



Corporate governance and employee ownership : evidence from France

Abdelmehdi Ben Abdelhamid

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Abdelmehdi Ben Abdelhamid

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**Corporate governance and employee ownership:
Evidence from France**

JURY :

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À mes chers parents, Mounira et Zouhaier,
À mes frères, Haider, Houssein et Zakaria,
À ma chère Chaima.

The rewards of an adversity come according to how much patience was taken for it.
Imam Ali (A.S)

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Abstract

This doctoral work examines the way employee share ownership influences the governance and strategic choices of a company. The first chapter of the thesis presents an inventory of the literature on employee share ownership and corporate governance. This review helps to develop the conceptual foundations on the research questions addressed in the thesis. Chapter 2 assesses the impact of employee share ownership on the entrenchment of CEOs in their jobs. The measures of managerial entrenchment in our research are the age, seniority and turnover rate of the CEO. Our empirical study examines the majority of French companies making up the SBF 120 stock market index and the methodology of generalized moments (GMM) is implemented. Essentially, the results show an inverted U-shaped relationship between employee ownership and CEO entrenchment. We also show that the presence of employee shareholder representatives on boards of directors or supervisory boards also has an impact and varies the inflection points of the relationships observed. Chapter 3 examines the impact of employee share ownership and its representation on the board of directors on a company's cost of capital. The study focuses on the companies in the SBF 120 index. The empirical results document the increase in employee ownership which results in an increase in the cost of capital up to a certain level, and that subsequently this relationship is reversed. The results converge and show that variations in employee share ownership and the presence of employees on the board of directors significantly affect the cost of equity of the company and therefore implicitly influence the value of the company. Chapter 4 examines the impact of employee share ownership on the level of environmental responsibility of companies. The results show that a positive relationship exists between employee share ownership, employee involvement in boards and corporate environmental responsibility scores. Finally, this research sheds additional light on the consequences of employee ownership in the French context.

Keywords: employee ownership; employee representation; CEOs entrenchment; cost of capital; corporate environmental responsibility; corporate governance.

Résumé

Ce travail doctoral s'interroge sur la manière de l'actionnariat salarié à influencer la gouvernance et les choix stratégiques d'une entreprise. Le premier chapitre de la thèse présente un état de lieux de la littérature sur l'actionnariat salarié et la gouvernance des entreprises. Cette recension permet de développer les fondements conceptuels sur les questions de recherche abordées dans la thèse. Le chapitre 2 évalue l'impact de l'actionnariat salarié sur l'enracinement des PDG à leur poste. Les mesures de l'enracinement managérial dans notre recherche sont l'âge, l'ancienneté et le taux de rotation du PDG. Notre étude empirique examine la majorité des entreprises françaises composant l'indice boursier SBF 120 et la méthodologie des moments généralisés (GMM) est mise en œuvre. Essentiellement, les résultats montrent une relation en U inversé entre l'actionnariat salarié et l'enracinement des PDG. Nous montrons également que la présence de représentants des actionnaires salariés au sein des conseils d'administration ou de surveillance a également un impact et varie les points d'inflexion des relations observées. Le chapitre 3 examine l'incidence de l'actionnariat salarié et de sa représentation au conseil d'administration sur le coût du capital d'une entreprise. L'étude focalise sur les entreprises de l'indice SBF 120. Les résultats empiriques documentent l'accroissement de l'actionnariat salarié qui se traduit par une hausse du coût du capital jusqu'à un certain niveau, et que par la suite cette relation s'inverse. Les résultats sont convergents et montrent que les variations de l'actionnariat salarié et la présence de salariés au sein du conseil d'administration affectent de manière significative le coût des capitaux propres de l'entreprise et donc influence implicitement la valeur de l'entreprise. Le chapitre 4 s'intéresse à l'impact de l'actionnariat salarié sur le niveau de responsabilité environnementale des entreprises. Les résultats ressortent qu'une relation positive existe entre l'actionnariat salarié, l'implication des employés au sein des conseils et les scores de responsabilité environnementale des entreprises. Enfin, cette recherche apporte un éclairage additionnel sur les conséquences de l'actionnariat salarié dans le contexte français.

Mots-clés : actionnariat salarié ; représentation des employés ; l'enracinement des PDG ; coût du capital ; responsabilité environnementale des entreprises ; gouvernance d'entreprise.

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List of Abbreviations

BEOR	Board employee ownership representation
BTM	Book to market ratio
CAPM	Capital asset pricing model
CD	CEO duality
CEO	Chief executive officer
CER	Corporate environmental responsibility
CG	Corporate governance
CRI	Corporate responsibility indices
CSR	Corporate social responsibility
CSP	Corporate social performance
DISP	Dispersion forecast
DS	Dual structure
DPS	Dividends per share
EFESO	European federation of employee share ownership
ENV	Environmental score
EPI	Environmental Performance Index
EPS	Earnings per share
ESG	Environment, social and governance
ESO	Employee stock ownership
ESOP	Employee stock ownership plan
FAM	Family firms
FAS	French federation of employee ownership
FEPS	Forecast earnings per share
FROE	Forecast return on equity
GMM	Generalized moment methodology
IBES	Institutional brokers' estimate system
INDP	Independent directors on the board
INF	Inflation rate
IODS	INSEAD OEE data services
LEV	Leverage ratio
LGT	Long-term growth
MED	Median
NB	Number
NCEO	National center for employee ownership
OCB	Organizational citizenship behavior
OLS	ordinary least squares regression
PLS	Partial least-squares path modeling
r_AVG	Average cost of equity of the estimates from four models
r_CT	Implied cost of equity introduced by Claus and Thomas (2001) model
r_E	Implied cost of equity introduced by Gebhardt et al. (2001) model
r_GLS	Implied cost of equity introduced by Easton (2004) model
r_OJ	Implied cost of equity introduced by Ohlson and Juettner-Nauroth (2005) model
ROE	Return on equity
SBF	French stock market index
SIC	Stakeholder influence capacity
STA	State firms
TPR	Theory of property rights
VIF	Variance inflation factor
WOM	Woman representation on boards

General Introduction

For the past thirty years, employee shareholding, that is to say the opening of capital to employees in individual or collective form (Dondi, 1992), is a phenomenon which has developed in most of the industrialized and emerging countries. This has led to a considerable interest in this phenomenon, both in academia and among politicians and practitioners (Kuvaas, 2003; Pendleton et al., 1998). Indeed, and according to the Observatory of Employee Shareholding in Europe (2000), a survey of some two hundred European financial analysts confirm not only the intense interest of which they relate to the subject, but also their desire to be better informed in the matter.

Such enthusiasm for employee ownership has placed it at the heart of the debate on governance of a company in its dual dimension of shareholder and partnership.

As part of the traditional and financial approach to governance, employee shareholding is justified by the agency relationship (Jensen & Meckling, 1976), in its classic sense, between employees and managers. In fact, separate the decision-making function (delegated to managers by shareholders) of the implementation function (entrusted to employees) is an illustration the agency relationship between the principal (or principal) with the agent (or representative).

In this illustration, the principal (the manager) wants the agent (the employee) to act in the best of its interests, which implies a delegation of power in return for remuneration. For its part, the latter undertakes to act in accordance with the interests of the principal.

However, an agency relationship becomes conflictual in the event of a divergence of interests between the principal and agent, and imperfect observability of the costs of establishing and executing contracts. The conflicts between managers and employees come fundamentally from the incomplete nature of contracts (Desbrières, 2002; Caby and Hirigoyen, 2001) and tendency that everyone has to prioritize their own interests. In particular, employees can adopt behaviors that go against the interests of managers and shareholders (for example, the reduction of individual efforts) and this in order to compensate for the lack of diversifiable from their investment in human capital (Desbrières, 2002a).

To limit the sources of conflicts, which could lead to losses of quality, productivity and performance; and ensure the convergence of the interests of employees with those of managers and shareholders (under the assumption that the interests of managers and shareholders are combined) incentive and control mechanisms can be put in place, including in particular

employee share ownership. In this context, we find Desbrières (2002), Dondi (1993), Gamble et al. (2002) and Long, (1980) who believe that employee shareholding would allow reduce agency costs by aligning the interests of employees with those of shareholders.

The idea is that the ownership of shares by employees aligns their interests with those of external shareholders and therefore constitutes an incentive mechanism contributing to achieve the objective of the firm, namely, the maximization of the value of equity or the shareholder value. Also, this holding can give employees shareholders certain control rights that can be used to strengthen the government of a company in its shareholder dimension. In this sense, Bompont and Marois (2004, p. 56) point out that "*employee share ownership is the emergence of a new financial player. The employee shareholder becomes a partner who invests in his company ... he contributes to strengthen corporate governance.* "

Considered too restrictive an approach, this traditional theory of governance has been contested by authors belonging to the current that can be described as stakeholder capitalism. Indeed, several authors(Charreaux, 1996; Clarkson, 1995; Cooter & Schäfer, 2011; Eldar, 2018; S. Freeman & Cavusgil, 1984; Garvey & Swan, 1994; Helland & Sykuta, 2004; Hirigoyen, 1997; Stout, 2008) adopted a plural vision of the firm where the interests of all of its partners are truly taken in consideration; and where again the notion of residual creditor is no longer an exclusive attribute shareholder but can also apply to partners such as employees (Siegfried & Blair, 1997).

Recognition of the important role of the various partners, and in particular of employees, automatically led to a questioning of the objective of maximizing shareholder value for the benefit of a partnership concept calling for a balance between partners; however, the arbitration is up to the manager. With that in mind, Hill & Jones, (1992) advance a broad or generalized agency theory where all partners are explicitly taken into account; while Laffont & Martimort, 1997 consider the firm as a set of multilateral contracts between each stakeholder (or principal) and the manager (or common agent).

A priori, as part of this new approach to governance, the positioning of employee shareholding is also justified by the relationship agency between employees and managers. However, this agency relationship presents itself with a second meaning, very different from the first already presented in terms of the approach traditional, in which we can see employees renting out their specific human capital (which is of a risky nature, Siegfried & Blair, 1997) to the managers, and in return receive a quasi-annuity (Rottenberg, 1962). The traditional conceptual diagram of

the agency relationship is therefore reversed: the employee is no longer considered here as the agent, but as the principal of the contractual relationship he has with the firm.

However, and still due to the incompleteness of contracts, conflicts between employees and leaders can emerge from this contractual relationship. Indeed, employees run risks in terms of their specific human capital. Siegfried & Blair, (1997) presents precisely these risks and distinguishes two types:

- the risk that the rent and quasi-rents generated by specific human capital be expropriated ex post by other partners, mainly managers and shareholders; and
- the risk that the present value of specific human capital will fluctuate in the future, i.e. because the skills would no longer be useful to the firm, or because the firm no longer would not generate as many rents.

If somehow this risk is not reduced or remunerated, the incentive to develop specific human capital disappears, which is harmful and damaging to all stakeholders. Indeed, the importance of human capital is increasingly highlighted by researchers and practitioners as the essential characteristic of 21st century companies. Part of the value created by the company certainly calls on intellectual, social and cultural capital owned and operated by employees. So it seems that the employee participation in corporate governance is a necessity that reflects the evolution of value creation in the company.

Faced with this increased importance of specific human capital in life organizational and given the impossibility of eliminating the risk incurred by employees, its remuneration then seems to be a requirement. In this sense, Siegfried & Blair, (1997) proposes to remunerate this risk through employee shareholding. According to this author, *"the remuneration of employees through corporate actions can provide a mechanism to encourage and protect investments in specific human capital. The holding of shares by employees' function as a kind of hostage to give credibility to the promise of firms to share rents, (...), it also gives certain rights of control and simultaneously aligns the interests of employees and external shareholders "*.

The idea is that the holding of shares by the employee gives him certain control rights which can exercise, as principal in its agency relationship, on the manager, agent of the same relationship. Such control protects investments in specific human capital and, therefore, encourages their development. If we use the terms of Royer et al. (2008), *"Not only*

shareholders and managers but also employees (on all levels) need voice to protect their investments in specific human capital against devaluation”.

In addition, this holding allows the alignment of the interests of employees and shareholders external, which can promote the establishment of a trust regime in the organization (Boukadhaba, 2020; Cardoni, 2020; Charreaux, 1998; Poulain-Rehm, 2006) and the development of cooperation between stakeholders (Aoki, 2013; Marens et al., 1999). Such consequences contribute certainly to the achievement of the firm's objective in its new partnership concept, to knowledge, maximize the creation of stakeholder value while ensuring the balance between the different stakeholders (Blair, 2005; Fama, 1980; S. Freeman & Cavusgil, 1984; Hirigoyen, 1997)

Although on the theoretical level, its positioning is fully justified in the dual perspective of shareholder and partnership governance; and that on a practical level, it is gradually developing, employee shareholding remains the object of a set of very little empirical work, apart from the North American work (S. F. Freeman, 2007; Kumbhakar & Dunbar, 1993; Menke et al., 2009; Pendleton et al., 1998). In addition, the majority studies advocating the benefits of employee share ownership have often supported their position in highlighting its positive effects on employee behavior and attitudes and on productivity, while neglecting its impact on value creation.

In this regard, Arcimoles and Trébucq (2003) note that, despite these positive effects assumed on productivity and employee behavior, it is not certain that employee share ownership can constitute a source of value creation, for at least two reasons. First, it is possible that productivity gains are absorbed by information, management and remuneration costs incurred for this device. Second, employee share ownership risks being used as a defense tool by the management in place, thus promoting the entrenchment of leaders. Such behavior can cause destruction of value, if we side with the negative approach to entrenchment leaders supported by some authors (Shleifer and Vishney, 1986; Stiglitz and Edlin, 1992 and Paquerot, 1997)

In the context of efficiency, the central issue of governance mechanisms consists of their impact on value creation (Charreaux, 2000; Faleye et al., 2006). In this PhD, we are motivated by the inconclusive results on the influence of employee share ownership on corporate governance, and by a field of investigation very little exploited in terms of its impact on the creation of value. We, then propose ourselves in our research work, to study the relationship that may exist

between this mechanism of motivation and control, employee shareholding, and corporate governance from both a shareholder and partnership perspective.

This relationship seems interesting to us for three reasons. First, this research involves in it the possibility of identifying certain characteristics specific to the French corporate government absent in recent work. The main interest of our research therefore lies, in our opinion, in identifying the nature of the link between employee share ownership and corporate governance. Second, our research work strives to consider value creation from both a shareholder and partnership perspective;

while for the moment, this concept, although it is widely used in the literature, remains the more often operationalized from its shareholder perspective. Third, according to Charreaux and Desbrières (1998, p. 85) *“the problem of the efficiency of corporate governance systems cannot be posed that in a framework extended to all stakeholders ... it must also be studied in a systemic perspective taking into account the phenomena of substitutability and complementarity between the different types of disciplinary mechanisms which make studying the origin of performance.”*

So, another interest of our work that is not missing not important is the contribution to a better definition of the conditions for the effectiveness of employee share ownership in the creation of value. Our study of employee shareholding is thus constructed in the light of the interactions between all the disciplinary mechanisms. These can be complementary (Walsh & Seward, 1990) or alternative (Agrawal & Knoeber, 1996; Anderson et al., 2000; Coles et al., 2001).

Inscribing ourselves in this perspective and intending to respond to the interests that seem associated with this research, our problem can be explained as follows:

How is employee share ownership likely to affect corporate governance and strategic choices?

We more precisely address three research questions:

Research question 1: Does employee share ownership contribute to the entrenchment of managers?

Research question 2: Does employee ownership affect the cost of financial resources?

Research question 3: Does employee ownership matter for corporate environmental responsibility?

These research questions will be the subject of an in-depth study during this thesis using different techniques and methodologies to clarify the nuances that exist and present new research intuitions.

In order to answer these research questions, we adopt as part of our work research, a hypothetico-deductive approach. The rest of this work is organized in two parts: a first part, theoretical, in which we try to present the conceptual analysis framework that sets the position of employee ownership and employee board participation in the corporate governance; and a second part at the level of which we expose the empirical approach to monitor as well as the results, interpretations and conclusions of our three different essays.

In the first chapter, we present the theoretical framework for analyzing the relationship between employee shareholding and the corporate governance in its double aspect within companies and we are developing our theoretical model. It includes the role and place of shareholders employee in corporate governance. Previous work, in this context, make it possible to clearly understand its importance as well as the advantages it provides.

The second chapter examines the relationship between employee ownership and the rooting of managers. The study of the literature shows that managers have two main motivations to develop employee ownership: to improve the performance of their company and to stay in position. Also, Acharya et al. (2011) confirm that the presence of employee share ownership has a positive impact, as it reduces the overall level of shareholder information asymmetry. On the other hand, Faleye et al. (2006) emphasize the "dark side" of employee ownership that leads to rooting and a decrease in shareholder value. From a theoretical point of view, these two paradoxical effects have been modeled by Aubert et al. (2014).

While previous studies have indirectly studied the relationship between employee ownership and the managerial entrenchment through performance, we propose to study the direct relationship between employee ownership and rootedness. In accordance with the work of Guedri and Hollandts (2008), we also postulate that the representation of the employee shareholder in the advisory committee also plays a role and increases the inflexion points of these curvilinear relationships. The measures of entrenchment considered in the paper are age, seniority and position and turnover rate.

The sample studies the majority of French companies making up the stock market index SBF 120. The generalized moment methodology (GMM) is implemented and given its robustness in eliminating the problem of endogeneity that may exist between explanatory and explained

variables. The results tested over the period between 2009 and 2012 document an inverse U-shaped relationship between employee ownership and the entrenchment of managers.

The third chapter analyzes the relationship between employee ownership and the cost of capital. The first work on this issue was conducted in the late 1980s by one of the founders of the theory of resource: Jay Barney. Two of his articles have in fact examined the relationship between employee share ownership and the cost of equity as measured by the asset pricing model (Barney, 1989). On the other hand, the relationship between employee profit sharing and the cost of debt (Barney, 1990). The sample was reduced to Japanese companies. From a financial point of view, if shareholding is perceived by the financial markets as a performance enhancing practice, companies that use this practice must have access to financial resources at lower costs.

The assessment of the cost of capital through one of its two components, which is the cost of equity, is a first step. The capital asset pricing model (CAPM) is highly contested, although it is still predominantly used by professionals in finances in particular through IPO operations. We follow the recent finance and accounting literature to estimate the cost of equity capital using the ex-ante cost of equity implied in current stock price and analysts' earnings forecast. In conformance with (Hail & Leuz, 2006; Pástor, 2008; Chen & Wei, 2011; El Ghouli et al. 2011), the ex-ante estimation is a better measure of the cost of equity capital than the ex-post estimation (e.g. the CAPM) because it explicitly controls for cash flows and growth potential. This first step will make it possible to obtain the cost of equity capital of companies, which is the dependent variable of our estimation models.

The methodology is applied to a panel of data of French companies listed on the Paris stock exchange (the SBF 120 index) over the period from 2000 to 2016. As in previous tests and considering the contradictory effects of employee ownership documented in the literature, our results prove the existence of curvilinear relationships between employee share ownership and the cost of equity capital.

In the final chapter, we investigate the direct relationship between employee share ownership (ESO) and the environmental performance score. We consider that ownership structure is crucial because it can influence the process of making decisions about corporate environmental responsibility (CER) activities and firm's long-term goals. The main objective of this research is to provide a better understanding of the factors that determine CER level and how to improve its performance within organizations. No empirical literature tried to our knowledge to connect employee ownership as a determinant for the development of firm's environmental

performance. In this paper, we aim at filling this gap in the literature by examining the direct effect of employee ownership on CER. We focus on employees, the most valuable assets of an enterprise, to explore the relationship between corporate governance practices and firm's environmental responsibility.

Recent studies indicate that employee stakeholder is associated to environmental performance through proactive environmental strategies. This relationship performs more effectively in the presence of high level of shared vision (Alt et al. 2015). Hence, employees' participation in decision-making would positively influence the firm's environmental sustainability practices (Farooq et al., 2019).

Our research uses a sample of 94 large listed French firms from 2005 to 2015. Using firm-year panel data, we conducted the ordinary least squares (OLS) regression analysis. We apply fixed-effects and clustered standard errors methodologies at the firm level to clear any potential endogeneity problem associated with various corporate governance variables. We find that variations of employee stock ownership and the presence of employee owners on the board of directors significantly affect the firm's environmental responsibility. More precisely, we document a strong positive relationship between ESO and CER scores. Results emphasize that ESO is positively related to corporate environmental performance. Moreover, a positive relationship was detected between BEOR and CER. This implies that employees' participation in decision-making contributes to enhance the firm's environmental responsibility. Further, we check the impact of corporate board characteristics and the consequence of mandatory laws and codes of governance on CER. Our empirical findings matched and supported the existing literature. Our research underlines the essential role played by employees and corporate governance practices to drive firms to be environmentally responsible.

Chapter I: The Effects Of Employee Ownership On Corporate Governance And The Creation Of Value

I.1. Introduction

The last part of the PACTE law aims to reform participation and proposes to involve "employees more strongly in the results and shareholding of their business". Employee ownership tends to become widespread in companies: with 3.7 million employee shareholders of their company (FEAS-EFES), France is the country in Europe with the highest employee ownership (non-executive) rate (4%) in 2016, for a rate in Europe of 1.6%. Leading continental European country, before Germany, which has only 700,000 employee shareholders, France is nevertheless largely outstripped by the United States and UK (with a democratization of more than 25%). However, while the United States is the world leader financial participation practices (50% of employees benefit from one or more performance participation systems), participation in governance through the representation of employee shareholders on boards administration or surveillance is not institutionalized as in France where the law explicitly provides for this. France therefore has a unique place due to its employee shareholding rate but also by its legislation which allows in particular the presence of employee shareholders in governance.

The second part of employee ownership is the association of employees in the life of the company. The representation of the employee ownership was made compulsory by the law of December 30, 2006. It establishes the obligation of representation of employee shareholders in the bodies of governance, for listed companies with an employee ownership greater than 3% shareholding rate. Thus, employees would have an opportunity to become a real counter-power through this direct participation.

The classic financial theory of the firm is based on two important parts of the theory economic which are the theory of property rights on one hand and the theory of the agency with the theory of transaction costs on the other hand. It is the result of a purely contractualist representation of the firm having as basic postulate a definition of the firm as a node of contracts which are inevitably incomplete (at due to the limited rationality of agents) thus inducing agency costs and costs transaction (due to the opportunism of agents and information asymmetries).

Using the analytical tool that is the contract to explain "what the business is allows to understand the mechanisms of power sharing "*within it and to study how and by whom it should be directed*" (Autenne, 2005).

The firm's contractual approach thus essentially addresses a dimension of the company: the methods of managing conflicts of interest between the parties, the main aspects studied being the incentive and control mechanisms that reduce conflicts of interest within the firm.

This chapter will therefore be devoted to the study of employee shareholding and its possible effects on the efficiency of the firm which will be presented and analyzed in the light of arguments from the classic financial approach. Changes in the structure of ownership of the firm following the appearance of this new category of shareholders – the employee shareholders of the company - will be reviewed, with the repercussions in terms of incentive, control and power sharing from the point of view of theories fundamental classics in the field of finance and corporate governance.

I.2. Employee shareholding and corporate governance

Corporate governance refers to a current of opinion that originated in the United States in the 1970s and spread around the world during the 1990s.

This concept concerns both a theoretical debate and an ideological view of how businesses are run and must be controlled. This field of research has evolved mainly thanks to the work carried out by economists following the dissociation growing between the ownership of capital and the exercise of power in companies in due to the development of listed companies calling on public savings (Bruder, 2007). The introduction of the principles of corporate governance aimed to respond to the problems posed by the dissociation between ownership and management within the firm. However, these may seem insufficient, especially in this context of current economic and financial crisis, that is why it is interesting to ask as to the role that employee share ownership could play in the governance system of business.

The issue of corporate governance relates to the structure and exercise of power in large firms. The theme of corporate governance took the recent decades of great importance in the debates on the transformations of productive sector (Rebérioux, 2003). The expression "corporate governance" includes in its initial sense, all the provisions allowing shareholders to ensure maximum return on their investment (Shleifer & Vishny, 1997).

This definition finds its justification in the particular approach of the firm which considers value shareholder value as the primary, if not exclusive, objective of the company. In the classic vision of corporate governance where the interest of shareholders becomes the ultimate goal of the company, the problem of governance company is the result of the separation of ownership and control (Berle & Means, 2017). The contractualist model "being currently the dominant

model in terms of corporate governance "(Autenne, 2005, p.218), we will begin by exposing the vision of classical governance concerning the employee shareholding mechanism. Then, we will go beyond this classic vision by relying on cognitive approaches and corporate governance policy to better reflect changes that occurred in this area with the movement to massify the shareholding of large companies (Gomez, 2009).

In this third section, we will therefore ask ourselves about the potential role of employee shareholding in a reorganization of powers within companies in order to relocate employee share ownership in the modern system of corporate governance because "*Through the study of the relationships between capital structure and involvement of employees in the management of the firm, it is indeed the power relations in the company that are analyzed*" (Rebérioux, 2003, p.25).

The participation of employee shareholders in the management of the firm calls into question the scheme traditional wage relationship by partially starting the relationship of subordination.

Some researchers see her as confrontational because she is susceptible to influence employers' choices, or even to counter them (Rebérioux, 2003). Nevertheless, the employee participation in company management is, at least in Europe, legally well-founded: employees have the right to information, to consultation, sometimes to co-management. These rights define in a way an original model of governance of a company, specifically European, where the interests of shareholders are not the only one taken into account (Rebérioux, 2002).

According to Charreaux, "*corporate governance covers all the mechanisms which have the effect of delimiting powers and influencing decisions, in other words, who govern their conduct and define their discretionary space*". From this definition, Gomez (2003) deduces that "the limits of power. The positive agency theory (just like the property rights theory that we just reviewed) is based on the idea that among all the actors of the company, the shareholders "enjoy a leading position" (Autenne, 2005, p.263). In the case of the modern large corporation, this higher rank of shareholders is not does not come from their ownership status (as is the case in the firm entrepreneurial where the owner is also the manager, a reality that inspired the analyzes of the firm under the prism of the theory of property rights), but is the result of a "Supposedly optimal contractual arrangement" (Autenne, 2005, p.263).

According to contractualist perspective, no party is strictly speaking "owner" of the firm because each of the parties holds a different resource (whether it is the capital physical, financial

or human). The shareholders hold the governance rights on the company, but in reality "nothing prevents other parties from protecting their interests by negotiating residual rights of control and / or rights to residual profits and if they did not, it is because their usefulness is better served by giving up all discretionary leadership define the nature of corporate governance claim to governance in exchange for obtaining fixed and invariable income " (Autenne, 2005, p.264).

1.2.1. The legitimacy of the participation of employee shareholder representatives in corporate governance

The question of the legitimacy of employee shareholder participation in governance of companies that have set up an employee shareholding plan seem to have found a response through the analysis of the legal aspects of the concept of employee shareholding having highlighted the fact that employee shareholders are as legitimate as other shareholders to take part in decision-making within the firm.

Being considered as "stakeholders" within the company, the shareholders employees therefore theoretically have the same rights as all other shareholders, they are therefore also able to control the leaders, because they have to defend the titles which they have as providers of capital.

Indeed, the ownership of shares by employees allows them to become members of ordinary and extraordinary general meetings, and to participate in votes.

In general meetings, their status as shareholders gives them, on the one hand, a right information while promoting the exchange of information with shareholders external parties, and on the other hand, where applicable, the possibility of joining or creating a coalition aimed at countering the decisions of the majority and which are generally proposed by leaders. The power of these employee shareholders is then measured by their ability to influence, alone or as part of a coalition, the decisions taken in general assembly rules (determination of the dividend policy, appointment and / or replacement of directors, etc.) and extraordinary (modification of the articles of association, etc.)(Desbrières, 1997).

In this context, employee shareholders have the opportunity to exercise active control managers and their motivation for this control is a growing function of their investment specific to the firm, both in human capital and in shares (Desbrières, 2002). The author further specifies that among their prerogatives, employee shareholders participate (whether individually and directly or via the FCPE which brings together their shares or the association of shareholders who represent them) with others shareholders meeting in ordinary general meetings, at the election

of the members of the board of directors or supervisory board. As such, they can manage to sit in this management and control body.

We distinguish two form of the employee participation. The first one, employee participation concerns the organization of work. Some authors speak of participatory management. Dachler & Wilpert, (1978) distinguish three properties of participation in decision-making: formal, informal, direct-indirect and as a level on a continuum measuring access or the influence of members of an organization on decision-making. Formal participation lies in the rules of the organization, such as quality circles. The participation informal is not based on rules, good relations between a superior and his subordinates for example. Direct participation directly involves employees in decisions while indirect participation assumes that they are represented by elected officials. The different levels of access range from the lack of employee involvement in decisions to a decision-making entirely assumed by the employees.

The second form stated that employee shareholder has the particularity of being accompanied by participation in decisions and have the right to profit sharing. Among the three forms of profit sharing identified, employee share ownership has a special status. Being the only device allowing to involve employees in the capital of their company, it has been the subject of specific analyzes.

Employee share ownership would increase the identification and feeling of belonging to the company. According to Pierce et al. (2001), ESO promotes the involvement organizational through its psychological dimension. Lawler & Ledford (1992) and Baron & Kreps (1999) stress the symbolic value of employee share ownership. In large companies, this role is particularly important because it promotes the identification of employees their company. This identification would neutralize free rider behavior. Thus, the shareholding employee could link the interests of employees to those of their company by making them depend on the achievement of a common goal. This community of interest would be obtained in particular by reducing the distance between employees and their managers (Kelly & Kelly, 1991)

To continue on the question of the impact of the employee shareholding mechanism on the corporate governance system, we will now focus on consequences on the structure of the corporate governance system and on the exercise of decision-making power and control of managers: what are the advantages, disadvantages and limits of employee shareholder representation in the system of corporate governance?

The question we can ask today is whether from the moment the reality of companies is changing at the start of the 21st century (compensation of employees is more and more divided into a fixed part and another variable, employee shareholding being a form of remuneration based on the performance of the company widespread), following all these changes, has the development of shareholding employee has any influence on corporate governance arrangements and on distribution of power within the company?

How can employees - shareholders ensure that decisions management strategies do not run counter to their shareholder interests? What is the role attributed to employees - shareholders in the governance system business? Does employee ownership affect the capital structure of the company? Should they also participate in the board of directors of the company at same as the other categories of shareholders (institutional, etc.)?

1.2.2. The role of the employee owners from the point of view of shareholder governance

The theoretical literature differently formalizes the link between employee shareholding managers and performance (often identifying the manager with the shareholder dominant). Indeed, three distinct conceptions coexist as for the link between the structure ownership (and in particular the holding of shares by company executives) and the business performance: the thesis of the convergence of interests, the thesis of entrenchment and the neutrality thesis (Caby & Hirigoyen, 2005; Charreaux, 1997; Faleye et al., 2006b).

In the thesis of convergence of interests, ownership by employee shareholders leaders of a share of capital is seen as a great way to incentivize managers to manage the company in accordance with the interests of shareholders (Berle & Means, 2017; Cole & Mehran, 1998; Jensen & Meckling, 1976). The shareholding of executives promotes alignment with the traditional goal of maximizing value when the percentage of capital held by managers is significant (Charreaux, 1997, p. 55-56).

There is therefore a positive relationship between managerial shareholding and performance. In this perspective, the divergences of interests between shareholders and managers decrease when the share of capital held by executive shareholders increases. It is in particular the objective of executive compensation systems based on financial performance of the company, such as the allocation of stock options or the holding of shares, intended to reduce divergences of interests between shareholders - owners of the firm and agents responsible for its management (Cole & Mehran, 1998).

However, the main concern raised by the literature concerns the fact that as the more often the executive employee shareholders do not own all of the capital of the company, they could be encouraged to increase their withdrawals from the company given that they do not bear the full cost of their opportunism. The leaders constantly make trade-offs between the advantages they can obtain by making withdrawals from the company (such as benefits in kind, prestigious investments, etc.) and their advantages as shareholders (Jensen & Meckling, 1976).

As a result, a significant share of capital held by shareholders management employees encourages this type of arbitration to be done in favor of benefits perceived as shareholders. However, it must be recognized that the interests of shareholders and officers will never be fully aligned, except in cases where the managers are the sole owners of all the capital of the company.

On the other hand, the rooting thesis maintains that the employee shareholders the company, which owns a large fraction of the company's capital, escape any control and can thus manage the company with a view contrary to the maximization of value (Charreaux, 1997, p. 55-56). This approach considers that shareholder leaders can use their voting rights to take root, remaining still faced with the arbitration described above with regard to the advantages they can retire as leaders and those they get as shareholders. However, this rooted situation can encourage them to invest in the company for the long term and to increase their investment in firm-specific human capital.

Then, according to the neutrality thesis, the ownership structure of the firm does not influence the performance of the firm, in other words - all ownership structures are equivalent (Harold Demsetz & Lehn, 1985). This approach is very pessimistic by in relation to the means that shareholders would have to force managers to maximize the shareholder value of the firm, considering that the performance of companies is mainly determined by the environment and operating conditions of business. As a result, the ownership structure of the firm would also be determined by depending on the external conditions surrounding the firm, without the shareholders being able to exercise any influence on performance.

It is thus difficult to separate these three different conceptions of the relationship between ownership structure and performance of the firm. However, according to Charreaux, in a perspective of maximizing the overall value of the firm, the thesis of convergence seems to prevail because *"the economic performance appears superior for the firms with a weak property / decision separation"* (Charreaux, 1997, p. 83).

I.2.3. Employee representation as a member of the board of directors

Owning part of the capital gives employee shareholders certain rights to control that can be used to strengthen the corporate governance system in its shareholder dimension.

In theory, a new relationship can emerge between managers and shareholders employees since the latter can henceforth control the managers, as owners of the business (at least in part). A new relationship is assumed then be created between employee shareholders and managers, with a new configuration of the question of the distribution of power (Garfatta, 2010).

According to Garfatta and referring to the work of Mintzberg (1986), employees shareholders find themselves at “the interface of the internal coalition and the external coalition organization” (Garfatta, 2010, p.106).

Let us recall that Mintzberg distinguishes the external coalition (comprising several groups of holders of influence and in particular owners, partners, public authorities, directors, etc.) and the internal coalition (formed by managers, employees also including all the beliefs shared by these internal influence holders).

The employee shareholder then holds a particular and specific position within his company because as an employee, he belongs to the internal coalition, but as an owner of the latter, it reports to the external coalition, which makes it possible to consider two opposing views:

1. Employee shareholders could choose to join the internal coalition of at the expense of the interests of the external coalition if they considered their preferred objectives. The manager, by giving priority to employee shareholders, could thus adopt a cooperation strategy with the aim of strengthening their internal belonging; this to gain their support in order to better establish its power of influence. In this perspective, the employee shareholding mechanism is then considered to be simply "a friendly fraction of the capital" easily controllable, playing the role of an anti-takeover weapon and thus promoting the entrenchment of leaders (Gamble, 2000).
2. However, employee shareholders may also be tempted to join the members of the external coalition, which would strengthen the effectiveness of the system of corporate governance by allowing better control of the actions of leaders. Employee share ownership would therefore result in a real alignment of interests, a creation of common goals shared by all, without the problems of the heterogeneity of goals and preferences (Garfatta, 2010).

The potential power of employee shareholders will thus be measured by their ability to influence the decisions taken in general meetings and in the board of directors, but will also depend on the nature of the relationship they have with the leadership.

Employee share ownership can therefore make the company evolve towards a more participatory and more efficient, or offer a complementary defense to managers in relation to the market assessment and its external sanction mechanisms. As pointed out by some researchers, the development of shareholding employee brings about the emergence of a new financial actor, the employee shareholder becoming a partner who invests in his business and who contributes to strengthening the corporate governance (Aglietta & Rebérioux, 2004; Bompont & Marois, 2004).

In its work, Charreaux emphasizes that the internal monitoring exercised by employees can be an effective mechanism because they thus partly escape the asymmetry information with managers. Then, their investment in the firm is generally substantial (especially in specific human capital), although the effectiveness of this mechanism is strongly determined by the possibilities of defection or speaking out and by the informal transaction strategies implemented by managers (Charreaux, 1996, pp. 37-38).

The current debate on the optimal composition of the board of directors seems to be emerge a certain consensus to recognize that boards of directors are all the more effective and legitimate as the points of view represented during the debates are rich and diverse (Garfatta, 2010). In this context, the directors representing employee shareholders could therefore be part of this promotion of diversity as are independent directors.

Moreover, it should be noted that one of the factors of this growing complexity is the development and necessary protection of human capital, which has become as important as the financial capital. It then requires specific monitoring, particularly in companies that cannot succeed without the human capital and the intellectual capital that compose it.

Indeed, the importance of human capital is increasingly underlined by researchers and practitioners as the defining characteristic of 21st century businesses. Part of the value created by the company undoubtedly calls on capital intellectual, social and cultural owned and operated by employees. So, it seems that the employee participation in the corporate governance system is a necessity that reflects the evolution of value creation in the company.

Faced with this increased importance of specific human capital in organizational life and given the impossibility of eliminating the risk incurred by employees, his remuneration then seems a requirement. In this sense, Siegfried & Blair (1997) proposes to remunerate this risk via employee shareholding. According to this author, *“employee compensation through shares companies can provide a mechanism to encourage and protect specific human capital investments. Ownership of shares functions as a kind of hostage making it possible to give credibility to the promise of share rents, (...), it also gives certain rights of control and simultaneously aligns the interests of employees and external shareholders”*.

Therefore, we can advance that as directors appointed by the General assembly, employee shareholders have an appropriate position to ensure the defense of their interests and in particular the protection of their investments specific to the firm. Similarly, Desbrières (1997) considers that participation in board of directors or supervisory board allows employees to protect their investment in human capital specific to the firm and leads to an improvement in their satisfaction, involvement and productivity. It also allows the acceleration of the innovation process and increasing quality (Siegfried & Blair, 1997; Blair & Roe, 1999; Smith, 1991).

In addition, and because of their shareholder status, the presence of representatives of employee shareholders on the board grant them an additional informational advantage. They thus have the possibility of accumulating and sharing important information of which they have as employees; they take advantage of their right to information as shareholders and they benefit from a third source of information (advice) which represents a strategic place for the exchange of information between all the directors (Aoki, 2013; Williamson, 1985).

Smith (1991) estimates that the institutional participation of employees in boards of directors or supervisory boards reduce asymmetry information supported by external shareholders, which would force managers to give up certain opportunistic behaviors.

Moreover, Desbrières (1997) also emphasizes that participation in representation and decision-making not only introduces opportunities for speaking of employees, which promotes the stability of the coalition, but also contributes to give a preventive character to the corporate governance system and discourage attempts at collusion between outside directors and officers.

In this context, the author points out that the presence on the board of employees because of being a shareholder is of more interest than a simple institutional participation, insofar as their control now depends on the value of their portfolio actions and is not affected by collective bargaining considerations related to their method of appointment: it helps to reduce the power

differential between managers and other stakeholders of the company, thus promoting the emergence of a cooperative coalition.

In general, the main advantages recognized in the presence of directors representative's employee shareholders are the representativeness of human capital within advice, better information for employees on strategic choices, and better consideration of the concrete realities of the company by the board administration (Garfatta, 2010).

The board can also be involved in major choices for the future of the company: reorientation of activity according to major trends in the economy, concentration on the business or diversification, internal or external expansion. On the other hand, it is not designed to deal effectively with industrial strategy issues. An advice of administration dominated by independent members, invited to a rapid rotation to avoid the creation of complicity with the leaders, cannot have knowledge sufficiently fine of the company to frame the action of the leaders. On this point, the control of the executive is not within the reach of a board of directors that sits only ten times three hours a year. The general management of companies are satisfied today of these boards of directors which leave them a large space of initiative in defining the operational strategy and management methods. The stakeholders of the company, those who are affected by these strategies, would have yet need a real counterweight, and the presence of shareholder representatives' employees can bring a balance and help to rebalance the distribution of power within the firm (Aglietta & Rebérioux, 2004).

I.2.3.1. Employee ownership as a lever for managerial entrenchment

Although the participation of employee shareholder representatives on the board presents advantages, it can nevertheless and according to some authors, present certain risks and disadvantages. The major criticism formulated against the participation of employee shareholder representatives on the board of directors comes from their weak independence from management, which could increase the risk of taking root leaders (Beatty, 1995; Chang & Mayers, 1992; Chaplinsky et al., 1994; Desbrières, 2002a; Gharbi & Lepers, 2008; Gordon & Pound, 1990).

Much of the theoretical literature thus considers that employee shareholding contributes to the decrease in the effectiveness of the control of managers, this mechanism reducing the effectiveness of control and sanctions by external shareholders or the market (Faleye et al., 2006; Gamble, 2000; Park & Song, 1995; Pugh et al., 1999).

Guedri & Hollandts (2008) and Shleifer & Vishny (1986) found that entrenchment has negative effects on the wealth of shareholders. This is explained by the opportunistic behavior on the part of the managers who took their personal interests and put the maximization of the value of the company in second place, which is detrimental to the company.

Indeed, the effectiveness of the control exercised by the directors representing the employee shareholders is determined by independence from management. The complicity between employee shareholders and managers can weaken the internal control exercised by the board that the external control coming from the market of takeovers. Experience shows that employee shareholders can refuse to tender their securities to a public tender offer (OPA), the case most often cited in France being the hostile takeover bid of BNP-Paribas on Société Générale which was prevented by the employee shareholders of Société Générale holding nearly 10% of the shares at the time facts.

According to Alexandre & Paquerot (2000), entrenchment reflects the manager's desire to free himself, at least partially, from shareholder control, in order to maintain his position, increase his freedom of action and / or maximize his income. The negative aspect of entrenchment is that most CEO managers are driven by their desire to root within the company; and want to make their replacement costly, which increases their power and discretionary practices.

Alexandre & Paquerot (2000) also asserts that managers can thus use implicit contracts in order to bind certain actors to their own interests and consequently avoid being subjected to certain control mechanisms. Thanks to his strategic position, the manager has the possibility of establishing contracts with the various stakeholders, in particular the employees, which allow him to increase his roots. Indeed, Bhattacharya et al. (1993) concluded that the contracts are informal in nature and are known only to the parties concerned. This is what makes them difficult to control. They can therefore be used to maintain dependence.

In all cases, the manager will ensure that the maintenance of these relationships is based on his presence at the head of the firm. The manager will therefore try to forge a relational network with his collaborators and with the employees, by granting many benefits in kind or extra wages or by promising abundant promotions.

I.2.3.2. The role of employee shareholding from the perspective of horizons heterogeneous investment of shareholders

In addition, some authors believe that the institutional representation of employees is a source of inefficiency in the same way as self-managed firms, to the extent especially where the economic horizon of employees differs from that of investments (Jensen and Meckling, 1979).

While the horizon of shareholders is in principle infinite, that of the manager is not beyond his presence within the company. As a result, managers are required to develop their strategy according to their probable duration of presence in the firm. For example, a manager whose retirement is in the interest of reducing, or even avoiding, spending on research and development, the costs of which it partly bears while the benefits will revert in full to his successor. These expenses may induce in the short term a reduction in the performance of the firm, which would certainly affect the variable part of the remuneration of the leader.

In this context, Dechow & Sloan (1991) observed the decline in expenditure on research and development with the approach of the end of the functions of the principal executives. Also, a manager exposed to the threats of the corporate takeover market and to those of managers' labor market, may adopt a short-terms attitude leading them to only retain projects with a high initial cash flow even if their total profitability is not the best. In this context, Rajan & Zingales, (2012) and Zingales (2000) explains the short-terms vision of manager by the fact that nothing guarantees him to benefit from the results of long-term strategies term. This does not go hand in hand with the demands of shareholders who have a major interest in long-term profitability.

Some recent work (Gaspar, 2009; Gaspar et al., 2005) warn, however, against the tendency to consider too hastily the different categories of external shareholders as all "investors interested in the long term". Gaspar (2009) examines in detail the reasons for the heterogeneity of investment horizons by analyzing their theoretical consequences and empirical data on the performance of companies and in particular highlighting the difficulty manages the shareholding structure of a company. The researcher recalls that shareholders are far from being a homogeneous group, one of the sources of heterogeneity being in particular their investment horizon, namely the length of time the shares of the business by an investor.

He takes the example of institutional investors to demonstrate that the trends in investment horizons are very heterogeneous within of this group (some following short-term strategies in nature, ranging from a few days to a few months), often considered (wrongly) as one and the same group by financial analysts. Suddenly, under short-term pressure, these shareholders

would like managers to take measures that increase the very short-term stock prices, to the detriment of long-term value creation (executives being encouraged to make investment choices that generate value lower total, but with a faster return on investment). The suggested reason by Gaspar is that short-term shareholders benefit from appreciations in value at short term and sell before long term value is built into the price.

In addition, under the hypothesis of weak monitoring, investors with short time horizons have less ability to monitor the actions of managers and therefore contribute to the creation of value (because knowing in advance that they will remain in the shareholding of the company for a short time duration, they would be less inclined to acquire expensive information about the company).

The results of empirical studies suggest, among other things, that investors focused on short-term allow managers to make value-destroying acquisitions at the to the detriment of shareholder returns (Gaspar et al., 2005), while long-term investors with significant holdings seem particularly effective in exercising control over the actions of leaders (A. H. Chen et al., 2007). Other empirical studies demonstrate the presence managerial myopia (characterized by a significant reduction in research and development, a classic indicator of a long-term strategic orientation term, in order to reverse an expected drop in profits) than the presence of shareholders short-termism can engender (Bushee, 1998).

Criticisms of the classic vision of governance of the company emerges quite early in the economic literature with authors such Galbraith (2007) who consider that external control mechanisms (such as hostile takeovers) are not really effective in controlling rulers (which form a technostructure at the top of the largest companies), the current criticisms and questionings are amplified by the devastating consequences of the latest economic and financial crises.

The work of Aglietta & Rebérioux (2004) reminds us that financial scandals that occurred in the 2000s in the United States as well as in Europe not only revealed the ineffectiveness of external control of the company and its managers by shareholders, but they also questioned the legitimacy of the doctrine of governance shareholder base by bringing back to the fore the need to build a real base theoretical and economic for the partnership governance of companies. This questioning about the partnership company refers among other things more specifically to challenges of the presence of representatives of employee shareholders in the bodies of decision of companies and their ability to exercise a significant countervailing power in order to balance relations within the board of directors while respecting the interests of all stakeholders.

1.2.4. The role of employee shareholding in the partnership approach of governance

The relationships between the various stakeholders in the company, and also the influence of these relationships on collective performance has been the subject of many studies (Desbrières, 2002b; Godechot, 2005; Rebérioux, 2002). This vision of governance based on stakeholder theory analyzes the company as a group made up of a multitude of stakeholders defined by their status (shareholders, managers, employees).

The articulation of the roles played by these different stakeholders to establish a system effective corporate governance will be our question in this section, with a focus on the special place of employee shareholders in the system of current corporate governance.

We have seen in previous developments that the financial approach is concerned with the impact of conflicts of interest on the organizational rent, without however raising the question of the origin of this rent resulting from cooperation. However, some recent work highlights the fact that we must invoke other factors of production (and not only financial capital) to understand the origin of the rent, "in particular the human capital provided by managers and employees" (Charreaux, 2000, p.8).

In Indeed, the analyzes of some authors are very interested in the human capital of employees, by defining the firm as a cooperative game, a lasting combination of specific resources (Aoki, 2013) or a node of investments specific to the production team (Rajan & Zingales, 1998; Siegfried & Blair, 1997).

The work of the authors just quoted thus underlines that in order to encourage these new players to contribute to the creation of value by developing their human capital within the company, they must be allowed to access the status of residual creditor (and share the organizational rent with shareholders) by also becoming owners.

Indeed, for twenty years, theoretical work has been accumulated to rethink the foundations of corporate governance taking into account the theory of human capital. Indeed, once the importance of this capital is recognized, the legitimacy of the only holders of financial capital (shareholders) to govern the company is questioned.

These reflections have given rise, within the framework of liberal theory, to the calls the "new theory of property rights". Two authors have particularly marked recent research: Raghuram Rajan and Luigi Zingales.

The human capital of an employee specific to the company can take various forms: knowledge of production processes in the company, sources of information local, specialized vocabulary used locally and idiosyncrasies between customers, suppliers, co-workers; special skills in specific tasks the company, belonging to the relational networks within the firm and between the firm and its customers and suppliers.

Milgrom and Roberts (1997) consider that all this increases the productivity of the worker inside the company and that by losing these employees, the company also loses pensions and quasi-rents they generate. To avoid these departures, human capital must be remunerated specific employees, not only to reduce staff turnover, but also to increase motivation at work, while preventing these specific skills from becoming find themselves employed by the competing company.

Thus, according to the theory of human capital (Becker, 1962) (Becker, 1962, 1964; Schultz, 1961), the level of knowledge, skill and competence held by employees represents, at the same title than other corporate assets, an important source of economic value for the firm. Based on this principle, the adoption of human resource management practices "Efficient" is a privileged means of increasing the value of the human capital of the firm and thereby increase organizational efficiency. From this point of view, the study of Kaarsemaker & Poutsma (2006) confirms the need for management to ensure the installation (when implementation of an employee shareholding plan) all resource practices human (participation in decision-making, information and communication, employee training actions) which make it possible to prove to employees that they are considered to be true shareholders, while respecting all the rights attached to the property (right to information, to decision-making, rights to residual rent).

This broader vision of ownership extends the status of owner to all participants in the contract node. Thus, within this framework of partnership governance, employee share ownership finds a theoretical justification that is lacking in the vision more classic governance. Indeed, to encourage an employee to make better use of his skills, it must be granted part of the organizational income, the holding of company shares being considered as over-remuneration compared to efficiency wages (Charreaux, 2000).

In the partnership conception of value (Caby & Hirigoyen, 2005), the creation and distribution of the organizational rent concern all partners (financial investors of course, but also managers, employees, suppliers) and, more particularly those who bring in the key skills.

In addition, Charreaux underlines that the questioning of the origin of the rent leads to highlight the specific human capital of all employees. The author recalls that this capital being very specific (because the skills acquired by an employee do not have often not the same value in another company), it is ultimately very vulnerable to possible expropriation attempts (Charreaux, 2000). Employee shareholding thus finds its justification in its ability to also protect the value of human capital employees.

I.3. Employee share ownership and the company's capital structure

The composition of the company's liabilities, i.e. the relative proportion of debts and equity, determines the financial structure (or capital structure) of the company. One of the important financial decisions for the company is the choice of different financial securities (property or debt) issued by a company to raise capital used to finance various investment projects of the company. In this section, we wonder about the influence that an increase in capital reserved for employees on the capital structure and on the value of the firm.

Modern theory of corporate financial structure begins with the famous 1958 article by Modigliani and Miller where the authors hypothesize that in the framework of perfect capital markets, the value of a company is not influenced by its financial structure (i.e. the choice made by the company between issuing new actions or resorting to debt to finance new projects investment). To achieve this result, Modigliani and Miller relied on the following argument: in the absence of taxes and transaction costs, the total flow of cash flow from which investors (shareholders and creditors) benefit is equal to the cash flow from company assets. Thus, *"as long as the financial choices of the company do not change the cash flows of its assets, there is no reason why these should influence its value or the amount of capital it can raise"* (Berk & Demarzo, 2008, p.455).

According to the theorem of Modigliani and Miller, debt financing is less risky for a company than issuing shares, the cost of debt being lower than that of equity. But as debt increases the risks taken by shareholders, this has the effect of increasing the profitability required by shareholders, and therefore the cost of equity. In the work relating to the financial structure of companies, the researchers show that if the markets are perfect, these two phenomena offset each other and the weighted average cost of capital is insensitive to the financial structure of the company. Thus, under the assumption of the perfection of financial markets.

But the results of Modigliani and Miller mean, conversely, that a modification of the financial structure can influence the value of the company if the financial markets are not perfect, the

authors having precisely highlighted the conditions which can have an influence on the composition of the capital structure of the firm (Harris & Raviv, 1991). In other words, the optimal financial structure therefore depends on market imperfections: agency costs, costs related to information asymmetries, financial costs, taxation.

Harris and Raviv (1991) conclude that taxation has the most important consequences because the interest charges are deductible from the company's tax base, which is not the case for dividends. Indeed, the existence of a tax system makes it important to choose the capital structure of the company because certain financial structures make it possible to reduce the taxes that companies or investors must pay (and also employees who become shareholders of their company as we will see below). Thus, the use of debt makes run the risk of bankruptcy for the company, thereby increasing the risks taken by the company, which can impose costs on the business that reduce its value.

According to this analysis, if debt increases risk and therefore profitability demanded by shareholders, and that this ultimately increases the cost of equity, then the funds that the company obtains via a capital increase reserved for employees allow him to decrease (or not increase) the amount of his debt, which will not ultimately increase the cost of equity for the business.

In addition, following the implementation of an employee shareholding plan, the company benefits from certain tax advantages. Such benefits help and encourage the practice of this system without however being a motivation in itself for the company (Garfatta, 2010).

The consequences of taxation are also to be taken into account in the analysis of questions related to the discount or the matching practiced by most companies that have decided to set up an employee shareholding mechanism. In apart from the incentive effects expected from the holding of shares by employees (on which we will come back to later), employee shareholding also plays the role of a mechanism deferred compensation for employees, this mechanism having certain tax advantages both for the company and for the employees (when they comply with the blocking conditions imposed by law). Because, in fact, companies that adopt the initiative of place of an employee shareholding plan often seek to achieve a dual objective:

better pay employees and improve performance at the same time organizational by motivating employees who thus share the same financial interests than organization (Wagner et al., 2003).

To get an idea of the savings made by the company and by the employee, it should be known that the distributing of 100 euros in contribution is equivalent to 150 euros for the company and 80 euros for the employee in the form of immediate compensation (salary). It is easy to understand that taxation brings certain advantages to both the company and the employee. In addition, if the employee invests the amount of his participation or well his personal savings in company shares for more than five years (on a saving plan in shares (Plan d'épargne en actions) the (PEA)), this allows it to completely avoid tax on capital gains. Same time, the company obtains 500 euros invested in capital because often the rate of the matching or the discount is 20%. For this reason, companies inevitably find their interest by carrying out capital increase operations reserved for employees. The taxation associated with profit-sharing and shareholding mechanisms employee is just as advantageous to employees as to the company in general (managers and external shareholders). Otherwise, the external shareholders meeting in General Assembly would surely not vote the decisions concerning the capital increases reserved for employees, knowing that the discount or contribution could be considered as mechanisms having a dilutive effect on capital. Indeed, the capital per share of shareholders also suffers from dilution, when a company offers newly issued shares to its employees (Garfatta, 2010). In theory, this dilution can be offset if the company increases its productivity and profitability due to the greater motivation of its staff and increased working capital (Chang, 1990; D. C. Jones & Kato, 1995; Sesil et al., 2003).

1.3.1. Employee shareholding and agency theory

A whole section of research on the determinants of the structure of capital has been built around arguments from the theoretical framework proposed by agency theory (Fama & Jensen, 1983; HARRIS & RAVIV, 1991; Jensen & Meckling, 1976).

The agency theory has its origins in the famous article by Jensen & Meckling (1976) which combines the analysis of the contractual structure and that of the system of ownership in order to demonstrate the efficiency of economic and financial organizations characteristics of contemporary capitalism (Autenne, 2005).

The objective of agency theory is to study the real functioning of organizations, that is to say the incentive and coordination mechanisms of members of Coalition. It endeavors to explain organizational forms as modes of conflict resolution, relying on the main coordination mechanisms that are incentive versus monitoring or control to study the consequences behavior that the structure of property rights is likely to lead to.

In agency theory, one person, the principal, signs a contract with another person, the agent, who undertakes to act on behalf of the principal in return for a certain remuneration (Fama & Jensen, 1983).

Jensen and Meckling consider that any cooperation between economic agents poses the characteristic problems of an agency relationship, the main concern spring is to find a way to reduce agency costs which are broken down into three categories (Charreaux, 1998) : monitoring and incentive expenditure incurred by the principal to guide the behavior of the agent, the obligation costs incurred by the agent (to ensure that he will not act in such a way as to injure the principal), the residual loss corresponding to the difference between the results of the agent's action and what a behavior that maximizes the utility of the principal. Hollandts (2007, p.48) recalls that "*Generalized opportunism constitutes the framework for action of the various individuals, agents or main*". However, some authors (Cochoy, 1999; Gomez, 1996; Wirtz, 2002) qualify the postulate fundamental concerning the opportunism of agents put forward by the theoretical framework of the agency. They point out that agency theory examines the effects of achieving opportunism or fear of its realization as being equivalent in terms of consequences on behavior. Thus, agents are not seen as being systematically opportunistic, but the simple fact that they can be enough to create the doubt. The principal's situation in the agency relationship between him and his agent is as follows.

First, the principal and the agent may have conflicting objectives, with the costly difficulty (monitoring costs) encountered by the principal in controlling the current behavior of the agent. Second, agents are supposed to be more opposed to taking risks than the main one because their human capital, their key asset, is not diversified. In contrast, the principal is assumed to probably have a diversified portfolio. The challenge of agency theory is to specify the most efficient contract that will ensure that the agent's actions are compatible with the interests of the principal, typically profit maximization or value creation; agency costs of principal must be lower than the performance it obtains from its agents.

While agency theory is typically applied in the case where the owner is the principal and the managers - its agents, agency costs appear in all situation that involves cooperative efforts between two or more people, even if there is there is no clearly defined principal - agent relationship (Jensen & Meckling, 1976).

Indeed, originally, the agency theory was developed around conflicts agency likely to appear between shareholders, managers and creditors. In fact, within the theoretical framework of the

agency, the different mechanisms are analyzed mainly from a disciplinary perspective, with the objective of minimizing costs agency that result from conflicts between the various economic agents, in particular between shareholders and managers. Efficient mechanisms are those that allow ensure the convergence of interests, by resolving conflicts at the lowest cost, by assuming that natural selection is at work, conferring better survivability.

The vision adopted by the theory of transaction costs is similar, the mechanisms more efficient as they are supposed to minimize transaction costs, including agency costs constitute specific elements (Charreaux, 1996, p. 24).

Within the framework of an agency, the interests of the various stakeholders may be identified as follows (Hollandts, 2007): shareholders contract with managers and with employees. They will be remunerated on the basis of the value residual, once wages, interest and taxes will be deducted. The effectiveness of contract manifests itself for them by maximizing their profit and / or the value of the firm, minimizing the remuneration of other contractors while maintaining contractual relations. The interest of managers and employees is to minimize the effort made, while maximizing their remuneration, and maintaining the relationship contractual.

The agency theory indeed considers that an agency relationship becomes conflictual by presence of divergences of interests between the principal and the agent, because of the imperfect observability of the costs of establishing and executing contracts. Conflicts between managers and employees are mainly due to the incomplete nature of contracts (Caby & Hirigoyen, 2005; Desbrières, 2002) and the tendency that everyone has to favor its own interest. In particular, employees may adopt behaviors ranging against the interests of managers and shareholders (for example, the reduction of individuals) in order to compensate for the non-diversifiable nature of their investment in human capital (Desbrières, 2002).

To limit the sources of conflicts, which could lead to loss of quality, productivity and performance in order to ensure the convergence of employee interests with those of managers and shareholders (under the assumption that the interests of managers and shareholders are confused), incentive and control mechanisms can be implemented in place, including employee share ownership (Garfatta, 2010).

According to Harris and Raviv (1991), agency conflicts between shareholders and managers arise in particular because managers hold less than 100% of receivables residuals. As a result, they do not benefit from all the gains from the efforts made to increase the company's profits, and may be tempted to produce less efforts to maximize the firm's profits and take personal

advantage of resources of the firm by granting itself significant privileges. This inefficiency can be reduced by increasing the fraction of the firm's capital held by managers (Harris & Raviv, 1991). It turns out that employee shareholding intended for executives' managers of the firm can have a positive influence on the efficiency of the firm by aligning the interests of managers with those of shareholders. The shareholding of executives would thus be a strong incentive tool available to other investors, making it possible to reduce the three types of agency costs mentioned above.

The hypothesis of alignment of interests is also valid for analyzing the relationship between non-executive employee shareholders of the firm and shareholders external to the company, *"Employee share ownership, for its part, being analyzed as an incentive contract aimed to oriented workers' behavior towards the creation of shareholder value, that is to say aiming to align the interests of workers with those of shareholders "*(Autenne, 2005, p.232). Several research studies lead to the conclusion that shareholding employee would reduce agency costs by aligning the interests of employees with those shareholders (Desbrières, 2002b; Gamble et al., 2002; Long, 1980). The idea is that the ownership of shares by employees aligns their interests with those of external shareholders and therefore constitutes a mechanism incentive helping to achieve the objective of the firm, namely, the maximization of equity value or shareholder value (Garfatta, 2010).

As for the relationship between employee shareholders and managers, indeed, theoretically, employee shareholders must monitor managers in order to ensure that they are running the business well in the interests of shareholders (including employees). This notion of control ties in with the question of power and impact employee shareholding on the exercise of this power within the firm that we are going to analyze in more detail in the following section devoted to governance of the company that has set up employee share ownership.

The agency theory is concerned with the issue of incentive / control within the firm, this theoretical framework is also often used in research concerning better methods of remuneration of employees, thus making it possible to tackle the phenomenon from another angle of analysis, considering employee shareholding as a form of collective remuneration, deferred over time. Indeed, the increase in use collective remuneration systems, based on results is compatible with the agency theory (Eisenhardt, 1989).

If we follow the reasoning of this theoretical framework, two types of remuneration contracts incentives may exist: behavior-based (with intensive supervision) or well based on the outcome

(Milgrom & Roberts, 1997). Contracts based on behavior (behavior - based) focus on controlling employee actions and requires a higher level of oversight, direction and intervention from the main. Such a control mode is appropriate when the manufacturing process (input - output) is well understood and that there is no reliable measure of individual results.

On the other hand, contracts based on the performance obtained are preferable when the work process is not well understood and that reliable measures of results exist. Such performance-based contracts require less control on the part of managers - especially since the manufacturing process is more complex, this would cost more to want to monitor it - and are often accompanied by compensation such as profit-sharing, profit-sharing for employees or the ownership of company shares by its employees (Ouchi, 1977).

Moreover, when all employees are affected by these compensation systems based on performance, it can be an effective means of selection and socialization ensuring that employees behave in a way that achieves the objectives of the organization, by strengthening its performance culture (Deckop et al., 1999). In addition, a collective performance-based remuneration system can provoke a reciprocal control of the actions and behaviors of colleagues by employees themselves who would like to ensure that no one deviates from the common objective, e.g profit maximization or value creation (Fitzroy & Kraft, 1987; Kruse, 1990).

Milgrom and Roberts (1997) highlight several reasons for believing that the incentive based on collective contracts may be as effective or even more effective than individual incentive. Beyond the difficulty of measuring the individual contribution, they point out that employee groups are often better informed about their individual performance as management. Thus, collective incentives encourage group members to watch each other, encourage each to provide efforts and behave appropriately. According to the authors, people who work together can help each other in many ways, by rendering services, by mutually protecting, compensating for the additional efforts he absence of one of the group members. Collective incentives encourage such practices, and the ability to refuse help to a slacker can help effectively push all group members to adhere to the collective standards of this group.

Employee share ownership thus seems to promote the alignment of the interests of employees with those other shareholders (Gamble et al., 2002; Pugh et al., 1999). This alignment should result in better cooperation between employees and with the management as well as through the development of reciprocal control between employees (Caramelli 2006). The quality of work as well as the flow of information in the company should then be improved. Employees

should also better organize their work and be more willing to communicate information to management and their colleagues, as well as training new employees (BEN-NER & JONES, 1995; Pérotin & Robinson, 2002). In the presence of employee shareholding, employees are interested in future business performance; they may also be encouraged to acquire new skills and stay longer in the company, reducing costs linked to turnover (Pérotin & Robinson, 2002).

However, it should be noted the lack of consensus among researchers who have studied the impacts of employee share ownership through the prism of agency theory. Indeed, a part of the literature emphasizes that employee shareholding could lead to entrenching directors within the company, thus reducing the effectiveness of management control mechanisms in the presence of employee shareholding (Gharbi & Lepers, 2008). The holding of part of the capital by employee shareholders is thus considered to be “a friendly fraction of capital” (Gamble, 2000).

1.3.2. Employee share ownership and information asymmetry

The signal theory developed in economics by Akerlof (1970; 2017) and Spence (1973) and then taken up in financial theory (Ross, 1977) extends the theoretical framework proposed by agency theory by focusing precisely on the problem of asymmetry of information.

In the context of market efficiency, the fundamental assumption adopted is possibility for economic players to have free access at any time to all the available information necessary to optimally decide on the allocation of their resources (Guillot-Sgez, 2005). However, in some cases the information does not circulate perfectly and some agents therefore have an interest in sending signals to disclose the information they hold. Thus, signal theory considers that the investors who have the best investment plans report this by investing a significant share of their capital in their projects.

Thus, company executives can send a signal to the financial market to through their participation in the capital or by holding stock options (Desbrières, 2002b; Guillot-Sgez, 2009; Poulain-Rehm, 2006). By this signal the managers indicate to the financial market and the labor market that the intrinsic value of the firm is significantly greater than its market value. The manager is in principle better informed than shareholders of the actual progress of current projects and future prospects of the firm they lead, the existence of certain information not published by the manager may motivate such signaling activity on their part. In disclosing this information, executives send a signal about the confidence they have in the future of the company, wishing to draw the attention of the markets to the quality of their management, to

promote an increase in the share price and at the same time reduce risk of takeover bid and loss of their job (Desbrières, 2002a).

The problem that arises therefore is the reliability of the information which is thus communicated by the leaders. This signal will be considered reliable if it is expensive and if the emission of wrong signals is penalized.

Thus, to strengthen the effectiveness of the signal, several conditions are necessary:

- a real financial investment is needed, to avoid the temptation to send out a signal misleading, the leaders would thus suffer a loss of utility all the more important that they engage in the company, in addition to their human capital, a share of their personal wealth
- the information of the financial community must be unbiased and therefore conveyed by indisputable supports, such as for. ex. General Assembly reports.

The shareholding of directors is justified in the light of the arguments raised above, the holding of the shares fulfilling the conditions of a reliable and costly signal of by the financial effort made by the leaders. Knowing that the granting of stock options to managers does not fully meet the conditions mentioned because they do not require real investment on the part of managers, which can have the opposite effect by encouraging take disproportionate risks.

Employee participation in capital can thus be analyzed within this theoretical framework. as a reliable and meaningful signal because it is costly for employees. By investing part of their financial assets in the same company where they invest their human capital, they go against the principle of efficient diversification of their asset portfolio modeled by Markowitz (1952), they surely have their reasons.

An employee shareholder, while being a shareholder as legitimate as the others shareholders, is first of all an employee, that is to say someone who has freely consented a relationship of authority, in exchange for a salary that remunerates the work done (Hollandts, 2007). We can think that the employee, in a situation of uncertainty, shows an aversion for risk (Eisenhardt, 1989, p.60). However, the participation in the capital of his company involves an element of uncertainty, especially the risk of not recovering your invested capital at the beginning. On the other hand, there is also in this mechanism a function of reduction of

uncertainty for the employee shareholder according to Hollandts (2007), because the employee thus reduces its informational asymmetry via the right to information attached to the status shareholder. Knowing that the utility function of risk averse investors is an increasing function

of the expectation of profitability, this is good because they believe in the future of their business - considering public information as well as information that they hold internally - that they agree to participate in a capital increase reserved for employees.

Thus, given the strategic informational advantage of executives, Williamson suggests the presence of employees on the board of directors of the company as ensuring proper disclosure of information, however - without necessarily giving voting rights for employee representatives (Williamson, 1985).

Signal theory applied to the analysis of employee shareholding, distinguishing between managerial shareholder salaries of employee shareholders who are not managers of the company, considers the participation of employees in the capital of the company as a sign of confidence that employees place in their company. Confidence that encourages them to invest part of their financial capital in the business, in addition to their human capital.

To sum up, studies of the determinants of the optimal capital structure (Berk & Demarzo, 2008, p.517; Harris & Raviv, 1991) highlight that in the presence market imperfections, the capital structure of a company depends on taxation and also has three many impacts. First, on the incentives of agents (managers or employees, this is the incentive hypothesis agency theory). Second, on how the financial decisions of the company are interpreted by investors (the information asymmetry hypothesis). Finally, on the costs incurred in the event of financial difficulties (impact of the debt).

The company must also take into account the potential role of its financial structure as information vector for investors and the consequences of this in terms incentive.

Then, we must also keep in mind that any change in the financial structure requires transaction costs, so the company only changes it when it diverges significantly of the structure considered optimal. These arguments explain the presence of employee shareholding in the capital of companies, despite all the previous criticisms from the analysis of the mechanism of employee ownership through the prism of property rights theory. As Autenne pointed out, "*the technique of employee shareholding is a means among others to strengthen the equity of the company at the same time as it promotes the expansion of the supposedly stable core of shareholders*" (Autenne, 2005, p.193).

Faced with all the criticisms (not always solidly founded) against the employee shareholding mechanism presented in the previous section, we are convinced that "*before concluding that an*

organizational form is inefficient, an organizational mechanism, or the ineffectiveness of a management system, and to propose its abolition or reform, even if it is necessary to understand its role and functioning within an organizational architecture that is often extremely complex”(Charreaux, 1998a, p.2).

As mentioned above, agency theory suggests that the organizational performance is affected by the relationship between the principal (the owner) and the agent (the employee) and that these two parties often have contradictory interests (Eisenhardt, 1989). As a result, the decisions and actions of employees may be incompatible with what is perceived as the best interests by the owners.

To manage agency issues, the principal uses monitoring and control of the decision-making process. It has been argued that employee share ownership can be used to reconcile the divergent goals of principal and agent (Duncan, 2001). According to this point of view, having employees who are at the same time owners of the company is seen as a mechanism that aligns the interests of owners and employees by introducing principals throughout the organization and thus facilitating the control of the activity of agents (peer monitoring) within the company (Jensen & Meckling, 1976). When employees are also owners, their relationship with the organization changes and that affects the way they think and act (Culpepper et al., 2004; Van Dyne & Kostova, 1995; Wagner et al., 2003).

In order to better understand how the employee shareholding experience is experienced by employees, theory and research focused on two models initially. The first, it is an instrumental model which assumes that employee share ownership increases the influence of employees on decision-making in the organization, which creates attitudes favorable to the organization among employee shareholders. For example, it was demonstrated that employee shareholders hope to be able to exercise more control over organizing and participating in decision-making (T. H. Hammer & Stern, 1980; Tove H. Hammer et al., 1981; Long, 1980). The second perspective is a model extrinsic, which considers that employee shareholding leads to attitudes favorable to the organization because employee share ownership is financially rewarding. Thus, the employee shareholders may be more interested in their financial investment than through participation in decision-making within the organization (French & Rosenstein, 1984; Rosen, Klein & Young, 1986).

Subsequent research which directly compared these two theories found arguments going against these two models (extrinsic and intrinsic) as well at the individual level (Buchko, 1993; Gamble

et al., 2002) and at the organizational level (Klein, 1987). These results suggest that the desire to exercise control over the organization and motivation to maximize financial investment are two equally important characteristics of the psychological experience of ownership employee. Employee shareholders can be motivated to exert an influence on decisions that concern the activities for which they have the most expertise and skills to maximize the value of their financial investment (DAVIS, 1986; Wagner et al., 2003).

This allows us to approach questions related to the distribution of power in the companies with employee shareholding, in particular through the study of the influence of employee shareholding on corporate governance mechanisms.

This section was devoted to the presentation of corporate governance in the framework of the philosophy of shareholder capitalism which considers the shareholders, of securities, the sole owners of the business. First, we presented the theory of the agency since it constitutes the *raison d'être* and the theoretical foundation of governance companies. Subsequently and in a second part, we tried to examine the principles as well that the different mechanisms of corporate governance in its financial approach and traditional. Finally, and given that in terms of efficiency the central issue of the governance consists of their impact on value creation (Charreaux, 2000; Faleye et al., 2006), we envisioned a third section dealing with the creation of value from a financial.

However, the management science literature of the past two decades reports the evolution of the concept of business performance by moving from a strictly financial, focused on shareholder satisfaction, to a broader conception encompassing the interests of all of the firm's partners (employees, customers, suppliers, etc.). This new vision of performance goes conjointly with the evolution of models in corporate governance, since the partnership model advocates the maximization of partnership value: the analysis is therefore extended to the various partners of the company and does not limit more to the shareholder, as is the case in the financial model subject to a lot of limits and critiques.

I.4. Employee shareholding and property rights of the firm

I.4.1. the theory of property rights

The analytical approach of the theory of property rights (TPR) is based on the fact of consider that any exchange between agents can be considered as an exchange contractual property right (Alchian & Demsetz, 1972). Thus, the primary function of property rights is to provide

economic agents with incentives to create, to conserve and enhance assets. The analysis of property rights is also linked to the existence of transaction costs, more fundamentally, the taking into account of transaction costs is crucial in explaining the existence of organizations and institutions that frame economic realities.

The "*property is subdivided into three attributes: the right to use the asset, the right to earn an income and the right to resell at a freely negotiated price the two rights previous* " (Autenne, 2005, p.247). The ownership structure on which the firm must make it possible to benefit from the advantages of specialization and ensure a system effective control and incentive.

Alchian and Demsetz (1972) point out that the problems that the firm must solve come from "team production" and the difficulty of measure the effective contribution of each factor of production. So the key to firm performance is linked to the alignment between factor productivity and their remuneration, the firm being obliged to measure and control productivity and allocate better salaries. The solution proposed by the authors to the problem of free riding (stipulating that everyone tries to do as little as possible by relying on others) inherent in team production, it is the existence of an agent, the monitor, who is a management and monitoring specialist who must manage the team so as to encourage its members to minimize the costs resulting from their interaction. He specializes in performance monitoring of team members. So that the leader is encouraged to collaborate effectively, the TPR model identifies it as the beneficiary of the residual gains that are the result of teamwork: this is good because that he is the residual beneficiary that he is best placed to exercise the rights of taking decision and control. Thus, Alchian and Demsetz consider that if the monitor is also the residual creditor, having the right to collect the residual claims is sufficient to encourage the instructor to ensure the best possible use of resources productive and adequately control team members.

I.4.2. Analysis of the ownership structure with employee shareholding

The contractualist approach and in particular the TPR is very critical of employee shareholding. The starting point of these criticisms are the arguments put forward by Alchian and Demsetz (1972) who consider that in any type of team production, if the recipes are to be divided among the team members according to a certain sharing rule fixed previously (as would be the case in a large company with n members in which each member obtains $1/n$ of the amount of recipes), each team member will have a free rider incentive because they will receive all the benefits of flanking, but will only endure one part of the cost pro rata $1/n$ of losses.

This is also what has been called the "1/n problem": the fact that in large listed companies, where one would think that the need for stimulus encouraging the alignment of interest would be greater, an individual employee will realize by his participation in the capital via the establishment of an employee shareholding mechanism only a fraction lowercase (for example, $1/n$ where n is a large number) of additional benefits than the company gets through its extra efforts. So it's not at all obvious that a tiny fraction of the profits will be very encouraging. From where the idea that a monitor is needed, put forward by Alchian and Demsetz, to thwart incentives to shirking. But then, to make sure the monitor has the incentives appropriate against shirking, the monitor should receive all the economic residual created by team effort. In this way, the monitor bears all the costs of its own shirking. Besides, the instructor should own all the tangible goods used by the team so that it has an incentive to monitor that the use of assets by employees not be abused.

Hollandts (2007) points out that employees with property rights over the firm are faced with a dilemma because, being entitled to the residual return, they must choose between making unprecedented considerable efforts to align their interests in working to maximize the residual debt or to favor their own interests without worrying about the residual debt, while hoping that the other shareholders employees will help to maximize this residual debt. The author then suggests that, given the fact that the employees' time horizon is limited to their presence in the company while the time horizon of shareholders is by definition longer.

Eventually, an important contradiction arises, the employee shareholders developing a preference for the short term. This ownership structure is thus under-efficient compared to an optimal situation when all property rights are assigned to the manager-owner, and to a lesser extent compared to the case of the large corporation with separate ownership and management.

Therefore, the issues raised by the "free rider" argument form the core of all the criticisms put forward in relation to the forms of organization in in which the employees own part of the equity of the companies, while capital remains present in public markets.

The counter argument to the $1/n$ problem is that the encouraging effect of the marginal increase financial returns from each individual employee who does not shy away from responsibilities (shirking) is not the only mechanism by which employee shareholding encourages productivity. Broad-based employee shareholding is also likely to motivate employees to control other employees and to use social pressure on them to encourage them to exert more effort (in fact, it is considered that employees shareholders would probably be in a much better position to

control the other employees than an external investor). There would thus be a monitoring effect with a much stronger impact than the direct financial impact of the employee's actions on his own financial gain, and therefore the total effect of employee ownership can be much stronger than that implied by the " $1/n$ " model (Alchian & Demsetz, 1972).

Proponents of this idea generally consider that in order to increase this effect of Hidden "monitoring", employee shareholding (or other participation mechanisms employee financial support, such as profit sharing) should be combined with employee participation programs and institutional changes and cultural values within society, designed to increase cooperation and mutual control within the firm.

Indeed, empirical studies on employee share ownership and generally on schemes of employee financial participation tend to support this hypothesis: neither the plans employee participation, nor employee shareholding / participation in benefits taken separately are not sufficient to achieve a very large impact on the productivity of the firm. But it is by combining them that we notice improvements productivity.

Later, other researchers noted that the solution proposed by Alchian and Demsetz works only in situations in which the work that members teamwork can be easily controlled. If the nature of the work is complex, difficult to assess, difficult to control, and difficult to be defined in a contract, it is less obvious than the forms of organization in which a capitalist has the active, hires all the "inputs" of the labor factor, and demands all residual returns, will necessarily lead to superior results. In fact, these researchers concluded that it is precisely in these circumstances that the sharing of property rights with employees through employee share ownership could increase efficiency (Holmstrom, 1982; Putterman, 1993).

Employee share ownership can improve performance of the firm by reducing the conflict between management and work and by serving as a collective incentive to improve cooperation in the workplace, the information sharing, etc. To improve employee cooperation and to encourage higher returns, companies can combine employee ownership with employee participation in decision-making and other resource policies human rights to encourage employees' sense of ownership, to better free their skills and promote the flow of information, in order to create the spirit belonging to the company and higher standards of work.

The major theoretical arguments against employee share ownership are based on the analysis from the framework of the theory of property rights concerning the problems of collective action that arise in any company that is jointly owned by multiple individuals. Hansmann (1988)

points out that the problems of grouping the preferences of all participants in a company can be serious, and therefore the provisions of government will be more effective if the rights of control (considered to be the most important feature of the notion of "Property") are limited to the single class of "bosses". In addition, the rights of property should go to the set of bosses whose interests in society are the most more homogeneous.

Despite the multiple exceptions explored in his analyzes, Hansmann maintains that managers will often be providers of financial capital, of which interest is generally retained by a single metric: the residual profits of the company. Since the interests of employees, on the other hand, are likely to be much more complex, multilayered, and heterogeneous, Hansmann suggests that employee ownership is less likely to be an attractive form of ownership in most situations.

However, Hansmann's conclusions are not entirely negative about employee shareholding. He notes in fact that in practice, when the implications of employees are highly homogeneous, employee shareholding is often more efficient than investor property. However, in situations where the interests of the workforce are heterogeneous, the author argues that the direct control of employees over the company brings substantial costs, which are usually large enough to be greater the advantages that employee share ownership offers otherwise. Hansmann thus concludes that employee share ownership will remain largely confined to companies with classes highly homogeneous employee shareholders, such as service professions, including including law, accounting, investment banking, financial advice management, advertising, architecture, engineering, and medicine.

To conclude our analysis of the effectiveness of the ownership structure with employee shareholding based on the contractualist theoretical framework provided by the TPR, we observed that the most of the theoretical arguments finally put forward "a lower efficiency" of this ownership structure. According to the proponents of the TDP, employee share ownership certain "inherent limits to its own effectiveness", such as the inevitable conflicts interest, higher costs of collective decision-making, difficulties related to internal monitoring, a divergence in time horizon and preference for the present (Hollandts, 2007).

Also, the framework theory of TPR nevertheless has certain intrinsic weaknesses which limit its power of analysis of current new organizational forms. However, it is also necessary underline the fact that much of the criticism advanced against the employee shareholding originates from the extrapolation of the criticisms addressed to cooperatives, with all the difficulties associated with making managerial decisions collective within the firm because of

the heterogeneity of employee preferences (Blair, 2005; Blair et al., 2005; O'Sullivan, 2003; Siegfried & Blair, 1997).

I.5. Conclusion

Thus, voices are multiplying to say that it is necessary *“to go beyond the theories contractual focused exclusively on computational rationality”* (Albouy, 2009; Denis, 2009) stressing that *“the disconnection between effective economic activity and financial abstraction contradicts the shareholder vision of corporate governance which postulates that finance summarizes and translates the real economy”* (Albouy, 2009, p.26; Gomez, 2003, 2009; Gomez & Korine, 2009).

Financial theory turns out to be incapable of correctly analyzing the subject of our research which is employee share ownership. As some authors consider (Harribey, 2001, p.80) that with the generalization of employee shareholding in developed countries, the employee shareholder *"becomes schizophrenic since he will have to constantly arbitrate between his salary and his employment on one side and the return on his capital on the other, unless his company, whose he owns the shares, has invested in places in the world where employees do not have access to financial property, or, if he is already retired, he will have to arbitrate between his output and the employment of those who, through their activity, feed him "*, we cannot ignore this obvious bias against employee shareholders.

Indeed, if any economic actor who would be placed in a situation of having to arbitrate between two different situations, should be considered by economic theory as being schizophrenic, research in economics and management science would have a hard time to advance.

Our research work aims to go beyond this argument a little too much simplistic in our opinion. Moreover, Gomez & Korinne (2009) underline that scientists will not be able to indefinitely be satisfied with the resolution of the question of employee shareholding by a diagnosis of schizophrenia attributed to the employee shareholder, *"schizophrenia which is, perhaps, rather that of the researcher"*. This justifies our desire to open up to other theoretical frameworks capable of providing additional response elements.

Because several authors agree on the urgent need to change the framework of thought of financial theory, to *“reconcile finance and management” and in order to take better account of “the cognitive, psychological and social dimensions of value creation process”* (Charreaux, 2009).

Moreover, we discover in the recent literature that employees act as agents for social change by pushing firms to adopt socially responsible behavior (Aguilera et al., 2007). Ramus and Steger (2000) demonstrate that employees help is necessary to implement and secure environmental policy. Stakeholder relations theory suggest that employees perceive, assess, judge and react to CSR actions (Rowley and Berman, 2000; Rupp et al., 2006). Therefore, Gond et al., (2010) disclose that employees as a stakeholder groups can be seen as an “independent variable”, explaining the development of CSR (Aguilera et al., 2007), as a “dependent variable” affected by CSR (Maignan and Ferrell, 2001), or as a “moderating variable” that influence the relationship between CSR and corporate performance (Barnett, 2007).

In this paper, we are primarily interested in the first role played by employee ownership as a shareholder group. We consider employee owners as a group perceives, evaluates and reacts to CSR. Then, we give our full attention to employee representation on the board of directors. We consider that employee owners who have a seat on the board had a mediating role that generates attitudes and social behaviors in the organization which may affect the corporate social performance.

Empirical studies found that ownership structures influence corporate decision-making (Lee, 2009). Thus, it can be expected to influence strategic decisions on CSR commitment (Oh et al., 2011). The increasing of CSR importance within society is observed in many companies (Barnea and Rubin 2010); however, firms show disparate attitudes toward CSR actions (Aguilera et al., 2007). According to Faller and zu Knyphausen-Aufseß (2018), literature attention has been focused to investigate the relation between firm’s CSR and two mainly ownership structures (institutional investor and family equity ownership). Surprisingly, employee’s ownership as group of shareholders have received insufficient attention in the CSR literature. Hence, it appears a need to explore employee ownership as a new group of shareholders to better understand shareholders’ motives and their influence on CSR.

Following Aguilera et al. (2007), we argue that employees have three main motives for pressuring firms to engage in CSR: the first source is instrumental related to self-interest driven, the second source is relational concerned with relationships among group members, and the third source is moral concerned with ethical standards and moral principles. We focus our analysis to examine why employee ownership might push corporations to engage in CSR initiatives. We argue that employee owners’ perceptions of the firm’s CSR engagement are exceptional and that these CSR perceptions build the employees’ attitudes and behaviors in

regard to their firm. For this reason, our model does suggest that a firm, outfitted with a proportion of employee ownership, will be pressured and motivated to be more socially responsible. The literature indicates that even if the proportions of shareholdings is small, it could enable a certain influence on corporate CSR (Faller and zu Knyphausen-Aufseß, 2018).

Following research in organizations justice (e.g., John et al., 2019), we found that employees' positive perceived CSR lead toward positive attitudinal and behavioral workplace outcomes. This means when employees perceive their organization is doing well for the society; they also want to do something good for their organizations in return. CSR activities boost employee perceptions of self-worth, as it is a source of fulfilling their need for self-esteem and desire to create significant impact through work. Therefore, employees pay back the CSR activities of firms through better task performance and Organizational Citizenship Behavior (OCB).

Consequently, and in order to exceed all the limits that we have just listed concerning the inability of the firm's contractual framework to fully analyze our purpose research which is employee shareholding, we will try, in our second chapter, to broaden the theoretical framework initially mobilized via a shift towards a new reflection based on the theoretical framework of social studies of the finance, allowing us to outline the contours of the new empirical vision of governance which is slowly taking shape in current research in the field governance, based on stakeholder theory and the agency theories of the firm.

Our objective being to achieve a better understanding of the issues and the effects of employee shareholding in listed French companies, with a view to which is intended to discover new empirical evidence about employ ownership and corporate governance.

Chapter II: Beyond Dichotomy : The Curvilinear Impact of Employee Ownership on CEO Entrenchment ¹

Abstract

Employee stock ownership gives employees a voice and therefore may have a major impact on corporate governance. Thus, employee stock ownership may be a powerful mean to protect CEOs from both market for corporate control and dismissal threat. In this paper, we examine the relationship between employee stock ownership and CEO entrenchment. Following the recent French legislative changes, we use a comprehensive panel dataset of the major French listed companies over the 2009-2012 period. We document inverted U-shaped relationships between employee stock ownership and CEO entrenchment. Board employee ownership representation also plays a role and increases the inflexion points of these curvilinear relationship.

Keywords: employee stock ownership, corporate governance, CEO entrenchment.

JEL: J33, L62, J53

¹ The following authors: Prof. Xavier Hollandts, Prof. Nicolas Aubert and Victor Prieur, contributed to co-write this paper. It has been published in the “International Management” journal.

<http://www.managementinternational.ca/catalog/beyond-dichotomy-the-curvilinear-impact-of-employee-ownership-on-ceo-entrenchment-1028.html>

Résumé

L'actionnariat salarié est susceptible d'avoir un impact majeur sur la gouvernance des entreprises. En effet, ces mécanismes peuvent s'avérer décisifs pour faire échouer une prise de contrôle hostile ou pour permettre aux dirigeants d'écarter les menaces de renvoi. Dans le cadre de cet article, nous examinons le lien potentiel entre actionnariat salarié et enracinement managérial. Notre étude empirique examine cette question au moyen d'un échantillon d'entreprises cotées, analysées sur une période récente (2009-2012). Nos résultats montrent la présence d'une relation significative en U inversé entre le niveau d'actionnariat salarié et l'enracinement managérial. La présence de représentants des actionnaires salariés au sein des conseils d'administration ou de surveillance a également un impact en faisant varier les points d'inflexion des relations observées.

Mots-clés : actionnariat salarié, gouvernance de l'entreprise, enracinement des dirigeants.

II.1. Introduction

Employee stock ownership (ESO from now) is a powerful tool sometimes presented as a way to promote shared capitalism (Kruse et al, 2010). When a firm makes some profits, part of them are usually plowed back and retained (self-financing), and some are shared among shareholders and, for a minor part, employees. With ESO schemes, employees are offered a part of profits, which allows them to increase their personal wealth, being better associated with the firm's success. The success of ESO mechanism is undeniable (Kim and Ouimet, 2014) and for instance, 23 millions of American employees (20% of total employee workforce - National Center for ESO, 2014) are employee owners. In France, we estimate to almost 3.5 millions of French employee owners². This success can be analyzed as an evidence of a “shareholder capitalism” since there are more and more shareholders in the world and employee owners take part of this worldwide and enduring phenomenon.

The decision of implementing and developing ESO often lies with management. Executive managers have a discretionary power to implement such schemes (Scholes and Wolfson, 1990). Managers have two major motivations to reward their employees with stock: to incentivize them to enhance corporate performance (Kim and Ouimet, 2014) and to retain them (Rauh, 2006). Indeed, the academic literature presents ESO as a two-edged sword. On one hand, ESO may be used as a reward management tool to enhance corporate performance through its incentive effects.

Kaarsemaker (2006) summed up the literature on attitudinal effects of ESO and shows that employee owners are more satisfied, involved, productive, exhibit lower turnover and absenteeism rates and are likely to less free-ride. On the other hand, it may be a management entrenchment mechanism via the potential collusion between employee owners and management. The impact of ESO on corporate governance is still being debated in the literature.

² French workers have different ways to buy stocks of the company they work for. First, employees can invest in their company stocks simply by buying them directly from the financial market. The most common way to become an employee owner is to invest in a company savings plan (CSP or Plan d'Épargne Entreprise in French). Amounts that can be invested are the profit-sharing or gainsharing bonuses or the voluntary contributions. Investing in a PEE is financially rewarding for the employees for two reasons. First, money invested in the CSP by the employee can be matched by an employer contribution. Second, in the case of an employee stock purchase plan (ESPP), employees who buy stocks can benefit from a maximum discount of 20% on the stock price. The money invested in the CSP are frozen for a minimum of 5 years and they benefit from fiscal advantages. A major difference between the French CSP and the US ESOP is that the latter are mostly implemented by small and medium sized companies whereas a large majority of the French employee owners work for large listed companies. The ESOP also differs from the CSP in that it is only invested in company stocks. The CSP offers several alternative options. When setting up an ESPP, most French companies attribute the maximum discount combining them with matching contribution in company stock (see Rapp and Aubert, 2008 for more details and Ginglinger et al, 2011 for a focus on corporate governance).

One can argue that the presence of ESO has a positive impact because it decreases the overall level of asymmetric information of shareholders (Acharya et al, 2011). Besides, Faleye et al (2006) underline the “dark side” of ESO leading to management entrenchment and decreased shareholder value. Employee owners may protect executive managers with a friendly part of capital (Gamble, 2000). Thus, executive managers can reward employee owners with their protection, better job conditions or salaries (Cronqvist et al, 2009). In this configuration, employee owners can entrench themselves as CEOs do.

A large body of the literature examined the “dark side” of ESO (Gordon and Pound 1990; Chaplinsky and Niehaus, 1994; Park and Song, 1995; Gamble, 2000; Hellwig, 2000; Pagano and Volpin, 2005; Benartzi et al, 2007) but focuses mainly on the potential impact on corporate performance and governance. Our paper addresses also the question of the impact of ESO on governance by adding one new dimension of employee voice with their compulsory participation as board members in French boards. Some papers have examined the consequences of significant ESO on performance, risk, productivity or growth (Faleye et al, 2006; Park and Song 1995), on corporate takeovers (Pagano and Volpin 2005, Chaplinsky and Niehaus 1994), R&D intensity (Gamble, 2000). The test provided in such papers always examined the impact of employee share ownership on several dimensions of corporate governance and corporate performance. In our paper, we suggest to expand the consequences of ESO by considering the impact of “employee voice”, namely the potential combination of employee share ownership and ESO board membership (Fauver and Fuerst, 2006). French law and corporate governance system have evolved towards compulsory employee owners board membership at the end of 2000s and provide an opportunity to test such consequences of employee ownership’s voice. Distinct from German codetermination regime (Fauver and Fuerst 2006), French corporate governance system is often presented as an hybrid system between Anglo-Saxon corporate governance regimes and Nordic and German corporate governance systems (Aste, 1999; Ginglinger et al, 2011). In this regard, “employee voice” may appear as a powerful mean for executive managers to increase their personal entrenchment (Faleye et al, 2006; Fauver and Fuerst, 2006; Gamble, 2000; Park and Song, 1995). Combining both the bright and dark side, we suggest that the impact of ESO and board employee ownership representation (BEOR from now) could be non-monotonic. In this paper, we investigate this issue by addressing the following research question: Does ESO affect CEO entrenchment? This impact can be split in two directions: Is ESO linked to CEO entrenchment? As ESO gives a voice to employee owners through potential board membership: Is board ESO

participation linked to CEO entrenchment?

The novelty of our empirical results is to document a non-monotonic relationship between ESO and several measures of CEO entrenchment: CEO age, CEO tenure and CEO turnover. We also underline that BEOR increases the effect of ESO on CEO entrenchment by increasing the inflexion points of the curves. BEOR then plays a role in providing CEOs with an additional entrenchment tool. The remainder of the paper is organized as follows. Section 1 reviews the literature on the relationships between ESO, corporate governance and CEO entrenchment. Section 2 presents the methodology and the sample. Section 3 outlines results. Section 4 discusses findings, and section 5 concludes.

II.2. Literature review

II.2.1. ESO and firm performance

Broadly speaking, ESO is a management tool that can help to further enhance shared capitalism. Shared capitalism refers to “plans that tie worker pay or wealth to the performance of their own workplace” (Kruse et al, 2010; p. 5). In their book, Kruse et al (2010) investigate shared capitalism based on a representative sample of US workforce of more than 40,000 employees. They find evidence of the positive relationship between shared capitalism mechanisms including ESO and corporate performance. By giving employees a residual claim, it fosters positive job attitudes in the workplace, which therefore improves corporate performance. From an organizational perspective, ESO enhances cooperation and mutual monitoring within the workplace, increases productivity, decreases turnover and absenteeism. In his extensive literature review, Kaarsemaker (2006) concludes that most of the academic literature finds a positive relationship between ESO, employee attitudes and several firm performance measures. This is the bright side of ESO: a set of positive incentive mechanisms that foster various positive employee attitudes at work, thus improving corporate performance. In addition, ESO tends to retain human capital and to increase employee loyalty (Blair et al, 2000). Regarding corporate governance, ESO has unclear impacts due to the presence of bright and dark side effects.

II.2.2. ESO and internal governance

Indeed, as insider equity ownership, ESO has an intriguing role. ESO exhibits positive effects and can reduce CEOs’ opportunistic behaviors since employee owners have an intimate knowledge of their organization (Acharya et al, 2011). By sharing information with external shareholders, they may mitigate asymmetric information. The internal governance of the firm can “force a self- interested CEO to act in a more public-spirited and far-sighted way” (Acharya

et al, 2011; p. 689).

In the same vein, Adams and Ferreira (2007) show that the natural proximity with internal stakeholders as employees also contributes to a more efficient corporate governance since it helps to decrease the level of asymmetric information. For instance, Bova et al (2015) show that firms with ESO are more transparent and exhibit better disclosure. ESO also gives a strong incentive to monitor executive managers since a big part of employee owners' personal wealth directly depends on corporate decision makers (Blair, 1999; Kruse et al, 2010). Because ESO often represents a cost in terms of portfolio diversification (Yi Tsung et al, 2008), employee owners pay particular attention to the top management's decisions of their company. In this configuration, there is a potential alignment of interests for the main firm's stakeholders (employees, shareholders, executive managers) towards performance maximization. In fact, ESO helps to mitigate agency problems, mainly by reducing free-riding problems and incentivizes employees towards improved corporate performance (Kruse et al, 2010; Guedri and Hollandts, 2008). Nevertheless, a large body of the literature has shown that ESO also exhibits a dark side regarding corporate governance.

II.2.3. ESO and bilateral entrenchment: is there a dark side?

However, ESO also exhibits what Faleye et al (2006) call a dark side referring to its effects on corporate governance. Some authors argue that ESO is a powerful entrenchment tool because it reduces the probability of a takeover (Beatty, 1995)³. The "natural alliance" between employees and managers (Hellwig, 2000) encourages CEOs to establish implicit contracts with employee shareholders (Pagano and Volpin, 2005) in exchange for a friendly control of employee owners (Benartzi et al, 2007; Gamble, 2000). From this standpoint, ESO prevents an efficient market for corporate control (Chaplinsky and Niehaus, 1994; Park and Song, 1995).

Gordon and Pound (1990) consider that many ESOPs were established in the US in the late 1980s, explicitly to deter takeovers. Employee owners tend to vote against takeovers since they

³ In this paper, we consider that entrenchment has mainly negative effects on corporate governance (Morck et al, 1988; McConnell & Servaes, 1990) since the vast majority of corporate governance literature analyses it as a deviation from optimal configuration from an agency perspective (Fisman et al, 2013; Joseph et al, 2014 and Tihanyi et al, 2014). We acknowledge that there is a theoretical debate on the impact of CEO entrenchment since the seminal paper of Castanias and Helfat (1992) underlines that, in some circumstances, managerial entrenchment can create value for the firm and its shareholders.

often go along with layoffs. Negative effects of ESO on corporate governance are well documented empirically. Indeed, ESO is more powerful than poison pills or golden parachutes (Chaplinsky and Niehaus, 1994) and other defensive mechanisms are less likely to be used when a firm already offers ESO schemes (Rauh, 2006; Park and Song, 1995). Besides, financial markets tend to react negatively to an ESOP's implementation announcement (Chang, 1990; Chang and Mayers, 1992), especially when they appear as a mean to entrench management (Cramton et al, 2008). Faleye et al (2006) argue that such a protection is more general, underlining that the dark side of ESO leads to a "bilateral entrenchment": CEOs may be more easily entrenched with ESO, but employees also tend to entrench themselves, benefitting from the CEOs' protection against layoffs (Atanassov and Kim, 2009). This is why ESO works as an insurance mechanism that ensures favorable employment policies and limits the risk of redundancies or wage cuts (Kim et al, 2014). In return, employee owners stand ready to help their CEO to fight off a potential takeover bid and his subsequent dismissal (Chaplinsky and Niehaus, 1994; Pugh et al, 1999). This mutual protection and commitment between executive managers and employee owners is set up on the terms of an implicit contract (Acharya et al, 2011; Atanassov and Kim, 2009; Pagano and Volpin, 2005). Employee owners can grant protection to their CEO since they control part of the capital and exercise their voting rights. As part of these implicit contracts, CEOs tend to implement policies aimed at maintaining or increasing levels of employment and wages (Faleye et al, 2006). In this regard, Cronqvist et al (2009) show that CEOs who wish to reach higher entrenchment levels, choose to better reward their employees in an attempt to reach "social peace". Therefore, shareholders pay this potential collusion with higher wages granted to employees, and a lower probability of receiving a takeover premium (Kim and Ouimet 2014, Faleye et al, 2006). Kim and Ouimet (2014, p. 1277) explicitly suggest that "management bribes employee with higher wages to garner worker support to thwart hostile takeover bids". This configuration, allows CEOs to have a "quiet life" by avoiding confrontations with external shareholders or the market for corporate control (Bertrand and Mullainathan, 2003). More precisely, Aubert et al (2014) consider that the incentive to increase managerial entrenchment by the mean of ESO may vary regarding to the corporate governance context. More specifically, it seems that the incentive for CEOs could vary depending on the corporate performance and on their level of managerial entrenchment. Increasing ESO would be less motivating for well-entrenched or/and high performer CEOs (Gregory-Smith et al, 2009).

II.2.4. ESO on CEO entrenchment: a curvilinear relationship?

The combination of two latent functions (namely the bright and dark side of ESO described above) could therefore lead to a non-monotonic relationship between ESO and CEO entrenchment. Haans et al (2016) deeply explained the rationale of quadratic relationships⁴. A U-shaped relationship may be conceptualized as two latent functions jointly making up a quadratic. While the latent functions are commonly not observable, they may be combined either additively or multiplicatively to explain a quadratic relationship that reveals the “net effect” of X on Y (Haans et al, 2016; p. 1178-79). In this paper, we consider that on one hand that the bright side of ESO mitigates agency problems, increases transparency and decreases the level of asymmetric information. But on another hand, ESO also exhibits a dark side. ESO can lead to a friendly control benefitting to the CEO. ESO can also be detrimental to external shareholders due to higher wages and less efficiency of corporate governance mechanisms. Thus, the net effect of the bright and dark side can be translated in a non-monotonic function between ESO and corporate governance efficiency. We suggest that this U-shaped relationship can be observed for one major corporate governance variable namely the CEO entrenchment. Two opposite forces can be at play and thus the relationship between ESO and CEO entrenchment can exhibit a U-shaped relationship. Thus, in this paper, we suggest that two opposite forces (the bright side – positive function and dark side - negative function) interact and thus a U-shaped relationship emerges due to the combination of two latent linear functions as described in Haans et al (2016). Regarding the shape of the relationship between ESO and governance, several recent papers underline that ESO exhibits non-linear relationships. Faleye et al (2006) test the impact of significant ESO (over 5% of share capital) on corporate performance, valuation, investment and risks⁵. They show that large ESO pushes away rather than towards shareholder-value maximization. Kim and Ouimet (2014) indicate that small ESOPs (under 5% of shares) tend to increase the size of the overall economic pie, benefitting both employees and shareholders. In their study, the positive effects of ESO occur at the threshold of 5% of the capital held by employees, and effects are much weaker for large ESOPs. Over this threshold, these gains are absorbed by higher wages (Cronqvist et al, 2009). Recent papers reveal the presence of a curvilinear relationship (Guedri and Hollandts, 2008) or

⁴ We thank the anonymous reviewer that point out this very useful reference.

⁵ In their seminal paper, Mc Connel & Servaes (1990) have shown a similar curvilinear relationship between corporate insiders (executive managers and board members) and performance (Tobin's Q).

at least of a 5% threshold (Faleye et al, 2006; Kim and Ouimet, 2014). Guedri and Hollandts (2008) also suggest that the presence of BEOR can moderate the relationship between ESO and performance and thus “employee voice” can play a crucial role. Also in the French context, Ginglinger et al (2011) test the impact of employee owners’ representation on the board and find that it is at least value-neutral. In order to optimize corporate performance, the theoretical optimum level of ESO results from the combination of small levels of ESOPs that guarantee optimal incentives for employees and have low consequences in terms of free-riding problems (Kim and Ouimet, 2014; Aubert et al, 2014; Ginglinger et al, 2011; Guedri and Hollandts, 2008). Regarding the level of CEO entrenchment, Aubert et al, (2014) argue that ESO is a powerful entrenchment mechanism for low-performing CEOs and may be less useful for high-performing or well-entrenched CEOs.

To sum up, the link between ESO and managerial entrenchment exhibits two opposing forces. As ESO exhibits bright side and dark side over corporate governance and performance, we suggest that two latent functions are at play and can be translated in a curvilinear relationship between employee ownership and CEO entrenchment. Therefore, we state the following hypothesis:

Hypothesis 1: ESO exhibits a non-monotonic relationship with CEO entrenchment. ESO is positively related to CEO entrenchment across the low to moderate levels of ESO, and is negatively related to CEO entrenchment across the moderate to high levels of ESO.

Another consequence of ESO consists in giving a “voice” to employee owners since they can be offered seats on the board of directors. Hence, employee owners’ representation could foster CEO entrenchment. In most European countries, employee owners can be represented on the board of directors or on the supervisory board (e.g. Germany and the co-determination system: Kim et al, 2014; Fauver and Fuerst, 2006). At the end of 2006, representation of employee owners on the board of directors became compulsory for French listed companies (Ginglinger et al, 2011) if employee owners collectively hold over 3% of shares, the general meeting of shareholders must give at least one seat to an employee owners’ representative. BEOR is often viewed as an additional voice available to employee owners and as the recognition of ESO. When coupled with BEOR, ESO provides CEOs with an additional entrenchment tool (Gordon and Pound, 1990; Pugh et al, 1999).

The natural alliance between employees and managers encourages CEOs to establish implicit

contracts with employee owners (Pagano and Volpin, 2005), including eventual protection from employee owners during the meetings of the board of directors (Guedri and Hollandts, 2008; Ginglinger et al, 2011). From the perspective of employee owners, it is much easier to lobby in favor of policy decisions that maximize their own interests if they have at least one seat on the board of directors. In exchange for support from employee owners (Atanassov and Kim, 2009; Fauver and Fuerst, 2006), CEOs would implement corporate policies aimed at increasing the level of employment and wage rate (Faleye et al, 2006; Cronqvist et al, 2009). As a consequence, employee owners and CEOs have a direct interest to set up mutual protection mechanisms. This is why there is a potential risk of "bilateral entrenchment" notably at board level (Ginglinger et al, 2011; Faleye et al, 2006). As BEOR is the consequence of significant levels of ESO (at least 3% of capital), potential implicit contracts can be established between employee owners board members and CEOs (Guedri and Hollandts, 2008). Therefore, we suggest that BEOR increases the potential relationship between ESO and CEO entrenchment. In other words, BEOR gives an additional mean of entrenchment to CEOs. Following Guedri and Hollandts (2008), we suggest that the presence of employee owners into the board is likely to facilitate friendly control and alliance between CEOs and employee owners' board members. Hence, BEOR seems to positively moderate the relationship between ESO and CEO entrenchment and thus the inflection point is likely to occur at lower level of ESO. We therefore put the following hypothesis:

Hypothesis 2: Board employee owners' representation positively moderates the non-monotonic relationship between ESO and CEO entrenchment.

II.3. Data and methods

In this section, we present an empirical examination of the relationship between ESO, BEOR, and CEO entrenchment. We take into account variables that may affect this relationship and we test our research hypotheses based on the 120 largest French listed companies (SBF 120 index).

II.3.1. Data

Our panel comprises two types of data sources. First, we used the INSEAD OEE Data Services (IODS) corporate governance, based on the 120 largest French capitalizations. This data was previously used by Ginglinger et al (2011). Among other variables we use in this paper and that we will detail further, the IODS dataset provides the proportion of equity hold by the employees and the BEOR. We match corporate governance variables with data from Thomson

Reuters Eikon. Our dataset is longitudinal and covers the 2009-2012 period. It starts in 2009 due to the gap between the 2006 act on BEOR and its actual enforcement. Indeed, the French government established a two-year period to enforce the law (end of enforcement: 31/12/2008). Our data include the CEO entrenchment variables between 2009 and 2012. The description of all the variables included in the regressions is given in table 1.

II.3.2. Dependent variables: CEO entrenchment

The degree of managerial entrenchment was operationalized using three variables (Linck et al, 2008). The first one encompasses the number of years the CEO has filled his/her position within the company (Hill and Phan, 1991). Several studies have shown that a high CEO longevity makes him/her more resistant to internal and external pressures from different stakeholders. This longevity allows the CEO to exert an influence, in his/her own favor, on the decision process leading to the governance structure (Hermalin and Weisbach, 2000; Boone et al, 2007). We also included the CEO's age variable. The CEO's age impacts his/her managerial entrenchment strategy, especially when retirement becomes closer (Goyal and Park, 2002). We finally introduce a last variable measuring CEO entrenchment using turnover (Faleye, 2007). This variable takes the value of one if there is a CEO dismissal for a given year and 0 otherwise.

II.3.3. Independent variables: employee stock and board employee ownership representation

ESO is a continuous variable that measures the level of ESO as the percentage of outstanding equity held by employees for a given year (Aubert et al, 2014; Kruse et al, 2010). The percentage of ESO as a proxy for its size is crucial to examine the relationship between ESO and CEO entrenchment (Kim and Ouimet, 2014). BEOR is measured by the total number of employee owners divided by the size of the board i.e. the number of people seating on the board (Fauver and Fuerst, 2006). In French firms, board employee representation cannot exceed a third of board members, and this configuration cannot be assimilated to the co-determination system (Guedri and Hollandts, 2008). The French corporate governance system is sometimes seen as a "hybrid" pattern (Aste, 1999), midway between systems without any employee representation and the German pattern where two-tiered boards and employee representation are compulsory.

II.3.4. Control variables: governance, financial and sectoral characteristics

We introduce two kinds of control variables in our regression analyses: corporate governance

variables and financial and sectoral characteristics. We first control for corporate governance characteristics: the ownership concentration, the French state ownership, the family ownership, the proportion of external directors on the board, the board size, the CEO duality and the presence of a two tiered board. These corporate governance variables may influence the focal relationship between the voice given to employees and CEO entrenchment. They are related to the ability of the CEO to be entrenched. The ownership concentration is measured by the largest shareholder (Hill and Snell, 1988). State and family ownership are two dummy variables taking the value of one if the French State or the founding family holds stocks of the company. These three ownership variables, by affecting management discretionary power, potentially affect CEO entrenchment. The board size is the total number of board members (Yermack, 1996) and is expected to increase entrenchment. The proportion of outside board members is also included (Raheja, 2005) because it is assumed to decrease entrenchment. We follow Adams et al. (2010) who define outside board members as people with any current or past relationships with the focal firm (as employees, supplier, client or consultant)⁶. CEO duality is also measured. Duality is when the CEO and chairman positions are not held by the same person. A last variable controls for the structure of the board. In France companies have the choice between a two tiered board or a unitary board structure. On another hand, we use variables controlling for financial and sectoral characteristics of the companies. The return on equity and the Tobin's Q account for accounting and financial performance respectively because they affect the managerial entrenchment strategy as predicted by the model of Aubert et al (2014). The sales variable captures size effects (Boone et al, 2007) and two dummies capture to which sector the company belongs. Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods). Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities).

[insert table 1.1 here]

II.3.5. Methods

We use panel GMM estimators to alleviate endogeneity concerns. Indeed, corporate governance research is subject to endogeneity issues since the investigated variables are

⁶ In addition, this proxy of outsidership encompasses the definition mainly used in French corporate governance codes (AFEP/MEDEF code, following Vienot and Bouton reports). Out of 120 listed companies, 108 made explicit reference to AFEP/MEDEF code to classify board members as outsiders.

endogenous by nature as it is extensively documented by Baghat and Jeffries (2005). GMM estimator was developed in a series of papers (Arellano and Bond, 1991; Blundell and Bond, 1998) and improves fixed-effects OLS estimates when endogenous variables are included in regressions (Wintoki et al, 2012). Endogeneity can occur in OLS regression and may be the consequence of five different issues: error-in-variables (measurement error), autoregression, omitted variables, simultaneous causality and reverse causality (Wintoki et al, 2012; Semadeni et al, 2014). In each of these scenarios, OLS regression reports biased coefficients. Instead of estimating the true relationship between the independent variable and the dependent variable, OLS regression mistakenly includes the correlation between the independent variable and the error term in the estimation of the independent variables' coefficients. As most empirical corporate governance studies, our research model is likely to be affected by endogeneity. First, we can never totally exclude the risk of simultaneous causality. Second, we cannot also exclude that if ESO and BEOR affect CEO entrenchment, the reverse can also occur. In fact, CEO with long tenure and close to retirement can have developed ESO for years. Regarding unobservable heterogeneity (factors that affect both dependent and independent variables), OLS regression results can report spurious but statistically significant estimates (Wintoki et al, 2012). In the case of dynamic relation between an explanatory variable and past realizations of the dependent variable, a fixed-effect regression may be biased and the direction of the bias will be opposite of the dynamic relation. GMM panel estimator exploits the dynamic relationship inherent in our explanatory variables and the dynamic relation between our independent variables and CEO entrenchment. This problem is severe in corporate governance research and again GMM estimators can provide unbiased estimates (Wintoki et al, 2012).

[insert table 1.2 here]

[insert table 1.3 here]

II.4. Results

II.4.1. Descriptive statistics

Descriptive statistics are displayed in table 1.2. The median age of CEOs is 56 years and they hold their position for 4,71 years on average. The average percentage of equity held by employees is 2,41%, which is higher than in previous studies: 1,62% for Guedri and Hollandts (2008) and 1,63% for Ginglinger et al (2011). This difference is due to the time window of our study which focuses on recent years whereas previous studies cover older periods, ending respectively in 2005 and 2008. The fact that ESO is, by essence, cumulative (Blair et al, 2000)

means that firms have experienced continuous ESO schemes for the last years. The mean proportion of BEOR for the whole sample corresponds to 2.2% and only 34 firms (out of 110) experienced BEOR. Regarding control variables, the average ownership concentration is 29.05%, 32.77% and 13.84% have respectively family or state ownership. 41.34% of board members are external and the average board size is 12,63 members which is very close to figures reported by Ginglinger et al (2011). 72% of CEOs also hold the position of chairman of the board and 24% of companies exhibit a dual structure with a two-tiered board structure. Mean comparison tests are also displayed in the table 1.2. We use the median level of ESO (1.03% of the equity) as a reference point of our comparisons tests. We then compare companies with ESO above ($>MED$ in the table 2) and below this level ($<MED$ in the table 2). T-tests are significant for the following variables: ROE (+), Sales (-), ownership concentration (+), external directors (-), board size (-), board employee representation (-) meaning that companies with higher levels of ESO tend to have lower ROE, higher sales, lower ownership concentration, more external directors, higher board size and more employee owners on the board.

The correlation matrix reported in table 1.3 does not show high correlations between exogenous variables with the exceptions of the correlation between board size and sales (0.49) and external directors and ownership concentration (-0.48). Although the first correlation seems obvious, the second suggests a substitution effect between ownership concentration that could be compensated by the presence of external directors.

II.4.2. Regression results

The data relates to 110 firms over a four-year period (2009–2012), we apply dynamic panel data econometrics techniques with robust standard errors (Greene, 2012). We report all the coefficients, standard errors and statistics in the tables 3 and 4.

[insert table 1.4 here]

Table 1.4 displays GMM regressions' estimates of ESO and control variables on CEO entrenchment measures: CEO age (models 1 to 3), CEO tenure (models 4 to 6) and CEO turnover (models 7 to 9). For each of these three dependent variables, we use a hierarchical approach where the first model only includes control variables, the second model introduces the ESO variable and the third model includes both the ESO and ESO squared variables in order to test the curvilinear relations. Overall results from models 3, 6 and 9 and the main

novelty of this paper is to show the presence of curvilinear relationships between ESO and CEO entrenchment. We use the Lind and Mehlun's(2010) method to check the presence of curvilinear effects and to compute the inflexion points⁷. We find that the inflexion points are the following: 11.73% for model 3, 17.77% for model 6, 11.94% for model 9. In the model 3, the relation between ESO and CEO age is U shaped whereas in models 6 and 9 measuring respectively the links between ESO and CEO tenure and between ESO and CEO turnover have the shape of an inverted U. In the case of the regressions on CEO age, we cannot affirm that the curvilinear effect is validated because the coefficient associated to ESO is only significant at the 10% level. Regarding the regressions computing the direct effect of ESO on CEO entrenchment, both models 6 & 9 display significant coefficients with CEO tenure and turnover. Other coefficients associated to our control variables are significant. For the regressions on CEO age (models 1 to 3), the following coefficients are significant: external directors (+), board size (+), CEO duality (-), state (-), Tobin's Q (+) and sales (-). Regressions' coefficients associated to ownership concentration, dual structure, family ownership are not significant. The regressions on CEO tenure (models 4 to 6) have the following significant coefficients: ownership concentration (-), external directors (+), board size (+), CEO duality (+), dual structure (-), ROE (+), sales (-) and Tobin's Q (+). Regressions' coefficients associated to ownership concentration, family and state ownership are not significant. For the regressions on CEO turnover (models 7 to 9), the following coefficients are significant: ownership concentration(-), CEO duality (< for models 7 and 8 and >0 for model 9), family ownership (-), ROE (-) and Tobin's Q (+).

[insert table 1.5 here]

Table 1.5 displays GMM regressions' estimates of BEOR and control variables on CEO entrenchment measures: CEO age (model 10), CEO tenure (model 11) and CEO turnover (model 12). In these regressions, we test the moderating effect of BEOR on the previously investigated relationships between ESO and CEO entrenchment. We do not document a direct significant relationship between BEOR and the three variables of entrenchment i.e. none of

⁷ Lind and Mehlun (2010) developed themselves a Stata module to test curvilinear relationships and compute the inflexion points of these relationships. For further details, see:
<http://econpapers.repec.org/software/bocbocode/s456874.htm>

the coefficients associated to BEOR is significant. We then test other specifications including interaction effects between ESO and BEOR following Guedri and Hollandts (2008). These authors suggest that BEOR moderates the curvilinear relationship between ESO and performance. They do not validate this hypothesis. Although our approach is very similar from a technical point of view, it differs from theirs in two ways: we do not use performance as the dependent variable but we focus directly on entrenchment and we use BEOR instead of board employee representation of employees whether they are employee owners or not. In this setting, we find significant relationships between our interaction terms (BEOR \times ESO and BEOR \times ESO²) and CEO tenure on one hand and CEO turnover on another. Coefficients associated to the BEOR variable are not significant when CEO age is the dependent variable. Again, the results suggest curvilinear relations. The Lind and Mehlun's (2010) method confirms curvilinear effects and compute the following inflexion points: 11.79% for model 10 (11.73% without including BEOR), 17.83% for model 11 (17.77% without including BEOR), 12.49% for model 12 (11.94% without including BEOR). The results show that BEOR positively moderates the effect of ESO on CEO tenure and CEO turnover. The interpretation of these results is that BEOR decreases the inflexion points of the curvilinear relationship for CEO age (but the coefficients associated to BEOR in this model are not significant) and increases the inflexion points for CEO tenure and turnover (with significant coefficients). Other coefficients associated to our control variables are significant. For the regressions on CEO age (model 10), the following coefficients are significant: ownership concentration (-), dual structure (-), family (+), ROE (+) and Tobin's Q (-). Regressions' coefficients associated to the other variables are not significant. The regressions on CEO tenure (models 11) have the following significant coefficients: external directors (+), board size (+), dual structure (-), family (+), ROE (+) and Tobin's Q (-). Regressions' coefficients associated to the other variables are not significant. For the regressions on CEO turnover (model 12), the following coefficients are significant: ownership concentration (-), dual structure (-), family (-), ROE (-) and Tobin's Q (-).

II.4.3. Robustness checks

We run additional tests to check the sensitivity of our analyses to alternative explanations. Endogeneity is an important concern for research in corporate governance and surely affect the relationship between ESO, BEOR and CEO entrenchment. But it is treated thanks to the GMM regressions. Also, some variables potentially affect the relation between ESO and BEOR and CEO entrenchment. We include three additional variables and run the GMM regressions:

total debt, CEO social capital and CEO human capital. Literature in corporate finance argues that debt may play a disciplinary role by reducing management discretionary power (Jensen, 1986). Previous papers incorporate governance suggest that CEO human and social capital affect corporate governance (Johnson et al, 2012). We measure the total debt as the total debt issued by the firm in Euros (source: Thomson Reuters Eikon), the human capital with a dummy variable taking the value of 1 when a CEO graduated from Ecole Nationale d'Administration, Ecole Polytechnique or Hautes Etudes Commerciales and 0 otherwise (source: IODS), the social capital is the total number of board of directors mandates in French listed companies held by the CEO. The coefficients associated with these three variables are not significant in most of the models. We therefore choose not to include these variables in the reported tables. We interpret these results as a consequence of the variance of CEO entrenchment explained by these variables as already captured by other variables. Debt is very correlated with other financial and accounting characteristics such as the size of the company, the ROE and the Tobin's Q already in our regressions. CEO human and social capital are very related to other variables we already have in our regressions such as ownership variables or governance variables. We also tried alternative combinations of variables and we only keep and report the models that provides the best results in terms of model fit and significance. Finally, we run regressions including CEO age and CEO tenure as independent variables following Goyal and Park (2002). The results remain the same.

II.5. Discussion

In this paper, we focus on the relationship between employee stock ownership (ESO), its potential representation into the board (BEOR) and corporate governance. Only few papers have suggested that ESO can be part of a broader form of employee power namely employees' voice. In the French context, employee owners have a fraction of capital but can also be (compulsorily) appointed at board level. Guedri and Hollandts (2008) and Ginglinger et al (2011) have examined the impact of such representation and found mixed results. Thus, there is a theoretical and empirical debate in the corporate governance literature about the impact of ESO. We take into account the two literature streams and suggest that ESO and BEOR exhibit two opposite forces. The "bright" side suggests that ESO and its potential board membership increases transparency, decreases the level of asymmetric information and ensures more efficient corporate governance mechanisms. ESO is often viewed as a management and financial tool that increases corporate performance, decreases labor conflicts and finances corporate growth. But as suggested by the other stream, ESO can be seen as a powerful

entrenchment tool that helps CEOs to extend their tenure and repel threats of dismissal (through market for corporate control). In addition, significant ESO levels push away rather towards shareholder-value maximization (Faleye et al, 2006). Combining two latent and countervailing linear functions (see Haans et al, 2016 for further details), we suggest that the bright and dark side of ESO translate into a non-monotonic relationship with our focal variable, namely CEO entrenchment. In this paper, we focus mainly on CEO entrenchment since the corporate governance literature has shown that the CEO function is central for corporate governance efficiency (Joseph et al, 2014; Tihanyi et al, 2014).

To our knowledge, our paper is the first to empirically test the focal relationship in the French context since the adoption of (legal) compulsory BEOR. France offers a unique perspective to test a mix of voluntary ESO mechanisms (French ESO schemes are based on voluntary participation) and compulsory mechanism (BEOR). The French context represents a hybrid, and somewhat unique case, apart from US corporate governance system (with no board employee board membership) or German codetermination regime (with compulsory trade-union board membership (Aste, 1999; Ginglinger et al, 2011; see also Tihanyi et al, 2014 for a discussion). Nevertheless, we believe that our results are generalizable to other advanced economies for several reasons. Ginglinger et al (2011) underline that French listed companies, are comparable firms with in all European and North American countries since these firms are highly visible companies operating in competitive global industries. In addition, the capital breakdown of French listed companies is diversified and internationalized as non-French investors own over half of the stock of private companies (Ginglinger et al, 2011). The unique mix of ESO participation and compulsory board employee owners' appointments in France give us the opportunity to test two dimensions of employees' power (by collectively holding a fraction of capital and/or a seat into the board of directors).

Our paper also contributes to the empirical literature since significant evidence of the relationship between employee ownership's voice and CEO entrenchment is highlighted. Our models reveal non-monotonic relationships between ESO and CEO entrenchment (measured by CEO age, CEO tenure and CEO turnover). Additional tests also show that BEOR moderates the ESO – CEO entrenchment relationship, for two dimensions of CEO entrenchment (CEO tenure and turnover), by fostering the impact of ESO on CEO entrenchment. Results from model 3, 6 and 9 provide a strong support for our first hypothesis. We mainly observed a significant inverted U-shaped relationship between ESO and CEO entrenchment. Results from models 6 and 9 underline that ESO could be an interesting tool for CEOs who want to enhance

their entrenchment. Our results also show a curvilinear (U-shaped) relationship between ESO and CEO age. Taken together, our results suggest that ESO can be an effective entrenchment tool, up to a certain point. Beyond the inflexion points, CEOs must be well entrenched and/or other governance mechanisms may be at play. Regarding CEO age, our results suggest that ESO could be less interesting for CEOs near retirement but could be more profitable for CEOs that go beyond the retirement age. Nevertheless, further research is clearly needed to go deeper in the understanding of such an apparent “paradox”. Results from models 10 to 12 provide also a strong support for our second hypothesis. For these models, our results highlight the presence of significant and positive moderating impact of BEOR. Our results show that ESO and BEOR contribute to explain our variables capturing CEOs’ entrenchment. Our results underline the combined effect of employee voice consisting in stock ownership and board membership. By giving additional voice (board membership), ESO offers an additional tool that give a potential entrenchment tool to CEOs. Theoretically, employee owners may more easily enter into implicit contracts with CEOs (Pagano and Volpin, 2005) in return for favorable corporate policies (Cronqvist et al, 2009; Acharya et al, 2011). Broadly speaking, recent papers in the literature point out non-monotonic relationships between ESO and corporate performance or corporate governance variables (Faleye and al, 2006; Guedri and Hollandts, 2008; Kim and Ouimet, 2014) and our paper gives new evidence on the mixed impact of ESO. Our purpose was to fill a gap in the literature, showing that ESO affects CEO entrenchment, and not only in specific cases of takeover threats. ESO is mainly considered in the literature as a “friendly” fraction of capital for CEOs (Gamble, 2000) but few papers have tried to examine empirically the impact on corporate governance except in special cases such as takeover and broadly the market for corporate control (Kim and Ouimet, 2014). Our paper tries to test the impact of ESO in regular corporate governance context. Furthermore, we provide additional test of BEOR and highlight the moderating impact of such board representation.

Overall results (from direct and moderating effects) are interpreted as an evidence of bilateral entrenchment since employee owners are incentivized to maintain implicit contracts with their CEO until he/she retires. To the best of our knowledge, our results could also be interpreted with regard to former empirical studies in the French context. Guedri and Hollandts (2008) have shown the curvilinear impact of ESO on firm performance for a larger index of listed companies (SBF 250). However, they do not find support for BEOR whereas our results suggest that BEOR plays a role. Moreover, our results somewhat contrast with findings of

Ginglinger et al (2011). Indeed, their observations show that board employee representation could at least appear value-neutral, and in some circumstances value-enhancing for firm performance. They found “that directors elected by employee shareholders increase firm valuation and profitability, but do not significantly impact corporate payout policy” (Ginglinger et al, 2011; p. 868).

Our results highlight the mixed impact of ESO. Some authors have stressed the dark side of employee voice regarding corporate policies (Chen et al, 2012; Faleye et al, 2006) whereas employee voice may also be seen as an internal governance system (Acharya et al, 2011) that contributes to increase the level of transparency (Bova et al, 2015). From a corporate governance perspective, recent papers argue that ESO and employee voice still play a major role in terms of managerial entrenchment (Aubert et al, 2014). We do not directly test the impact on corporate performance or profitability but our results show that for corporate governance considerations, ESO exhibits mixed impacts since it contributes to foster CEO entrenchment in some circumstances. Thus our paper contributes to our overall understanding of the full consequences of ESO.

Combining overall results in the literature, we assert, as Fauver and Fuerst (2006), that ESO may enhance productivity, corporate performance and firm value (Kaarsemaker, 2006), though, in some cases, excessive levels of ESO may have a dark side, with potential negative impacts on CEO entrenchment. This notion of excessive levels of ESO is reflected in recent literature, suggesting that an optimal balance should be reached (Aubert et al, 2014; Kim and Ouimet, 2014; Guedri and Hollandts, 2008; Faleye et al, 2006). Our results, showing non-monotonic relationships, give new evidence on the likelihood of optimal configuration of ESO, regarding corporate performance and corporate governance considerations.

Our results have also managerial implications. In France, as in many developed countries, ESO is increasing and is well developed. For example, 23 Millions of American are employee owners (20% of total employee workforce - National Center for ESO, 2014). In France, 3.5 Millions of French employees hold their company stocks. Thus, we need to clearly examine the full consequences of ESO on corporate governance since this phenomenon is still increasing. If the balance shifts in the right (bright) side, main stakeholders will give strong support to such ESO schemes. If not, we can expect that executive managers and main shareholders will prefer to slowdown its current development. In our sample, the mean for firms with ESO is 2.4% of equity, not far from the 3% threshold of compulsory BEOR. Thus, external shareholders must carefully examine full consequences of ESO development within

the firm and its capital breakdown.

Even though this paper contributes to the literature on ESO and corporate governance, it has several limitations. First, our study is limited to the largest French listed companies by focusing on the 120 biggest capitalizations. We acknowledge that ESO can be implemented in non-listed firms but for France, 99,6% of ESO is concentrated in listed companies (DARES – Statistics Institute of the French Ministry of Labour). Another interesting point for the SBF 120 is that this index is well balanced since almost half of this index is composed with companies that have implemented ESO schemes. Second, our study only spans on four years since we precisely start our study the year BEOR became compulsory. Consequently, our results must be interpreted cautiously. We think that the continuous development of ESO will help to confirm our results.

Further research is nevertheless needed to facilitate deeper understanding of what would be the potential combination of overall employee voice (through ESO) and BEOR. Except for Germany and the co-determination system, which is well documented in the literature (Fauver and Fuerst, 2006; Kim et al, 2014), we obtained fragmented empirical results based on hybrid cases such as the French system (Guedri and Hollandts, 2008; Ginglinger et al, 2011). Some authors explore the potential combination of employee voice in terms of shareholding power and board representation. Another interesting stream in corporate governance literature can focus on the employee power into the board. For instance, a recent paper from Balsmeier et al (2013), using game-theoretical and political models give us an opportunity to examine power relationships in the boardroom in the presence of employee (ownership) representation. To sum up, it seems obvious that in the current context a substantial part of employee voice lies in shareholding power, since board employee representation is modest⁸. Nevertheless, comparisons with the current German co-determination system should be made with caution because the French institutional and legal environment are different, and results obtained with German parity firms should be interpreted taking into account their specific context.

An important avenue for future research obviously regards the financial literature. CEOs are strongly incentivized to establish implicit contracts with employee owners (Hellwig, 2000; Pagano and Volpin, 2005). Recent papers (Aubert et al, 2014) underline the fact that ESOs may be a powerful tool for CEOs in addition to being a financing mean, which can be attractive both for low-performing CEOs or newly appointed ones. Further research is also required

⁸ Only 34 firms on 110 have at least one board employee member; mean of board employee representation = 2,14 with board size mean at 14,63.

regarding the determinants of corporate financing policies (CEO decision-making). Is ESO an optimal tool allowing to finance corporate growth and helping guard CEOs and firms against hostile takeovers?

II.6. Conclusion

This study examines how ESO and BEOR affects CEO entrenchment. The French case is interesting in that it combines a mandatory board employee representation with a widespread ESOCulture among listed firms. A comprehensive sample was used to assess the impact of ESO and BEOR on CEO entrenchment. Findings indicate that ESO exhibits non-monotonic (curvilinear) relationships with CEO entrenchment. Other tests underline that BEOR plays a substantial role by providing CEOs an additional entrenchment tool. Overall results show that ESO may be seen as a double-edged sword. On one hand, previous research has clearly documented a positive impact at the micro-level of organizations (implication, satisfaction, productivity, psychological ownership, etc.). On the other hand, corporate governance literature questions the impact of employee voice on corporate governance and corporate valuation. Acharya et al (2011) argue that a model of "internal governance", where subordinate managers monitor top management, may mitigate agency problems. However, ESO and board-level employee representation may operate as an insurance mechanism (Kim et al, 2014) that ensures the enforcement of implicit contracts (Pagano and Volpin, 2005).

Following Fauver and Fuerst (2006), we argue that excessive levels of employee voice, tend to impact labor itself, which becomes an agency cost. Indeed, employees pursue their own interests, exert their influence to maximize payroll rather than stock price, creating a situation in which monitors themselves need to be monitored. This concept of "excessive" employee voice has been described in the late literature, showing that the development of ESO must be carefully managed.

Appendix 1: Employee ownership and CEO entrenchment

Table 1.1 : Description of variables

Variable name	Source	Description	Measurement unit
Dependent variables: CEO entrenchment			
CEO age	IODS corporate governance	CEO age is the age of CEO	Years
CEO tenure	IODS corporate governance	CEO tenure is the time the CEO has spent in position	Years
CEO turnover	IODS corporate governance	CEO turnover indicates if a CEO dismissal happens (1) or not (0)	Binary 0/1
Independent variables: Employee stock ownership and employee stock ownership representation on the boards			
ESO	IODS corporate governance	ESO is the percentage of shares held by employees.	Percentage
BEOR	IODS corporate governance	BEOR is the proportion of employee owners seating on the board	Percentage
Control variables: corporate governance and financial characteristics			
Own. concentration	IODS corporate governance	Own. Concentration measures the percentage of equity held by the largest shareholder	Percentage
External directors	IODS corporate governance	External director is the number of external directors divided by the total board members	Percentage
Board size	IODS corporate governance	Board size is the total number of board members	Number
CEO duality	IODS corporate governance	CEO duality is the dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise	Binary 0/1
Dual Structure	IODS corporate governance	Dual structure takes the value of 1 if the company has a two tiered board structure and 0 otherwise	Binary 0/1
State	IODS corporate governance	State is the dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise	Binary 0/1
Family	IODS corporate governance	Family is a dummy variable taking the value of 1 if the company is owned by the family and 0 otherwise	Binary 0/1
ROE	Thomson Reuters Eikon	ROE is the return on equity	Log of a percentage
Sales	Thomson Reuters Eikon	Sales is the total sales of the company in euros	Log of the amount in Euros
Tobin's Q	Thomson Reuters Eikon	Tobins' Q is defined 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	Proportion
Sec1	Thomson Reuters Eikon	Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods)	Binary 0/1
Sec2	Thomson Reuters Eikon	Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities).	Binary 0/1

Table 1.2: Descriptive statistics of the variables included in the regression analyses**Panel A: Continuous variables**

	N			MEAN			T-test	MEDIAN (MED)			SD			MIN.			MAX.		
	<MED	>MED	All	<MED	>MED	All	<MED - >MED	<MED	>MED	All	<MED	>MED	All	<MED	>MED	All	<MED	>MED	All
CEO age	223	251	474	55.48	55.92	55.72	-0.7473	55	56	56	6.90	5.89	6.38	41	43	41	76	72	76
CEO tenure	223	251	474	4.84	4.58	4.71	0.72	4	4	4	4.01	3.74	3.87	0	0	0	17	17	17
ESO	223	222	445	.34	4.50	2.41	-11.5***	.23	2.59	1.03	.34	5.37	4.33	0	1.04	0	1.03	28.7	28.7
BEOR	214	211	476	0.7	3.7	2.2	-5.28***	0	0	0	3.86	8.15	6.5	0	0	0	28.54	36.84	36.84
Own. concentration	222	220	442	36.01	22.03	29.05	7.52***	31.44	17.4	26	20.89	18.05	20.72	4.42	2.5	2.5	78.96	84.51	84.51
External directors	223	221	444	37.64	45.07	41.34	-3.15***	32.34	42.55	37.81	23.09	26.41	25.05	0	0	0	100	94.76	100
Board size	223	221	444	11.73	13.54	12.63	-5.59***	11	14	12	3.23	3.55	3.51	4	3	3	21	23	23
ROE	207	239	446	11.55	9.59	10.50	2.09**	10.35	9.58	9.78	11.43	8.18	9.86	-17.04	-10.73	-17.04	66.38	38.1	66.38
Sales	223	252	475	6129969	2.2e+7	1.4e+7	-7.73***	1914300	9387000	4220410	1e+7	3e+7	2.4e+7	1119	121972	1119	6.7e+7	1.8e+8	1.8e+8
Tobin's Q	198	227	425	1.16	.79	.97	4.75***	.85	.72	.77	1.07	.41	.81	.04	.054	0.04	8.02	2.40	8.02

Panel B: Dummy variables

	Yes (x=1)	No (x=0)
CEO turnover	9.09	90.91
CEO duality	72.05	27.95
Dual Structure	72.94	27.06
Family	32.77	67.23
State	13.24	86.76
Sec1	63.87	36.13
Sec2	53.78	46.22

The sample consists of all the SBF 120 Index firms over the period 2009-2012. This table reports the descriptive statistics of the variables included in the analyses. ESO is the percentage of shares held by employees. CEO age is the age of CEO in years. CEO tenure is the number of years in position. CEO turnover is a dummy variable taking the value of 1 if a CEO dismissal happens and 0 otherwise. ROE is the return on equity. Sales is the total sales of the company in euros. Own. Concentration measures the percentage of equity held by the largest shareholder. External director is the number of external directors divided by the total board members. Board size is the total number of board members. CEO duality is the dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Dual structure takes the value of 1 if the company has a two tiered board structure and 0 otherwise. Family is a dummy variable taking the value of 1 if the company is owned by the family and 0 otherwise. State is the dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. Tobins' Q is defined 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. Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods). Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities). For each variable, we compute the statistics when the level of employee ownership is below the median (<MED) and above the median (>MED). ***, **, * indicate coefficients significant at the 1%, 5%, and 10% levels, respectively.

Table 1.3: Correlation matrix of the variables included in the regression analyses

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. CEO age	1													
2. CEO tenure	0.05*	1												
3. ESO	0.05	-0.09	1											
4. ROE	-0.02	0.17***	-0.06	1										
5. Sales	0.22***	-0.03***	0.32***	-0.14*	1									
6. Own. concentration	0	-0.12**	-0.18***	0.05	-0.14**	1								
7. External directors	-0.04	0.16**	-0.06	-0.02	0.10***	-0.48***	1							
8. Board size	0.18***	-0.06**	0.18***	-0.05	0.49***	0.02	-0.28***	1						
9. BEOR	0.16*	-0.07**	0.03	-0.10**	0.24***	0.25**	-0.23***	0.37***	1					
10. Tobin's Q	0.01	0.1	-0.13**	0.27***	-0.26***	0.07***	-0.13***	-0.17***	-0.09	1				
11. CEO turnover	-0.07**	-0.34***	0.01	-0.15***	0.03	0.05	-0.07	-0.01	0.04	-0.05	1			
12. CEO duality	0.13	0.02	0.13	0.06	0.12*	-0.01	-0.17*	0.21***	0.12**	-0.005	-0.1*	1		
13. Dual Structure	-0.14**	-0.14***	-0.03	0.03	0.08**	-0.05	-0.08**	0.13***	-0.08	-0.07	-0.009	0.18***	1	
14. Family	-0.05	0.05	-0.20***	0.051	-0.29***	0.19***	-0.15***	-0.18***	-0.19***	0.2***	-0.06	-0.09***	0.09	1
15. State	0.09**	-0.03*	0.11*	-0.04	0.18	0.04	-0.09	0.35	0.52***	-0.1**	0.03	0.03	-0.005	-0.28***

The sample consists of all the SBF 120 Index firms over the period 2009-2012. This table reports the correlation matrix of the variables included in the analyses. ESO is the percentage of shares held by employees. CEO age is the age of CEO in years. CEO tenure is the number of years in position. CEO turnover is a dummy variable taking the value of 1 if a CEO dismissal happens and 0 otherwise. ROE is the return on equity. Sales is the total sales of the company in euros. Own. Concentration measures the percentage of equity held by the largest shareholder. External director is the number of external directors divided by the total board members. Board size is the total number of board members. CEO duality is the dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Dual structure takes the value of 1 if the company has a two tiered board structure and 0 otherwise. Family is a dummy variable taking the value of 1 if the company is owned by the family and 0 otherwise. State is the dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. Tobins' Q is defined 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. Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods). Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities). ***, **, * indicate coefficients significant at the 1%, 5%, and 10% levels, respectively.

Table 1.4: Employee stock ownership and CEO entrenchment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	CEO age	CEO age	CEO age	CEO tenure	CEO tenure	CEO tenure	CEO turnover	CEO turnover	CEO turnover
ESO		0.09 (0.30)	-1.57* (-1.87)		-0.02 (0.02)	0.16*** (0.03)		-0.02** (0.01)	0.006** (0.003)
ESO ²			0.081** (2.18)			-0.007*** (0.002)			-0.0004* (0.0002)
Own. concentration	0.12* (0.07)	0.12* (0.07)	0.07 (1.27)	-0.01 (0.01)	-0.01*** (0.003)	0.01 (0.02)	-0.001 (0.001)	-0.003** (0.001)	-0.001*** (0.0002)
External directors	0.28*** (0.10)	0.28*** (0.09)	0.20*** (2.71)	0.02** (0.01)	0.01*** (0.005)	0.03** (0.01)	-0.002 (0.003)	-0.004 (0.003)	-0.0004 (0.001)
Board size	6.80* (1.98)	6.28*** (1.71)	3.91*** (3.64)	-0.004 (0.08)	0.02 (0.02)	0.04*** (0.01)	-0.013 (0.01)	-0.01 (0.01)	-0.02 (0.02)
CEO duality	-6.40*** (3.62)	-5.48* (3.14)	-3.27 (-1.27)	1.00* (0.54)	1.10*** (0.17)	1.03*** (0.10)	-0.02*** (0.006)	-0.03*** (0.001)	0.16** (0.08)
Dual Structure	-4.20 (2.77)	-4.23* (2.24)	-3.22 (-1.43)	-1.52*** (0.52)	4.40*** (0.22)	-1.31*** (0.05)	0.06*** (0.01)	0.01 (0.02)	0.01 (0.03)
Family	-1.96 (3.02)	-1.76 (2.58)	-1.43 (-0.93)	0.0006 (0.56)	-0.13 (0.25)	-0.39*** (0.14)	-0.08*** (0.01)	-0.08*** (0.006)	-0.04*** (0.003)
State	-16.62*** (6.47)	-14.30*** (2.74)	-8.29** (-2.00)	0.31 (0.75)	0.19 (0.42)	-0.04 (0.35)	0.06 (0.11)	0.08 (0.12)	0.22 (0.20)
ROE	-2.03 (1.62)	-2.23 (1.69)	-1.57 (-1.02)	0.56* (0.34)	0.48*** (0.18)	0.50*** (0.13)	-0.09*** (0.03)	-0.07** (0.04)	-0.06*** (0.007)
Sales	-6.32*** (2.26)	-5.89*** (2.02)	-2.76** (-2.11)	-0.13 (0.19)	-0.17*** (0.04)	-0.23*** (0.06)	-0.0008 (0.01)	0.02 (0.02)	-0.003 (0.01)
Tobin's Q	2.17 (1.76)	2.06 (1.62)	1.54*** (0.98)	0.39 (0.32)	0.47*** (0.08)	0.48*** (0.04)	0.04*** (0.001)	0.01** (0.007)	0.03*** (0.001)
Sec1	12.90*** (4.60)	13.19*** (4.22)	10.18 (3.01)	1.52** (0.69)	1.65*** (0.29)	2.03*** (0.48)	-0.09 (0.11)	-0.10 (0.10)	-0.10 (0.07)
Sec2	14.33*** (5.32)	13.36*** (4.72)	10.22*** (2.64)	-0.45 (0.67)	-0.15 (0.10)	0.10 (0.27)	-0.09 (0.13)	-0.04 (0.10)	-0.12 (0.11)
Constant	51.36*** (15.96)	50.80*** (14.83)	39.39*** (2.85)	4.11 (3.00)	-1.52*** (1.26)	3.34** (1.56)	0.66** (0.33)	0.46* (0.24)	0.50*** (0.054)
R ²	0.16	0.16	0.16	0.15	0.15	0.15	0.06	0.06	0.06
J-statistique (p-value)	0.32	0.29	0.05	0.59	0.20	0.33	0.36	0.45	0.63
Nb of instruments	18	20	23	18	20	19	18	18	23
Observations	229	238	149	238	229	230	149	149	148

This table reports the GMM estimates. The dependent variables are the CEO age, the CEO tenure and the CEO turnover. The sample consists of all the SBF 120 Index firms over the period 2009-2012. ESO is the percentage of shares held by employees. ROE is the logarithm of the return on equity. Sales is the logarithm of the total sales of the company in euros. Own. Concentration measures the percentage of equity held by the largest shareholder. External director is the number of external directors divided by the total board members. Board size is the total number of board members. CEO duality is the dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Dual structure takes the value of 1 if the company has a two tiered board structure and 0 otherwise. Family is a dummy variable taking the value of 1 if the company is owned by the family and 0 otherwise. State is the dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. Tobins' Q is defined 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. Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods). Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities). The table presents the coefficients, robust standard errors t-values and then the adjusted R². We report R² of the fixed-effects OLS regressions. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the 1%, 5%, and 10% levels, respectively.

Table 1.5: Employee stock ownership, CEO entrenchment and representation of employee owners on the board

	(10) CEO age	(11) CEO tenure	(12) CEO turnover
ESO	-2.36*** (0.17)	-0.32*** (0.04)	-0.03*** (0.01)
ESO ²	0.07*** (0.00)	0.02** (0.00)	0.001*** (0.00)
BEOR	-62.19*** (25.45)	-11.19*** (1.32)	-1.82*** (0.51)
BEOR*ESO	8.89 (13.13)	6.37*** (0.39)	0.96*** (0.22)
BEOR*ESO ²	-0.23 (0.52)	-0.25*** (0.00)	-0.04*** (0.01)
Own. concentration	-0.16*** (0.00)	0.01 (0.02)	-0.003*** (0.001)
External directors	-0.02 (0.12)	0.08*** (0.02)	-0.005 (0.003)
Board size	1.24 (1.19)	0.11** (0.05)	-0.03 (0.02)
CEO duality	11.50 (16.04)	1.41*** (0.16)	-0.01* (0.01)
Dual Structure	-39.22*** (7.85)	-1.44*** (0.35)	-0.05*** (0.01)
Family	4.87*** (1.31)	0.32*** (0.12)	-0.06*** (0.03)
State	-1.46 (5.07)	0.70* (0.38)	0.10 (0.10)
ROE	1.27*** (0.07)	0.27*** (0.07)	-0.09*** (0.03)
Sales	1.24 (1.32)	-0.33*** (0.03)	0.02 (0.02)
Tobin's Q	-3.46*** (0.26)	0.44*** (0.14)	-0.01*** (0.00)
Sec1	2.33** (1.07)	2.04*** (0.69)	-0.13 (0.11)
Sec2	6.19*** (0.02)	0.02 (0.29)	-0.11 (0.12)
Constant	31.23*** (7.78)	2.47 (3.20)	0.71*** (0.26)
R ²	0.16	0.15	0.07
J-statistique (p-value)	0.06	0.18	0.67
Nb of instruments	19	28	24
Observations	150	148	150

This table reports the GMM estimates. The dependent variables are the CEO age, the CEO tenure and the CEO turnover. The sample consists of all the SBF 120 Index firms over the period 2009-2012. ESO is the percentage of shares held by employees. BEOR is the proportion of employee owners seating on the board. ROE is the logarithm of the return on equity. Sales is the logarithm of the total sales of the company in euros. Own. Concentration measures the percentage of equity held by the largest shareholder. External director is the number of external directors divided by the total board members. Board size is the total number of board members. CEO duality is the dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Dual structure takes the value of 1 if the company has a two tiered board structure and 0 otherwise. Family is a dummy variable taking the value of 1 if the company is owned by the family and 0 otherwise. State is the dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. Tobins' Q is defined 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. Sec1 is a dummy taking the value of 1 if the company belongs to the industrial sector (raw material, industry, consumption goods). Sec2 is a dummy taking the value of 1 if the company belongs to the service sector (health services, consumer services, telecommunication, services to communities). The table presents the coefficients, robust standard errors t-values. We report R² of the fixed-effects OLS regressions. N is the number of non-missing observations in the sample. ***, **, * indicate coefficients significant at the 1%, 5%, and 10% levels, respectively.

Chapter III: The Impact Of Employee Stock Ownership And Board Representation On The Cost Of Equity: French Firm's Case⁹

Abstract:

This research examines the relationship between employee stock ownership (ESO), employee representation on the board of directors (BEOR) and the implied cost of capital. We investigate whether variation in firm-level corporate governance mechanisms plays an important role in explaining the firm's cost of capital. Using a sample of French firms listed in the SBF 120 index from 1999 to 2017, we find evidence of an inverted U-shaped relationship between ESO and the implied cost of equity. Our empirical results show that the ESO-cost of equity relationship is positive for a low percentage of ESO and negative for a higher percentage of ESO. Further analysis shows that the combined effect of ESO with employee representation on reducing the cost of equity is significantly stronger. Given the inconclusiveness of existing literature about employee ownership, this research provides an alternative and more appropriate way to investigate the impact of employee ownership on the firm's cost of equity capital in the French context.

Keywords: Employee stock ownership; employee representation; implied cost of equity; corporate governance; cost of capital; inverted U-shaped.

JEL: J33, J54, J63, L62, L64, M52

⁹ The paper has been presented in the 2019 French finance association conference and in the 2019 International corporate governance.

Résumé

Cette recherche examine la relation entre l'actionnariat salarié (AS), la représentation des salariés au conseil d'administration (RSCA) et le coût implicite du capital. Nous cherchons à savoir si la variation des mécanismes de gouvernance au niveau de l'entreprise joue un rôle important dans l'explication du coût du capital de l'entreprise. En utilisant un échantillon d'entreprises françaises cotées dans l'indice SBF 120 de 1999 à 2017, nous trouvons la preuve d'une relation en U inversé entre l'AS et le coût implicite des fonds propres. Nos résultats empiriques montrent que la relation AS-coût des fonds propres est positive pour un faible pourcentage d'AS et négative pour un pourcentage plus élevé d'AS. Une analyse plus approfondie montre que l'effet combiné de l'AS et de la représentation des employés sur la réduction du coût des capitaux propres est nettement plus fort. Compte tenu du manque de clarté de la littérature existante sur l'actionnariat salarié, cette recherche offre une manière alternative et plus appropriée d'étudier l'impact de l'actionnariat salarié sur le coût des fonds propres de l'entreprise dans le contexte français.

Mots-clés : Actionnariat salarié, représentation des employés, coût implicite des capitaux propre, gouvernance d'entreprise, coût du capital, forme de U inversé.

III.1. Introduction

Employee share ownership is a widespread phenomenon in developed countries and enjoys broad public support. Employee share ownership allows employees "*to build a portfolio of securities and acquire, often under advantageous conditions, shares in the company where they work.*" (Desbrières, 2002, p. 255). In the United States, 14 million employees claim to own shares in the company, of whom 10.8 million are active participants and hold total assets of nearly \$1.3 billion (National Center for Employee Ownership, 2015). In Europe, the number of employee shareholders in 2017 amounted to almost 36 million, with 389 billion euros held by employees in their company (European Federation of Employee Share Ownership, 2017). With 3.7 million employee shareholders in 2017 (for 47.2 billion Outstanding Employee Share Ownership Fund: AFG 2017), France remains one of the largest European countries where employee share ownership is the most developed, thanks, in part, to support from successive governments (Aubert and Rapp, 2010).

Moreover, the presence of employees in the capital has enabled French companies to face different economic and financial crises by allowing reinforcement of their own funds (Guery and Pendleton, 2016). French context is characterized by two major elements. First, the growing weight of employees in the capital of companies: at the end of 2017, 86% of SBF 120 companies have employee share ownership for their workers. Secondly, employee shareholders are also directly involved in the governance of the company, on the board of directors or supervisory board. The law of December 30, 2006 imposed board employee ownership representation (BEOR) when employee shareholders hold more than 3% of the capital. Employee representation is present on boards covering 66% of employment in large French companies. Due to the recurrence of employee share ownership plans, employees have become key players due to increasing holdings of shares in their companies and direct representation in governance bodies (Desbrières, 2002).

This study was performed on French listed firms on the SBF 120 index for the following reasons: the French corporate governance system offers a unique model to test a mix of voluntary employee ownership participation and the compulsory mechanism of BEOR. This hybrid case of corporate governance in France is different from the US corporate governance system with no required board employee membership, as well as from the German codetermination regime with compulsory trade-union board membership (Aste, 1999; Ginglinger et al., 2011; Tihanyi et al., 2014). Likewise, what might make the French case a

good case of study is the high levels of concentration, where the main owner has effective control over the company because he or she has absolute control or is not controlled by a second significant shareholder. Besides, French civil law has the weakest protection of small and outside investors for both shareholders and creditors (La porta et al., 2000). Moreover, the French context is characterized by the important development of employee ownership and leads the European Union in this area. According to the French Federation of Employee Shareholders (FAS, 2017), 86% of listed firms set employee shareholders ownership plans. The average rate of capital held by employees is 4% with nearly 2 million employees. The value of employee shareholders shares is around 72.7 billion euros and represents 58% of employee's savings. Despite this general acceptance of the important role of employee stock ownership (ESO) in corporate governance, academic research has remained inconclusive regarding the extent to which employee ownership can influence firm performance and shareholder value. Part of the literature confirms that employee ownership is considered to be a corporate governance mechanism that leads to more transparent financial information and more public disclosure of private information. This reduces risks faced by shareholders and results in an increase of firm value (Dondi, 1992; Pugh et al., 1999; Gamble, 2000; French, 1987; Conte and Svejnar, 1990). However, other studies have highlighted negative effects of employee ownership on development, strategic choices and corporate performance. The employee shareholders would tend to support strategies that favor employment and wage increases, to the detriment of the creation of shareholder value (Faleye et al., 2006). Their participation in the capital and potentially in the governance would allow them to influence business strategies (Ginglinger et al., 2011) and several recent empirical studies highlight negative effects of ESO on corporate governance and firm performance (Chang and Mayers, 1992; Chaplinsky and Niehaus, 1994; Park and Song, 1995; and Pugh et al., 1999).

Recent literature on the subject does not address questions about the overall impact of the rise of employee ownership in the capital of listed companies (Kruse et al., 2010 Guedri and Hollandts, 2008). In this paper, we try to fill this gap in the literature and examine the effect of employee ownership on corporate firm value using a new alternative approach. We focus on the agency problem between employees and shareholders to explore the relationship between employee ownership and a firm's equity capital. Rather than measuring firm capital performance using variables such as Tobin's q ratio or return on equity (ROE), we investigate the direct relationship between ESO and the cost of equity capital. We consider that employee shareholders, like any shareholder, are likely to affect the governance and strategic choices of

their companies from the moment they hold a significant stake in the capital, coupled with a potential representation at the heart of governing bodies. Our research uses a sample of 105 large listed French firms from 1999 to 2017. We apply the generalized method of moments (GMM) fixed-effects methodology to settle the potential multicollinearity problem associated with various corporate governance variables. We find that variations of employee stock ownership and the presence of employee owners on the board of directors significantly affect the firm's cost of equity and thus implicitly affect firm value. More precisely, we document an inverted U-shaped relationship between ESO and several estimated costs of equity. Results emphasize that ESO is positively related to cost of equity across the low to moderate levels of ESO, and is negatively related to cost of equity across the moderate to high levels of ESO. In addition, the employee representation combined with moderate ESO has a strong negative relationship with cost of equity. This new finding underlines the important role of employee ownership in corporate governance mechanisms.

Our research intends to contribute to corporate governance by giving insight into the real influence of employee ownership and their potential representation on shareholder equity's capital. Our contribution in this article is part of the continuity of Aubert et al. (2017) work to prove that employee ownership hides two controversial effects, which can directly reduce or grow the cost of equity capital, and hence, increase or decrease the firm's cost of capital dependent on the size of stake they hold. We aim to understand whether the dynamics of employee share ownership (the dark and bright sides of ESO) hold with the ex-ante cost of equity implied in stock prices and analysts' earnings forecasts. Furthermore, our study adds to the previous literature (Faleye et al. 2006 in the United States and Ginglinger et al. 2011 in France) by investigating the interaction effect of employee representation on the board of directors (BEOR) on the relationship between employee ownership and the cost of capital. Our results tend to demonstrate a significant effect of combining governance mechanisms (ESO and BEOR) on a firm's cost of equity.

The remainder of the paper is structured as follows: Section 2 provides a review of the literature. Section 3 describes our sample and explains the regression variables. Section 4 presents the results from our empirical analysis. Section 5 discusses findings and highlights our contributions to this area. Finally, Section 6 concludes the paper.

III.2. Literature review

III.2.1. Employee ownership and cost of equity

Agency theory refers to a situation in which agents act on behalf of the principal of the corporation, often in detention of financial resources or legal rights. This approach is considered to be one of the oldest theories in the literature of management and economics (Daily et al., 2003; Panda et al., 2017; Wasserman, 2006). Agency theory attempts to summarize and solve two interrelated fundamental problems in contractual relationships between principals and agents. As highlighted by Jensen and Meckling in the mid-seventies (1976), the separation between ownership and management leads to an agency problem between the two main groups of stakeholders. The first problem relates to the conflict of interests between principals (i.e., shareholders) and agents (i.e., managers) and appears when managers pursue self-interest objectives different from maximizing the firm's shareholder value, such as status, greater salaries, private bonuses, and permanence in the company. In such cases, information asymmetries rise because shareholders cannot directly get precise information from managers. It also potentially creates a moral hazard problem. The principal must control and monitor this type of agent behavior because it will affect its wealth and therefore the firm's wealth.

The second problem relates to the difference between risk and investment in the organization. Agency theory reveals that the cooperating parties involved in the firm can have different risk preferences and their actions differ, correspondingly. Shareholders invest their capital and take the risk to earn benefits. Whereas managers, who manage the firm, are risk-averse and concerned only by maximizing their private benefits. Both parties have opposite risk perceptions and their problem in risk sharing creates the agency conflict (Arrow, 1971; Ross, 1973). As explained in agency theory, moral hazard and adverse selection problems result in agency costs that rational shareholders will price-protect against and will result in higher costs of equity capital.

Further, agency theory suggests that implementing employee ownership is a way to minimize the negative impact of agency conflict and ensure interest alignment between different stakeholders. Based on this statement, we notice that the literature is divided into two main streams -those who predict that ESO increases agency problems and those who predict the positive effect of ESO to reduce principal-agent conflict. In the first argument, it is believed that employee ownership can have adverse effects on corporate governance and shareholder

value for various reasons, including (a) the cost and difficulty of implementation, (b) the “free-riding behavior” and (c) the management entrenchment.

First, prior work by Hansmann (1993) argues that there is a cost of joint governance. It proves that the conflict between different groups of employees in an organization - owners and non-owners - can impact different interests and objectives on the decision making process. There is a risk of conflicts of interest because employee ownership may not align with the goals of the principals. It may be difficult to motivate the employees to behave like the shareholders because they have different concerns. Mygind (2012) finds that employee-owned firms often have problems in attracting sufficient capital and problems in creating an internal market for individual employee shares. Thus, the process of ESO implementation will be slow, weak, and possibly uncertain. This problem will put companies at a disadvantage for establishing employee share ownership and reduce agency cost of equity.

Second, it has been argued by Landau et al. (2007) that financial participation might instead cut productivity by tempting individual employees not to work hard but instead to free-ride on the effort of others because of the collective nature of the schemes. Kruse et al. (2003) explain that “the free rider problem” also called the “1/N” problem, arises due to the weak link between an individual’s performance and financial payoff as the workgroup grows larger, meaning the greater the N workers are in the firm, the smaller the extra surplus they will each generate (1/N). Weitzman and Kruse (1990) point out that the most common theoretical objection to the positive effects of employee ownership and the associated improved corporate performance is the “free rider problem”. According to Park et al. (2004), employees in an employee-owned company have an incentive not to work cooperatively so the firm is basically inefficient due to the free-rider problem. Being inefficient could be a major concern for the company because cost of funds will be high-priced (i.e., shareholders’ required rates of return increase, boosting the firm’s cost of equity).

Third, several authors consider employee ownership as a powerful practice that would strengthen self-interest behaviors and managerial entrenchment (Gordon and Pound, 1990; Chaplinsky et al., 1994; Pugh et al., 1999; Gamble, 2000; Hollandts and Aubert, 2011). Managerial entrenchment is a critical problem. It is hard to replace incompetent or poorly performing managers who are also significant shareholders. Aubert et al. (2014) demonstrate that good and bad managers are motivated to use employment ownership as an entrenchment

tool. Alternatively, good performing managers will remove the constant threat of being replaced by focusing on value-added projects rather than expending resources on private benefits.

Also, employee ownership complicates the corporate governance characteristics of insider ownership through employee entrenchment. Employees use their shareholders rights to pursue their own self-interest even to the detriment of the corporation. Jensen and Meckling (1979) explain that employees' equity is usually small compared to their fixed wages, employee owners are likely to use their voice in corporate governance for a self-benefit purpose, forcing managers to make decisions which maximize their wages and benefits first and only after that address their rights to profit sharing (dividends, stock price growth). Faleye et al. (2006) argue that shareholder employees prefer to enhance their revenues by maintaining high wages and preventing risky investments. They find that "employee voice" has a negative effect on shareholder value, sales, and employment. Their results show that employee ownership decreases shareholder value since employees and shareholders have divergent interests.

Moreover, employee-shareholders tend to oppose takeovers by maintaining the existing management team and they ensure that their existing contracts will be executed well. Desbrières (2002) suggested that managers and employees could cooperate to align their interests against shareholders. This produces collusion and mutual protection between managers and employee shareholders. Faleye and Trahan (2011) argue that such mutual protection between managers and employee shareholders underlines the dark side of ESO. This situation leads to bilateral entrenchment and again raises the theoretical debate about the corporate governance problem from the managers-employee shareholders relationship. This side of the literature documented the negative effects of ESO on corporate governance and shareholder value. Employee ownership fails to align interests between shareholders and managers, pushes employees to engage in opportunistic behavior and raises agency cost of equity.

To the contrary, some academic literature indicates that employee stock ownership is a preferred method to resolve conflicts of interest between shareholders and managers (Duncan, 2001; Eisenhardt, 1985; Wagner et al., 2003; Welbourne and Cyr, 1999). Welbourne and Cyr (1999) pointed out the potential power of ownership to eliminate agency problems between managers and shareholders. Employee ownership would promote information sharing, thereby reducing asymmetries of information between managers and workers, and monitoring of workers by each other in the firm. Employee stock ownership seems to favor the alignment of employee interests, including shareholdings of managers, with those of other stockholders

(Pugh et al., 1999, Gamble, 2000). French (1987) argues that employees who hold blocks of shares may be more willing than other shareholders to put pressure on management to improve the financial performance of the firm. Duncan (2001) demonstrates that firms must focus more on employee ownership because it increases worker motivation.

Being considered as stakeholders in the company, employee shareholders theoretically have the same rights as all other shareholders. By becoming shareholders, employees gain additional legitimacy to control their managers. Employee shareholders can exercise this control via the shareholder status and/or their representation in the controlling bodies. The first power of influence is implemented in the context of shareholder meetings (general assembly). The second power is authorized by the law of December 30, 2006, which requires employee ownership to be represented on the board by a director or two when they hold over 3% of the company capital. Taking advantage of the accumulation of the two statutes, these actors benefit from informational advantages thanks to their physical proximity with the top management, the shareholders and their representatives with the controlling bodies. Masta (2018) argues that giving employee stakes of their firm will first aid in employee retention. Additionally, it helps to attract employees that are more talented, who are optimistic about the firm's prospects and more willing to invest in firm-specific human capital.

Poulain-Rehem and Lepers (2013) explain that employee ownership contributes to corporate governance by encouraging workers to become more involved in the firm's representation and decision-making process and by establishing a trust regime in the organization. According to them, employee ownership influences the agency relationship between different stakeholders, enabling the employees to protect their specific investment in human capital and limiting the asymmetry of information. Also, Van den Berg et al. (2011) demonstrate that sharing important information about the current state of organization, of labor and collective bargaining, can improve communication between managers and employees, which in turn is likely to increase trust. This proves to be significant especially during bad economic times by preventing industrial unrest, and hence by avoiding a decline in labor productivity. These studies confirm that employee ownership is considered to be a stakeholder governance mechanism to ensure more transparency and more corporate disclosure, creating more shareholder value and allowing them to reduce the cost of equity capital.

We find in the empirical literature that employee ownership affects firm cost of equity capital by mitigating agency costs driven by the problems of moral hazard and adverse selection.

Barney (1990) was the first to examine the impact of ESO on employee shareholders relationship to the firm. The study, conducted on 32 Japanese firms, confirms that ESO reduces conflicts of interest between stockholders and employees and has a direct impact on a firm's cost of equity. This reduction in conflicts of interest will be reflected directly in a firm's lower cost of equity. Ivanov and Zaima (2011) also show that ESO has a negative impact on the cost of capital through the reduction of cost of equity.

Based on the above literature, the theory and evidence about the effect of employee ownership on the cost of equity is not, however, clear. We find in the academic research that employee stock ownership has a mixed effect. On the one hand, the link between ESO and cost of equity is unclear, and there is considerable evidence that employee ownership can affect the agency cost of equity in a completely different way due to its dark side arising from the difficulty of its implementation, the free rider problem and employee entrenchment. On the other hand, a clear side of employee stock ownership, as one of the possible internal mechanisms in corporate governance, is to solve the agency conflict between owners and managers, which potentially creates value for shareholders and reduces the cost of equity.

At this stage, if employee ownership intensifies agency problems between shareholders and managers or increases the likelihood that employee shareholders or managers can extract rents from other shareholders, we predict that ESO would be positively related to a firms' cost of equity. If, on the other hand, employee ownership contributes to reduced agency problems and aligned interests between principals and agents, we expect that ESO will be negatively related to a firms' cost of equity. However, recent papers in the literature point out the nonlinear relationships between ESO, corporate performance, and corporate governance variables (Faleye et al., 2006; Guedri and Hollandts, 2008; Kim and Ouimet, 2014; Lozano et al., 2016 and Aubert et al., 2017). Aubert et al. (2017) was the first to study the nonlinear relationship between ESO and cost of equity. According to them, employee ownership has mixed forces (the bright and dark sides of ESO) and can be perceived through this nonlinear relationship. They find an insignificant relationship between employee ownership and the cost of equity. This results in a problem, a priori, to predict which force will dominate at any particular level of employee ownership. However, the relationship between cost of equity and employee ownership is an empirical issue.

Following research by Aubert et al. (2017) about the nonlinearity between ESO and cost of equity, we predict that employees respond to two opposing forces and that the relationship

between employee stock ownership and the cost of equity depends on which force dominates over any particular range of employee equity ownership. The opposing forces work in the following way: The natural tendency of employees is to maximize their components of wages, salaries, and other benefits through employee entrenchment and collusion with managers. Thus, employee interests may conflict with the interests of shareholders. As employee equity ownership increases, however, their interests are likely to coincide more closely with those of shareholders. The first of these forces has a negative effect on the value of shareholders, whereas, the second has a positive effect.

In other words, we suggest that the relationship between employee ownership and the cost of equity varies according to the level of employee stock ownership. At low levels of employee ownership, employees use their shareholder rights to pursue their own self-interest. This generates agency conflicts and negatively affects the shareholder value through increasing the cost equity by stockholders. However, at high levels of employee ownership, the maximum cost of equity level is reduced. As employee stock ownership increases, their interests became more aligned with those of shareholders, and, thus, cost of equity is not used to compensate agency costs. The hybrid effects of ESO suggest empirically testing the possibility of a non-linear relationship between employee ownership and the implied cost of equity.

Combining the predictions of the theoretical models and empirical findings discussed previously leads to our first hypothesis, which is as follows:

Hypothesis 1: Cost of equity first increases as the employee ownership increases, then, at a certain level, it decreases as employee ownership increases.

III.2.2. Employee representation and cost of equity capital

Another consequence of ESO consists of giving the right to employee owners to exercise some degree of control over company affairs (Landau et al., 2007). This right allows employees to participate in the management of their company since they can be offered seats (a voice) on the board of directors. Law grants the board employee owner's representation (BEOR) in France. At the end of 2006, representation of employee owners on the board of directors became compulsory for French listed companies (Ginglinger et al., 2011). If employee owners collectively hold over 3% of shares, the general meeting of shareholders must give at least one seat to an employee owners' representative. As documented by Conchon (2011, p.11) "*In 17 out of the 27 European Member States plus Norway, employees are granted the right to be represented on the board of directors or the supervisory board with decision making powers*".

To our knowledge, no study has examined the interaction effect of BEOR with ESO on the cost of equity. This study will contribute to the literature by showing how BEOR and ESO will affect shareholder risk and the cost of equity. The extant literature on BEOR has often-conflicting views on whether BEOR is value increasing or value decreasing. The “pros” that support BEOR claimed that employee representation has a positive impact on performance since BEOR will eliminate friction between top management and the workers and facilitate adaptation of the firm’s policies. On the other hand, those who argue against BEOR, claim that it will contribute to unwieldy decision-making, damage corporate performance and, thus, reduce the market’s valuation of the firm because investors perceive that the management will be more willing to sacrifice shareholder value for the benefit of employees and managers. The “cons” about BEOR also argued that employee representation could make the top managers and key owners more likely to collude on important issues by settling them in informal meetings well before the decisions are formally taken (Roe, 2011, p. 75). The empirical impact of BEOR has been studied in a number of European countries. Ginglinger et al., (2011) found weak support for a positive impact of BEOR for French firms in 1998-2008. Bøhren and Strøm, (2010), on the other hand, find a significantly negative impact of employee directors on firm valuation as well as on firm performance in Norway with data covering 1989-2002. Desbrières (1997), however, argues that the presence of employees on the board does not represent a guarantee of better management of executives and the alignment of the interests of shareholders and employees with those of managers. Indeed, *"... it is not certain that the information, which employees will benefit as an administrator, is adequately appreciated or not misused, used, so as to influence transactions in order to satisfy special interests of employees who are directors, of all employees, of competition ... "* (p. 403).

Despite the unclear link between employee ownership representations and firm performance, we extend past research by examining the relationship between the presence of employee owners on the board of directors and the cost of equity capital. More precisely, we try to understand how shareholders will perceive BEOR and thereby how this will influence the firm’s cost of equity. Many studies suggest that employee ownership schemes alone do not improve company productivity. It is only improved where employee ownership plans or profit sharing are combined with employee participation in decision-making (Dube and Freeman, 2000; Poutsma, 2001). The direct participation in governance is an additional lever for promoting their interests and weighing in on the strategic decisions discussed in Council administration or supervision. This suggests that BEOR is constructive of value. We therefore postulate a

potential moderating effect reinforcing the negative effect of employee participation in capital. The literature stresses that the representation of employee shareholders on the board of directors is likely to influence the effects observed in the presence of shareholding employees (Desbrières, 1997, 2002; Guedri and Hollandts, 2008). In the same line, we expect that BEOR will correlate with the ESO-cost of equity relationship. These arguments are the basis for our second hypothesis.

Hypothesis 2: BEOR has a moderating effect on the relationship between employee share ownership and the cost of equity.

III.3. Data and methodology

In this section, we describe the data and the methodology used to test our two main hypotheses. First, we explain how the sample is composed. Then, we elaborate on the dependent, independent and control variables that may affect the relationship between ESO, BEOR and the cost of equity. Finally, the methodology is explained in the last paragraph.

III.3.1. Sample construction

To examine the relationship between ESO, BEOR and the cost of equity capital, we begin by merging the following three databases to form the sample: Thompson Institutional Brokers Earning Services (I/B/E/S) provides analyst forecast data. IODS DataCG Corporate Governance database provides the proportion of equity holdings by the employees. Thomson Financial Database provides financial and stock price data. We follow Hail and Leuz, (2006) and Dhaliwal et al. (2006) to estimate the cost of equity using four models. These models are discussed below and summarized in Appendix B.

Firms are issued from the SBF 120 index, which includes the 120 most actively traded stocks listed in Paris and cover the period from 1999 to 2017. Following El Ghouli et al. (2011), we retain in our sample only firms with sufficient available data to estimate a valid cost of equity under all different models and we require non-missing observations on all variables. Following Aubert et al. (2017), we exclude financial firms from our data, since “*these banks, funds, insurance companies, and their employees, have different ownership patterns compared to that of other Global Industry Classification Standards*” (p.71). The final panel dataset includes 95 firms covering 1805 observations (95 firms*19 years).

[Table 2.1 near here]

Table 1 summarizes the sample composition by Fama and French (1997) of 12 industry groups. Other, Manufacturing, and Business Equipment dominate the sample, with each accounting for more than 17% of the observations.

III.3.2. Regression variables

III.3.2.1. Dependent variable: cost of equity capital

The cost of equity is the sum of the risk-free rate and the equity risk premium. The difficulty of calculating the cost of equity capital binds essentially in estimation the unobservable risk premium. We follow the recent finance and accounting literature to estimate the cost of equity capital using the ex-ante methodology, which is implied in current stock prices and earnings forecast analysis. Following Hail and Leuz (2006); Pástor et al. (2008); Chen et al. (2011) and El Ghouli et al. (2011), the ex-ante estimation is a better measure of the cost of equity capital than the ex-post estimation (e.g. the CAPM) because it explicitly controls for cash flows and growth potential.

Elton (1999) argues that ex-post cost of equity models are based on realized returns, which produce biased estimates. If not, long-term series are used to wash out the shocks in growth opportunities and changes in investors' risk aversion. However, the ex-ante implied cost of equity then outperforms the ex-post models. Therefore, we estimate the implied cost of equity with four different models introduced by Claus and Thomas (2001); Gebhardt et al. (2001); Easton (2004); and Ohlson and Juettner-Nauroth (2005). We measure the risk-free rate as the annualized yield on three-month government securities. We denote the resulting cost of equity premiums as r_{CT} , r_{GLS} , r_{OJ} and r_E respectively. Following the prior literature, we use the average of the estimates from the four models to reduce the possibility of spurious results associated with the use of a particular model (Chen et al., 2011; Dhaliwal et al., 2006; Hail and Leuz, 2006). This yields r_{AVG} which is the implied average cost of equity capital that we use as our main dependent variable. A detailed description of the estimation of our cost of equity measures is provided in Appendix 2.2.

III.3.2.2. Independent variable: Employee stock ownership and board employee owner's representation

ESO is defined as the percentage of shares held by employees for a given year (Aubert et al., 2014; Blasi and Kruse, 2010). It allows measuring the employee ownership concentration within each firm. Also, we use BEOR which measures the proportion of employee owners seats on the board.

III.3.2.3. Control variables

We follow prior studies such as Gebhardt et al. (2001); Hail and Leuz, (2006); Dhaliwal et al. (2006) and El Ghouli et al. (2011) in specifying controls shown to affect the cost of equity capital. These controls include beta, the book to market ratio, total assets, leverage ratio, long term growth, the inflation rate and long term growth.

Beta is estimated Beta using the market model. It measures the sensitivity of the security's returns to fluctuations in the SBF 120 index. The book to market ratio measures growth opportunities. It is obtained by using the ratio of the book value of the firm to its market value. The size of the firm is measured by the natural logarithm of the total assets. The leverage ratio is computed as the ratio of total debt to the total assets value. According to prior studies, the predicted signs are as follows: Beta (+), BTM (-), Size (-), LEV (+).

We further include forecast dispersion (DISP) and long-term growth forecast (LTG) into the model. DISP controls for the variability in a firm's earnings and also for corporate governance, since greater disclosure should lead to lower information asymmetry and smaller dispersion (Mc Innis, 2010). LTG controls for the risk in a firm's growth. These two variables are predicted to be positively related to the cost of equity (Gode and Mohanram, 2003). The inflation rate (INF) is included in the model to control for macro-economic differences. Like Hail and Leuz (2006) the coefficient is expected to be positive.

Finally, the literature underlines the need to include corporate governance variables to take into consideration the relationship between corporate governance and the cost of equity (Aubert et al., 2017; Rose, 2005). Therefore, our sample includes the board's structure and CEO duality. The dual structure is a dummy variable which takes one in the presence of a dual governance structure (supervisory and executive board), and zero otherwise. Also, CEO duality is a dichotomous variable taking the value of 1 if the CEO is also the chairman and 0 otherwise.

[Table 2.2 near here]

III.3.3. Methodology

The aim of this research is to examine empirically the relationship between employee stock ownership and the cost of equity. We use a panel data methodology as part of our analysis which spans the period between 1999 and 2017. This methodology form of multiple regressions allows us to deal with both individual and temporal effects. Baltagi (2011) explains that the dual dimension of panel data makes it possible to simultaneously take into account the dynamics

and the heterogeneity between the groups, which is not possible with cross-sections and time series. The GMM estimate has been selected instead of the OLS in order to obtain more robust and reliable results. The GMM estimator allows us to exploit both the time series dynamics and the pooled firm characteristics of the data while controlling for endogeneity and omitted variable biases (Aubert et al., 2017).

III.3.4. Descriptive statistics

Descriptive statistics and correlations between the cost of equity estimates and the regression variables are reported in table 2.3 and table 2.4. Table 3 shows the cost of equity estimates based on the four models. The mean cost of equity estimate across the four models (rAVG) is 14.62%. The Ohlson and Juettner-Nauroth (2005) and Easton (2004) models produce the higher implied cost of equity (18.12% and 15.71%, respectively) compared to the Claus and Thomas (2001) and Gebhardt et al. (2001) models (12.82% and 11.73%, respectively). These results are consistent with Dhaliwal et al. (2006) and El Ghouli et al. (2011) for the implied cost of equity estimates.

[Table 2.3 near here]

Table 2.4 reports Pearson correlation coefficients between all variables included in our empirical analyses. Consistent with Dhaliwal et al. (2006), we find that rOJ and rES exhibit higher correlations with rAVG while rCT and rGLS exhibit lower correlations with rAVG. Additionally, we find that the correlation between ESO and our dependent variable (rAVG) is very limited (around 2%). This particular result is not surprising because a correlation equal to zero means that the variables are not linearly correlated, they can nevertheless be correlated non-linearly and a priori supports our intuition about the non-linearity between ESO and the cost of equity.

In order to detect multicollinearity in our data, we calculated the variance inflation factor (VIF). It is considered as a high VIF for predictor variables when VIF is greater than 2.5. We find in table 4b that VIF is very high only for two explanatory variables ESO and ESO² (9.25 and 7.52 respectively). Table 4b shows that we have multicollinearity problem in our data due to the high correlations between ESO and ESO².

Allison (2012) explains, “*multicollinearity occurs when there are high correlations among predictor variables, leading to unreliable and unstable estimates of regression coefficients. Most data analysts know that multicollinearity is not a good thing. But many do not realize*

that there are several situations in which multicollinearity can be safely ignored” (p.1). According to him, the high VIFs are caused by the inclusion of the powers of independent variables. It means that a regression model with both x and x^2 , has a high probability of those variables being strongly correlated. This is not something to be concerned about as the multicollinearity has no adverse consequences. Finally, multicollinearity is not a serious concern in our regressions even if we do find high VIF between the explanatory variables ESO and ESO² (“VIF”<2.50).

[Table 2.4 near here]

III.4. Empirical Results

Despite increased academic interest in employee ownership, we still know very little about how ESO performance affects shareholder value. The purpose of our study is to address this gap in the literature by empirically examining the link between firms’ ESO adoption and their cost of equity capital. We proceed as follows. In Section 4.1, we perform multivariate regression analysis in order to model the relationship between firms’ cost of equity and employee ownership. Then in Section 4.2, we report the results of robust checks.

III.4.1. Multivariate analysis

To examine the relationship between employee ownership, employee participation in decision-making and the cost of equity capital, we regress ESO, the interaction variables (ESO*BEOR) and control variables on the different estimated cost of equity models using the GMM regressions. Table 5 and 6 report our main results. In each model, our dependent variable is the average cost of equity rAVG. The explanatory variables include ESO, the squared ESO variable (ESO²) in order to test the curvilinear relationship, interaction variables with BEOR and control variables, as well as year and industry sectors fixed effects. Results show strong evidence of ESO and BEOR effects on the cost of equity.

We first test whether the relationship between ESO and the cost of equity is nonlinear. Thus, we include the squared ESO variable (ESO²) in our model to test the quadratic form. Our empirical objective is to determine the true relationship between employee share ownership and the cost of equity, which is the main contribution of this paper. The general form for this regression is:

$$Cost\ of\ equity_{it} = intercept + b(controls\ variables_{it}) + c\ ESO_{it} + d\ ESO^2_{it} + \varepsilon_{it}$$

Table 2.5 presents the results of our regression. Model 1 indicates that the coefficient on ESO is positive (0.012) and it is significant at the 10% level (t-stat. = 1.63). Whereas the coefficient on ESO² is negative (-0.001) and is significant at the 5% level (t-stat. = 2.12). Regression results in model 1 reveal that the relationship between ESO and the cost of equity highlights an inverted U shape and underlines the existence of a maximum as a point of inflection (6%). The coefficient estimate of ESO and ESO² respectively in model 2, 3, 4 and 5 are almost identical to that in Model 1. Based on this finding, we suggest that ESO exhibits an inverted U-shaped relationship with a firm's cost of equity: ESO is positively related to cost of equity across the low to moderate levels of ESO, and is negatively related to cost of equity across the moderate to high levels of ESO. The coefficients of the control variables are generally significant with the expected sign. The coefficients relating to BETA, BTM, SIZE, LEV, and LTG are significant at the 1% level.

[Table 2.5 near here]

Then, we integrate the interaction variable of BEOR with respectively ESO and ESO² to our previous nonlinear relation in order to capture any interactions or effects of BEOR on the investigated relationship between ESO and cost of equity. The general form for this regression is:

$$\text{Cost of equity}_{it} = \text{intercept} + b(\text{controls variables}_{it}) + c \text{ESO}_{it} + d \text{ESO}^2_{it} + e \text{BEOR}_{it} \times \text{ESO}_{it} + \varepsilon_{it}$$

Table 2.6 reports our regression results. Model 6 shows that the nonlinearity between employee share ownership and cost of equity is strong as in model 1. The coefficient on ESO is positively associated with the implied cost of equity (0.016) while the coefficient on ESO² is negative (-0.001). The two coefficients are significant at the 5% level. We find significant relationships between our interaction terms (BEOR*ESO) and all coefficients associated with cost of equity estimates are significant. The results show that BEOR negatively moderates the effect of ESO on the cost of equity and adds significance to our model. Table 6 also shows that the signs of the coefficients on the control variables are consistent with our expectations in almost all of the models. The equity risk premium is positively associated with the market beta, forecast dispersion, leverage and long-term growth forecast, and the cost of equity is negatively correlated with firm size, and BTM. All coefficients of the control variables are significant at the 1% level.

[Table 2.6 near here]

III.4.2. Robust checks

Various robustness tests were then performed on specific sectors and different sub-periods. We examine whether our main evidence in table 5 and 6 can be affected by different laws and codes of governance or by the financial crisis. First, we test our baseline on the period 2006-2017 to take into consideration the convergence of the general chart of accounts with IFRS and the mandatory law of employee representation on boards of directors. Then, we test the performance of our relationship before, in, and after the financial crisis because a financial crisis might alter management's normal behavior. Extant studies suggested that during a financial crisis, investors are more risk-averse and tend to invest in low-risk firms (Caballero and Krishnamurthy, 2008). We re-estimated our main regression with the consideration of a financial crisis. We define the sub-period 1999-2006 for pre-crisis, the sub-period 2007-2009 for the financial crisis and finally the sub-period 2010-2017 for post-crisis. Again, the results in table 2.7 suggest curvilinear relationships between ESO and firm cost of equity across all models from 11 to 18. Also, interaction terms (BEOR*ESO) are negatively related to cost of equity and significantly raise the inflection point. All results are statistically significant which reinforces our earlier findings.

[Table 2.7 near here]

III.5. Discussion

Employee share ownership is a phenomenon that is constantly increasing and tends to become widespread in listed companies. Many figures summarize this empirical observation: 86% of SBF 120 companies have employee's participation in their capital with 20% of them having employees as the largest shareholder. This ratio rises to 28% if we include employees as the second largest shareholder. The representation of these same employee shareholders is mandatory since the law of December 30, 2006 and it is effective in 33 companies. Recently in 2017, 28 companies in SBF120 completed 32 capital increase operations reserved for employees and the total amount of collective employee shareholdings carried out a record level: € 2.7bn against a historical average of € 2.0bn. As a result, employee shareholders appear to be able to have a significant impact on corporate governance and major strategic choices.

In the present research, we put the spotlight on the role played by employee ownership, as a corporate governance, to deal with agency problems due to the separation between ownership and control, and explicitly create the divergence of interests between shareholders and managers. As part of this research, we analyzed the effects of employee stock ownership (ESO)

and its potential representation into the board (BEOR) on the cost of equity capital of 95 listed companies belonging to the SBF 120 index over the period 1999-2017. This observation period allows us to integrate the effects of the various laws relating to employee savings, different laws and codes of governance, and the effect of the various economic and financial crises. It should be noted that the context relating to employee share ownership is relatively favorable over our observation period and companies have not hesitated in recent years to turn to their employees to strengthen their own funds.

We take into account the theoretical and empirical literature about the impact of employee ownership in corporate governance, which proposes that ESO exhibits two opposite effects. The “bright” side suggests that ESO increases transparency, decreases the level of asymmetric information, and ensures more efficient corporate governance mechanisms. The positive side of ESO is often translated in increasing corporate performance, decreasing agency conflicts, and financing corporate growth. However, ESO also has a “dark” side that is often proven by decreases in corporate performance, an increase in agency conflicts, and stagnant corporate growth. Based on these two opposing forces of ESO, we suggest that employee ownership will affect the cost of equity capital in two different ways. Furthermore, our main investigated relationship is far from a linear one. Haans et al., (2016) argue that combining two latent and countervailing linear functions of ESO will be translated into a nonlinear relationship.

Our models reveal non-linear relationships between ESO and the implied cost of equity. Results from models 1 to 5 provide a strong support for our first hypothesis. We find a significant inverted U-shaped relationship between ESO and cost of equity. Results in table 5 underline that first ESO increases the cost equity up to a certain level and then it decreases after a given rate of employee stock ownership. The positive relationship between ESO and cost of equity commits stockholders to enhance their equity premium when the employee ownership is low, this can be explained by employee entrenchment (the “dark side” of ESO). In fact, at a lower level of employee ownership, employees use their shareholder’s rights voice, in corporate governance, to pursue their own self-interests (Faleye et al., 2006; Jensen and Meckling, 1979). At this stage, employee ownership leads to an adverse effect of free-rider behavior, to pursue private benefits with collusion and mutual protection between managers and employee-shareholders (Desbrières, 2002; Faleye and Trahan, 2011). On the contrary, the negative relationship between ESO and cost of equity start out when the employee ownership reaches a sufficient level that is able to reduce stockholder’s equity premium. As employee stock

ownership continues to grow, it contributes to reducing agency problems by aligning interests between principals and agents. Employees' interests become more aligned with the organization to create a competitive advantage. A significant level of ESO makes employees more involved in the firm and creates a trust regime in the organization (Duncan, 2001; Eisenhardt, 1985; Poulain-Rehem and Lepers, 2012; Van den Berg et al., 2011; Wagner et al., 2003; Welbourne and Cyr, 1999). Therefore, the slope of the cost of equity starts to fall when the relationship between ESO and the cost of equity become negative. This transformation in ESO-cost of equity relationship illustrates the "bright side" of ESO that increases corporate performance, decreases the level of asymmetric information, and ensures more efficient corporate governance mechanisms.

Recent studies in the literature point out the nonlinear relationships between ESO, corporate performance, and corporate governance variables. Likewise, our results underline the combined effects of ESO documented by academic research (Faleye et al., 2006; Guedri and Hollandts, 2008; Kim and Ouimet, 2014 and Aubert et al., 2017). According to our findings, the mixed forces of ESO is confirmed through the nonlinear relationship which implies that there is a maximum level of employee ownership, above which stockholders decrease their equity premiums. This result underlines that ESO could be a useful component for shareholders who want to enhance their value. Our new findings suggest that ESO can be a value maximization tool, after a certain level. Before the inflection points, employee ownership alone is ineffective to expand shareholders value. Our results have corporate governance implications. The mixed forces of employee ownership and the nonlinear relationship imply that French listed firms should avoid the midstream situation of ESO (maximum level of the cost of equity). The adoption of employee ownership should be at a low or high level of ESO that positively affects the shareholder's value (low cost of equity). This means that there is dispersion around the average and corporations should reach significant levels of ESO to reflect the shareholders' vision (value maximization).

[Figure 1 near here]

Extant research has generally focused on the linear assumption to emphasize the positive effects of employee share ownership on the cost of equity. Barney (1990) was the first to investigate this relationship with small Japanese firms. He highlights a negative relationship between ESO and the cost of equity. Similarly, Ivanov and Zaima, (2011) confirm Barney's findings and prove that ESO negatively affects the cost of equity by showing that the cost of equity for US

companies decreases when they adopt ESO plans. Our result, which differs from previous findings, puts the linear relationship into question. Indeed, we can explain our new findings that in a linear dimension the bright side of ESO earns its dark side. The linear relationship fails to show the two opposite sides and it is logical because at the beginning we assume that there is only one side that we can see. In addition, comparison results with Barney (1990) and Ivanov et al. (2011) to ours; show differences in terms of data and in terms of methodology. To begin, the studies are made respectively on Japanese and U.S. companies using the ex-post estimation (the CAPM) to measure the cost of equity. While our study is done on French listed firms using the ex-ante estimation of cost of equity (the implied cost of equity). Employee ownership is more developed in large French listed companies than in the U.S. context. The expansion of employee ownership in large French corporations is the consequence of the privatization of large State owned companies (Aubert et al., 2017). Whereas in the U.S., employee ownership is only driven by employees in small- and medium-sized companies (Clark and Philippatos, 1998).

Our results are in line with the recent steam, underscoring that ESO exhibit a curvilinear relationship with corporate performance variables. Following recent research, Aubert et al., (2017) try to analyze the relationship between employee ownership and the cost of equity but find no evidence for nonlinearity. They explain that the cost of equity variable fails to capture the mixed effects of ESO because of the cost and difficulty of its implementation (“dark side” of employee ownership). We think that this result is an empirical concern due to the use of the ex-post model (CAPM) for cost of equity. Our results support and improve their findings when we use the implied cost of equity. However, our results somewhat contrast with the findings of Guedri and Hollandts, (2008) who demonstrate an inverted U-shaped relationship between employee ownership and firm performance. Their study shows that ESO enhance firm performance and productivity up to a certain level, and decreases after a given rate of employee ownership. Increasing firm performance would theoretically lower the cost of equity and vice versa (Modigliani and Miller, 1958). This contradiction is explained by the fact that ESO does not always enhance firm performance (Faleye et al., 2006). In fact, Aubert et al., (2017) explain that listed firms “*may give a small amount of shares to each employee, whom are not positively motivated. Employee motivation does not increase, and therefore productivity effects remain low*” (p.74). At this stage, the dark side of ESO earns the positive side and employee ownership leads to adverse effect of free-rider behavior, to pursue private benefits with collusion and mutual protection between managers and employee-shareholders (Desbrières, 2002; Faleye and

Trahan, 2011). This situation generates agency conflicts between principals and agents that negatively affect the shareholder's value and lead to an increased cost of equity.

Furthermore, we have also tested the additional effect of the representation of employee shareholders on the board of directors or supervisory board, since the law of 30/12/2006 made it compulsory. Empirical results from models 6 to 10 provide strong support for our second hypothesis. Results highlight the presence of a significant and negative moderating impact of BEOR. Our results show that ESO and BEOR help to explain our main dependent variable (the cost of equity). Our results from table 6 highlight the interactive effect of employee voice consisting in stock ownership and board membership. We observe a negative and significant effect on a firm's cost of equity. By giving additional voice to employees on the board, ESO becomes more effective to boost shareholders value. In fact, stockholders perceive employee owners' participation in corporate management as value-increasing. The presence of employee representation in the controlling bodies is translated by decreasing shareholder's equity premium. In contrast to Guedri and Hollandts, (2008), but consistent with Ginglinger et al., (2011), we find new evidence in favor of a value-creating role for employee representation on the supervisory board.

This result is even more important in the French context as public authorities have intervened for several years to strengthen the representation of employee shareholders. The negative impact of interaction for the variable (BEOR*ESO) with the cost of equity appears to have a favorable impact on firm performance and mainly through the channel of shareholders value. Our interpretation of this result is that BEOR becomes an incentive mechanism when combined with employee stock ownership. It reduces agency costs for the company by more closely aligning the interests of employees with other stakeholders. Moreover, our results reveal that shareholders take into account the employee voice in the board of directors as a determinant of the cost of equity. The interacting impact of BEOR to reduce agency costs indicates that listed companies should combine governance mechanisms (ESO and BEOR) to align interests between different stakeholders. This new finding about employee representation supports the argument that employee ownership alone does not guarantee better corporate performance.

According to Finet et al. (2008) the presence of employee shareholders in the controlling bodies assumes reinforcement of leadership decisions and strengthens the employee power in the company. Our results are also in line with the findings of Ginglinger et al., (2011) for French

firms between 1998-2008. They show that the board employee representation could increase firm valuation and profitability. Employee voice is also seen as an internal governance system (Acharya et al, 2011) that contributes to increased levels of transparency (Bova et al, 2015). Testing the impact of giving an additional voice to employee owners on the board of directors on the cost of equity for corporate governance considerations, shows that BEOR exhibits a moderate negative impact on the ESO-cost of equity relationship. Desbrières, (2002) suggested that the employee participation in corporate governance reduces agency conflicts between employees with those of other stakeholders. We infer that employee board representation aligns employees' interests with cash flow maximization and reduces employees' incentives to expropriate small shareholders' claims.

III.6. Conclusion

This study examines how ESO and BEOR affect cost of equity. The French context is an interesting case to study because it combines mandatory board employee representation with a widespread ESO culture among listed firms. A comprehensive sample from 1999 to 2017 was used to assess the impact of ESO and BEOR on cost of equity. Findings indicate that ESO exhibits non-linear (curvilinear) relationships with the implied cost of equity. Other tests underline that BEOR plays a complementary role by providing ESO an additional effect to alter cost of equity. Overall results show that variation in a firm's level of corporate governance mechanisms plays an important role to explain variations in a firm's cost of capital. On one hand, previous research has clearly documented, using a linear model, a positive impact of ESO to decrease cost of equity (Barney, 1990; and Ivanov et al., 2011). On the other hand, corporate governance literature questions the nonlinear impact of employee ownership on corporate governance and corporate valuation (Guedri and Hollandts, 2008; Kim et al., 2014).

Our results join the recent findings to argue that ESO results in two contradictory effects (Aubert et al., 2017) that may disturb agency costs between different stakeholders. Our results reveal new evidence about the ESO-cost of equity relationship. Furthermore, ESO and board-level employee representation exhibit a direct negative impact on the implied cost of equity and operate as an insurance mechanism (Kim et al., 2014) to reduce agency conflicts between managers and shareholders. We further investigate whether the association between employee ownership and the cost of equity varies across specific sectors or different sub-periods. Results show an interesting finding. We find a curvilinear relationship between employee ownership and the implied cost of equity capital, and a moderate effect of BEOR that continues to hold

where different laws and codes of governance become effective or during the financial crisis. In the end, this research adds to the existing literature by providing a new way to understand the particular impact of a firm's internal corporate governance mechanisms on its capital structure decisions.

Our paper contributes to the empirical literature in several ways. First, our study adds to the literature by examining the association between employee ownership and the ex-ante cost of equity implied in stock prices and analysts' earnings forecasts. This approach follows the prior literature in finance and accounting. Implied cost of equity models offer a useful insight because the models explicitly separate the effect of the cost of equity from firm valuations and control for cash flow and growth effects (Hail and Leuz, 2006, 2009). In addition, Pastor et al. (2008) show analytically that under plausible conditions, the implied cost of equity is perfectly correlated with the conditional expected stock return. These advantages have motivated many researchers to test the associations between the implied cost of equity and corporate governance (Chen, Chen, and Wei, 2009). Second, following a recent article by Aubert et al. (2017), we proposed and tested the nonlinear relationship between employee stock ownership and the cost of equity. Our models improve their findings and reveal a non-monotonic relationship between ESO and the implied cost of equity (measured by five different models). We also took care to include the potential representation of employee shareholders in governance to our analysis to capture any induced effects (Ginglinger et al. 2011, Guedri and Hollants, 2008). Finally, our last contribution is rather methodological; we have opted for a generalized methods of moments (GMM) in panel instead of ordinary least squares method in order to obtain more robust results, to better specify the relationship between employee ownership and cost of equity, and to rule out all problems of potential explanatory variables in the fixed effect model.

While we provide to the existing literature new evidence on the effect of ESO and corporate governance on cost of equity capital, several limitations to our empirical study are noted and constitute further lines of research. First, our study is limited to the 120 largest French listed companies. We acknowledge that ESO can be implemented in non-listed firms. It would be interesting to confirm results with non-listed French companies. Second, we did not consider the type of shareholder in the context of our study and in particular the different short-term and long-term types of shareholders. The present study can be extended internationally by using a global sample. It would be interesting to investigate cross-country and cross-governance system variations of the relationship between ESO and cost of equity. It would be worth examining

whether the ESO-cost of equity capital effect causes firms to alter their behavior. Using a dynamic approach, one may study the change in cost of equity over time when low employee ownership firms significantly increase their employee participation in their capitals. Perspectives opened by the study of Kim and Patel (2017) seem very interesting. An extension of our study could include effects of the sector activity that has a significant effect on the cost of equity. We aim to enrich our analysis in the future by integrating additional variables and using other econometric techniques to refine the relationships observed in the context of this article.

Appendix 2.1

Employee ownership and implied cost of equity

Table 2.1

Sample breakdown according to the 12 industry group affiliations (without financial sector)

<i>Industry</i>	<i>N</i>	<i>Percentage</i>
Consumer Non-Durables	133	7.37%
Consumer Durables	38	2.11%
Manufacturing	380	21.05%
Oil, Gas, and Coal Extraction and Products	76	4.21%
Chemicals and Allied Products	57	3.16%
Business Equipment	323	17.89%
Telephone and Television Transmission	76	4.21%
Utilities	19	1.05%
Wholesale, Retail, and Some Services	76	4.21%
Healthcare, Medical Equipment, and Drugs	152	8.42%
Other	475	26.32%
<i>Total</i>	<i>1,805</i>	<i>100%</i>

Table 2.2
Summary table of variables

Variable Name	Source	Description	Measurement unit
rAVG	Author's calculations	Average implied cost of equity capital of rCT, rGLS, rOJ and rE	Percentage
rCT	Author's calculations	Implied cost of equity capital estimated with the model from Claus and Thomas (2001)	Percentage
rGLS	Author's calculations	Implied cost of equity capital estimated with the model from Gebhardt et al. (2001) model	Percentage
rOJ	Author's calculations	Implied cost of equity capital estimated with the model from Ohlson and Juettner-Nauroth (2005)	Percentage
rE	Author's calculations	Implied cost of equity capital estimated with the model from Easton (2004)	Percentage
ESO	IODS corporate governance	The percentage of shares held by employees	Percentage
ESO ²	Author's calculations	the squared variable of employee share ownership	Percentage
BEOR	IODS corporate governance	The proportion of employee owners seating on the board	Percentage
BETA	Thomson Reuters Eikon	Measures the Market beta	-
BTM	Thomson Reuters Eikon	Book value to market value of equity	Percentage
SIZE	Thomson Reuters Eikon	The natural logarithm of total assets	-
LEV	Thomson Reuters Eikon	Leverage ratio defined as the ratio of total debt to the market value of equity	Percentage
DISP	Thompson Institutional Brokers Earning Services (I/B/E/S)	Dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share	Percentage
LTG	Thompson Institutional Brokers Earning Services (I/B/E/S)	Average long-term growth forecast	Percentage
INF	Thomson Reuters Eikon	Inflation rate	Percentage
DS	IODS corporate governance	The dual structure is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise.	Binary 0/1
CD	IODS corporate governance	CEO duality is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise	Binary 0/1

Table 2.3
Descriptive Statistics of Variables

	rCT	rGLS	rOJ	rE	rAVG	ESO	BEOR	BETA	BTM	SIZE	DISP	INF	LTG	LEV	DS	CD
Mean	12.82	11.73	18.21	15.71	14.62	2.36	1.58	1.04	2.62	15.96	2.86	1.56	13.01	26.28	0.23	0.55
Median	10.19	11.28	16.81	11.61	13.02	1.84	0.00	0.97	2.22	15.93	2.54	1.70	13.45	27.12	0.00	1
Maximum	87.54	74.99	83.79	86.06	55.08	32.83	27.27	4.13	40.87	20.59	26.31	2.80	87.95	80.45	1.00	1.00
Minimum	0.01	3.72	2.60	0.99	5.26	0.00	0.00	0.00	0.22	4.22	-14.75	0.50	-19.80	0.00	0.00	0.00
Std. Dev.	12.22	5.36	9.24	10.23	6.59	3.74	3.55	0.51	2.53	1.74	2.47	0.58	10.07	14.00	0.42	0.50
Observations	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805	1805

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports the descriptive statistics of the variables included in the analyses. rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). Appendix B provides details on the implementation of the four models. ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board. BETA measures the market beta. BTM is the book value to market value of equity. LEV is the leverage ratio defined as the ratio of total debt to the market value of equity. DISP is the dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share. LTG is the average long-term growth forecast. INF is the inflation rate. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise.

Table 2.4a
Correlation Matrix

		1	2	3	4	5	6	7	8
1.	rCT	1							
2.	rGLS	0.24***	1						
3.	rOJ	0.16***	0.34***	1					
4.	rES	0.14***	0.44***	0.63**	1				
5.	rAVG	0.56***	0.62***	0.77***	0.83***	1			
6.	ESO	-0.03	0.01	0.02	0.06**	0.02	1		
7.	ESO ²	-0.06**	0.03	0.02	0.04	0.00	0.91***	1	
8.	BEOR	0.01	0.00	0.04	0.05**	0.04*	0.53***	0.35***	1

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports correlation coefficients between the variables included in the empirical analyses. rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). rPEG the Price Earnings Growth ratio, rEPR the Earnings price ratio developed by (Easton, 2004) and the Gordon finite horizon model rGOR by (Gordon and Gordon, 1997). Appendix B provides details on the implementation of the four models. ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 2.4b
Correlation Matrix and variance inflation factor

		1	2	3	4	5	6	7	8	9	10	11	12	13	VIF
1.	rAVG	1													
2.	ESO	0.02	1												9.25
3.	ESO ²	0.00	0.91***	1											7.52
4.	BEOR	0.04*	0.53***	0.35***	1										1.66
5.	BETA	0.29***	0.00	0.01	-0.02	1									1.05
6.	BTM	-0.16***	-0.07***	-0.05**	-0.04	-0.05**	1								1.07
7.	SIZE	-0.03	0.16***	0.06***	0.20***	0.02	-0.19***	1							1.21
8.	DISP	-0.05**	0.00	-0.04	0.10***	-0.13***	0.01	0.23***	1						1.09
9.	INF	0.08***	0.00	0.02	0.02	0.01	-0.01	-0.03	0.01	1					1.01
10.	LTG	0.53***	0.01	0.02	0.00	0.13***	0.12***	-0.15***	-0.06**	-0.04*	1				1.06
11.	LEV	0.16***	-0.02	-0.01	0.01	-0.02	-0.14***	0.11***	0.00	0.01	0.00	1			1.05
12.	DS	0.00	-0.07***	0.00	-0.11***	0.08**	0.01	0.02	-0.03	0.03	0.00	-0.13***	1		1.65
13.	CD	0.03	0.11***	0.05**	0.11***	-0.05**	0.02	-0.01	-0.04	-0.01	0.03	0.04*	-0.61***	1	1.63

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports correlation coefficients between the variables included in the empirical analyses. rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). Appendix B provides details on the implementation of the four models. ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board. BETA measures the market beta. BTM is the book value to market value of equity. LEV is the leverage ratio defined as the ratio of total debt to the market value of equity. DISP is the dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share. LTG is the average long-term growth forecast. INF is the inflation rate. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 2.5
The nonlinear relationship between employee ownership and the cost of capital

	(1)	(2)	(3)	(4)	(5)
	rAVG	rCT	rGLS	rOJ	rES
ESO	0.012* (1.63)	0.013** (2.25)	0.017* (1.88)	0.062** (2.17)	0.033*** (2.86)
ESO ²	-0.001** (2.12)	-0.001** (2.03)	-0.001* (1.82)	-0.003** (2.02)	-0.002*** (3.96)
BETA	0.124*** (6.82)	0.034 (1.58)	0.152*** (3.92)	0.124*** (6.08)	0.198*** (7.00)
BTM	-0.028*** (3.39)	-0.006 (0.92)	-0.055*** (3.02)	-0.017** (2.42)	-0.038*** (4.41)
SIZE	-0.013** (2.26)	-0.040*** (5.94)	-0.012 (0.92)	-0.013 (1.48)	0.001 (0.07)
DISP	0.004 (0.88)	0.024*** (5.03)	0.031*** (5.08)	-0.057*** (7.21)	-0.004 (0.58)
INF	-0.008 (0.40)	0.016 (0.79)	0.029 (0.57)	0.089*** (3.42)	-0.156*** (3.79)
LTG	0.018*** (22.98)	0.021*** (18.83)	0.033*** (27.39)	0.008*** (8.16)	-0.002 (1.52)
LEV	0.005*** (7.97)	0.003*** (4.07)	0.006*** (5.01)	0.002*** (2.96)	0.009*** (8.75)
DS	-0.016 (0.69)	-0.015 (0.53)	0.060 (1.31)	0.100*** (3.31)	-0.135*** (3.33)
CD	0.014 (0.76)	-0.009 (0.39)	0.101** (2.44)	0.049** (1.99)	-0.075** (2.17)
Constant	2.526*** (19.90)	3.149*** (22.91)	1.557*** (5.99)	2.328*** (9.76)	3.156*** (10.94)
Year effects	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes
the inflection point	6	6.5	8.5	10.33	8.25
R ²	0.5103	0.4539	0.5059	0.5066	0.2306
Hansen's J chi2 (p-value)	0.0073	0.0156	0.0079	0.0001	0.0042
Nb of instruments	38	38	38	38	38
Observations	1805	1805	1805	1805	1805

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports GMM fixed effect regression. rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). Appendix B provides details on the implementation of the four models. ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board. BETA measures the market beta. BTM is the book value to market value of equity. LEV is the leverage ratio defined as the ratio of total debt to the market value of equity. DISP is the dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share. LTG is the average long-term growth forecast. INF is the inflation rate. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 2.6
The impact of employee representation on the nonlinear relationship between employee ownership and the cost of capital

	(6)	(7)	(8)	(9)	(10)
	rAVG	rCT	rGLS	rOJ	rES
ESO	0.016* (1.63)	0.021** (1.63)	0.026** (2.29)	0.024* (1.65)	0.046*** (3.48)
ESO ²	-0.001** (1.93)	-0.001** (1.40)	-0.001** (2.15)	-0.001** (1.77)	-0.002*** (4.10)
BEOR	0.025*** (4.51)	0.009** (2.18)	0.022*** (2.17)	0.045*** (4.34)	0.047*** (5.90)
Interact (BEOR*ESO)	-0.005*** (4.78)	-0.001** (2.31)	-0.006*** (3.39)	-0.006*** (2.72)	-0.014*** (7.75)
BETA	0.118*** (6.65)	0.037** (1.70)	0.148*** (3.80)	0.123*** (5.48)	0.179*** (6.48)
BTM	-0.027*** (3.18)	-0.005 (0.89)	-0.055*** (2.96)	-0.019** (2.47)	-0.040*** (4.39)
SIZE	-0.015** (2.53)	-0.041*** (6.19)	-0.014 (1.06)	-0.002 (0.30)	0.002 (0.18)
DISP	0.002 (0.45)	0.022*** (4.40)	0.030*** (4.63)	-0.065*** (7.55)	-0.004 (0.45)
INF	0.000 (0.00)	0.021 (1.08)	0.037 (0.73)	0.112*** (3.70)	-0.139*** (3.41)
LTG	0.018*** (22.67)	0.021*** (18.69)	0.033*** (26.75)	0.010*** (8.60)	-0.002 (1.55)
LEV	0.005*** (7.47)	0.003*** (4.38)	0.005*** (4.23)	0.002** (2.67)	0.008*** (7.45)
DS	-0.009 (0.39)	-0.016 (0.57)	0.068 (1.45)	0.102*** (3.07)	-0.116*** (2.89)
CD	0.019 (1.02)	-0.013 (0.53)	0.104** (2.53)	0.088*** (3.31)	-0.056* (1.66)*
Constant	2.513*** (19.96)	3.156*** (22.99)	1.540*** (5.88)	1.973*** (9.02)	3.108*** (11.16)
Year effects	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes
the inflection point	8	10.5	13	12	11.5
R ²	0.5113	0.4544	0.5073	0.3169	0.2370
Hansen's J chi2 (p-value)	0.0073	0.0006	0.0009	0.0001	0.0002
Nb of instruments	40	40	40	40	40
Observations	1805	1805	1805	1805	1805

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports GMM fixed effect regression. rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). Appendix B provides details on the implementation of the four models. ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board. BETA measures the market beta. BTM is the book value to market value of equity. LEV is the leverage ratio defined as the ratio of total debt to the market value of equity. DISP is the dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share. LTG is the average long-term growth forecast. INF is the inflation rate. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 2.7
The relationship between employee ownership, employee representation and the cost of capital
Robustness checks with various sub-periods

	rAVG							
	1999-2006		2007-2009		2010-2017		2006-2017	
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ESO	0.009 (1.22)	0.017** (2.19)	0.007* (1.32)	0.019** (2.44)	0.012* (1.66)	0.022*** (2.88)	0.013* (1.55)	0.021*** (2.80)
ESO ²	-0.001* (1.85)	-0.001** (2.49)	-0.0004** (2.04)	-0.001*** (2.64)	-0.001** (2.19)	-0.001*** (3.04)	-0.001* (1.94)	-0.001*** (3.02)
BEOR	- (3.95)	0.024*** (3.95)	- (4.40)	0.025*** (4.40)	- (4.29)***	0.024 (4.29)***	- (4.29)***	0.025*** (4.50)
Interact (BEOR*ESO)	- (4.61)	-0.005*** (4.61)	- (5.02)	-0.006*** (5.02)	- (5.15)	-0.006*** (5.15)	- (5.15)	-0.006*** (5.37)
BETA	0.129*** (6.93)	0.124*** (6.82)	0.119*** (6.64)	0.116*** (6.57)	0.121*** (6.63)	0.116*** (6.55)	0.123*** (6.97)	0.117*** (6.72)
BTM	-0.028*** (3.45)	-0.028*** (3.41)	-0.025 (3.13)	-0.025*** (3.09)	-0.027*** (3.27)	-0.026*** (3.19)	-0.036*** (5.21)	-0.026*** (3.13)
SIZE	-0.013** (2.23)	-0.016*** (2.73)	-0.015** (2.47)	-0.017*** (2.92)	-0.015** (2.51)	-0.016*** (2.84)	-0.011** (1.99)	-0.016*** (2.77)
DISP	0.001 (0.27)	-0.001 (0.14)	0.003 (0.60)	0.001 (0.13)	0.004 (0.72)	0.002 (0.31)	0.002 (0.38)	0.002 (0.43)
INF	0.067*** (4.64)	0.072*** (4.97)	0.138*** (8.56)	0.140*** (8.63)	-0.019 (0.97)	-0.016 (0.85)	-0.022 (1.09)	0.012 (0.43)
LTG	0.018*** (22.82)	0.017*** (22.43)	0.018*** (24.36)	0.018*** (23.90)	0.018*** (24.74)	0.018*** (24.19)	0.018*** (24.71)	0.018*** (23.50)
LEV	0.005*** (7.53)	0.005*** (7.21)	0.005*** (7.98)	0.005*** (7.75)	0.005*** (8.00)	0.005*** (7.69)	0.005*** (7.65)	0.005*** (7.60)
CD	-0.012 (0.51)	-0.004 (0.18)	-0.006 (0.25)	0.004 (0.18)	-0.012 (0.52)	-0.004 (0.17)	-0.004 (0.17)	-0.005 (0.21)
DS	0.021 (1.09)	0.021 (1.11)	0.031 (1.61)	0.034* (1.77)	0.018 (0.95)	0.021 (1.12)	0.020 (1.05)	0.021 (1.11)
Constant	2.219*** (22.14)	2.375*** (18.32)	2.133*** (20.07)	2.254*** (15.98)	2.430*** (24.09)	2.575*** (22.04)	2.596*** (22.80)	2.528*** (19.00)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
the inflection point	4.5	8.5	8.75	9.5	6	11	6.5	10.5
R ²	0.4877	0.4881	0.4940	0.4948	0.4894	0.4900	0.5051	0.5064
Hansen's J chi2 (p-value)	0.0014	0.0021	0.0010	0.0022	0.0009	0.0020	0.0006	0.0003
Nb of instruments	27	29	22	24	26	28	30	32
Observations	1805	1805	1805	1805	1805	1805	1805	1805

The sample consists of all the SBF 120 Index firms over the period 1999-2017. This table reports robustness checks using different sub-periods and GMM fixed effect regression. rPEG the Price Earnings Growth ratio, rEPR the Earnings price ratio developed by (Easton, 2004) and the Gordon finite horizon model rAVG is the average implied cost of equity premium obtained from four models developed by Gebhardt et al. (2001), Claus and Thomas (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). Appendix B provides details on the implementation of the four models.

ESO is the percentage of shares held by employees. ESO² is the squared variable of employee share ownership. BEOR is the proportion of employee owners seating on the board. BETA measures the market beta. BTM is the book value to market value of equity. LEV is the leverage ratio defined as the ratio of total debt to the market value of equity. DISP is the dispersion of analyst forecasts defined as the coefficient of variation of 1-year-ahead analyst forecasts of earnings per share. LTG is the average long-term growth forecast. INF is the inflation rate. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Appendix 2.2

Estimating the cost of equity

Implied Cost of Equity Following Dhaliwal et al. (2006) and (K. C. Chen et al., 2009), the implied cost of equity is estimated by implementing four variations of the residual income valuation model.

Variable definitions:

P_t : stock price in June of year t as reported by I/B/E/S

DPS_0 : dividends per share paid during year $t-1$

EPS: forecasts reported in I/B/E/S in June of year t .

EPS_0 : actual earnings per share reported by I/B/E/S for year $t-1$

LTG : consensus long-term growth forecast reported in June of year t

$FEPS_{t+i}$: forecasted EPS from I/B/E/S for the next i -th year at time t . FEPS 1 and FEPS 2 are equal to the one and two-year-ahead consensus

B_t : book value at the beginning of the year divided by the number of common share outstanding in June of year t

k : expected dividend payout ratio, calculated as DPS_0 / EPS_0 . If the firm-specific payout ratio is missing, then we substitute it with a country/industry median dividend payout ratio.

rf : French risk-free rate, estimated as a return on three annualized yield on 3-month government securities.

glt : Expected long-term or perpetual future earnings growth rate, calculated as the long-term median realized annual inflation rate for each country.¹⁰

- Model 1: Claus and Thomas (2001)

$$P_t = B_t + \sum_{i=1}^5 \frac{FEPS_{t+i} - r_{CT} * B_{t+i-1}}{(1 + r_{CT})^i} + \frac{(FEPS_{t+5} - r_{CT} * B_{t+4}) * (1 + glt)}{(r_{CT} + glt) * (1 + glt)^5}$$

$FEPS_{t+i}$: I/B/E/S consensus for the first two years, for years three, four, five, consensus forecasts if available, otherwise, $FEPS_{t+i} = FEPS_{t+i-1} (1 + LTG)$.

B_{t+i} : $B_{t+i-1} + FEPS_{t+i} (1 + k)$. Forecasts of B are based on the clean surplus relation, I/B/E/S earnings forecasts, and the year t dividend payout rate.

glt : growth in abnormal earnings.

- Model 2: Gebhardt, Lee, and Swaminathan (2001)

$$P_t = B_t + \sum_{i=1}^{11} \frac{FROE_{t+i} - r_{GLS}}{(1 + r_{GLS})^i} B_{t+i-1} + \frac{FROE_{t+11} - r_{GLS}}{r_{GLS} * (1 + r_{GLS})^{11}} B_{t+11}$$

$FROE_{t+i}$: forecasted return on equity. For the first three periods, FROE is equal to $FEPS_{t+i} / B_{t+i-1}$. Subsequent FROE forecasts are a linear interpolation to industry median ROE, with industries defined using the 48 classifications in Fama and French (1997).

B_{t+i} : $B_{t+i-1} + FEPS_{t+i} (1 + k)$. Forecasts of B are based on the clean surplus relation, I/B/E/S earnings forecasts, and the year t dividend payout rate.

- Model 3: Ohlson and Jüttner-Narouth (2005) model, implemented by Gode and Mohanram (2003)

$$r_{OS} = A + \sqrt{A^2 + \frac{FEPS_{t+1}}{P_t} \left(\frac{FEPS_{t+2} - FEPS_{t+1}}{FEPS_{t+1}} - glt \right)}$$

Where $A = \frac{1}{2} (glt + \frac{k * FEPS_{t+1}}{P_t})$ and $FEPS_{t+2} > 0$ and $FEPS_{t+1} > 0$

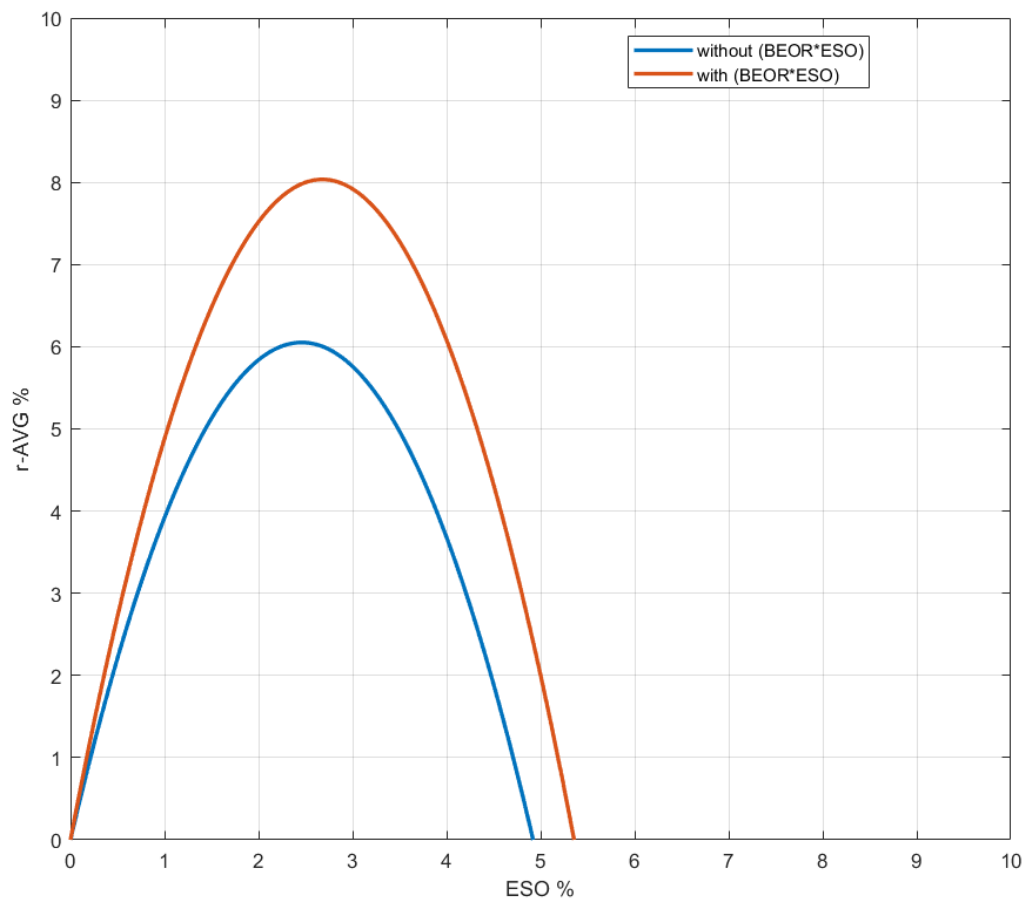
- Model 4: Easton's (2004) implementation of Ohlson and Jüttner-Narouth (2005)

$$P_t = \frac{FEPS_{t+1} + r_{ES} * DPS_0 - FEPS_{t+1}}{r_{ES}^2} \quad \text{where } FEPS_{t+2} \geq FEPS_{t+1} \geq 0$$

¹⁰ Results are qualitatively similar if $rf=0.03$ is used as an estimate for glt .

Figure 1

The moderating impact of employee board representation on the relationship between employee stock ownership and the cost of equity



Note: in Model 6, we see that the coefficient on BEOR is 0.025, but when owner-employees are represented on the board, the moderating effect is mitigated to -0.005. The net effect up to 0.02 (= 0.025 - 0.005) which explains the expanded of our inflection point when we integrate the moderating effect (BEOR*ESO). We infer that employee board representation is complex and affects firm value.

Chapter IV: Does Employee Ownership Increase The Level Of Corporate Environmental Responsibility? An Empirical Study In France¹¹

Abstract:

In this paper we extend the debate on the determinants of corporate environmental responsibility (CER) by examining a new channel through which the ownership structure can affect the environmental performance of firms. We focus on employee stock ownership (ESO) and employee representation on the board of directors (BEOR) to investigate whether variation in firm-level corporate governance mechanisms plays an important role to reinforce the firm's environmental performance. To this end we use a sample of 94 French firms listed from the SBF 120 index between 2005 and 2015. We find that ESO has a positive and significant impact on the CER score. We further find that BEOR is positively and significantly related to CER. Our econometric results suggest that ownership structure is connected to corporate environmental performance for listed French firms. We contribute to the existing literature by presenting new empirical evidence about the effect of employee ownership on the relationship between corporate governance and CER.

Keywords: Employee stock ownership; employee representation; corporate environmental responsibility; corporate governance; environmental performance; ownership structure.

JEL: G32, G33, J54, M14, Q56

¹¹ The paper has been presented in the 2021 French finance association conference and in the 2021 International corporate governance.

Résumé

Dans cet article, nous élargissons le débat sur les déterminants de la responsabilité environnementale des entreprises (REE) en examinant un nouveau canal par lequel la structure de propriété peut affecter la performance environnementale des entreprises. Nous nous concentrons sur l'actionnariat salarié (AS) et la représentation des salariés au conseil d'administration (RSCA) pour déterminer si la variation des mécanismes de gouvernance d'entreprise au niveau de l'entreprise joue un rôle important pour renforcer la performance environnementale de l'entreprise. Pour cela, nous utilisons un échantillon de 94 entreprises françaises répertoriées dans l'indice SBF 120 entre 2005 et 2015. Nous constatons que l'AS a un impact positif et significatif sur le score REE. Nous constatons en outre que RSCA est positivement et significativement lié à REE. Nos résultats économétriques suggèrent que la structure de propriété est liée à la performance environnementale des entreprises cotées en France. Nous contribuons à la littérature existante en présentant de nouvelles preuves empiriques de l'effet de l'actionnariat salarié sur la relation entre la gouvernance d'entreprise et les REE.

Mots-clés : Actionnariat salarié; représentation des employés; responsabilité environnementale des entreprises; gouvernance d'entreprise; performance environnementale; structure de propriété.

IV.1. Introduction

The last two decades were characterized by the rising concerns about corporate environmental responsibility (CER). This movement about CER drives corporations in, voluntarily initiatives by choice or in a mandatory way by pressure from regulation, to engage in environmental activities and reduce their impact on the natural environment. Previous research has shown the potential benefits of CER in strengthening corporate responsibility, enhancing corporate financial performance, creating competitive advantages, and building an environmental reputation (Kassinis & Vafeas, 2006; Moneva & Ortas, 2010; Toms, 2012; Wahba, 2008). Nevertheless, the literature in terms of empirical studies still progressing to uncover variables that influence the firm's environmental performance (K. C. W. Chen et al., 2011; Orlitzky et al., 2011). According to Calza et al. (2016, p. 370) *"Less attention has been given to the analysis of the linkages between corporate governance and a firm's environmental attitude, despite the existence of a strong relationship between this factor and companies' corporate strategies"*. Along these lines, we get interested to advance the current research by analyzing the association between corporate governance and CER from the perspective of ownership structure.

Indeed, the ownership structure is crucial because it can influence the process of making decisions about CER activities and firm's long-term goals. The main objective of this research is to provide a better understanding of the factors that determine CER level and how to improve its performance within organizations. Limited empirical literature had tried to connect employee ownership as a determinant for the development of a firm's social performance (Dam & Scholtens, 2012; Rees & Mackenzie, 2012). In this paper, we try to fill this gap in the literature by examining the direct effect of employee ownership on CER. We focus on employee ownership to explore the relationship between corporate governance practices and firm's environmental responsibility.

Employee ownership contribute in reducing wealth inequalities by equitably distributes wealth throughout the workforce (Boguslaw & Taghvai-Soroui, 2018), improving productivity (Kruse, 1990; Pérotin & Robinson, 2002) and promoting the participation of employees into decision-making and management processes (Han et al., 2010). Profit sharing with employees leads to beneficial behavior and attitude changes (Klein, 1987), make them a valuable instrument to correct negative income and wealth imbalances, and generate efficient performance, stability, and sustainability (Boguslaw & Taghvai-Soroui, 2018; Martin et al., 2016; Pérotin & Robinson, 2002). Most empirical studies are based on the US market (Berrone et al., 2010; de Villiers et al., 2011; Walls et al., 2012). Holtbrügge & Dögl (2012) in their reviewing article about the international state of corporate environmental responsibility found that the USA and Canada dominate the geographic focus of research. They mentioned that 80% of the article are related to the US and

Canada, 32 and 11 out of 54 respectively. However, European country collecting only 20% (11 of 54) with only one article about France. This research was conducted on the French market for the following reasons. First, the French case is characterized by high ownership concentration, mainly controlled by family and public shareholders (Ducassy & Montandrau, 2015). Secondly, France presents a unique legal context to study. The French civil law has the weakest protection of small and outside investors; corporate control is weak with very few hostile takeovers (La porta et al., 2000). Third, the French context is distinguished by the significant progress in employee ownership and environmental performance leading the European Union in these two areas. According to the European Federation of Employee Share Ownership (EFESO, 2019), 96% of French listed firms set employee shareholders ownership plans. The average rate of capital held by employees is 4.9% with nearly 3 million employees. Likewise, the Environmental Performance Index (EPI) ranking of 2018, reports that France is ranked second in the world with a score of 83.9 (while it was 10th in 2016 and 27th in 2014), behind Switzerland. These features make France different from other European countries and a particularly interesting case to study.

Alt et al. (2015) indicate that employee stakeholder is associated with environmental performance through proactive environmental strategies. This relationship performs more effectively in the presence of a high level of shared vision. Hence, employees' participation in decision-making would positively influence the firm's environmental sustainability practices (Farooq et al., 2019). In this research, we investigate the specific relationship between employee share ownership (ESO) and the environmental performance score. We consider that employee shareholders, like any shareholder, are likely to affect the governance and strategic choices of their companies from the moment they hold a significant stake in the capital. We assert that employees encourage listed firms to be more engaged and willing to environmental responsibility (Wolf, 2013). Further, the impact of employee ownership should be much more pronounced when we coupled with a potential representation at the heart of governing bodies (Pérotin & Robinson, 2002; Rousseau & Shperling, 2003). Employee representation (BEOR) allows employees to participate in the management of their company decisions since they can be offered seats (voice) on the board of directors. Employees are very conscious and sensitive to environmental activities (El Akremi et al., 2018).

Our research is based on a sample of 94 large listed French firms from 2005 to 2015. Using firm-year panel data, we conducted the ordinary least squares (OLS) regression analysis. We apply fixed-effects and clustered standard errors methodologies at the firm level to mitigate any potential endogeneity problem associated with various corporate governance variables. We find that variations of employee stock ownership and the presence of employee owners on the board of

directors significantly affect firm's environmental responsibility. More precisely, we document a strong positive relationship between ESO and CER scores. Moreover, a positive relationship is evidenced between BEOR and CER. This implies that employees' participation in decision-making contributes to enhancing firm's environmental responsibility. Further, our empirical models allow us to verify previous finding about the impact of corporate board characteristics and the consequence of mandatory laws and codes of governance on CER. Our empirical findings matched the existing literature (Aguilera et al., 2007; Alt et al., 2015; Y. Chen et al., 2015; Dögl & Holtbrügge, 2014; Farooq et al., 2019; John et al., 2019; Markey et al., 2016, 2019; Nekhili et al., 2019; Ramus & Steger, 2000; Rupp et al., 2006; Walls et al., 2012) and supported our hypothesis about the link between employee ownership and CER. We discuss these findings afterward in this paper. Our research underlines the essential role played by employees and corporate governance practices to drive firms to be environmentally responsible.

The remainder of this paper is organized as follows. The following section provides a literature review on the association between corporate governance practices, especially employee ownership, and firms' environmental responsibility, and the research hypotheses are developed. The next section describes the sample, variables, and empirical methodology used. The fourth section reports the descriptive statistics and the results of the analysis. The fifth section presents the discussion and the implications of the results. Last, the final section concludes the paper.

IV.2. Literature review and hypotheses development

Recent studies try to explore the intersection between corporate governance and CSR. According to Walls et al. (2012), there are two main reasons to confirm that corporate governance plays a role in environmental performance. First, environmental actions require important investment and have long-term strategic implications. For that reason, those actions can be risky and can have a critical impact on the capital structure of the firm and its activity. Second, focusing on the natural environment requires broad coordination at multiple levels to develop the influence of the firm beyond its organizational borderlines to its supply chain and across stakeholder groups. Walls et al. (2012), adopted the fact-based research approach on 313 Americans listed firms to explore the relationship between three area of corporate governance (ownership, boards, and management) and their respective interactions to environmental performance. Results disclose that *“ownership aspects of governance are very relevant for environmental strengths, whereas board aspects are important for environmental concerns. In addition, interactions between ownership-board are pertinent for environment concerns, while ownership-management and board-management interactions are critical for environmental strengths.”* Other studies like Dögl and Holtbrügge (2014) examine the impact of CER on employees' commitment outcomes and the environmental reputation.

In contrast with the growing body of literature on the outcome of CSR, we find little attention has been paid to the factors that determine CSR¹² level and how to improve it in companies (Li & Zhang, 2010). Jones (1999) examined the determinants of social responsibility. He found that institutional structure, such as sociocultural, national capital market, industry, firm, and individual, mainly determines CSR. Following Jones (1999), many studies document several factors that affect the CSR level based on the context of developed countries. For example, Dam and Scholtens, (2012) find evidence of a positive relationship between corporate social performance (CSP) and company size, risk-taking behavior and for some specific industries. Ducassy and Montandrou (2015), investigate the influence of company ownership and governance on CSR practices of French firms. They indicate that the structure of ownership influences social performance, rather than the type of owners.

Although several studies on the determinants of CSR, we still can identify a gap in the research on this area. Only a few recent articles (117 references between 2005 and 2014, see Faller and zu Knyphausen-Aufseß, 2018) have addressed the question to examine the ownership structure–CER relationship directly. Holtbrügge & Dögl (2012) identified only 54 articles regarding CER in the period between 1997 and 2010. This study confirms that the attention on CER is still progressing. By analyzing the impact of corporate ownership on firms' environmental proactivity in seven different European countries (Germany, France, Italy, Spain, Switzerland, Austria and Portugal), Calza et al. (2016) conclude that there is a significant positive effect of ownership structure on the level of environmental proactivity. In addition, Kassinis & Vafeas (2006) and Welford et al., (2008) identify that stakeholders have more implications for the environmental dimensions in company CSR activities and efforts. Faller and zu Knyphausen-Aufseß (2018) in their review of the literature on the relationship between corporate equity ownership and CSR examine six different shareholder type groups and find that these groups differ in terms of support for their firms' CSR engagement. Based on a survey method, Farooq et al., (2019) document that employee participation in decision making has a strong positive effect on the components of sustainability (environmental and societal).

Study the relationship between corporate equity ownership and CER by examining new shareholder type groups is fundamental to fulfill the gap in the research. According to Li and Zhang (2010: 633) *“the previous studies only examine one or several aspects of the driving factors of CSR, and are with high chances of missing important control variables affecting levels of CSR. Therefore, the multivariate regression in our study perceives the inclusion of a comprehensive set of control*

¹² The social and environmental aspects

variables from not only existing evidences in prior studies, but also theoretical analysis on the determinants of CSR”.

To get valid and reliable results, we adopt the multivariate analysis of a large sample of listed firms in France to have a clear picture of determinants of CER in developed markets. We extend the existing research Ducassy and Montandrau, (2015) by examining the effect of employee ownership and corporate governance practices, on a special sub-category of CSR in France after controlling for a variety of variables that have been documented as influencing factors of CER.

IV.2.1. Employee ownership and corporate environmental responsibility

Gunningham, (2009, p. 215) defined CER as *“practices that benefit the environment (or mitigate the adverse impact of business on the environment) that go beyond those that companies are legally obliged to carry out”* in agreement with the World Business Council for Sustainable Development. Gunningham (2009), in his review article, outlines the development of the CER movement between the first-generation writers (‘win-win’ opportunities of environmental spending) and second-generation writers (‘win-lose’ in which case environmental protection and economic growth could not be combined). He explains that the development of corporate environmental responsibility is influenced by a combination of external pressures (i.e., regulatory demands, liability risks and market opportunities) and internal variables (i.e., broader stakeholder pressures and managerial attitudes). Gunningham (2009) noted the key factors in the literature of corporate environmental management and draws some explicit implications for a company to decide what to do in terms of environmental policy and governance.

Walls et al. (2012) study the interaction of corporate governance (CG) to environmental performance (EP). They detect evidence that the CG-EP interface depends on the interplay of different governance structures as they find evidence of interaction effects among the combinations of governance mechanisms (ownership-board interactions, ownership-management interactions, and board-management interactions) .

In the current study, we focus on employee ownership, defined by the national center for employee ownership (NCEO) as *“a term for any arrangement in which a company’s employees own shares in the company’s stock”*¹³, to analyze the association between corporate governance and CER from the perspective of ownership structure.

According to Alt et al. (2015, p. 169) *“Employees often initiate and assume responsibilities for environmental management activities, and in many instances possess unique knowledge of their firms, which may enable them to support firms towards environmental improvements”*. From Alt’s evidence we can figure out why employee ownership, as a stakeholder group, could impact CER.

¹³ <https://www.nceo.org/what-is-employee-ownership>

Employees act as agents for social change by pushing firms to adopt socially responsible behavior (Aguilera et al., 2007). Ramus and Steger (2000) demonstrate that employees' help is necessary to implement and secure environmental policy.

Stakeholder relations theory suggests that employees perceive, assess, judge and react to CSR actions (Rowley and Berman, 2000; Rupp et al., 2006). Therefore, Gond et al., (2010) disclose that employees as a stakeholder group can be seen as an "independent variable", explaining the development of CSR (Aguilera et al., 2007), as a "dependent variable" affected by CSR (Maignan & Ferrell, 2001), or as a "moderating variable" that influence the relationship between CSR and corporate performance (Barnett, 2007).

In this paper, we are primarily interested in the first role played by employee ownership as a shareholder group. We consider employee owners as a group that perceives, evaluates, and reacts to CER. Then, we give our full attention to employee representation on the board of directors. We consider that employee owners who have a seat on the board had a crucial role to generate attitudes and social behaviors in the organization which may affect the corporate environmental performance. Empirical studies found that ownership structures influence corporate decision-making (Lee, 2009). Thus, it can be expected to influence strategic decisions on CER commitment (Oh et al., 2011). The increase of CER importance within society is observed in many companies (Barnea and Rubin 2010); however, firms show disparate attitudes toward CSR actions (Aguilera et al., 2007). According to Faller and zu Knyphausen-Aufseß (2018), literature attention has been focused to investigate the relationship between the firm's CSR and two main ownership structures (institutional investor and family equity ownership). Surprisingly, employee ownership as a group of shareholders has received insufficient attention in the CSR literature¹⁴. Villalonga (2018: 18) noted that *"most of the research about the CSR practices or ESG performance of certain owner types has focused on families and/or institutional investors. Although the weight of this research is proportional to the prevalence of both owner types, it would be interesting to learn more about other types of owners that are also very prevalent, particularly in certain industries and economies, such as the state, industrial foundations (Thomsen, 2017), and employees"*. Hence, it appears a need to explore employee ownership as a new group of shareholders to better understand shareholders' motives and their influence on CER.

Following Aguilera et al. (2007), we argue that employees have three main motives for pressuring firms to engage in CSR: the first source is instrumental related to self-interest driven, the second source is relational concerned with relationships among group members, and the third source is

¹⁴ See Dam, L., & Scholtens, B. (2012). Does ownership type matter for corporate social responsibility? *Corporate Governance: An International Review*, 20(3), 233-252

moral concerned with ethical standards and moral principles. We focus our analysis to examine why employee ownership might push corporations to engage in CER initiatives. We argue that employee owners' perceptions of the firm's environmental responsibilities are exceptional and that these CER consciousness build up the employees' attitudes and behaviors in regard to their firm. For this reason, our model does suggest that a firm, outfitted with a proportion of employee ownership, will be pressured and motivated to be more environmentally responsible. The literature indicates that even if the proportions of shareholdings are small, it could enable a certain influence on corporate CSR (Faller and zu Knyphausen-Aufseß, 2018).

Furthermore, on the basis of signaling theory, research in environmental reputation and employee commitment (e.g., Dögl & Holtbrügge, 2014), apply partial least-squares path modeling (PLS) to demonstrate that CER activities of a company on environmental reputation has a positive influence on employee commitment. Employees' positive perceived CER, which leads to a positive attitudinal and behavioral workplace outcome. This means when employees perceive their organization is doing well for the environment and the society; they also want to do something good for their organizations in return. CER activities boost employee perceptions of self-worth, as it is a source of fulfilling their need for self-esteem and desire to create significant impact through work. (Dögl & Holtbrügge, 2014, p. 17) confirm in their study "working for a well regarding environmentally responsible firm enhances employees' self-esteem and decrease their turnover interest". Therefore, employees pay back the environmental and social activities of firms through better task performance and Organizational Citizenship Behavior (OCB).

In view of these considerations, and from a stakeholder relationship theory and signaling theory, we expect that employee ownership have a positive impact on CER practices. In other words, employee ownership will make pressure to increase the environmental performance in the company. We try to connect employee ownership with corporate environmental performance. Therefore, our first hypothesis is the following:

Hypothesis 1: Employee ownership positively affects the corporate environmental performance.

IV.2.2. Employee board participation and environmental responsibility

The key role of the board of directors is to control company's affairs to ensure the prosperity of the corporation and protect shareholders wealth. Other the business and financial issues, the board of directors make sure that the company is engaged in social activities (Rao & Tilt, 2016). Many academic research point out the connection between the board of directors and CER relies on agency theory. de Villiers et al., (2011) provide evidence of a strong relationship between firm environmental performance and board characteristics. The authors argue that the board of directors contribute to align the interests of shareholders with society. Recent research confirms this evidence

by demonstrating that the nature of the board influences the company's social performances. Chams and García-Blandón (2019) provide evidence supporting a significant and positive relationship between sustainability and board of directors' size, the number of committees, age of directors, and gender diversity. Naciti (2019) analyzes the influence of specific characteristics of board composition (independent directors on board, board diversity and, separation of board chair and CEO roles) on the company's sustainability performance using 362 firms in 46 different countries. Results show that each different stakeholders' groups influence corporate social performance differently. Focusing on the board composition, the French law allows the representation of employee owner's in the board of directors. If employee owners collectively hold over 3% of shares, the board of directors must give at least one seat to an employee owners' representative. The board employee owner's representation (BEOR) has become compulsory for French listed companies at the end of 2006 (Ginglinger et al., 2011).

Barnett (2007) indicates that stakeholder influence capacity (SIC) moderates the effect of an act of CSR on stakeholder relations. It means that an act of CSR produces an effect on stakeholder relations and contributes to a firm's SIC such as trust and reputation. Following Barnett's (2007) argument, we extend recent research by examining the relationship between the presence of employee owners on the board of directors and the environmental performance. We try to find out how BEOR could influence the environmental metric. More precisely, we suggest that BEOR may have a positive impact on corporate environmental performance, since it plays an important role in CSR decisions. In general, employees positively perceive CSR activities which definitely influenced their task performance by doing something good for their organizations in return (John et al., 2019). Moreover, When a company is engaged in CER activities, employees are more proud of and committed to the organization (Brammer et al., 2007). Perception of CER impacts commitment and make a positive contribution to overall commitment. Chughtai and Zafar (2006), found that commitment is negatively related to turnover intentions and positively related to job performance.

Farooq et al., (2019, p. 511) define participation as *"Employees' participation in decision making means that they are being asked by their superiors to participate in the decision-making process, they are allowed to make some decisions themselves, they are given opportunities to suggest improvements in the way things are done, and there is open communication between supervisors and employees"*. Similarly, BEOR allows employees to participate in the management of their company since they can be offered seats (voice) on the board of directors. Because employees are very conscious and sensitive to sustainability activities. Employees' participation in decision-making positively influences the firm's environmental sustainability practices (Farooq et al., 2019).

This makes us believe that employee representation on the board of directors has a strong positive effect on environmental performance. If employee ownership will accept to invest an amount of their financial capital in company's CSR activities (e.g. environmental protection) where they have already invested their human capital. This investment in green/sustainable activities will have a positive impact on the firm image and reputation but negatively affect firms' results. In fact, the environmental performance generates costs that reduces short-term firm profits available for distribution. This limits the potential income of the shareholders and reduce corporate performance (Clark & Hebb, 2004; Mackenzie et al., 2013). As pointed out by Nekhili et al. (2019) employees are too reliant on the long-term survival of their organization. Therefore, Employees' participation (BEOR) is likely to boost investment in CER activities, since the benefits from such investment are manifested in the long term. Similarly, Markey et al. (2016) based on a survey of 682 Australian organizations, they find that employee participation has a strong effect on reducing carbon emissions by evaluating, developing, and implementing measures to reduce carbon emissions over their workplace. This study supports recent research by Markey et al. (2019) which they confirm the importance of employee participation to influence the corporate environmental behaviours and reducing firms' carbon emissions.

To the best of our knowledge, no empirical literature had tried to connect employee representation on the board of directors with the corporate environmental responsibility and so on we hypothesise the following:

Hypothesis 2: BEOR positively affects the environmental performance.

IV.3. Data and Methodology

IV.3.1. Sample and data

This study analyzes companies listed on the SBF 120 index¹⁵ (the top 120 French stock market capitalizations) and the sample period is from 2005 to 2015. The data were collected from three sources to construct our sample. First, corporate environmental performance based on ESG environmental scores were accrued from Thomson Reuters ASSET4. The second source of data focused on ownership information. We obtain all required information about employee ownership and board characteristics from IODS DataCG Corporate Governance database. Finally, financial and accounting information of the companies was extracted from Thomson Reuters Datastream Database. The initial sample included 120 listed companies. Companies with missing data have

¹⁵ Société des Bourses Françaises 120 is an index of the Paris Stock Exchange, which groups the 120 largest companies by market capitalization and by trading volumes on NYSE Euronext Paris.

been excluded. The final sample set with 1034 firm-year observations residing of 94 firms listed in the French market.

IV.3.2. Measurement of variables

IV.3.2.1. Dependent variable

We collected CER data from Thomson Reuters. Thomson Reuters Corporate Responsibility Indices (CRI) provides a comprehensive, objective and transparent rules-based benchmarking solution for measuring global ESG performance. Thomson Reuters¹⁶ *“ASSET4 provides objective, relevant and in-depth environmental, social and governance data, enabling socially responsible investment analysis. The database contains information on more than 3,400 global companies and over 750 data points including all ethical screening criteria and aspects of sustainability performance”*.

The environmental pillar is measured through “ENVSCORE” as denoted by Asset4 and consists of three categories: resource use, emission reduction, and product innovation. Following Gonenc & Scholtens, (2017), we use overall percentage scores of the environment pillar (ENV score) to measure CER, and we extend our analysis to the three constituting categories of corporate environmental performance to evaluate the level of CER activities. The three large items are resource use, emissions reduction, and product innovation. As defined by Thomson Reuters: *“the environmental score actually measures the company's impact on living and non-living natural systems, including air, land, and water, as well as complete ecosystems. It reflects how well a company uses best management practices to avoid environmental risks and to capitalize on environmental opportunities to generate long-term shareholder value”*. We noted that ENV score and the three constituting categories scores (Resource use score, Emissions score and Innovation score) are normalized to percentages ranging between zero and 100.

IV.3.2.2. Independent variables

Our model recognized employee stock ownership (ESO) and board employee owner's representation (BEOR) as two internal factors that could shape the corporate environmental performance. Employee ownership and board characteristics come from IODS DataCG Corporate Governance database. In our Study, ESO is defined as the percentage of shares held by employees for a given year and we measured BEOR as the proportion of employee owners' seats on the board (Aubert et al., 2014; Blasi and Kruse, 2010; Ginglinger et al., 2011). The above-mentioned variables allow us to measure the employee ownership concentration and participation within each firm.

¹⁶ <https://www.thomsonreuters.com/en/press-releases/2014/thomson-reuters-launches-corporate-responsibility-indices-to-measure-european-esg-performance.html>

Consistent with previous studies, we try to test the effect of board characteristics on corporate environmental responsibility. We include two specific measures. The first variable is the proportion of female representation on boards (WOM), which measures the gender diversity on corporate boards and is computed as the number of women directors divided by the total number of directors (Ben-Amar et al., 2017; Harjoto et al., 2015; Hyun et al., 2016). The second is the proportion of independent directors on the board (INDP), which measures the board's independence and is computed as the percentage of independent directors on the board (Jo & Harjoto, 2012; Walls et al., 2012).

Likewise, the literature underlines the need to include corporate governance variables to take into consideration the relationship between corporate governance characteristics and firm environmental performance (Naciti, 2019). Therefore, our sample includes the board's structure and CEO duality. The dual structure (DS) is a dummy variable that takes one in the presence of a dual governance structure (supervisory and executive board), and zero otherwise. CEO duality (CD) is a dichotomous variable taking the value of 1 if the CEO is also the chairman and 0 otherwise.

IV.3.2.3. Control variables

A variety of control variables are included in our model in order to obtain unbiased causal effect estimates (Hünemund & Louw, 2020). First, Herfindhal index (HERFINDHAL) is added in order to control firm's ownership concentration. This variable is obtained by the sum of the squared percentage of shares held by each shareholder. The higher the Herfindhal index, the more concentrated the firm's ownership (Dam & Scholtens, 2013; Ducassy & Montandrau, 2015).

Besides, the variable return on assets (ROA) is controlled for financial performance. The firm's profitability can be considered as a major source of variation in CER investment (Kang & Byun, 2020; Zeng et al., 2019). On the other hand, increasing the level of debts can reduce the ability to invest in environmental activities due to the rise of interest costs and the risk of bankruptcy. On this wise, the leverage ratio (LEV) is controlled and is the ratio of total liabilities to the total assets. This study thus controls the size of firms (SIZE) by taking the natural logarithm of their total sales. Size is one of the most frequent measures used in the literature. According to Kang & Byun, (2020, p. 8) the control variable size allows *“to control the effects of the scope of business according to the size of firms, the capacity available for investment expenditures, and growth stages”*. The variable cash holdings (CASH) is the ratio of cash and equivalents to the total assets. The amount of cash represents the internal funding capacity for investing in CER activities. Consequently, firms with large amounts of cash can easily expand their investments in environmental activities. Moreover, firms that are experiencing higher growth need to allocate more working capital to investment (Rangan, 1998), thus may affect their short-term profitability and CER implementation (Nyame-

Asiamah & Ghulam, 2019). For this reason, revenue growth (GROWTH) is included as a control variable in our model.

Finally, for the type of shareholders, we retained two major categories, family (FAM) and state (STA) ownership, which represent 56% of the entire shareholder's type in our sample. Johnson et al. (2010) and Sraer & Thesmar (2011) explain that family and state ownership reflect the characteristics of the French market.

[Table 3.1 near here]

IV.3.3. Methodology

This paper proposes to verify if employee ownership and employee representation on the board of directors could affect corporate environmental responsibility. To test our research hypotheses, we exploit a panel data methodology. Baltagi (2013) explains that the use of panel data enables company performance to be assessed over time, by analyzing observations from several consecutive years for the same company. We apply the ordinary least squares (OLS) regression analysis as our main analysis methodology to test for the effects of employee ownership on environmental performance scores. To test the above proposition, the following relationship is proposed, which is split into two models in accordance with our hypotheses:

The first model of our study (Model 1) aims to examine whether employee stock ownership may encourage listed firms to engage in more green strategies that enhance their environmental performance. The first empirical model is as shown in equation (1) below.

$$CER_{it+1} = intercept + b ESO_{it} + c WOM_{it} + d INDP_{it} + e DS_{it} + f CD_{it} + g (controls\ variables_{it}) + \varepsilon_{it} \quad (1)$$

Furthermore, the second model of our study (Model 2) aims to examine whether employee representation on the board of directors could help listed firms to pay more attention to their environmental performance. The second empirical model is as shown in equation (2) below.

$$CER_{it+1} = intercept + b BEOR_{it} + c WOM_{it} + d INDP_{it} + e DS_{it} + f CD_{it} + g (controls\ variables_{it}) + \varepsilon_{it} \quad (2)$$

Where the firm-year panel data format it (i range from 1 to 1,034 and t takes the values of the years from 2005 to 2015); CER score is our depending variable on the model among employee stock ownership, employee representation, the female representation, the independent directors, the board's structure and CEO duality. a, b, c, d, e, f, and g represent the estimating parameters; ε_{it} the error term.

The sample of our paper is a firm-year panel data format and errors may be a concern due to heteroscedasticity and autocorrelation problems. From Breusch-Pagan test for heteroscedasticity, we found that the Chi-square statistic is 283.67 and the p-value is 0.000. These results reject the null hypothesis of homoscedasticity. However, the Wooldridge test for autocorrelation in panel data shows an F statistic equals to 0.211 and the p-value is 0.6472. This result indicates the absence of serial correlation. The estimated value of the mean inflation factor (VIF) is 1.34 in our model. As

VIF is less than 10, conducting regression analysis is tolerable and there is no serious multicollinearity problem among our variables. To deal with the heteroscedasticity problem, we follow Petersen, (2009) who argues that the estimated value errors can be reduced using clustered standard errors estimated at the firm level. Therefore, we regress our models using clustered standard errors at the firm level. In consideration of the effect of timing difference, we create lead values ($t+1$) and used them for dependent variables.

IV.4. Empirical results

IV.4.1. Descriptive results

As mentioned before, our sample contains 94 companies listed in the French stock market and operates in 12 different industries. Table 3.2a shows the descriptive statistics of variables used in our analysis. The average of CER was 81.75%. Since the values of CER are standardized values based on a full score of one, this means that the CER activities of French companies are more than sufficient on average. Indeed, the detailed items of CER score, resource use, emissions reduction, and product innovation were shown to be actively implemented (more than 75%).

Table 3.2b provides the distribution of the percentage of capital held by employee. We find that 80% of employees in France hold capital between 1% and 6%. This high percentage indicates that France is one of the leading western European countries with regard to employee ownership.

[Table 3.2a near here]

[Table 3.2b near here]

Mean comparison tests are presented in the table 3.2c. We use the median level of ESO (1.45% of the equity) as a reference point of our comparison tests. We then compare environmental scores (ENV) of companies (Table 3.2c, Panel A) with ESO above ($>$ Median) and below this level ($<$ Median). The median environmental scores (ENV) of firms with a high ESO level is 85.75, while it is 78.01 for firms with a low ESO level. These results suggest that the median environmental scores for firms with a high ESO level is almost 8 points higher than that for firms with a low ESO level. We also test compare environmental scores (ENV) of companies (Table 3.2c, Panel B) with BEOR above ($>$ Median) and below this level ($<$ Median). The median environmental scores (ENV) of firms with employee participation (BEOR $>$ Median) is 85.52, while it is 80.80 for firms without employee participation (BEOR $<$ Median). These results suggest that the median environmental scores for firms with employee participation is almost 5 points higher than for firms without employee participation. We find similar evidence when we examine differences in medians using

the resource use, emissions reduction, and product innovation scores. All T-tests are significant at 1% level. This initial finding confirms our intuition that employee ownership positively influences corporate environmental performance.

Table 3.3 summarizes Pearson correlation coefficients of our main variables used in this study. As expected, the correlation matrix shows that there is a positive association between employee ownership and corporate environmental score at 1% significance level. This result suggest that employee ownership is positively linked to the level of CER. Moreover, in relation with employee's participation, correlation coefficients show evidence that the participation of employees in the board of directors has a positive correlation at 1% significance level on the environmental issues of CSR. Besides, consistent with previous studies the Pearson correlation matrix shows also a positive correlation between the female representations on board and the presence of independent directors on the board. As munched before female leaders and independent directors (Ben-Amar et al., 2017; Harjoto et al., 2015; Hyun et al., 2016; Jo & Harjoto, 2012; Walls et al., 2012)

There are also positive and significant correlations between the percentage of women directors on boards, the percentage of independent directors on boards, and firm size to the CER. In contrast, ownership concentration, financial performance, firm leverage, cash holdings, and revenue growth are negatively correlated to the environmental score. The pairwise correlations among the independent variables are not particularly strong.

[Table 3.2c near here]

[Table 3.3 near here]

IV.4.2. Regression results

Table 3.4 reports the results of regression analysis of the effect of ESO on corporate environmental responsibility. In Model 1 and 2, the coefficients of employee ownership (ESO), board diversity (WOM), and board independence (INDP), are significantly and positively associated with the environmental score (CER) at 1% and 5% levels respectively. This means that CER increases as employee ownership increases and supports Hypothesis 1.

On the other hand, both coefficients of dual structure (DS) and CEO duality (CD) are negatively associated with CER at 1% level. In particular, Model 2 suggests that an increase in employee ownership, board diversity, and independent directors leads to an increase in corporate environmental responsibility by 0.43, 0.14, and 0.08 points respectively. On the contrary, an increase in dual structure and CEO duality leads to a decline in the environmental sustainability performance by 4 and 6 points respectively.

Additional analysis was performed in order to understand how employee ownership could influence the three dimensions of environmental performance. We split the overall environmental score

(ENV) variable into three categorical components, namely, resource use score, emissions score, and innovation score.

Models 3 to 8 report the empirical results concerning the three sub-categorical of the environmental score. The coefficient of employee ownership is significantly positive with all sub-categorical of environmental scores. Precisely, an increase in the employee share ownership leads to an increase in the environmental performance by 0.68 points, on average, at 1% of the significance level. Also, table 4 shows that an increase in the board diversity and board independence leads to higher environmental performance by 0.15 and 0.07 points respectively at 1% significance level only for resource use and emissions reduction category.

Coefficients of dual structure (DS) and CEO duality (CD) remain negatively associated with all components of CER at 1% level. This suggests that an increase in dual structure and CEO duality leads, on average, to a decline in the environmental sustainability performance by 3.5 and 5 points respectively.

The coefficients of the control variables are generally significant at different levels with the expected sign. The coefficients of Herfindhal index, ROA, Leverage, cash holdings (CASH) and revenue growth (GROWTH) are significantly negative while only the coefficients of size are significantly positive at the 1% level. The types of shareholders (family and state ownership) shows irrelevant coefficients. Only model 8 holds a significant negative relationship between those type of shareholders and the innovation category.

[Table 3.4 near here]

Next, we try to understand how employee representation on the board of directors could affect corporate environmental responsibility. Table 3.5 presents the results of regression analysis of our second hypothesis. In Model 9 and 10, the coefficients of employee representation (BEOR), board diversity (WOM), and board independence (INDP), are significantly and positively associated with the environmental score (CER) at 1% and 10% levels respectively. This means that employee participation in management helps firms to pay more attention to their environmental performance that increases CER, and supports our Hypothesis 2.

The coefficients of dual structure (DS) and CEO duality (CD) are negatively associated with CER at 1% level. Principally, Model 10 reports that an increase in BEOR, board diversity and independent directors lead to enhance corporate environmental responsibility by 0.15, 0.14 and 0.07 points respectively. On the contrary, an increase in dual structure and CEO duality leads to a downward change in the environmental performance by 3.84 and 6.34 points respectively.

Same as before, we extend our analysis and try to understand how employee representation will respond to the three components of environmental responsibility. Indeed, models 11 to 16 show the empirical results of the effects of employee participation on individual sub-items of CER scores. BEOR remains positive but the significance of employee participation is less obvious comparing to ESO with two main environmental scores (models 10 and 12). Precisely, an increase in the proportion of employee owners setting on the board leads to strengthening the environmental performance of resource use, emissions, and innovation by 0.36 points, on average, at different significance levels.

Additionally, table 3.5 reveals that board diversity and board independence leads to higher environmental performance by 0.14 and 0.06 point respectively at different significance level for all environmental sub-category. Otherwise, dual structure (DS) and CEO duality (CD) remain negatively associated with all components of CER at 1% level. The effect of the control variables remains unchanged in comparison to our first proposed hypothesis. Coefficients of Herfindhal index, ROA, Leverage, cash holdings and revenue growth are significantly negative in almost all Models. The coefficients of size persist significantly positive and the type of shareholders shows different coefficients. Family ownership supports a significant negative relationship between CER score, emission, and innovation category (models 10, 14, and 16). The coefficients of state ownership are significantly positive in Models 14, while it became significantly negative in Model 16. Companies with large family shareholders are likely to less invest in CER. While companies with large state shareholders are more intuitive to invest in reducing emissions. This is an interesting feature is that employee participation pushes listed firms with the significance of state shareholders to be more green and to achieve better results on environmental issues by 5.55 points.

[Table 3.5 near here]

IV.4.3. Robustness checks

Our main findings in this study indicate that employee share ownership (ESO) and employee representation on the board of directors (BEOR) increase the CER score. We perform various tests to verify whether our results in table 3.4 and table 3.5 are robust. We test our main hypothesis with respect to different sub-periods and other regression analysis. More specifically, we examine how our models can be affected by laws and codes of governance or by different regression analyses. First, we test our baseline on the period 2005-2015 to take into consideration the mandatory social and environmental reporting in France brought by Grenelle II act. According to the report on the

French legislation on extra-financial reporting in Section 225 of the “Grenelle II”¹⁷ Act that all French companies with over 500 employees are required to provide yearly details in their annual reports “*on how they take into account the social and environmental consequences of their activity and their social commitments in favor of sustainable development.*”

Extant studies suggested that government regulation has an impact on CSR reporting practices. According to Pedersen et al., (2013) CSR reporting is not only determined by individual and firm-specific factors but is also influenced by pressures from the regulatory environment. We re-estimated our main regression (Models 1 and 2) with the consideration of the “Grenelle II”. We define the sub-period 2005-2009 for pre-Grenelle II, and the sub-period 2010-2015 for post-Grenelle II. Table 3.6 and 3.8 report the empirical results of the effect of ESO and BEOR, respectively, on corporate environmental responsibility in the sub-period 2005-2009. The coefficients of employee ownership (ESO), employee representation (BEOR), and board independence (INDP) are significantly and positively associated with the environmental score (CER) at different levels. This result confirms our finding that employee ownership and employee representation in the board of directors lead to enhance the CER score.

However, coefficients dual structure (DS) and CEO duality (CD) are negatively associated with CER. This suggests that an increase in dual structure and CEO duality leads to a decline in environmental sustainability performance. Surprisingly, in the pre-Grenelle II, results show that the coefficients of board diversity (WOM) are negatively associated with CER (models 18 and 26).

[Table 3.6 near here]

[Table 3.8 near here]

While table 3.7 and 3.9 report the empirical results of the effect of ESO and BEOR, respectively, on CER in the sub-period 2010-2015 (post-Grenelle II). The coefficients of employee ownership (ESO), employee representation (BEOR), board diversity (WOM) and board independence (INDP), are significantly and positively associated with the environmental score (CER) at different levels. Regression results in table 7 and 9 prove that ESO and BEOR affect positively CER. Same as before, coefficients of dual structure (DS) and CEO duality (CD) are negatively associated with CER.

In addition, the unchanging response of ESO and BEOR to the three components of environmental responsibility in the two sub-periods. Precisely, models 19 to 24 with models 35, 37, 39, and 40 for

¹⁷ (2012). The French legislation on extra-financial reporting: built on consensus. Ministères des Affaires Etrangères-France, Retrieved from France Diplomatic website: <http://www.diplomatie.gouv.fr> (2013a). Extra financial reporting made mandatory for large companies in a view of a standardization of European standards. Retrieved from France Diplomatic website: <http://www.diplomatie.gouv.fr>

ESO and BEOR respectively, show the positive effect of employee ownership and employee participation on different individual sub-items of CER scores in the pre-Grenelle II. Coefficients of ESO and BEOR become more significantly positive with all categorical of environmental scores for the post-Grenelle II period (models 27 to 32 for ESO and models 43 to 46 for BEOR). This means again that an increase in the proportion of employee ownership leads to support the environmental performance of resource use, emissions, and innovation by 0.62 points, on average, at 1% significance level. Again, an increase in the proportion of employees setting on the board leads to perform the CER sub-items of resource use and of emissions (excluding the sub-item of innovation) by 0.34 point, on average, at different significance levels.

The effect of the control variables remains unchanged. The coefficients of Herfindhal index, ROA, Leverage, cash holdings, and revenue growth are significantly negative. Yet, the coefficients of size are significantly positive. Family and state ownership support a significant negative and positive relationship between CER scores respectively.

[Table 3.7 near here]

[Table 3.9 near here]

Secondly, we test our relationship between employee ownership and CER using the quantile regression analysis. Koenker & Bassett (1978) introduced quantile regression as a good alternative analysis to ordinary least squares regression. According to Lu & Fan (2015) quantile regression is a powerful statistical methodology that complements the classical linear regression by shaping the entire response of distribution. It is a very practical feature to describe changes in the conditional distribution of longitudinal data sets over time (Wei & Carroll, 2009). Table 3.10 describes results of the quantile regression at the 0.25th, 0.5th, and 0.75th quantiles. Quantile regression suggests that ESO and BEOR have a positive influence on the dependent variable, CER score. This implies that ESO and BEOR positively conduct the environmental sustainability performance. Quantile regression also confirms that board diversity (WOM) and board independence (INDP) have a positive relationship with CER. Whereas, the dual structure (DS) and CEO duality (CD) has a negative relationship with environmental responsibility. All control variables in table 10 remain stable with quantile regressions. The coefficients of Herfindhal index, ROA, Leverage, cash holdings, revenue growth, and family ownership are significantly negative. However, the coefficients of size and state ownership are significantly positive with the CER score.

[Table 3.10 near here]

Lastly, we check the performance of our first model in different categories of employee ownership capital. More precisely, we test the relationship between employee ownership and corporate environmental responsibility between five different intervals of ESO capital. Interesting results are tabulated in table 11. The coefficients of employee ownership (ESO) are significantly and positively associated with the environmental score (CER) at 1% level starting from 1% of ESO capital in our sample. This means that CER increases as employee ownership increases and ESO became more effective starting from 1% of ESO capital hold by employees (supports hypothesis 1). Both board diversity (WOM) and board independence (INDP) have a positive relationship with CER. Whereas, the dual structure (DS) and CEO duality (CD) has a negative relationship with environmental responsibility. All control variables in table 11 remain stable within different categories of employee ownership capital. The coefficients of Herfindhal index, ROA, Leverage, cash holdings, revenue growth, and family ownership are significantly negative. However, the coefficients of size and state ownership are significantly positive with the CER score. Therefore, we can summarize that the findings of our study are robust. Employee ownership and employee setting in the board of directors significantly increase CER activities, which supported our two hypotheses in this paper.

[Table 3.11 near here]

IV.5. Discussion

In this research, conducted on French listed firms, we document how corporate governance practices are essential for corporate environmental responsibility. Specifically, the main objective of the research was to examine the role of employee ownership and employees' participation in firms' corporate environmental performance. Several empirical results, using three different regressions analysis¹⁸, provide strong evidence for the importance of corporate governance (ownership and board aspects) in driving listed firms to be more concerned about their environmental responsibility (CER activities).

First, our results demonstrate the beneficial role of employee ownership in developing the environmental performance of the firm. We found that employee share ownership has a strong positive effect on the overall environmental score and the three constituting categories (Resource use score, Emissions score, and Innovation score). This finding strongly supports our first hypothesis regarding the positive effect of employee ownership on corporate environmental responsibility. This evidence reveals that employee ownership (as a shareholder group) help listed firms to be more engaged and willing to the environmental dimension. Employee owners perceive,

¹⁸ The ordinary least squares (OLS) regression, two-stage least square (2SLS) regression and quantile regression

evaluate, and react to CER performance. Thus, we can conclude that by increasing employee ownership, listed firms can increase their environmental sustainability level.

We assert that employee owners are more conscious of and more sensitive to issues related to the CSR status of their organization, and this motivates them to exert an extra effort within their organization to strengthen the distinctive and prestigious ‘green social’ image. These results show that ownership structure is not only important for management incentives and financial performance but also fundamental to the firm’s environmental performance. This new evidence about the effect of employee ownership on CER supports the win-win relationship of ESO and environmental performance (Aguilera et al., 2007; Alt et al., 2015; Y. Chen et al., 2015; Dögl & Holtbrügge, 2014; Ramus & Steger, 2000; Rupp et al., 2006; Walls et al., 2012).

Secondly, we gave our full attention to employee participation in decision making. We try to understand how employee representation on the board of directors could affect CER. Our findings reveal that employees’ representation in the board of directors (BEOR) has a positive effect on the environmental dimension of CSR. The positive association between BEOR and CER score implies that employees’ participation in decision-making, can increase the firm’s environmental responsibility. This proof supports our second hypothesis and confirms that board management influences corporate behaviors and environmental management. Therefore, employee participation in decision-making has a positive effect on the components of sustainability.

We can explain these findings from the perspective of the organizational behavior literature, which suggests that employee representation in the board of directors enhances the use and control of information in organizations. This new evidence reinforces the role of employee board representation in making management decisions and drawing environmental green strategies. Recent research by (Farooq et al., 2019; John et al., 2019; Markey et al., 2016, 2019; Nekhili et al., 2019) is in line with this finding.

Moreover, we check the effect of mandatory laws and codes of governance in our study. In particular, we take into consideration the mandatory social and environmental reporting in France brought by Grenelle II act. Results demonstrate an improvement in the effectiveness of the ESO/BEOR-CER positive relationship (more pronounced for ESO than BEOR). This suggests that French legislation on social and environmental reporting encourages listed firms to move towards sustainability development (e.g., CER practices like reducing greenhouse gases emission, pollution waste management, green energy consumption, etc.).

IV.6. Conclusion

In this research, conducted on a sample of listed French firms from the SBF 120, we study the influence of employee ownership and board representation on environmental performance between 2005 and 2015.

First, we find that employee ownership has a positive and significant impact on the CER score, which is consistent with our first hypothesis. This finding suggested that increasing employee ownership by listed firm' leads to an increase in their environmental sustainability level. Secondly, we find that employee representation in the board of directors is positively and significantly related to the environmental dimension of CSR. This finding is consistent with our second hypothesis, implying that employee participation in decision-making contributes to enhancing the firm's environmental responsibility. Employees can affect firms' management decisions and strategies by more supporting CSR activities

Our findings contribute to the literature in several ways. First, our study fills the gap in the literature by highlighting the importance of employee ownership in the relationship between ownership structure and CER. We appropriately show for listed French firms that ownership structure is connected to corporate environmental performance. This is in line with our theoretical background, which we based on stakeholder relations theory (Chan, 2010; Darnall et al., 2010; Marshall et al., 2010), signaling theory (Dögl & Holtbrügge, 2014) and agency theory (Brown et al., 2006; Webb, 2004). Our study supports previous research, especially those related to corporate social responsibility and corporate sustainability. Secondly, we find that corporate governance is crucial, as put forward by (Aguilera et al., 2007) and we are able to show in a more relevant way how employee's core alters a firm's environmental performance. Further, our research has significant implications for CER and HR literature. We add new evidence to the literature on the relationship between employee ownership and corporate social responsibility. Thus, our study provides a better understanding of the role of corporate governance and sets the spotlight on the spectrum of the environmental dimension than has been studied so far for listed firms in Europe. Fourth, we are able to illustrate straightforward the empirical findings of (Ducassy & Montandrou, 2015; Walls et al., 2012) to understand the link between corporate governance and environmental performance. Likewise, our study also complements the findings of the relationship between board characteristics, CSR reporting and sustainability performance within listed firms (Berrone et al., 2010; Nekhili et al., 2019; Walls et al., 2012). Finally, our study recommends purposeful implications for academics and practitioners. Policymakers may motivate by our findings to reinforce the implementation of employee ownership in their policies prior to enhancing CER activities.

Our research contains some limitations that should be taking into consideration for further research. Since this study was limited to French listed firms, it would be interesting to reconsider this research in the international framework. We think that comparative studies could be more pertinent to assess the relationship between employee ownership and CER performance. Second, we use the standard overall environmental score¹⁹ from three categories (resource use, emissions, and innovation scores) to measure corporate environmental performance. This general standard for CER is not relevant to all industries. According to (Dragomir, 2018), we should be conscious of “the specificity of the dimensional approach for each sector”. Therefore, in the future, we could further focus on developing specialized measures of CER in the account of industrial’s specifications. We aim to enrich our analysis in the future by integrating additional variables and checking for other aspects related to the environmental dimension to support the findings disclosed in this article.

¹⁹ Our source for CER scores is Thomson Reuters ASSET4 and ESG Database

Appendix 3:

Employee ownership and corporate environmental performance

Table 3.1
Summary table of variables

Variable Name	Source	Description
<i>ENV score</i>	Thomson Reuters' ASSET4	The environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems.
<i>Resource use score</i>	Thomson Reuters' ASSET4	Resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.
<i>Emissions score</i>	Thomson Reuters' ASSET4	Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes.
<i>Innovation score</i>	Thomson Reuters' ASSET4	Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products.
<i>ESO</i>	IODS corporate governance	Percentage of shares held by employees
<i>BEOR</i>	IODS corporate governance	The proportion of employee owners seating on the board
<i>WOM</i>	IODS corporate governance	Percentage of women on the board
<i>INDP</i>	IODS corporate governance	Percentage of independent directors on the board
<i>DS</i>	IODS corporate governance	The dual structure is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise.
<i>CD</i>	IODS corporate governance	CEO duality is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise
<i>ESO_0_1</i>	Author's calculations	Dummy variable taking the value of 1 if the capital holds by employee is between [0,1%[and 0 otherwise
<i>ESO_1_3</i>	Author's calculations	Dummy variable taking the value of 1 if the capital holds by employee is between [1%,3%[and 0 otherwise
<i>ESO_3_6</i>	Author's calculations	Dummy variable taking the value of 1 if the capital holds by employee is between [3%,6%[and 0 otherwise
<i>ESO_6_9</i>	Author's calculations	Dummy variable taking the value of 1 if the capital holds by employee is between [6%,9%[and 0 otherwise
<i>ESO_9_24</i>	Author's calculations	Dummy variable taking the value of 1 if the capital holds by employee is between [9,24%[and 0 otherwise
<i>HERFINDHAL</i>	Author's calculations	Square root of the sum of squared percentage of shares held by each shareholder
<i>ROA</i>	Thomson Reuters Eikon	Return over assets
<i>SIZE</i>	Thomson Reuters Eikon	Log of firm's total assets
<i>LEV</i>	Thomson Reuters Eikon	Liabilities divided by total assets
<i>CASH</i>	Thomson Reuters Eikon	Cash and equivalents divided by current assets minus total
<i>GROWTH</i>	Thomson Reuters Eikon	Percentage of change in sales from year t-1 to year t
<i>STA</i>	Author's calculations	Dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise
<i>FAM</i>	Author's calculations	Dummy variable taking the value of 1 if the largest shareholder is a family

Table 3.2a
Descriptive Statistics of Variables

Variable	Observations	Mean	Std. Dev.	Min	Max
Dependent variables					
<i>ENV score</i>	1,034	81.75	17.23	10.17	96.91
<i>Resource use score</i>	1,034	81.02	16.18	8.91	96.63
<i>Emissions score</i>	1,034	78.81	19.00	11.10	97.00
<i>Innovation score</i>	1,034	76.05	24.75	14.03	99.26
Independent variables					
<i>ESO</i>	1,034	2.64	3.99	0	29.2
<i>BEOR</i>	1,034	1.83	4.07	0	23.08
<i>WOM</i>	1,034	18.08	12.47	0	57.89
<i>INDP</i>	1,034	48.56	18.84	0	100
<i>DS</i>	1,034	0.50	0.50	0	1
<i>CD</i>	1,034	0.21	0.40	0	1
Control variables					
<i>HERFINDHAL</i>	1,034	33.58	20.33	2.10	92.50
<i>ROA</i>	1,034	4.88	6.11	-49.78	63.89
<i>SIZE</i>	1,034	16.24	1.85	9.96	21.45
<i>LEV</i>	1,034	26.10	15.26	0	74.74
<i>CASH</i>	1,034	29.35	14.25	1.28	90.71
<i>GROWTH</i>	1,034	6.74	14.21	-37.17	84.12
Dummy variables					
<i>STA</i>	1,034	0.11	0.32	0	1
<i>FAM</i>	1,034	0.31	0.46	0	1

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports the descriptive statistics of the variables included in the analyses. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family.

Table 3.2b
Distribution of the percentage of capital held by employees

<i>Name</i>	<i>Capital held by employee ownership</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Cumulative frequency</i>
<i>ESO_0</i>	0	99	9.57%	9.57%
<i>ESO_0_1</i>	[0,1[	299	28.92%	38.49%
<i>ESO_1_3</i>	[1,3[	390	37.72%	76.21%
<i>ESO_3_6</i>	[3,6[	137	13.25%	89.46%
<i>ESO_6_9</i>	[6,9[	61	5.90%	95.36%
<i>ESO_9_24</i>	[9,24[	48	4.64%	100.00%
Total	[0,24[	1034	100%	-

Table 3.2c
Median comparison tests

		N	ENV score	Resource use score	Emissions score	Innovation score
Panel A. Medians						
ESO < Median	(1)	518	78.01	78.44	74.64	72.31
ESO > Median	(2)	516	85.75	83.61	83.01	79.80
All	(1) + (2)	1034	81.75	81.02	78.81	76.05
Difference	(1) – (2)		-7.74	-5.17	-8.73	-7.49
t-Stat.			-7.15***	-5.21***	-7.26***	-4.92***
Panel B. Medians						
BEOR < Median	(1)	827	80.80	80.37	77.49	75.34
BEOR > Median	(2)	207	85.52	83.62	84.09	78.85
All	(1) + (2)	1034	81.75	81.02	78.81	76.05
Difference	(1) – (2)		-4.72	-3.25	-6.60	-5.51
t-Stat.			-3.54***	-2.60***	-4.51***	-1.82**

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table presents median comparison tests from independent samples. Panel A compares the median environmental score of firms with high ESO level against the median environmental score of firms with low ESO level. Panel B compares the mean cost of equity of firms with BEOR against the mean environmental score of firms without BEOR. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level

Table 3.3

Pearson correlation coefficients between variables and variance inflation factor

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vif
1	<i>ENV score</i>	1															-
2	<i>ESO</i>	0.21***	1														1.95
3	<i>BEOR</i>	0.11***	0.65***	1													1.97
4	<i>WOM</i>	0.14***	0.09***	0.05*	1												1.05
5	<i>INDP</i>	0.15***	0.02	0.09***	0.09***	1											1.37
6	<i>DS</i>	-0.01	0.13***	0.16***	0.05*	-0.06*	1										1.33
7	<i>CD</i>	-0.11***	-0.10***	-0.08***	-0.03	0.17***	-0.52***	1									1.21
8	<i>HERFINDHAL</i>	-0.17***	-0.21***	-0.19***	-0.10***	-0.43***	-0.01	-0.02	1								1.17
9	<i>ROA</i>	-0.15***	-0.12***	-0.19***	-0.08***	-0.05	-0.10***	0.06*	0.06*	1							1.1
10	<i>SIZE</i>	0.32***	0.25***	0.12***	0.08**	0.09***	-0.05	-0.03	-0.09***	-0.17***	1						1.08
11	<i>LEV</i>	-0.07**	0.03	-0.06*	-0.01	-0.02	-0.04	0.11***	0.10***	-0.17***	0.02	1					1.07
12	<i>CASH</i>	-0.13***	-0.03	0.05*	0.04	0.00	0.06**	-0.11***	0.04	-0.06**	-0.09***	0.07**	1				1.26
13	<i>GROWTH</i>	-0.16***	-0.08**	-0.07**	-0.10***	-0.04	-0.04	0.09***	0.04	0.22***	-0.07**	0.03	0.00	1			1.25
14	<i>STA</i>	0.05	0.17***	0.28***	-0.02	-0.12***	0.17***	-0.09***	0.02	-0.23***	-0.03	0.06*	0.17***	-0.06**	1		1.43
15	<i>FAM</i>	-0.15***	-0.22***	-0.26***	0.06*	-0.16***	-0.07**	0.12***	0.17***	0.13***	-0.21***	0.07**	-0.11***	0.06*	-0.24***	1	1.48
(Mean Vif)																	1.34

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports correlation coefficients between the variables included in the empirical analyses. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. ESO is the percentage of shares held by employees. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.4
The relationship between employee ownership and corporate environmental responsibility

	<i>ENV</i> <i>score_{t+1}</i>		<i>Resource use</i> <i>score_{t+1}</i>		<i>Emissions</i> <i>score_{t+1}</i>		<i>Innovation</i> <i>score_{t+1}</i>	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>ESO_t</i>	0.851 (9.12)***	0.434 (5.74)***	0.596 (6.88)***	0.341 (4.17)***	0.886 (6.89)***	0.324 (2.70)***	1.158 (8.46)***	0.773 (6.05)***
<i>WOM_t</i>	0.150 (3.63)***	0.130 (3.31)***	0.181 (4.64)***	0.153 (4.16)***	0.183 (3.83)***	0.158 (3.51)***	0.101 (1.61)	0.079 (1.29)
<i>INDP_t</i>	0.129 (4.57)***	0.076 (2.18)**	0.118 (4.20)***	0.079 (2.27)**	0.129 (4.20)***	0.060 (1.64)	0.137 (3.28)***	0.071 (1.46)
<i>DS_t</i>	-5.088 (4.73)***	-3.980 (3.90)***	-3.197 (3.22)***	-2.439 (2.51)**	-3.017 (2.37)**	-2.008 (1.70)*	-8.587 (5.21)***	-6.669 (4.12)***
<i>CD_t</i>	-7.495 (4.42)***	-6.049 (3.75)***	-7.391 (4.54)***	-6.438 (4.00)***	-6.184 (3.29)***	-4.203 (2.39)**	-6.946 (3.08)***	-5.069 (2.26)**
<i>HERFINDHAL_t</i>		-0.050 (1.69)*		-0.065 (2.17)**		-0.088 (2.68)***		-0.014 (0.33)
<i>ROA_t</i>		-0.153 (1.88)*		-0.068 (0.97)		-0.078 (0.88)		-0.253 (2.20)**
<i>SIZE_t</i>		2.200 (9.62)***		1.515 (7.47)***		2.946 (10.83)***		2.155 (6.40)***
<i>LEV_t</i>		-0.038 (0.95)		-0.090 (2.56)**		-0.082 (1.91)*		0.035 (0.64)
<i>CASH_t</i>		-0.178 (3.99)***		-0.121 (2.66)***		-0.142 (2.82)***		-0.215 (3.56)***
<i>GROWTH_t</i>		-0.103 (2.67)***		-0.080 (2.02)**		-0.074 (1.83)*		-0.199 (3.70)***
<i>STA_t</i>		0.829 (0.55)		1.297 (0.69)		5.448 (3.26)***		-6.963 (2.64)***
<i>FAM_t</i>		-2.151 (1.64)		1.042 (0.86)		-2.202 (1.53)		-4.327 (2.28)**
Constant	82.006 (46.10)***	59.089 (11.10)***	77.847 (41.10)***	63.756 (12.98)***	76.354 (36.05)***	41.676 (6.65)***	82.137 (28.35)***	61.672 (7.70)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.13	0.23	0.13	0.19	0.11	0.22	0.11	0.18
N	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.5
The relationship between employee representation and corporate environmental responsibility

	<i>ENV</i> <i>score_{t+1}</i>		<i>Resource use</i> <i>score_{t+1}</i>		<i>Emissions</i> <i>score_{t+1}</i>		<i>Innovation</i> <i>score_{t+1}</i>	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<i>BEOR_t</i>	0.442 (4.24)***	0.151 (1.72)*	0.329 (3.48)***	0.154 (1.78)*	0.561 (4.67)***	0.115 (1.08)	0.398 (2.32)**	0.190 (1.10)
<i>WOM_t</i>	0.169 (3.98)***	0.138 (3.53)***	0.194 (4.89)***	0.160 (4.33)***	0.201 (4.11)***	0.165 (3.65)***	0.128 (2.03)**	0.101 (1.70)*
<i>INDP_t</i>	0.124 (4.33)***	0.066 (1.92)*	0.114 (4.05)***	0.071 (2.07)**	0.121 (3.90)***	0.053 (1.45)	0.135 (3.19)***	0.056 (1.17)
<i>DS_t</i>	-5.067 (4.55)***	-3.840 (3.72)***	-3.207 (3.14)***	-2.362 (2.41)**	-3.125 (2.39)**	-1.906 (1.60)	-8.293 (4.89)***	-6.260 (3.82)***
<i>CD_t</i>	-8.256 (4.82)***	-6.338 (3.92)***	-7.918 (4.82)***	-6.674 (4.12)***	-6.943 (3.66)***	-4.419 (2.50)**	-8.050 (3.58)***	-5.685 (2.54)**
<i>HERFINDHAL_t</i>		-0.064 (2.16)**		-0.075 (2.53)**		-0.098 (3.00)***		-0.039 (0.94)
<i>ROA_t</i>		-0.146 (1.73)*		-0.060 (0.84)		-0.073 (0.80)		-0.253 (2.13)**
<i>SIZE_t</i>		2.361 (10.13)***		1.636 (8.00)***		3.066 (11.39)***		2.451 (7.22)***
<i>LEV_t</i>		-0.027 (0.68)		-0.081 (2.32)**		-0.074 (1.73)*		0.049 (0.87)
<i>CASH_t</i>		-0.185 (4.11)***		-0.126 (2.76)***		-0.147 (2.90)***		-0.224 (3.65)***
<i>GROWTH_t</i>		-0.105 (2.70)***		-0.081 (2.05)**		-0.076 (1.85)*		-0.205 (3.63)***
<i>STA_t</i>		0.975 (0.66)		1.315 (0.70)		5.550 (3.31)***		-6.471 (2.38)**
<i>FAM_t</i>		-2.453 (1.86)*		0.854 (0.70)		-2.424 (1.68)*		-4.948 (2.59)***
Constant	83.161 (45.06)***	58.006 (10.73)***	78.669 (41.12)***	62.943 (12.68)***	77.622 (35.57)***	40.871 (6.51)***	83.578 (28.21)***	60.425 (7.44)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.11	0.23	0.11	0.18	0.09	0.22	0.08	0.17
N	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.6

The relationship between employee ownership and corporate environmental responsibility : checks with various sub-periods

2005 – 2009								
	<i>ENV</i> <i>score_{t+1}</i>		<i>Resource use</i> <i>score_{t+1}</i>		<i>Emissions</i> <i>score_{t+1}</i>		<i>Innovation</i> <i>score_{t+1}</i>	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
<i>ESO_t</i>	1.305 (7.22)***	0.798 (5.08)***	0.952 (4.94)***	0.459 (2.67)***	1.141 (4.18)***	0.336 (1.29)	1.611 (6.87)***	1.469 (6.84)***
<i>WOM_t</i>	-0.172 (1.54)	-0.354 (3.24)***	-0.122 (1.05)	-0.302 (2.62)***	-0.170 (1.26)	-0.316 (2.43)**	-0.185 (1.40)	-0.384 (2.98)***
<i>INDP_t</i>	0.143 (2.92)***	0.054 (0.94)	0.166 (3.36)***	0.100 (1.70)*	0.142 (2.85)***	0.037 (0.65)	0.088 (1.38)	0.001 (0.01)
<i>DS_t</i>	-6.572 (3.59)***	-6.055 (3.45)***	-5.447 (2.99)***	-5.236 (2.94)***	-3.773 (1.78)*	-3.019 (1.52)	-10.045 (4.03)***	-8.955 (3.73)***
<i>CD_t</i>	-8.887 (3.50)***	-9.176 (3.77)***	-9.840 (3.79)***	-10.547 (4.16)***	-8.266 (2.93)***	-8.175 (3.08)***	-6.166 (2.00)**	-5.855 (1.92)*
<i>HERFINDHAL_t</i>		-0.117 (2.28)**		-0.122 (2.32)**		-0.172 (3.16)***		-0.047 (0.74)
<i>ROA_t</i>		-0.424 (2.41)**		-0.312 (1.93)*		-0.332 (1.62)		-0.454 (2.33)**
<i>SIZE_t</i>		1.889 (4.61)***		1.952 (4.98)***		2.702 (5.79)***		1.126 (2.13)**
<i>LEV_t</i>		-0.035 (0.56)		-0.056 (0.94)		-0.088 (1.27)		0.010 (0.13)
<i>CASH_t</i>		-0.358 (4.62)***		-0.296 (3.64)***		-0.304 (3.66)***		-0.396 (4.51)***
<i>GROWTH_t</i>		-0.040 (0.67)		-0.012 (0.19)		0.028 (0.45)		-0.174 (2.35)**
<i>STA_t</i>		-0.407 (0.15)		4.786 (1.43)		6.987 (2.24)**		-13.957 (3.82)***
<i>FAM_t</i>		-2.075 (0.99)		2.162 (1.04)		-1.635 (0.72)		-5.138 (1.82)*
Constant	80.548 (21.33)***	77.551 (8.24)***	78.256 (21.01)***	68.026 (7.18)***	76.051 (18.53)***	58.691 (5.57)***	76.411 (15.17)***	89.218 (6.96)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.16	0.29	0.14	0.24	0.12	0.26	0.15	0.27
N	470	470	470	470	470	470	470	470

The sample consists of all the SBF 120 Index firms over the period 2005-2009. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.7

The relationship between employee ownership and corporate environmental responsibility : checks with various sub-periods

2010 – 2015								
	<i>ENV</i> <i>score_{t+1}</i>		<i>Resource use</i> <i>score_{t+1}</i>		<i>Emissions</i> <i>score_{t+1}</i>		<i>Innovation</i> <i>score_{t+1}</i>	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
<i>ESO_t</i>	0.656 (6.91)***	0.403 (4.75)***	0.455 (6.49)***	0.391 (4.36)***	0.837 (7.60)***	0.489 (4.63)***	0.958 (5.72)***	0.549 (3.78)***
<i>WOM_t</i>	0.095 (1.76)*	0.063 (1.18)	0.118 (2.57)**	0.098 (1.90)*	0.117 (1.75)*	0.074 (1.18)	0.025 (0.26)	0.001 (0.01)
<i>INDP_t</i>	0.074 (2.96)***	0.013 (0.39)	0.025 (1.15)	-0.032 (1.04)	0.074 (2.25)**	-0.002 (0.05)	0.160 (2.85)***	0.077 (1.21)
<i>DS_t</i>	-4.962 (3.61)***	-6.463 (4.72)***	-2.011 (1.86)*	-3.020 (2.36)**	-3.776 (2.24)**	-5.924 (3.74)***	-8.822 (3.76)***	-8.973 (4.05)***
<i>CD_t</i>	-5.005 (2.47)**	-4.291 (2.17)**	-3.560 (2.20)**	-2.474 (1.38)	-3.001 (1.33)	-2.225 (1.05)	-7.180 (2.21)**	-5.717 (1.75)*
<i>HERFINDHAL_t</i>		-0.081 (2.62)***		-0.099 (2.99)***		-0.100 (2.72)***		-0.064 (1.22)
<i>ROA_t</i>		-0.082 (1.14)		0.027 (0.44)		-0.047 (0.59)		-0.205 (1.50)
<i>SIZE_t</i>		2.411 (8.21)***		1.361 (5.79)***		3.260 (9.67)***		2.596 (5.58)***
<i>LEV_t</i>		-0.030 (0.61)		-0.099 (2.33)**		-0.090 (1.72)*		0.071 (0.94)
<i>CASH_t</i>		-0.092 (2.01)**		-0.036 (0.75)		-0.056 (0.96)		-0.150 (1.97)**
<i>GROWTH_t</i>		-0.130 (2.66)***		-0.120 (2.89)***		-0.142 (2.77)***		-0.203 (2.41)**
<i>STA_t</i>		2.157 (1.49)		-0.438 (0.22)		4.227 (2.04)**		-0.665 (0.23)
<i>FAM_t</i>		-1.054 (0.72)		0.733 (0.55)		-1.425 (0.83)		-1.963 (0.80)
Constant	86.584 (44.29)***	59.114 (9.32)***	81.878 (35.79)***	71.173 (13.21)***	81.231 (32.76)***	41.667 (5.63)***	86.301 (20.97)***	56.447 (5.47)***
	0.12		0.15		0.12		0.11	
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.13	0.25	0.13	0.20	0.11	0.27	0.11	0.19
N	564	564	564	564	564	564	564	564

The sample consists of all the SBF 120 Index firms over the period 2010-2015. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.8

The relationship between employee representation and corporate environmental responsibility : checks with various sub-periods

2005 – 2009								
	<i>ENV</i> <i>score_{t+1}</i>		<i>Resource use</i> <i>score_{t+1}</i>		<i>Emissions</i> <i>score_{t+1}</i>		<i>Innovation</i> <i>score_{t+1}</i>	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
<i>BEOR_t</i>	0.572 (3.07)***	0.073 (0.46)	0.373 (2.12)**	-0.098 (0.64)	0.722 (2.55)**	-0.279 (1.43)	0.467 (2.18)**	0.531 (1.88)*
<i>WOM_t</i>	-0.098 (0.87)	-0.321 (2.95)***	-0.070 (0.60)	-0.284 (2.51)**	-0.104 (0.77)	-0.307 (2.38)**	-0.109 (0.80)	-0.324 (2.46)**
<i>INDP_t</i>	0.138 (2.73)***	0.043 (0.74)	0.164 (3.28)***	0.096 (1.63)	0.078 (1.19)	0.036 (0.64)	0.138 (2.70)***	-0.029 (0.41)
<i>DS_t</i>	-6.597 (3.46)***	-5.543 (3.12)***	-5.308 (2.85)***	-4.805 (2.71)***	-9.861 (3.79)***	-2.488 (1.25)	-3.632 (1.66)*	-8.323 (3.36)***
<i>CD_t</i>	-9.727 (3.71)***	-9.477 (3.87)***	-10.380 (3.92)***	-10.755 (4.24)***	-6.991 (2.19)**	-8.362 (3.16)***	-8.898 (3.07)***	-6.277 (2.02)**
<i>HERFINDHAL_t</i>		-0.144 (2.81)***		-0.142 (2.74)***		-0.192 (3.54)***		-0.087 (1.36)
<i>ROA_t</i>		-0.422 (2.37)**		-0.321 (1.97)**		-0.347 (1.70)*		-0.418 (2.07)**
<i>SIZE_t</i>		2.262 (5.66)***		2.192 (5.75)***		2.932 (6.73)***		1.768 (3.41)***
<i>LEV_t</i>		-0.036 (0.57)		-0.060 (0.99)		-0.094 (1.37)		0.017 (0.22)
<i>CASH_t</i>		-0.359 (4.52)***		-0.298 (3.63)***		-0.309 (3.70)***		-0.392 (4.26)***
<i>GROWTH_t</i>		-0.031 (0.51)		-0.006 (0.10)		0.034 (0.53)		-0.156 (2.10)**
<i>STA_t</i>		1.025 (0.37)		6.019 (1.82)*		8.407 (2.78)***		-12.600 (3.14)***
<i>FAM_t</i>		-2.630 (1.22)		1.688 (0.80)		-2.227 (0.98)		-5.716 (1.96)*
Constant	85.332 (25.57)***	75.822 (8.00)***	80.768 (24.29)***	66.919 (7.07)***	83.744 (17.57)***	58.312 (5.69)***	79.586 (21.48)***	87.560 (6.75)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.11	0.27	0.11	0.23	0.10	0.25	0.09	0.22
N	470	470	470	470	470	470	470	470

The sample consists of all the SBF 120 Index firms over the period 2005-2009. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.9

The relationship between employee representation and corporate environmental responsibility : checks with various sub-periods

2010 – 2015								
	ENV score _{t+1}		Resource use score _{t+1}		Emissions score _{t+1}		Innovation score _{t+1}	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(41)	(42)	(43)	(44)	(45)	(46)	(47)	(48)
BEOR _t	0.326 (2.79)***	0.113 (1.17)	0.297 (3.01)***	0.172 (1.84)*	0.590 (4.46)***	0.281 (2.48)**	0.164 (0.76)	-0.050 (0.23)
WOM _t	0.151 (2.89)***	0.129 (2.71)***	0.097 (2.03)**	0.148 (3.52)***	0.200 (3.09)***	0.169 (2.92)***	0.062 (0.53)	0.068 (0.71)
INDP _t	0.067 (2.69)***	0.010 (0.33)	0.023 (1.08)	-0.078 (2.70)***	0.065 (2.00)**	-0.002 (0.05)	0.161 (2.84)***	0.100 (1.67)*
DS _t	-4.306 (3.22)***	-4.450 (3.39)***	-2.023 (1.80)*	-1.667 (1.55)	-3.540 (2.15)**	-3.483 (2.27)**	-8.153 (3.38)***	-7.747 (3.29)***
CD _t	-5.538 (2.76)***	-3.597 (1.92)*	-4.069 (2.51)**	-2.421 (1.54)	-3.980 (1.78)*	-1.185 (0.59)	-8.491 (2.63)***	-5.765 (1.76)*
HERFINDHAL _t		-0.059 (2.12)**		-0.090 (3.18)***		-0.083 (2.45)**		-0.044 (0.86)
ROA _t		-0.078 (1.06)		-0.021 (0.35)		0.006 (0.08)		-0.193 (1.34)
SIZE _t		2.280 (7.94)***		1.157 (5.40)***		3.059 (9.19)***		2.743 (5.62)***
LEV _t		-0.025 (0.52)		-0.079 (2.16)**		-0.054 (1.09)		0.039 (0.46)
CASH _t		-0.116 (2.70)***		-0.038 (0.93)		-0.106 (1.95)*		-0.169 (2.23)**
GROWTH _t		-0.158 (3.42)***		-0.147 (3.73)***		-0.172 (3.66)***		-0.232 (2.57)**
STA _t		0.935 (0.74)		-3.352 (1.88)*		3.549 (2.02)**		-0.044 (0.01)
FAM _t		-1.376 (1.00)		1.307 (1.17)		-1.559 (0.93)		-3.256 (1.28)
Constant	82.728 (35.49)***	58.854 (9.49)***	82.027 (32.24)***	74.135 (15.65)***	78.541 (29.37)***	42.948 (5.96)***	86.450 (19.37)***	49.367 (4.50)***
	0.08	0.23	0.14	0.18	0.08	0.25	0.09	0.16
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.13	0.23	0.13	0.19	0.11	0.22	0.11	0.18
N	564	564	564	564	564	564	564	564

The sample consists of all the SBF 120 Index firms over the period 2010-2015. This table reports OLS regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.10

The relationship between employee ownership, employee representation and corporate environmental responsibility: Robustness checks with quantile regression

	ENV score _{t+1}											
	Q25		Median		Q75		Q25		Median		Q75	
	Simple	Main	Simple	Main	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)
<i>ESO_t</i>	0.642 (6.13)***	0.383 (4.99)***	0.349 (7.69)***	0.186 (4.91)***	0.110 (3.39)***	0.031 (0.95)						
<i>BEOR_t</i>							0.179 (1.73)*	0.186 (1.63)*	0.119 (1.28)	0.126 (1.90)*	0.046 (1.94)*	-0.057 (2.06)**
<i>WOM_t</i>	0.166 (4.12)***	0.172 (3.44)***	0.130 (4.82)***	0.084 (3.88)***	0.061 (5.04)***	0.075 (5.52)***	0.218 (7.31)***	0.145 (2.68)***	0.161 (6.11)***	0.070 (3.03)***	0.063 (5.07)***	0.082 (8.05)***
<i>INDP_t</i>	0.156 (4.05)***	0.063 (1.71)*	0.079 (4.69)***	0.031 (2.31)**	0.025 (2.49)**	0.032 (2.71)***	0.147 (4.65)***	0.019 (0.46)	0.081 (4.36)***	0.027 (1.66)*	0.020 (2.06)**	0.030 (3.58)***
<i>DS_t</i>	-2.456 (2.16)**	-1.003 (0.75)	-1.724 (2.16)**	-0.859 (1.40)	-0.772 (2.09)**	-0.679 (1.78)*	-2.697 (2.51)**	-0.969 (0.70)	-1.416 (1.88)*	-0.060 (0.09)	-0.410 (1.36)	-0.707 (1.86)*
<i>CD_t</i>	-8.455 (2.34)**	-8.888 (3.06)***	-5.181 (4.42)***	-1.538 (1.45)	-0.349 (0.60)	0.509 (0.92)	-11.008 (3.78)***	-8.885 (2.83)***	-5.248 (4.21)***	-1.015 (0.93)	-0.499 (0.89)	0.317 (0.63)
<i>HERFINDHAL_t</i>		-0.078 (2.51)**		-0.048 (2.79)***		-0.020 (2.48)**		-0.112 (3.02)***		-0.063 (3.70)***		-0.024 (3.22)***
<i>ROA_t</i>		-0.185 (1.40)		0.048 (1.06)		0.016 (0.50)		-0.288 (1.75)*		0.023 (0.32)		0.016 (0.70)
<i>SIZE_t</i>		1.647 (5.27)***		1.529 (11.3)***		1.487 (16.9)***		2.127 (5.50)***		1.603 (11.31)**		1.531 (20.70)**
<i>LEV_t</i>		0.017 (0.41)		0.001 (0.08)		-0.015 (1.26)		-0.031 (0.81)		-0.014 (0.72)		-0.008 (0.86)
<i>CASH_t</i>		-0.211 (4.64)***		-0.031 (1.34)		-0.032 (2.30)**		-0.198 (3.50)***		-0.027 (1.15)		-0.032 (2.82)***
<i>GROWTH_t</i>		-0.102 (1.88)*		-0.088 (3.93)***		-0.077 (5.38)***		-0.109 (1.91)*		-0.083 (3.85)***		-0.085 (6.97)***
<i>STA_t</i>		2.655 (2.04)**		0.803 (1.29)		-1.097 (2.23)**		2.293 (1.53)		1.120 (1.08)		-0.240 (0.80)
<i>FAM_t</i>		1.016 (0.65)		-0.311 (0.49)		-1.282 (3.00)***		-1.495 (0.66)		-1.665 (2.51)**		-1.129 (2.76)***
Constant	74.219 (31.0)***	61.769 (11.2)***	85.493 (59.5)***	65.113 (22.7)***	92.156 (135)***	68.937 (36.6)***		57.147 (8.08)***		64.775 (20.9)***		67.822 (42.1)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.06	0.12	0.08	0.15	0.03	0.11	0.04	0.11	0.07	0.15	0.03	0.11
N	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports Quantile regression. ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO is the percentage of shares held by employees. BEOR is the proportion of employee owners seating on the board. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

Table 3.11

The linear relationship between employee ownership and corporate environmental responsibility : Robustness checks to different categories of employee ownership capital

	ENV score _{t+1}									
	Simple	Main	Simple	Main	Simple	Main	Simple	Main	Simple	Main
	(61)	(62)	(63)	(64)	(65)	(66)	(67)	(68)	(69)	(70)
ESO_0_1	-5.871 (4.44)***	-2.961 (2.28)**								
ESO_1_3			3.359 (3.53)***	2.863 (2.99)***						
ESO_3_6					0.149 (0.12)	4.382 (3.39)***				
ESO_6_9							7.403 (6.99)***	5.059 (3.96)***		
ESO_9_24									11.470 (8.65)***	6.514 (5.18)***
WOM _t	0.151 (3.61)***	0.130 (3.32)***	0.170 (4.02)***	0.135 (3.45)***	0.175 (4.13)***	0.140 (3.60)***	0.162 (3.83)***	0.132 (3.38)***	0.171 (4.07)***	0.139 (3.56)***
INDP _t	0.113 (3.82)***	0.065 (1.86)*	0.125 (4.44)***	0.061 (1.79)*	0.135 (4.68)***	0.069 (2.00)**	0.122 (4.25)***	0.063 (1.82)*	0.142 (4.94)***	0.076 (2.19)**
DS _t	-4.282 (4.00)***	-3.574 (3.49)***	-4.368 (4.08)***	-3.562 (3.51)***	-4.492 (4.17)***	-3.705 (3.67)***	-4.721 (4.35)***	-3.886 (3.79)***	-4.924 (4.54)***	-3.879 (3.80)***
CD _t	-7.057 (4.23)***	-5.804 (3.66)***	-8.073 (4.78)***	-6.067 (3.81)***	-8.400 (4.90)***	-6.351 (3.94)***	-7.934 (4.63)***	-6.181 (3.83)***	-8.181 (4.78)***	-6.199 (3.84)***
HERFINDHAL _i		-0.054 (1.72)*		-0.067 (2.25)**		-0.077 (2.60)***		-0.064 (2.20)**		-0.056 (1.87)*
ROA _t		-0.152 (1.85)*		-0.152 (1.88)*		-0.168 (1.94)*		-0.153 (1.79)*		-0.162 (1.94)*
SIZE _t		2.287 (9.81)***		2.404 (10.14)***		2.555 (10.53)***		2.354 (10.01)***		2.286 (9.69)***
LEV _t		-0.025 (0.63)		-0.038 (0.94)		-0.044 (1.08)		-0.017 (0.41)		-0.043 (1.07)
CASH _t		-0.186 (4.14)***		-0.183 (4.10)***		-0.188 (4.20)***		-0.189 (4.21)***		-0.179 (4.03)***
GROWTH _t		-0.103 (2.72)***		-0.099 (2.58)***		-0.097 (2.50)**		-0.101 (2.60)***		-0.104 (2.70)***
STA _t		1.068 (0.70)		1.299 (0.85)		1.799 (1.22)		1.579 (1.03)		0.640 (0.42)
FAM _t		-2.472 (1.89)*		-2.308 (1.73)*		-2.431 (1.86)*		-2.401 (1.84)*		-2.534 (1.95)*
Constant	84.225 (46.41)***	59.115 (11.04)***	81.458 (42.26)***	56.158 (10.08)***	82.842 (45.07)***	56.780 (10.46)***	83.897 (45.91)***	58.504 (10.84)***	82.930 (45.93)***	58.981 (10.90)***
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.12	0.23	0.10	0.23	0.10	0.23	0.11	0.23	0.11	0.23
N	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034

The sample consists of all the SBF 120 Index firms over the period 2005-2015. This table reports OLS regression ENV score is the environmental pillar measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. RESOURCE USE score is the resource use category score reflects a company's performance and capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management. EMISSION score is the Emission category score measures a company's commitment and effectiveness towards reducing environmental emission in the production and operational processes. INNOVATION score is the Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed products. ESO_0_1 is a dummy variable taking the value of 1 if the capital holds by employee is between [0,1%[and 0 otherwise. ESO_1_3 is a dummy variable taking the value of 1 if the capital holds by employee is between [1%,3%[and 0 otherwise. ESO_3_6 is a dummy variable taking the value of 1 if the capital holds by employee is between [3%,6%[and 0 otherwise. ESO_6_9 is a dummy variable taking the value of 1 if the capital holds by employee is between [6%,9%[and 0 otherwise. ESO_9_24 is a dummy variable taking the value of 1 if the capital holds by employee is between [9,24%[and 0 otherwise. WOM is the percentage of women on the board. INDP is the percentage of independent directors on the board. DS is a dummy variable which takes 1 in the presence of a dual governance structure (supervisory and executive board), and 0 otherwise. CD is a dummy variable taking the value of 1 if the CEO is also the chairman and 0 otherwise. HERFINDHAL is the Square root of sum of squared percentage of shares held by each shareholder. ROA is the return over assets. SIZE is Log of firm's total assets. LEV is liabilities divided by total assets. CASH is cash and equivalents divided by current assets minus total assets. GROWTH is the percentage of change in sales from year t-1 to year t. STA is a dummy variable taking the value of 1 if the state holds shares of the company and 0 otherwise. FAM is a dummy variable taking the value of 1 if the largest shareholder is a family. Unreported industry controls are based on the Fama and French (1997) industry classification. Robust t-statistics adjusted are reported inside the parentheses.

* Statistical significance at the 10% level.

** Statistical significance at the 5% level.

*** Statistical significance at the 1% level.

General Conclusion

Throughout this doctoral work, we have been driven by the desire to disentangle the nature of the relationship between “employee ownership” and “corporate governance”. The main objective of our doctoral research was to better understand the impact of setting up employee ownership in French listed companies on their governance. This thesis is the culmination of a long process fueled by many reflections and questions.

We were interested in the two possible modalities of influence in the case of employee shareholding, namely the analysis of the impact of the right to financial participation on the capital structure of companies and on environmental responsibility which was supplemented by a study of the potential effects of employee shareholder participation in the decisions of French listed companies.

To do this, we deepened the theoretical and empirical debates by integrating the two aspects of employee ownership (the right of financial participation and the right of vote in managerial decision).

The interest in this topic has been motivated by at least two observations. The first is illustrated by the theoretical and empirical controversy over the influence of employee share ownership on the corporate governance. The second comes from the field of investigation very little exploited as to the impact of employee board participation (result of employee ownership) on the corporate governance to balance the interests of a company's with many stakeholders, such as shareholders, senior management executives, employees, customers, suppliers, the government, and the community. The reflections aroused by these two observations have led us to state the following overall issue:

How is employee share ownership likely to affect corporate governance and strategic choices?

To answer the general research problem, a triple empirical study was carried out with a specific methodological choice to each.

First, we analyzed the impact of employee share ownership on CEO entrenchment.

Secondly, we investigated if employee ownership had an effect on the cost of financial resources of French companies listed on the stock exchange (SBF120).

Finally, we check whether the implementation of employee share ownership plans within the large French listed companies matter for corporate environmental responsibility.

Our research thus aimed to achieve the following three main objectives:

- Determine the effectiveness of employee shareholding in the governance of French companies (disciplinary dimension vs. partnership dimension).
- Assess the effectiveness of employee share ownership on the determinants of the capital structure.
- Improve knowledge of the functioning of the employee shareholding mechanism and enrich the empirical framework by integrating corporate social responsibility allowing us to question new possible interactions between employee shareholding and the related environmental performance (extra-financial performance) to the management of the social capital and the sustainability of the firm. Little attention has been paid to the factors that determine corporate environmental responsibility level and how to improve it. Therefore, study the relationship between corporate equity ownership and CER by examining new shareholder type groups is fundamental to fulfill the gap in the research which is the limited empirical literature that had tried to connect employee ownership and corporate environmental responsibility.

Theoretical contributions appear in particular through the responses to these questions. The first contribution of this thesis lies in the review of fundamental classics theories in the field of finance and corporate governance. This literature presents our first contribution, insofar as it brings together employee share ownership and the creation of partnership value. Our review of the theoretical literature on the effects of employee share ownership on corporate governance highlighted the fact that the analysis of conflicts of interest takes a very important place in the theoretical framework.

The analysis of the impact of employee share ownership on corporate governance was based on transforming the employee into an owner allows him to have control rights legitimate on the company (Bruder, 2007; Hollandts, 2007).

The theory of property rights was used to analyze the influence of the ownership structure with employee ownership on managerial behavior and on the functioning and efficiency of the capital structure. We also mobilized the agency theory, which aims to analyze the actual functioning of organizations, through the study of incentive and coordination of coalition members.

Agency theory attempts to explain organizational forms as modes of conflict resolution: incentive versus monitoring and control, by studying the behavioral consequences that a change in property rights is likely to have. The first contribution of this thesis lies in the proposed theoretical research model to analyze the efficiency of the capital structure with employee shareholding. Generally, the work that mobilized this theoretical framework to study the effects of employee ownership converge towards the observation of mixed effects.

The empirical contributions of our research integrate moderating effect of right mechanisms to control, in particular, the employee board participation.

From the theoretical hypotheses formulated and through the empirical data collected, our explanatory analysis has brought forward several important results. These results also constitute implications for the research:

The first essay highlights the nature of the relationship between employee share ownership and top manager. So, the empirical research model has it been the opportunity to show that employee shareholding promotes managerial entrenchment from both a shareholder and partnership perspective.

The second essay is related to the evidence of a threshold effect in the relationship studied. Indeed, we have observed, through an in-depth empirical analysis that the relationship between “employee ownership” and “capital structure” is curvilinear taking the form of an inverted U: it is positive for low levels of employee shareholding and negative for high levels of employee ownership. The negative effect is more pronounced if the percentage of voting rights accruing to employees exceeds 3%.

Also, we have seen a positive effect of “Employee ownership” in creating value to listed companies, and this only for a significant level of employee shareholding. Below the rate of 1,54%, the cost of the equity capital will decrease.

The third essay results from the study of the influence of the employee ownership and the actions taking by employees on the corporate environmental performance. Indeed, the relationship between employee ownership and the environmental performance is positive.

Despite its contributions, our work suffers from certain limitations. The limits of our research are in our opinion, embodied mainly in the operationalization of certain variables included in our research model. In this frame, we report first limit affecting our variable of interest lies in the fact that the form of ownership of the shares by the employees is unknown for almost a third of companies with employee share ownership, which led us to make comparisons between relatively small sub-samples. In this manner, the lacking of samples in terms of countries devoid us to scan differences and matches between various forms of employee ownership.

As a second limitation, we did not consider the type of shareholder in the context of our study and in particular the different short-term and long-term types of shareholders.

Also, for the variable "board employee owners' representation ", it was necessary to distinguish the employee shareholder seating in board and representing only the employee shareholders from the employee shareholder representing trade unionist. Indeed, not being an official representative of a union, its decisions and its supervision should not be "noisy" by

considerations of collective bargaining (Desbrières, 2002). In the context of our study, we did not make this distinction which could have a contribution to our results, given the unavailability of this information for the almost all companies.

Finally, our study is limited to the 120 largest French listed companies. We acknowledge that ESO can be implemented in non-listed firms. It would be interesting to confirm results with non-listed French companies.

The empirical validation of our model thus requires future research before being able to generalize the results of our three empirical studies. The present study can be extended internationally by using a global sample. It would be interesting to investigate cross-country and cross-governance system variations of the relationship between ESO and corporate governance. We think that comparative studies could be more pertinent to assess this relationship.

Ultimately, the choice of the subject of employee ownership for our doctoral thesis was a very successful idea because it was a very exciting research subject that we will be able to explore more in our future research. So, taking an interest in the study fully owned companies by employees, can help us to provide new insights about an exceptional case of employee ownership. Also finding new forms of employee incentives that can encourage employees to engage in equity participation in their company and further increase this bull.

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