



The Impact of Corporate Social Responsibility on Executive Compensation

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Abstract

The following research examines the impact of CSR on executive compensation based on the level of performance of the company by using total CSR, environmental CSR and economic CSR. An empirical study carried out on a sample of French companies over the period 2007-2016 revealed a positive and significant relationship between Pay-for-performance sensitivity and executive compensation. This result is in line with agency theory, which assumes that executives are encouraged to over-invest in CSR activities, in order to eventually improve their reputation to the detriment of shareholders. The overinvestment assumption in corporate social responsibility activities can lead to a deterioration in the value of the firm as it enhances the reputation of the responsible officer, which allows the officer to increase his bargaining power, market value and prospect careers.

Subject Areas

Managerial Economics

Keywords

Corporate Social Responsibility, Pay-For-Performance Sensitivity, Executive Compensation, Conflict Resolution, Governance

1. Introduction

A growing number of companies are making significant efforts to integrate corporate social responsibility (CSR) into various aspects of their business. However, CSR remains a highly controversial topic and CSR debates continue to develop without a clear consensus on its meaning or value. According to Baron (2010) [1], corporate social responsibility (CSR) is thus motivated by moral du-

ties to undertake societal activities. However, CSR can also be favored in order to maximize the profits of the company or to serve the personal interests of the managers.

Since the NRE law of 2001 requires listed companies to publish the individual and nominative remuneration of corporate directors, this remuneration, now observable, has continued to increase for managers of companies of all sizes (Dardour, 2011) [2]. The justification of executive compensation is based on arguments that are essential of an economic and ethical nature. Several studies have examined the interaction between compensation and corporate engagement in CSR activities (Deckop, Merriman, & Gupta, 2006 [3], McGuire, Dow, & Arghyeyd, 2003 [4]).

The research carried out proposes to explore the causal link between CSR and executive compensation. Indeed, according to Jensen and Meckling (1976) [5], the agency's theory assumes that executives are encouraged to over-invest in CSR activities, which can improve their reputation to the detriment of shareholders (Vance, 1975 [6], Cronqvist *et al.*, 2009 [7] and Barnea & Rubin, 2010 [8]). Secondly, according to the stakeholder theory, based on the conflict resolution hypothesis (Freeman, 1984 [9], Donaldson & Preston *et al.*, 1995 [10]), the Chief Executive Officer engages, through the activities CSR, to bring control back into the hands of the various risk takers so as to increase legitimacy, develop a positive reputation (Cardebat & Cassagnard, 2011) [11] and effectively manage the risks of the firm (Godfrey, 2005) [12].

The study presented therefore raises the following issue: To what extent does the commitment of companies in CSR activities influence executive compensation?

The main objective of this research is to answer this question by studying the impact of CSR on executive compensation and more specifically the causal link between CSR and compensation depending on the level of performance of the company.

Our study makes some contribution to previous work (Kyoungwon & Kyung, 2018) [13]. Indeed, we analyzed the impact of the PPS, in addition to the CSR on executive compensation using the total CSR, environmental CSR and the economic CSR.

The article is structured as follows: Section 1 presents a review of the literature and research hypotheses. Section 2 presents the description of the sample and the definition of the variables of measures selected. Section 3 presents the main empirical results. Finally, Section 4 discusses the scope of research on CSR and executive compensation.

2. Theory and Hypothesis

2.1. Corporate Social Responsibilities and CEO Compensation

Bowen (1953) [14] initiated the debate about CSR by proposing an open definition of the concept. It presents CSR as an obligation for officers to implement

strategies, make decisions, and ensure practices that are consistent with the goals and values of the community at large. This first approach was complemented by the more formal work of Carroll (1979) [15] which proposes a conceptual model based on three dimensions characterizing CSR: the principles of social responsibility, the way in which the company puts its principles into practice (its social sensitivity), and the societal values it carries. Wartick and Cochran (1985) [16] complement this approach by specifying that CSR is a microeconomic approach to the relationship between the firm and its environment. Finally, we can say that the notion of CSR integrates two normative criteria:

Firstly, companies must fulfill obligations to a plurality of stakeholders. Secondly, they must know how to react to the social demands of their environment. Thus, the company's actions should reflect a form of engagement towards its stakeholders, which goes beyond the usual legal or economic obligations.

Otherwise, executive compensation has attracted the attention of academic researchers and policy makers. Indeed, the amount of executive compensation has increased significantly since the 1980s (Hall & Liebman, 1998) [17]. As executive compensation has increased significantly, many researchers have begun to question whether it is justified and results from the company's performance and rapid growth.

As a result, two explanations have been created about the different interactions between CSR and executive compensation. The first perspective is based on stakeholder theory (Freeman, 1984 [9], Clarkson, 1995 [18]).

Freeman (1984) [9] defines the category of a stakeholder as an "individual or group of individuals who can affect or be affected by the achievement of organizational objectives". This definition brings a paradigm shift in the company's vision, whose core is no longer the shareholder but the various stakeholders (shareholders, employees, unions, customers, suppliers, etc.). "Consequently, it is no longer the company that is at the center of its social environment but the stakeholders who become the center on which management must reconstruct the definition of the company and its strategy" (F. Lépineux *et al.*, 2010) [19].

If the stakeholder theory is today the most mobilized and most appropriate theory in the study of the concept of CSR (A. Mullenbach-Servavyre, 2007) [20], "it is because it brings the theoretical framework which made a lack of this concept to assess and manage the company's responsibilities to the people and groups of people who contribute to it". The officer undertakes, through CSR activities, to bring control back into the hands of the various risk takers so as to increase legitimacy, develop a positive reputation (Cardebat & Cassagnard, 2011) [11] and effectively manage the risks of the firm (Godfrey, 2005) [12]. This enhances the value and long-term economic viability of the business.

The shown perspective suggests that investing in CSR activities can resolve conflicts between stakeholders (Jensen, 2002 [21], Harjoto & Jo, 2011 [22], Jo & Harjoto 2011a, 2011b [23]). This leads to a negative relationship between CSR and executive compensation explained by the following reasons. Firstly, the of-

Officers of socially responsible companies will have relatively lower pay than those of socially irresponsible companies, since they mitigate potential conflicts of interest between managers and other stakeholders, improve the equity concerns of companies and resolve the problem of distribution of wealth. Secondly, ethics suggests that lower pay is desirable for an officer engaged in CSR activities (Potts, 2006) [24].

The second perspective is part of the signal theory. This legitimizes the communication of CSR information and more generally the company's commitments in CSR procedures that are sometimes costly and burdensome. It signals that the company will be able to send to all stakeholders, so it will be interesting to report its quality to distinguish it from those that are less efficient (B. Bellini & E. Delattre, 2005) [25]. This increases users' confidence in the accuracy of the information provided by the company (Simnett, Vanstraelen and Chua, 2009) [26]. It also contributes to reduce informational asymmetries through transparency (Kolk & Perego, 2010) [27].

According to this approach, CSR activities thus make it possible to resolve conflicts between the various stakeholders. Socially responsible companies will therefore face a lower level of risk due to a lower degree of conflict of interest between management and stakeholders than socially irresponsible companies, which leads to lower executive compensation. This result creates a negative association between the company's commitment to CSR activities and executive compensation. Hence, the formulation of the following hypothesis:

Hypothesis 1: Corporate Social Responsibility negatively impacts executive compensation.

2.2. CSR and Pay-For-Performance-Sensitivity

The literature on executive compensation has shown a positive relationship between the company's financial performance, based primarily on accounting earnings and executive compensation (Lambert & Larcker, 1987 [28], Baber *et al.*, 1999 [29]).

This positive relationship between performance and executive compensation, or the Pay-for-Performance Sensitivity (PPS), has however been questioned by more recent studies, which have shown that this relationship differs according to the level of performance of the company. The long-established positive earnings-performance relationship, confirmed by previous literature, is only apparent when earnings are positive, and disappears when the company shows negative results. Gaver and Gaver (1998) [30] show that executives are rewarded with higher pay when firms perform well, while they are not penalized sufficiently when firms show a low performance. This overall confirms the existence of an asymmetry in the performance-pay relationship, in accordance with the criticism of Jensen and Murphy (1990) [31] and Bebchuk and Fried (2004) [32]. It is obvious that this asymmetry has a negative impact on the shareholders since the manager has less incentive to protect his shareholders against losses.

A great number of research has investigated the impact of corporate social responsibility (CSR) in different ways. The debate on the question is whether the CSR activity increases the agency problem between shareholders and managers (Harrison and Freeman, 1999 [33], Cronqvist *et al.*, 2009 [7]), or on the contrary that it benefits not only external stakeholders but also shareholders by improving the value of the business in the long term (Porter and Kramer, 2002 [34], Cheng *et al.*, 2014 [35]). The literature offers two contradictory approaches to the effect of CSR on the Pay-For-Performance Sensitivity:

According to the value maximization theory or the stakeholder value maximization theory inspired by the Coase's theory of the firm (1937) [36], CSR activities reflect the commitments of the executive and the company to maximize the benefits of shareholders, investing in relationships with various external stakeholders. Thus, improved CSR performance is seen as an investment to increase the value of the business by resolving conflicts between different stakeholders. CSR is thus one of the tools to mitigate the asymmetry of the PPS. It can decrease the PPS when the company is efficient and increase it when the company is less efficient. This result leads to a negative relationship between CSR and PPS.

On the other hand, agency theory shows a positive relationship between CSR and PPS asymmetry. According to Jensen and Meckling (1976) [5], agency theory assumes that managers are encouraged to over-invest in CSR activities, which can improve their reputation to the detriment of shareholders (Vance, 1975 [6], Cronqvist *et al.*, 2009 [7], and Barnea and Rubin, 2010 [8]). The overinvestment assumption in corporate social responsibility activities can lead to a deterioration in the value of the firm as it enhances the reputation of the responsible officer, allowing him to increase his bargaining power, market value and prospect. careers. Milbourn (2003) [37] shows a positive correlation between the manager's reputation and the sensitivity of equity compensation to the creation of shareholder value. CSR is considered to be an opportunistic behavior of the officer to improve his reputation by using the resources of his shareholders which will increase the asymmetry of the PPS. This leads to an increase in the PPS when the company is performing well and a decrease in it when the company is less efficient. This result leads to the following hypothesis:

Hypothesis 2: Corporate Social Responsibility Increases Executive Compensation for operating companies.

3. Sample and Measurement of Variables

This study is conducted on the impact of CSR on executive compensation in France, while the effect of certain variables is fixed: board independence, size of firm, ROAPPS and Leverage.

3.1. Sample and Data

This research is conducted on a sample of companies listed on the SBF 120 index. From all SBF 120 listed companies over the period 2007-2016, we have had to delete: 1) companies that do not publish the individual and nominative com-

compensation of the CEO; 2) limited partnerships by shares since the managers are remunerated statutorily from the profits; and 3) outliers identified by the level of compensation in addition to stock options received by the executive relative to the compensation of other executive officers of listed companies in the same index. Individuals whose earnings are very low or very high compared to the average are thus removed. Given the analyzes to be carried out, information on executive compensation must be available for the ten years of study. Our final sample is made up of 97 companies. The number of observations is thus of the order of 970 observations firm-year.

For the purposes of this research, most of the information on executive and corporate officer compensation was collected from the annual reports (reference documents) published on the websites of SBF 120 companies. Governance variables are also collected from the annual reports of the companies concerned. Finally, the financial and stock market data were extracted from the Worldscope database.

3.2. Definition and Measurement of Variables

3.2.1. Dependent Variables

Executive compensation arrangements are complex and pose empirical problems. The total compensation of an executive is the sum of four components, 1) a fixed remuneration, 2) an annual bonus, 3) stock options and/or free shares, and finally, 4) a variety of items: benefits in kind, directors' fees, insurance underwriting and severance pay.

Fixed remuneration: The dependent variable (LnRemFixit) corresponds to the natural logarithm of the fixed remuneration in thousands of euros attributed to the manager i . The fixed compensation variable is therefore measured as follows: $\text{Ln}(\text{fixed remunerationit})$ (Crocì *et al.*, 2012) [38].

The annual bonus: The variable (Bonusit) is the logarithm of the annual variable compensation (the short-term incentive) allocated to executive i for the year t paid in $t + 1$. The annual bonus variable is measured as follows: $\text{Ln}(\text{annual Bonusit})$ (Crocì *et al.*, 2012) [38].

Total compensation: The global compensation variable (LnRemTotit) corresponds to the logarithm of the sum of the fixed compensation and the bonus (Crocì *et al.*, 2012) [38].

Stock Option: The variable representing stock option plans (SO) is measured by the size of incentive compensation for options and free shares. The potential value of stock options granted to executives is calculated using the Black-Scholes (1973) formula, taking into account dividends (Merton, 1973) [39]. The value of free shares is equal to the number of free shares allocated to the executive for the financial year multiplied by the share price on the grant date.

3.2.2. Independent Variables

CSR: The different interactions between CSR and executive compensation are explained mainly by stakeholder theory (Freeman, 1984 [9], Clarkson, 1995 [18]).

Cardebat and Cassagnard (2011) [11] assume that the CEO engages, through CSR activities, to bring control back into the hands of the various risk takers in order to increase legitimacy, to develop a positive reputation, and to effectively manage the risks of the firm. This enhances the value and long-term economic viability of the business. This perspective suggests that investing in CSR activities reduces the CEO's compensation by reducing potential conflicts of interest between managers and other stakeholders, improving corporate equity and Solve the problem of wealth distribution (Jensen, 2002 [21], Harjoto & Jo, 2011a, 2011b [22]). This leads us to a negative relationship between CSR and executive compensation.

Pay for performance: The positive relationship between pay and performance (PPS) has been challenged by previous studies that have shown that this relationship differs according to the degree of corporate performance. Gaver and Gaver (1998) [30] have shown that managers are rewarded with higher pay when companies perform well, while they are not penalized sufficiently when they show a low performance. Kyoungwon *et al.* (2018) [13] assume that executives of successful firms receive lower pay when the firm is engaged in CSR activities according to Freeman's (1984) [9] Stakeholder Theory which states that Enhanced CSR performance is seen as an investment to increase the value of the business by resolving conflicts between different stakeholders and thus reducing the pay of successful companies. These authors also predict that vice versa officers receive an additional bonus even if the company is not performing. Kyoungwon *et al.* (2018) [13] state that executive compensation is less sensitive to the performance of the company engaged in CSR activities. In other words, without the company's commitment to CSR activities, executives receive a high (low) remuneration when the company performs well (less efficient), whereas for socially responsible companies, the high SPP is high. for successful companies decreases and the low PPS of the less efficient companies increases. On the other hand, Barnea and Rubin (2010) [8] consider the hypothesis of overinvestment in corporate social responsibility activities based on agency theory. This perspective can lead to a deterioration of the value of the firm as it enhances the reputation of the responsible officer, which allows him to increase his bargaining power, market value, career prospects and, consequently, his compensation. CSR is thus considered to be an opportunistic behavior of the manager to improve his reputation by using the resources of the shareholders which will increase the asymmetry of the PPS. This leads to an increase of the PPS when the company is performing well and a decrease of it when the company is less efficient.

3.2.3. Control Variables

CSR is not the only determinant of executive compensation. The empirical literature highlights other factors that may influence the level of executive compensation. In addition to studying the effect on executive remuneration policy of CSR, we propose to identify, simultaneously, the impact of certain variables characterizing Board independence, CEO Family Board, Family, Duality. Similarly, we control the effect of variables size of firm (LnActif), ROA and Leverage.

Board independence: We measure the proportion of independent directors (BoardInd) sitting on the board of directors by the number of independent directors out of the total number of directors sitting on the board of directors (Core *et al.*, 1999) [40].

CEO Family Board: This variable (CEOFAMBOARD) is binary with a value of (1) if the company has a family member officer, 0 otherwise (Fernandez & Arondo, 2005) [41].

Family: CFAM Dummy variable equal to 1 if a family holds, directly or indirectly, more than 50% of the voting equity capital of the company (Chen *et al.*, 2008) [42]

Duality: The variable (Duality) is binary equal to one (1) if the executive director is also chairman of the board of directors (Brickley *et al.*, 1997) [43].

Size of firm: We measure the size of the firm by the logarithm of the total assets (LnActif). (Jensen & Meckling, 1976) [5].

ROA: To measure this variable, we use the profitability of the assets (ROA). (Benito & Conyon, 1999) [44].

Leverage: We measure leverage by the ratio of total debt to equity. (Agrawal & Knoeber, 1999) [45].

Industry: Dummy has been introduced to control the influence of Industry specificity.

4. Methodology

In order to better understand the effect of the shareholding structure on executive compensation in fixed and variable form, while controlling the effect of certain variables characterizing the board independence, Size of firm, ROA and Leverage, we adopt the multiple regression model in panel data.

Our total (LnRemTot), fixed (LnRemFix) and bonus (LnBonus) compensation regression models are based on panel data, which have the specificity to treat and at the same time a dimension for individuals (companies) and another dimension for time. It is often interesting to identify the effect associated with each individual ie common or specific. This effect can be fixed or random.

As we study the four forms of remuneration (fixed, variable, stock option and total) as well as the possibility of allocating incentive plans based on stocks options, we end up with the analysis of 9 regression models (Table 1).

5. Regression Analysis and Discussion

5.1. Summary Statistics

Table 2 presents the descriptive statistics for the dependent, independent and control variables of our study. On average, a French executive receives a total remuneration of 1,811,285 euros. This remuneration includes a fixed part equal on average to 729,450.6 euro and an average variable part of the order of 642,549.5 euro and stock options, on average equal to 439,284.5 euro. The dispersion of these wages is very pronounced.

Table 1. Examined models.

Equations	Model	Regressions
Equation 1 CSR TOATL	1	$\text{LnRemTot} = f(\text{CSR TOTAL}, \text{ROA}, \text{CSR} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	2	$\text{Lnsalaire} = f(\text{CSR TOTAL}, \text{ROA}, \text{CSR} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	3	$\text{LnSO} = f(\text{CSR TOTAL}, \text{ROA}, \text{CSR} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
Equation 2 CSR ENVIRN	1	$\text{LnRemTot} = f(\text{CSR ENV}, \text{ROA}, \text{CSR}_{\text{ENV}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	2	$\text{Lnsalaire} = f(\text{CSR ENV}, \text{ROA}, \text{CSR}_{\text{ENV}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	3	$\text{LnSO} = f(\text{CSR ENV}, \text{ROA}, \text{CSR}_{\text{ENV}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
Equation3 CSR ECONOMIC	1	$\text{LnRemTot} = f(\text{CSR ECO}, \text{ROA}, \text{CSR}_{\text{ECO}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	2	$\text{Lnsalaire} = f(\text{CSR ECO}, \text{ROA}, \text{CSR}_{\text{ECO}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$
	3	$\text{LnSO} = f(\text{CSR ECO}, \text{ROA}, \text{CSR}_{\text{ECO}} * \text{ROA}, \text{Leverage}, \text{Size}, \text{CEOFAMBOARD}, \text{Duality}, \text{BoardInd}, \text{CFAM}, \text{industry})$

Table 2. Descriptive statistics.

Continuous variables	Minimum	Maximum	Standard deviation	Average
ROA	-0.3264	0.4569	0.05129	0.03595
Totalcomp	0	1.65e+07	1,767,360	1,811,285
Salary	0	1.15e+07	560,429.2	729,450.6
Bonus	0	4,133,631	671455.9	642,549.5
SO	0	1.25e+07	1318174	439,284.5
CSR	4.46	96.61	24.5884	74.4051
ECONOsc	1.93	98.52	28.5822	65.8851
ENVIRsc	1.93	98.52	28.5822	65.8851
Size	6.1785	14.5468	1.6735	9.4972
BoardInd	0	100	24.0103	44.4309
Leverage	0.0007	2.3840	0.2293	0.2789
	Binary variables	Frequency	Proportion	
CEOFAMBOARD	0	823	84.84	
	1	147	15.16	
CFAM	0	634	65.36	
	1	336	34.64	
Duality	0	529	54.54	
	1	441	45.46	

This table presents the descriptive statistics of the continuous and nominal variables of our sample.

According to the descriptive statistics, the CSR has an average of 74.4051 with a minimum of 4.46 and a maximum of 96.61. **Table 2** also shows that, in the French context, the percentage of shares held by the executive is 15.16% and the number of family businesses is around 34 companies out of a sample of 97 companies listed on the SBF 120.

5.2. Bivariate Analysis

We adopt a bivariate analysis to test the possible presence of a problem of multi-collinear explanatory variables. The matrix of correlation coefficients (**Table 3**) shows that the explanatory variables are weakly correlated. Nevertheless, we can note the existence of some significant correlations between the variables. In this case, a VIF test (**Table 4**) becomes necessary to detect the importance of the multi-collinear explanatory variables. The results of this test show that the problem out of multi-collinear explanatory variables does not seem to be critical since the statistics of all the variables have values well below 10 (Neter *et al.*, 1989) [46].

Knowing that the study of the correlation matrix obviously does not reveal all the problems of multi-collinear explanatory variables, the VIF tests are interesting to invalidate our results (Neter, Wasserman, & Kunter, 1989) [46].

Table 3. Correlation matrix.

Variables	VIF
CSR	1.04
ROA	1.16
CSR * ROA	1.01
SIZE	1.27
LEVERAGE	1.14
BOARDIND	1.10
CFAM	1.72
CEOFAMBOARD	1.56
DUALITY	1.05
MEAN VIF	1.23

This table presents the correlation matrix. Totalcomp: is the sum of the fixed, variable compensation and stock options of the managers. CSR: is the sum of the amount invested in social activities. Duality: is a binary variable equal to 1 if the executive combines the functions of general management and chairman of the board, 0 otherwise. Leverage: is the ratio of indebtedness measured by the ratio between total debts and total assets. ROA: is the return on assets measured by the ratio between earnings before interest and taxes and total assets. CFAM: is a binary variable taking the value 1 if the business is family, 0 otherwise. CEOFAMBOARD: is a binary variable taking the value 1 if the company has a family member officer, 0 otherwise. Size: is the natural logarithm of the total active. CSR * ROA: is an interaction variable measured by the product between the profitability of the assets and the CSR. BoardInd: This variable is measured by the logarithm of the number of directors who are qualified as being independent. ***, **, *: the statistics are significant at the respective thresholds of 1%, 5% and 10%.

Table 4. VIF test.

	CSR	ROA	CSR * ROA	LEVERAGE	SIZE	DUALITY	CEOFAM BOARD	CFAM	BOARDIND
CSR	1								
ROA	0.0187	1							
CSR * ROA	0.2182*	0.9300*	1						
LEVERAGE	-0.0753*	0.0552	0.1179*	1					
SIZE	0.0635	-0.2614*	-0.2562*	-0.1485*	1				
DUALITY	0.0413	-0.1629*	-0.1409*	0.0126	0.0914*	1			
CEOFAMBOARD	-0.1109*	0.1603*	0.1229*	-0.1154*	-0.3212*	-0.0164	1		
CFAM	-0.0569	0.1839*	0.1567*	-0.1455*	-0.3260*	-0.0368	0.8983*	1	
BOARDIND	0.1044*	0.0029	0.0052	-0.1956*	-0.0424	0.0734*	0.1754*	0.1046*	1

Totalcomp: is the sum of the fixed, variable compensation and stock options of the managers. CSR: is the sum of the amount invested in social activities. Duality: is a binary variable equal to 1 if the executive combines the functions of general management and chairman of the board, 0 otherwise. Leverage: is the ratio of indebtedness measured by the ratio between total debts and total assets. ROA: is the return on assets measured by the ratio between earnings before interest and taxes and total assets. CFAM: is a binary variable taking the value 1 if the business is family, 0 otherwise. CEOFAMBOARD: is a binary variable taking the value 1 if the company has a family member officer, 0 otherwise. Size: is the natural logarithm of the total active. CSR * ROA: is an interaction variable measured by the product between the profitability of the assets and the CSR. BoardInd: This variable is measured by the logarithm of the number of directors who are qualified as being independent.

From a general point of view, these results allow us to confirm the hypothesis of no correlation between the explanatory variables, since the correlation coefficients are relatively low. To confirm the absence of the colinearity problem, we calculated the “Variance Inflation Factors” (VIF). The VIF of a variable demonstrates how the introduction of the variable can increase the variance of the coefficients of the other variables in the regression model. In this test, we can consider the existence of a collinearity problem when the VIF of any variable is greater than 10.

5.3. Multivariate Analysis

Table 5, **Table 6** and **Table 7** present the results of the estimation of the total (LnRemTot), fixed (LnRemFix) and variable (LnBonus) regression models. They present the results of the panel data regressions for our sample. *, ** and *** respectively indicate the statistical significance at the 10%, 5% and 1% thresholds. The values in parentheses represent the t-statistics of the estimated coefficients for the models.

According to **Table 5**, The negative relations between CEO compensation and CSR at the level of 1% (total compensation) and at the level of 5% (salary) are consistent with the conflict-resolution hypothesis, but not the overinvestment explanation. Overall, our results suggest that socially responsible firms are more prudent in determining their CEOs’ compensation levels. This negative relation between CSR and CEO compensation is consistent with the conflict-resolution hypothesis based on stakeholder theory. This result confirms our hypothesis 1.

Table 5. Regression CEO compensation and total CSR.

VARIABLES	logtotalcom	logsalary	logso
ROA	-9.873 (-1.54)	-8.900* (-1.94)	-1.149 (-0.25)
CSR	-0.009*** (-3.58)	-0.004** (-2.03)	-0.001 (-0.56)
SIZE	0.008 (0.10)	0.025 (0.42)	0.323*** (61.83)
Leverage	-0.480 (-1.46)	-0.369 (-1.29)	-1.184*** (-4.39)
CSR * ROA	0.138* (1.95)	0.116** (2.63)	-0.005 (-0.12)
DUALITY	0.013*** (4.12)	-0.001 (-0.02)	-0.162 (-1.57)
BoardInd	0.004 (1.57)	0.004*** (7.52)	-0.005** (-2.56)
CFAM	-0.164 (-1.13)	-0.040 (-0.16)	0.274 (1.30)
CEOFAMBOARD	-0.250** (-2.24)	-0.333*** (-38.21)	0.077 (1.27)
Industry and year dummies	Yes	Yes	Yes
Constant	14.384*** (20.28)	13.216*** (25.35)	11.771*** (32.17)
Observations	939	939	282
R-squared	0.148	0.153	0.337

Totalcomp: is the sum of the fixed, variable compensation and stock options of the managers. CSR: is the sum of the amount invested in social activities. Duality: is a binary variable equal to 1 if the executive combines the functions of general management and chairman of the board, 0 otherwise. Leverage: is the ratio of indebtedness measured by the ratio between total debts and total assets. ROA: is the return on assets measured by the ratio between earnings before interest and taxes and total assets. CFAM: is a binary variable taking the value 1 if the business is family, 0 otherwise. CEOFAMBOARD: is a binary variable taking the value 1 if the company has a family member officer, 0 otherwise. Size: is the natural logarithm of the total active. CSR * ROA: is an interaction variable measured by the product between the profitability of the assets and the CSR. BoardInd: This variable is measured by the logarithm of the number of directors who are qualified as independent.

Table 6. Regression CEO compensation and environmental CSR.

VARIABLES	logtotalcom	logsalary	logso
ROA	-2.117*** (-11.47)	-1.376*** (-8.80)	-1.382 (-1.18)
CSR _{ENV}	0.006*** (20.66)	0.006*** (6.63)	0.000 (0.08)
SIZE	-0.033 (-0.40)	-0.011 (-0.16)	0.321*** (20.11)
Leverage	-0.176 (-0.32)	-0.129 (-0.32)	-1.133*** (-2.42)
CSR _{ENV} * ROA	0.017 (0.46)	-0.004 (-0.14)	-0.003 (-0.99)
Duality	0.005 (0.14)	-0.011 (-0.10)	-0.169 (-1.30)
BoardInd	0.004 (1.07)	0.004*** (3.50)	-0.005* (-1.95)
CFAM	-0.120 (-0.59)	-0.018 (-0.06)	0.291 (1.18)
CEOFAMBOARD	-0.230 (-1.22)	-0.316*** (-9.80)	0.068 (1.44)
Industry and year dummies	Yes	Yes	Yes
Constant	13.760*** (14.52)	12.864*** (18.70)	11.697*** (22.72)
Observations	939	939	282
R-squared	0.140	0.154	0.337

Totalcomp: is the sum of the fixed, variable compensation and stock options of the managers. CSR: is the sum of the amount invested in social activities. Duality: is a binary variable equal to 1 if the executive combines the functions of general management and chairman of the board, 0 otherwise. Leverage: is the ratio of indebtedness measured by the ratio between total debts and total assets. ROA: is the return on assets measured by the ratio between earnings before interest and taxes and total assets. CFAM: is a binary variable taking the value 1 if the business is family, 0 otherwise. CEOFAMBOARD: is a binary variable taking the value 1 if the company has a family member officer, 0 otherwise. Size: is the natural logarithm of the total active. CSR * ROA: is an interaction variable measured by the product between the profitability of the assets and the CSR. BoardInd: This variable is measured by the logarithm of the number of directors who are qualified as independent.

Table 7. Regression CEO compensation and economic CSR.

VARIABLES	logtotalcom	logsalary	logso
ROA	-2.117*** (-11.47)	-1.376*** (-8.80)	-1.382 (-1.18)
CSRECO	0.006*** (20.66)	0.006*** (6.63)	0.000 (0.08)
SIZE	-0.033 (-0.40)	-0.011 (-0.16)	0.321*** (20.11)
Leverage	-0.176 (-0.32)	-0.129 (-0.32)	-1.133*** (-2.42)
CSRECO * ROA	0.017 (0.46)	-0.004 (-0.14)	-0.003 (-0.99)
duality	0.005 (0.14)	-0.011 (-0.10)	-0.169 (-1.30)
BoardInd	0.004 (1.07)	0.004*** (3.50)	-0.005* (-1.95)
CFAM	-0.120 (-0.59)	-0.018 (-0.06)	0.291 (1.18)
CEOFAMBOARD	-0.230 (-1.22)	-0.316*** (-9.80)	0.068 (1.44)
Industry and year dummies	Yes	Yes	Yes
Constant	13.760*** (14.52)	12.864*** (18.70)	11.697*** (22.72)
Observations	939	939	282
R-squared	0.140	0.154	0.337

Totalcomp: is the sum of the fixed, variable compensation and stock options of the managers. CSR: is the sum of the amount invested in social activities. Duality: is a binary variable equal to 1 if the executive combines the functions of general management and chairman of the board, 0 otherwise. Leverage: is the ratio of indebtedness measured by the ratio between total debts and total assets. ROA: is the return on assets measured by the ratio between earnings before interest and taxes and total assets. CFAM: is a binary variable taking the value 1 if the business is family, 0 otherwise. CEOFAMBOARD: is a binary variable taking the value 1 if the company has a family member officer, 0 otherwise. Size: is the natural logarithm of the total active. CSR * ROA: is an interaction variable measured by the product between the profitability of the assets and the CSR. BoardInd: This variable is measured by the logarithm of the number of directors who are qualified as independent.

Investing in CSR activities resolves conflicts between stakeholders (Jensen, 2002 [21], Harjoto & Jo, 2011 [22]). This negative relationship between CSR and executive compensation is explained by the following reasons. Firstly, the officers of socially responsible companies will have relatively lower pay than those of socially irresponsible companies, since they mitigate potential conflicts of interest between managers and other stakeholders, improve the equity concerns of companies and resolve the problem of distribution of wealth. Secondly, ethics suggests that lower pay is desirable for an officer engaged in CSR activities (Potts, 2006) [24].

Our results also show a positive and significant relationship at the threshold of 10% (total compensation) and the 5% threshold (salary) between the PPS (CSR * ROA) and executive compensation (Table 6). This confirms our second hypothesis, which is in agreement with the theory of the agency that shows a positive relationship between the CSR and the asymmetry of the PPS. According to Jensen and Meckling (1976) [5], the agency's theory assumes that executives are encouraged to over-invest in CSR activities, which can improve their reputation to the detriment of shareholders (Barnea & Rubin, 2010) [8]. The overinvestment assumption in corporate social responsibility activities can lead to a deterioration in the value of the firm as it enhances the reputation of the responsible officer, allowing him to increase his bargaining power, market value and pros-

pects. careers. Milbourn (2003) [37] shows a positive correlation between the manager's reputation and the sensitivity of equity compensation to the creation of shareholder value. CSR is considered to be an opportunistic behavior of the officer to improve his reputation by using the resources of his shareholders which will increase the asymmetry of the PPS. This leads to an increase in the PPS when the company is performing well and a decrease in it when the company is less efficient.

Moreover, it turns out that in the French context, **Board independence** reduces the incentive to adoption of incentive-based options plans to purchase shares and promotes to award high salaries (total and fixed compensation) with a positive and significant relation between independence and total compensation at the 1% level in order to ensure an alignment of interests of executives with those of shareholders. Shah *et al.*, (2009) [47]. (Results are documented in **Table 5**, **Table 6** and **Table 7**).

Similarly, the results of our investigation show that **duality** of CEO and chairman of the board tends to increase the executive compensation, we show a positive and significant of the additional function on total compensation of the regression including total CSR (at the 1% level). In this case, the president and top director wields great power in the selection of directors and then in fixing their compensation. (Results are documented in **Table 5**).

This study finds out that there is a positive relationship, significant (at the 1% level) between the Stock option of CEO and the size of firm (results are documented in **Table 5**, **Table 6** and **Table 7**). One of the reason for this can be that large companies have more complicated structure and they need more experienced and competent persons to run it. In addition most of these firms are multinationals with surplus amount of resources at their disposal and can afford to pay high wages to their CEOs. This result is in congruence with the results of Kostiuk (1990) [48] who suggested that these two variables are positively linked to each other and this relationship has been stable over time. A more recent study by Gai and Michaud (2009) [49] tested the impact of firm size on six different types of CEO compensations namely CEO salary, restricted stock grants, stocks options awarded, bonus, Long-term Incentive Payouts (LTIP) and total CEO compensation. They find that the size has a positive impact on all these six components. This relationship can have a negative effect on the firm and can propagate "moral hazard" (Fich *et al.*, 2009) [50] as CEOs can engage in deal-making (which are aimed at improving CEOs pay rather than the value of the firm).

Finally, the relationship between the leverage policy and the allocation of stock options to company directors is negative and significant at the 1% level (**Table 5**, **Table 6** and **Table 7**). As a result, firms with large debt ratios should be motivated to reduce the share of stock options in overall executive compensation. This result is in line with those found by John and John (1993) [51] and Yermack (1995) [52]. Regarding the relationship between the financing policy and the allocations of stock options for the French case, our results are in line with those found by Poulain-Rehm (2003) [53]. According to the latter, the adop-

tion of stock option plans by French companies has been accompanied by a reduction in their level of indebtedness. It can be considered that indebtedness weighs heavily on the value of highly indebted companies. As a result, executives benefiting from stock options have a motivation to reduce the debt and therefore the financial costs which weigh heavily on the profit of the company. In addition, indebted companies give fewer stock options to their managers, who are already subject to market surveillance because of the disciplinary role played by indebtedness.

6. Conclusions

Executive compensation has been a topic of great interest for shareholders, government regulators, and academic researchers. In this article, we examine the empirical impact of firms' CSR involvement on executive compensation using a large sample of the French firms listed on the SBF 120 from 2007 to 2016. We find that CSR is adversely related to CEOs' compensation, after controlling for various firm and board characteristics.

Our results support a negative relation between CSR and CEO compensation is consistent with the conflict-resolution hypothesis based on stakeholder theory which stipulates that the officers of socially responsible companies will have relatively lower pay than those of socially irresponsible enterprises since they mitigate potential conflicts of interest between managers and other stakeholders, improve the concern for equity of companies and solve the problem distribution of wealth.

Our results also show a positive relationship between PPS and remuneration for a sample of French companies. Indeed, CSR is considered to be an opportunistic behavior of the officer to improve his reputation by using the resources of his shareholders which will increase the asymmetry of the PPS. This leads to an increase in the PPS when the company is performing well and a decrease in it when the company is less efficient.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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