSO SA
48 EUROPACORP S.A.
49 EUROPCAR GROUPE
50 EUTELSAT COMMUNICATIONS SA
51 FAURECIA SA
52 FIGEAC AERO SA
53 FLEURY MICHON SA
54 GENERIX SA
55 GERARD PERRIER INDUSTRIE
56 GETLINK
57 GROUPE ECA SA
58 GUERBET SA
59 HERIGE
60 HIGH CO S.A.
61 IMERYS SA
62 INFOTEL SA
63 INGENICO GROUP SA
64 IPSEN SA

65 IPSOS SA
66 ITESOFT SA
67 ITS GROUP
68 JCDECAUX SA
69 KERING
70 KORIAN
71 L'AIR LIQUIDE SOCIETE ANONYME POUR L'ETUDE
72 L'OREAL SA
73 LAGARDERE SCA
74 LATECOERE SA
75 LE BELIER
76 LEGRAND SA
77 LINEDATA SERVICES SA
78 LISI
79 LNA SANTE
80 MANITOU BF SA
81 MEDASYS S.A.
82 MERSEN
83 METROPOLE TELEVISION SA
84 NEOPOST SA
85 NEXANS SA
86 OLYMPIQUE LYONNAIS GROUPE
87 ORANGE
88 PARAGON ID
89 PERNOD RICARD SA
90 PEUGEOT S.A.
91 PIERRE ET VACANCES SA
92 PLASTIC OMNIUM SA
93 PRECIA SA
94 PUBLICIS GROUPE SA
95 RENAULT
96 REXEL S.A.
97 RUBIS
98 SAFRAN
99 SANOFI
100 SCHNEIDER ELECTRIC SE
101 SEB S.A.
102 SECHE ENVIRONNEMENT SA
103 SEQUANA
104 SERGEFERRARI GROUP SA
105 SODEXO
106 SOPRA STERIA GROUP
107 SPIE SA
108 SQLI SA
109 SRP GROUPE
110 STEF
111 SUEZ S.A.
112 SUPERSONIC IMAGINE SA
113 TECHNICOLOR
114 TELEVISION FRANCAISE 1 SA
115 THALES SA
116 TOTAL S.A.
117 UBISOFT ENTERTAINMENT SA
118 VALEO SA
119 VALLOUREC S.A.
120 VALNEVA SE
121 VEOLIA ENVIRONNEMENT
122 VICAT
123 VINCI
124 VIRBAC SA
125 VIVENDI
126 VRANKEN POMMERY MONOPOLE
127 WAVESTONE S.A.
128 WENDEL
129 YMAGIS

Appendix B: Variation Inflation Factor

	VIF
EO	2.005
EBRdum	1.846
ESBRdum	2.023
Owncon	1.225
Lev	1.145
LnTA	2.132
Priv	1.456

OLS regression with ROAebit as dependent variable

Appendix C: Effect of employee ownership and employee (shareholder) board representation on firm performance with two independent variables

	Model 1				**Model 2**				**Model 3**				**Model 4**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.029	-0.023	1.921***	0.309**	0.093***	0.070***	2.009***	0.210**	0.011	-0.036	1.656***	0.216	0.103***	0.080***	2.116***	0.234***
	(0.963)	(-0.849)	(8.750)	(2.126)	(6.041)	(5.062)	(17.838)	(2.599)	(0.396)	(-1.415)	(7.925)	(1.556)	(6.765)	(5.769)	(18.893)	(2.936)
EO	0.298***	0.289***	0.506	0.735	0.305***	0.299***	0.514	0.728	0.455***	0.404***	2.011**	1.196**	0.423***	0.364***	1.854**	1.189
	(3.288)	(3.576)	(0.756)	(1.582)	(3.336)	(3.617)	(0.770)	(1.568)	(4.128)	(4.097)	(2.464)	(2.110)	(3.783)	(3.571)	(2.260)	(2.107)
EBRdum	0.008	0.006	0.163***	0.063	0.018**	0.021***	3.275***	0.046								
	(0.935)	(0.805)	(2.638)	(1.483)	(2.443)	(3.112)	(0.001)	(1.241)								
ESBRdum									-0.023**	-0.017*	-0.209***	-0.060	-0.014	-0.006	-0.167	-0.058
									(-2.359)	(-1.920)	(-2.912)	(-1.215)	(-1.491)	(-0.674)	(-2.362)	(-1.212)
Owncon	0.067***	0.072***	0.224*	0.018	0.056***	0.056***	0.209*	0.037	0.062***	0.068***	0.178	0.005	0.046***	0.048***	0.097	0.002
	(4.204)	(5.058)	(1.893)	(0.216)	(3.625)	(4.008)	(1.838)	(0.468)	(3.847)	(4.750)	(1.489)	(0.061)	(2.894)	(3.336)	(0.837)	(0.020)
Lev	-0.113***	-0.127***	-1.084***	-0.064	-0.104***	-0.114***	-1.071***	-0.077	-0.117***	-0.130***	-1.149***	-0.088	-0.106***	-0.117***	-1.098***	-0.086
	(-5.151)	(-6.509)	(-6.698)	(-0.572)	(-4.757)	(-5.778)	(-6.725)	(-0.700)	(-5.394)	(-6.734)	(-7.176)	(-0.791)	(-4.868)	(-5.891)	(-6.855)	(-0.781)
LnTA	0.005**	0.007***	0.006	-0.008					0.006***	0.008***	0.032**	0.001				
	(2.517)	(4.082)	(0.465)	(-0.822)					(3.863)	(5.433)	(2.606)	(0.157)				
Priv	-0.021*	-0.013	-0.194**	-0.012	-0.021*	-0.013	-0.194**	-0.012	-0.014	-0.008	-0.082	0.028	-0.007	0.001	-0.047	0.029
	(-1.720)	(-1.202)	(-2.181)	(-0.198)	(-1.733)	(-1.218)	(-2.188)	(-0.195)	(-1.197)	(-0.745)	(-0.981)	(0.487)	(-0.577)	(0.120)	(-0.567)	(0.522)
YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.146	0.198	0.179	0.055	0.134	0.164	0.181	0.056	0.157	0.205	0.182	0.053	0.125	0.143	0.169	0.055
N	382	382	382	367	382	382	382	367	382	382	382	367	382	382	382	367

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

Appendix D: Effect of employee ownership and employee (shareholder) board representation on firm performance with deleted control variables

	Model 1				**Model 2**				**Model 3**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.100***	0.079***	2.083***	0.227***	0.101***	0.077***	2.058***	0.217***	0.103***	0.080***	2.114***	0.233***
	(6.619)	(5.734)	(18.631)	(2.849)	(6.563)	(5.509)	(18.504)	(2.760)	(6.617)	(5.651)	(18.772)	(2.912)
EO	0.327***	0.324***	0.733	0.795*								
	(3.303)	(3.903)	(1.089)	(1.722)								
EBRdum					0.015**	0.020***	0.134***	0.049				
					(2.212)	(3.174)	(2.705)	(1.454)				
ESBRdum									0.007	0.012*	-0.074	0.000
									(0.840)	(1.679)	(-1.286)	(0.005)
Owncon	0.051***	0.050***	0.158	0.024	0.043***	0.043***	0.173	0.007	0.042**	0.045***	0.080	-0.010
	(3.303)	(3.578)	(1.389)	(0.305)	(2.782)	(3.134)	(1.561)	(0.095)	(2.600)	(3.055)	(0.683)	(-0.119)
Lev	-0.107***	-0.117***	-1.102***	-0.087	-0.101***	-0.109***	-1.120***	-0.061	-0.098***	-0.110***	-1.062***	-0.065
	(-4.879)	(-4.161)	(-6.843)	(-0.786)	(-4.697)	(-5.592)	(-7.191)	(-0.571)	(-4.437)	(-5.480)	(-6.628)	(-0.588)
Priv	-0.090	0.001	-0.080	0.018					-0.010	-0.002	-0.064	0.020
	(-0.832)	(0.009)	(-0.963)	(0.326)					(-0.896)	(-0.191)	(-0.764)	(0.727)
YEAR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.122	0.145	0.159	0.054	0.126	0.135	0.173	0.077	0.094	0.116	0.160	0.072
N	382	382	382	367	382	382	382	367	382	382	382	367

	Model 4				**Model 5**			
	ROAebit	ROAnet	Tobin's Q	RET	ROAebit	ROAnet	Tobin's Q	RET
Intercept	0.096***	0.072***	2.040***	0.215***	0.100***	0.075***	2.079***	0.217***
	(6.218)	(5.158)	(18.233)	(2.672)	(6.594)	(5.444)	(18.820)	(2.755)
EO	0.428***	0.370***	1.904**	1.183**	0.441***	0.378***	2.022**	1.186**
	(3.861)	(3.671)	(2.361)	(2.099)	(3.982)	(3.764)	(2.505)	(2.113)
EBRdum	0.020***	0.022***	0.205***	0.054	0.016**	0.019***	(0.165***	0.053
	(2.747)	(3.278)	(3.773)	(1.443)	(2.328)	(3.087)	(3.275)	(1.536)
ESBRdum	-0.130*	-0.011	-0.212***	-0.069	-0.020**	-0.012	-0.224***	-0.069
	(-1.948)	(-1.229)	(-3.134)	(-1.419)	(-2.088)	(-1.331)	(-3.179)	(-1.433)
Owncon	0.050***	0.053***	0.139	0.013	0.048***	0.052***	0.123	0.013
	(3.171)	(3.680)	(1.212)	(0.162)	(3.061)	(3.609)	(1.073)	(0.157)
Lev	-0.103***	-0.113***	-1.060***	-0.075	-0.109***	-0.117***	-1.118	-0.076
	(-4.729)	(-5.752)	(-6.727)	(-0.679)	(-5.102)	(-6.064)	(-7.190)	(-0.706)
Priv	-0.019	-0.012	-0.171*	-0.004				
	(-1.562)	(-1.107)	(-1.940)	(-0.062)				
YEAR	YES	YES	YES	YES	YES	YES	YES	YES
IND	YES	YES	YES	YES	YES	YES	YES	YES
Adj R^2	0.140	0.165	0.198	0.058	0.137	0.165	0.192	0.061
N	382	382	382	367	382	382	382	367

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

Appendix E: Year analysis with the moderating effect of employee shareholder board representation

	2016		2015		2014	
	ROAebit	ROAnet	ROAebit	ROAnet	ROAebit	ROAnet
Intercept	-0.014	-0.075*	-0.018	-0.055	0.031	-0.011
	(-0.275)	(-1.675)	(-0.368)	(-1.222)	(0.633)	(-0.253)
EO	1.016**	0.857**	0.872*	0.829*	1.255**	1.203**
	(2.134)	(2.044)	(1.728)	(1.786)	(2.347)	(2.565)
ESBRdum	-0.005	-0.002	-0.017	-0.013	-0.003	0.006
	(-2.252)	(-0.084)	(-0.805)	(-0.696)	(-0.121)	(0.324)
EO*ESBRdum	-0.725	-0.578	-0.442	-0.477	-0.964	-0.951*
	(-1.319)	(-1.194)	(-0.778)	(-0.912)	(-1.628)	(-1.829)
Owncon	0.067**	0.079***	0.071**	0.078***	0.064**	0.064**
	(2.325)	(3.097)	(2.561)	(3.048)	(2.183)	(2.499)
Lev	-0.132***	-0.141***	-0.118***	-0.133***	-0.081**	-0.097**
	(-3.351)	(-4.068)	(-3.131)	(-3.855)	(-2.124)	(-2.907)
LnTA	0.008***	0.010***	0.008***	0.009***	0.003	0.004*
	(2.750)	(4.078)	(2.745)	(3.422)	(1.027)	(1.701)
Priv	-0.017	-0.013	-0.031	-0.021	-0.010	-0.006
	(-0.819)	(-0.714)	(-1.560)	(-1.140)	(-0.512)	(-0.334)
IND	YES	YES	YES	YES	YES	YES
Adj R^2	0.122	0.200	0.185	0.215	0.094	0.146
N	129	129	128	128	125	125

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*

Appendix F: Moderating effect of employee shareholder board representation with an alternative measure

	ROAebit	ROAnet
Intercept	0.016	-0.033
	(0.565)	(-1.313)
EO	0.435**	0.439***
	(2.344)	(2.650)
ESBR	-0.103	-0.068
	(-0.916)	(-0.679)
EO*ESBR	-0.489	-0.834
	(-0.304)	(-0.582)
Owncon	0.067***	0.072***
	(4.083)	(4.978)
Lev	-0.114***	-0.128***
	(-5.239)	(-6.562)
LnTA	0.006***	0.008***
	(3.502)	(5.179)
Priv	-0.017	-0.010
	(-1.455)	(-1.015)
YEAR	YES	YES
IND	YES	YES
Adj R^2	0.145	0.198
N	382	382

*Notes: This table presents the OLS regression results. Table reports the unstandardized coefficients. Figures in parentheses represent the t-statistics. LnTA is a log transformed variable. * Indicates significance at the 10% level; **Indicates significance at the 5% level; *** Indicates significance at the 1% level. Variable definitions are described in Table 2.*