Corporate Social Responsibility and Firm Performance: An Empirical Analysis of the Quantity-Quality Trade-off on French Data *

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Abstract

This paper studies how different form of CRS dimensions affects corporate economic performance. We rely on various indicators CSR to examine whether firms rely on different business forms of CSR, in terms of quality versus quantity of practices, and we also determine the sectoral determinants of such trade-offs. Our empirical analysis is based on an original database including more than 4386 French firms in manufacturing and services in 2006. Our results show that isolated and aggregated CSR dimensions impacts positively firm performance. The interaction between the various CSR dimensions also affects positively firm performance but with a much stronger impact, suggesting that synergies among CSR practices matter a lot for firm performance. The sectoral dimension also matters. Actually, these results suggest a form of quantity-quality trade-off in the service sector whereby firms find it profitable to invest simultaneously in consistent CSR dimensions allowing them to exploit synergies, but they do not find it profitable to simply invest in isolated practices.

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1. INTRODUCTION

In all OECD countries, firms are making a lot of effort to be, or at least to appear, socially responsible. In 2005, for instance, 52% of the top 100 corporations in the 16 more industrialized countries published a report on their corporate and socially responsible (CSR) activities. In fact, since the late 1990s, many industrialized countries have adopted laws requiring firms (listed and/or non listed) to publish reports detailing their exposure to and how they address environmental, social and governance risks.[1]

Nevertheless, Corporate Social Responsibility (CSR) means socially and environmentally friendly actions not only required by law, going beyond compliance, privately providing public goods, or voluntarily internalizing externalities. According to the European Commission (2007), being socially responsible in fact means that, beyond legal constraints, firms accept to bear the cost of a more ethical behavior by voluntarily committing for instance to improve employment conditions, ban child labor and countries that do not respect human rights, protect the environment and invest in abatement equipment to reduce carbon footprint, develop partnerships with NGOs, provide funds to charity etc. CSR strategies would in fact allow firms to maximize value and to minimize risk in the long run, to respond to increased competitive pressure and market differentiation, and such strategies would more generally allow taking into account the growing demands of their stakeholders (customers, consumers, employees, savers). As suggested in the report on "Green growth" for the Economic council on sustainable development, the complementarity and synergies between environmental, social and governance factors inherent of CSR strategies might be determinant for the emergence of green economic growth (see Crifo et al. 2009).

[1] Laws NRE in France, Sarbanes-Oxley in the US, Green account Act in Denmark, Combined Code and Turnbull Report in the UK etc.

But do firms actually benefit from CSR strategies? Can it be profitable to invest in responsible practices beyond legal obligations? In other words, what are the links between CSR and firm performance? In turn, what is the value of CSR strategies, in particular with respect to social, environmental or market behaviors? Moreover, how do firms actually minimize risks through their CSR strategies, in particular at the sectoral level?

The impact of Corporate Social Responsibility on economic performance has received a considerable attention in the literature over the past three decades (see e.g. Margolis, et al., 2009 for comprehensive reviews). However, no consensus emerges so far, corporate responsibility rather seems to have an ambiguous and complex impact on firm performance though no true causality has been proved yet. Actually, while some research argues that investment in social responsibility rises a firm's costs what makes it less competitive (Friedman, 1970; Brummer, 1991; McWilliams and Siegel, 1997; Jensen, 2002), other research has suggested that investing in social performance, firms can achieve competitive advantage by attracting easily resources and quality employees, differentiating its products and services, reducing its exposure to risk, etc. (Cochran and Wood, 1984; Turban and Greening; 1996; Waddock and Graves, 1997; McWilliams and Siegel, 2001; Godfrey, 2004). In this paper, we argue that one reason for this absence of consensus lies in the possibility of a quantity-quality trade-off between the various dimensions of corporate responsibility. In fact, a firm's CSR policy is multi-dimensional and embeds environmental, social and business behaviors factors. Consequently, using a single item as a proxy for generic CSR could provoke a fundamental reason for the uncertainty about the relationship between CSR and firm performance (e.g. Surroca et al., 2010). Similarly, Mackey et al. (2007) and Brammer and Milligton (2008) suggest that some forms of socially responsible behaviour are positively associated with firm performance while other are not. What more, as indicated by Barnett and Solomon (2006) CSR investments vary by the intensity of firm's social screening and also in

the types of social screens that firm employs. Yet, how those various dimensions interact as inputs of firm performance is not trivial. Moreover, in a context of limited resources, firms may well face a quantity-quality trade-off, suggesting a complex and ambiguous impact of various CSR profiles on performance. Hence, we test whether such a quantity-quality trade-off emerges using data on French firms from the Organizational Change and Computerization survey (COI, *Changement Organisationnel et Informatisation*). Actually, our results indicate that CSR dimension in their isolation and aggregate CSR indicator impact positively firm performance measured by firm's profitability, and the interaction between the various CSR indicators has positive effect as well. Moreover, the qualitative CSR measure based on interaction among its dimensions has a stronger impact on performance, suggesting that synergies matter a lot for firm performance. Moreover, the sectoral dimension also matters because for firms belonging to the service sector, dimension related to client and supplier performance has no effect on profit while regulation constrain has a negative impact. Additionally, not the same combination of synergies of CSR dimensions count for both manufacturing and service sectors. However, having maximum interacting practices is profitable for both manufacturing and service firms. These results suggest that corporate performance would rather be positively affected by both a quantitative and qualitative (based on synergies) CSR strategy in manufacturing firms, while service firms would also benefit from quantitative and qualitative policies, but not in investments in isolated CSR practices.

We believe that these results contribute to the CSR literature in several ways. First, rather than simple investigating the impact of one CSR dimension on firm performance, we analyze the quantity-quality trade-off between CSR dimensions and firm performance (measured by profit). In other words, we measure how different forms of CSR dimensions, variation in the intensity of CSR construct and interaction between CSR dimensions affects firm performance. Additionally, we analyze the effect of different forms of CSR across manufacturing and

service sectors. Second, we use data on representative sample of French firms which permits us to construct two types of variables from aforementioned questions. On one hand we construct a "quantity variable" counting the number of devices in place, on the social, environmental or business criteria. On another hand, we construct "quality variables" which indicates whether the firm has various (more than one) devices within each category (social, environmental and business behaviors). Additionally, employing this data allows us to control for a very detailed set of firm's characteristics and features in order to properly isolate the effect of quantity-quality trade-off between CSR dimensions on firm performance, to address the reverse-causality issues and to properly correct for the endogeneity of CSR variables. Finally, using a French database is appealing since empirical studies on the subject of customer orientation and firm's business performance refer mainly to experiences in Anglo-Saxon countries.

This paper is organized as follows. Section 2 reviews the existing literature while section 3 builds testable hypotheses. Section 4 presents the data and method. Section 5 derives our empirical results and discuses the findings and finally section 6 concludes the paper.

2. BRIEF LITERATURE REVIEW

Many reasons are invoked to motivate corporate responsibility in practice: the shrinking role of government, the society's demands for greater disclosure, the increased customer interest in CSR, the growing investor pressure, the competition on labor markets for competent and motivated employees, the increasing risk associated with unethical behaviors, the importance of taking into account relationships with suppliers, external pressure from the civil society etc. In turn, CSR strategies would allow firms to maximize value and to minimize risk in the long run by responding to the growing demands of their stakeholders (customers, consumers, employees, savers, etc.).

The empirical literature examining the impact of Environmental and Social Responsibility on Firm's Economic and Financial Performance has been very abundant in the past decades. However, no consensus on whether environmental and social performance increases or not financial performance seems to emerge from earlier works. As emphasized in McWilliams et al. (2006), the overall findings in the literature analyzing the links between CSR and firm performance show little consistency, which may be a result of inconsistency in defining CSR or firm performance, in samples, or in misspecification of models, changes over time, or some more fundamental variance in the samples that are being analyzed.

In turn, recent research has tended to provide more consistent results and show preliminary evidence of a positive small impact of CSR on firm performance and also of a bi-directional causality, namely from financial to social and environmental performance (see Scholtens, 2008; Margolis et al. 2009). These new results seems to confirm the theory and estimations proposed by Surroca et al. (2010), which draws upon instrumental Stakeholder Theory and the Resources-Based View of the firm to account for the recursive causal link between CSR and firm performance via the mediating role of firm's intangibles. The proposed theoretical argument states that by developing close relationships with primary stakeholders a firm can develop certain intangible resources (technology, human resources, reputation and culture) which enable the most efficient and competitive use of the firm's assets and help it to acquire a competitive advantage over its rivals.

In this paper, we explore a different but complementary link between CSR and firm performance, based on the quality-quantity trade-off that firms may face when designing their CSR policy. In fact, given that CSR is a multi-dimensional construct, the interactions among each dimension need to be considered when analyzing the links between CSR and firm performance. In fact, existing indicators and measures of CSR vary widely across studies and tend to capture either a single specific dimension, such as philanthropy or pollution control, or

broader appraisals of CSR. Yet, because corporate social responsibility is inherently multi-dimensional, wrong inference might be drawn from relying on one single dimension since different aspects of CSR may influence differently firm performance (Mackey et al., 2007; Brammer and Milligton, 2008). A few papers tackle this issue leading to mixed results (Waddock and Graves, 1997; Margolis et al., 2009; Surroca et al., 2010).

We contribute to this debate by examining the interactions among various dimensions of CSR. Actually, based on the fact that significant firm performance differences varies according to CSR intensity established as well as according to the varying types of CSR dimensions (Barnett and Solomon, 2006), we test how each CSR practice, the intensity of some practices as well as the interaction among practices affect firm performance across manufacturing and service sectors.

3. HYPOTHESES

It is becoming conventional wisdom today to define corporate social responsibility through the lenses of three main dimensions: environmental, social and governance (the so-called ESG factors). For instance, the United Nations Principles for Responsible Investment (UNPRI) was created in 2005 to provide a framework for ESG considerations into mainstream investment, on the basis of the following types of indicators : energy efficiency and greenhouse gas emissions (Environmental component); staff turnover; training and qualification; and absenteeism rate (Social component) and litigation risks; corruption; revenues from new products (Governance and business behaviors towards customers and suppliers).

Parallel to this phenomenon, several legislations starting in the late 1990s played an important role in the development of CSR in many Organisation for Economic Co-operation and Development (OECD) countries (see de Brito et al., 2001; Scott, 2001).

In turn, and drawing on previous research (e.g. Waddock and Graves, 1997; Greening and Turban, 2000; Cavaco and Crifo, 2010), we define CSR relying on four main categories: environmental performance, social performance, relationships with customers and suppliers, and regulatory constraints. Furthermore we create aggregate measure of CSR and construct that presents interactions between previous mentioned dimensions. We develop here a set of hypotheses based on various conceptualizations of CSR practices and the role played by the interaction among its components.

Isolated and Aggregated Effect of CSR Dimensions on Firm Performance

Previous studies underline the differential effects of CSR dimensions on firm performance (e.g. Brammer and Pavelin, 2006). Therefore, it is likely that the impact of CSR on firm performance is contingent upon which dimension of social responsiveness is taken under consideration. What more, the issue of whether each of our four dimensions of CSR (environmental performance, social performance, relationships with customers and suppliers, regulatory constraints) are related to firm performance is far from resolved. For instance, several studies in fact find a positive relationship between environmental practices or performance and financial performance (see e.g. Konar and Cohen, 2001; King and Lennox, 2001), but others results appear to be negative or non significant (Barla, 2007; Filbeck and Gorman, 2004). The same types of results may be found for social and business behaviors performance measures. Applying social screens may appear to affect performance positively (Statman, 2006), or negatively or insignificantly (see Geczy et al., 2005).

For the customers and suppliers dimension, many scholars note their importance for firms and an increasing number of recent studies now examine whether investment in customers and suppliers policies makes business sense. Results appear mixed as well (Zhu and Nakata, 2007; Hult et al., 2007; Reitzing and Wagner, 2010). For instance, investment in better relations

with suppliers may improve firm's knowledge about what can be transformed in improved performance outcomes (Hult et al., 2007). On the other side, investment in better relations with suppliers may create for firm opportunity costs of not learning which could be reflected in its performance (Reitzing and Wagner, 2010).

Concerning the impact of regulatory constraints on firm performance the literature also presents mitigate results. Theoretically, the threat of fines and other regulatory costs may induce higher CSR, but CSR may also be a response to government (regulatory) failure. CSR and stricter regulations may thus be complements or substitutes (see Lyon and Maxwell, 2008, and Maxwell and Decker, 2006). Empirically, many studies have tested the so-called "Porter hypothesis" whereby stricter environmental constraints would contribute to make firms more profitable by spurring innovation and competitiveness. However, when examining the relationship between environmental regulation and firm performance some studies suggest a positive relationship; other studies imply a negative relationship while still others show no relationship at all (see Sanchez, 1997 for comprehensive reviews).

Even if creating aggregated measure of CSR hides individual effect of each CSR dimensions, using an aggregated construct of CSR may facilitate inter-firm comparison on the level of CSR established inside the firms. However, previous research using aggregated CSR construct present inconsistency in findings concerning the relationship between CSR and firm performance (e.g. Waddock and Graves, 1997; Surroca et al., 2010).

Inherently a multi-dimension construct, there is no reason to believe that one dimension (say the social one) affects firm performance in the same direction as another one (say the environmental one). In fact, different costs and revenues characterize management practices thereby affecting firm performance differently. Hence, the first step, in order to understand better the relationship between CSR and firm performance is to open the black box by

examining how CSR dimensions in their isolation and in aggregated form influence firm performance. We thus formulate the following research hypotheses:

Hypothesis 1A: Isolated CSR dimensions may exert a positive, negative or neutral impact on firm performance.

Hypothesis 1B: An aggregate measure of CSR may exert a positive, negative or neutral impact on firm performance.

The effect of synergy and trade-off of CSR dimensions

Having more than one CSR practices creates a complementary effect which implies that the magnitude of the performance effect of two or more management practices is larger than the sum of the marginal effects from adopting only one practice (Ichniowski et al., 1997) because of the synergistic effects of bundling practices together. Actually, Milgrom and Roberts (1995) define complementarities as the relationship between two or more activities entailing that "doing more of any one of them increases the returns to doing more of the others". In this sense, complemetarity theory indicates that firms are likely to combine a set of practices since the benefits of such a complete pattern of practices are superior to the sum of the individual benefits (Whittington et al., 1999).

Turning to the "trade-off hypothesis", one can argue that although CSR dimensions have the same final objective, individually they act differently. For instance, one firm can have great relation with their clients but also has a reputation for polluting the environment. The good relation with clients could not composite for environmental degradation. In the same sense, Berens et al. (2007), examining the effect on product preferences, find that a poor corporate ability could not be compensated by a good CSR. Moreover, based on decision-making

theory, it is argued that in forming general evaluation, negative attributes tend to overweigh positive attributes (e.g. Baumeister et al., 2001). Hence, we may argue that existing CSR dimensions inside a firm cannot compensate for missing CSR dimensions. Moreover, all CSR dimensions may not equally matter to do well and do good. Forget (2012) for instance show that a hierarchy clearly stands out between CSR dimensions in European firms, dominated by the customers and suppliers dimension, followed by the human resources component and, in a lesser extent, the environmental dimension.

The contradicting results or the absence of consensus concerning relationship between CSR and firm performance may be explained by the role of interactions among the various components of CSR. Taking into account the interaction among various CSR dimensions, reveals that complex mechanisms are at work in terms of responsible management practices, with combinations exhibiting both synergies, that is complementarity, and trade-offs, that is substitutability (see Cavaco and Crifo, 2010). We thus formulate the following hypotheses:

Hypothesis 2A. The interaction among different CSR dimensions may generate complementarity (synergy) or substitutability (trade-offs). Complementarity[2] *means that the impact of interaction among different CSR dimensions on firm performance is greater than the sum of the impacts of each dimension involved in the interaction. Substitutability means that the impact of interaction among different CSR dimensions on firm performance is weaker than the sum of the impacts of each dimension involved in the interaction.*

[2] We use the definition by Athey and Stern (1998), when the choice is binary and the interaction effects are fixed across firms.

Hypothesis 2B. If there is synergy or trade-offs *among different CSR dimensions then it is better for firms to use these synergies* or trade-offs *in order to choose the best combination of dimensions, instead of using a strategy consisting of a purely quantitative addition of CSR dimensions.*

4. DATA AND METHOD

4.1 Data

The data is extracted from the French Organizational Changes and Computerization's (COI) 2006 survey.[3] The COI survey is a matched employer-employee dataset on organizational change and computerization. Researchers and statisticians from the National Institute for Statistics and Economic Studies (INSEE), the Ministry of Labor, and the Center for Labor Studies (CEE) created this survey. The survey contains 7,700 firms, with at least 20 employees, belonging to the private sector. It is a representative population of French firms from all industries except agriculture, forestry and fishing. Each firm fills in a self-administered questionnaire concerning the utilization of information technologies and work organizational practices in 2006, and changes that have occurred in those areas since 2003. Firms were also interviewed on the economic goals driving the decision to implement organizational changes and the economic context in which those decisions were made.

Within each surveyed firm, employees were randomly selected and asked about their personal socio-economic characteristics, as well as information about their job and position within the organization. The original dataset includes 14,369 employees. In order to obtain information on export volumes and profitability, the COI survey was merged with other database called

[3] More details about the design and scope of this survey are available on www.enquetecoi.net: Survey COI-TIC 2006-INSEE-CEE/Treatments CEE.

the Annual Enterprise Survey (EAE). We use two editions of the EAE survey from 2003 (to obtain information on exports volumes) and from 2006 (to obtain information on profitability). As a result of these merges, our sample includes 4, 386 firms (and 9, 765 employees).

Employing these two databases permitted us to work on a larger representative sample of French firms and so control for a very detailed set of firm characteristics and features to properly isolate the effect of Corporate Social Responsibility and its dimensions on firm performance.

4.2 Dependent variable and main independent variables

4.2.1. Main independent variables

In this paper, the COI survey allows relying on direct indicators of CSR behaviors grouped under four main categories: environmental, social, business behaviors towards customers and suppliers and regulatory constraints. This approach is consistent with existing studies which measure CSR with extra-financial ratings either through scores (e.g. continuous variable over the 0-100 interval) or through relative rankings, represented by a dummy variable that takes the value of 1 (respectively 0) if the firm is ranked above (respectively below) the sectoral average on the corresponding CSR dimension (see Cavaco and Crifo, 2010). Yet, the originality of the COI is to allow measuring CSR directly through CSR performance measure, rather than indirectly through ratings (which may vary from one agency to another). Our variables are defined as follows.

Green. To test the hypothesis that firms that have adopted environmental standards benefit from better firm performance, we use the variable denoted *Green,* which is a binary variable, coded 1 if the firm was registered according to one of the following standards i.e., ISO 14001 standard, organic labeling, fair trade, etc., in 2003. Unfortunately, we cannot distinguish between those standards, since they were put together in the survey under the same name.

Social. In order to evaluate the impact of social dimension on the firm performance, we construct a social indicator which presents the sum of the following six components: (1) the firm has undergone financial restructuring in the form of, for instance, merger, acquisition, transfer or buyback since 2003; (2) the firm has relocated an office or plant abroad since 2003; (3) the firm had central databases for human resource, training in 2003; (4) the firm has had internal and (5) external departments focused on human resource, training since 2003; (6) the firm used internet for employees learning or training in 2003. Moreover, in order to test our hypothesis concerning the synergy between CSR dimensions, we must harmonize the values of each CSR dimensions. We solve this issue by converting the social dimension into a binary variable that takes the value of 1 if the social component is equal or superior to 2.19 (the mean of the sum of the previously mentioned components).

Client_Supplier. In order to test hypothesis that client and supplier orientation improves firm performance, we construct a client and supplier indicator which is created as the sum of twelve following items: (1) the firm used labeling tools for goods and services in 2003; (2) the firm was engaged in the deliver or supply of goods or services to a fixed deadline in 2003; (3) the firm was engaged in responding to claims or supplying after-sales service to a fixed deadline in 2003; (4) the firm had a contact or call centre for clients in 2003; (5) the firm adopted integrated IT-CRM in 2003; (6) the main client demanded firm to comply with a quality standard or quality control procedure in 2003; (7) the firm signed contract or was engaged with some suppliers on a long term relationship in 2003; (8) on firm's demand, the main supplier complied with a quality standard or quality control procedure in 2003; (9) the main supplier had an IT system (for orders, invoices, etc.) linked to the firm's one in 2003; (10) the firm used tools to study client expectations, behaviour or satisfaction in 2003; (11) the firm had internal and (12) external departments focused on improving customer relations management since 2003. As for social dimension, to create a binary variable we calculate the

mean of the sum of these 12 components and create a binary variable that takes the value of 1 if the client and supplier component is equal or superior to 5.70 (the mean of the sum).

Regulation. To test the research hypothesis that a regulation dimension is positively associated with its business performance, we use the variable *Regulation*, which is consistent with the six following items: (1) the firm has been affected by change in regulations, standards (health, environment, worker rights, etc.) since 2003; (2) the firm was registered according to ISO 9000 standard; (3) the firm has had internal and (4) external departments focused on improving environmental and security issues since 2003. Once again, we convert this variable into a binary one which equals to 1 if regulation component's mean is equal or superior to 4.24.

CSR. In order to test the effect of Corporate Social Responsibility on firm performance, we create the variable *CSR* which includes the four following dimensions: (1) green; (2) social; (3) client and supplier; (4) regulation. The CSR indicator (which counts the practices green, social, client and supplier, regulation) varies from 0 to 4. Since this variable is more discrete than continuous, we will use it as a qualitative one.

Interaction. To investigate the effect of synergy of CSR dimensions, we create a variable, denoted *Interaction*. This variable represents whether a firm did invest or not in one CSR dimension or more:

- *Interaction* takes the value of 0 if the firm did not invest in any CSR dimension
- *Interaction* = 1 if the firm invested only in green practices,
- *Interaction* = 2 if the firm invested only in social practices,
- *Interaction* = 3 if the firm invested only in client-supplier practices,
- *Interaction* = 4 if the firm invested only in regulation practices,
- *Interaction* = 5 if the firm invested only in green and social practices,
- *Interaction* = 6 if the firm invested only in green and client-supplier practices,

- *Interaction* = 7 if the firm invested only in green and regulation practices;
- *Interaction* = 8 if the firm invested only in social and client-supplier practices,
- *Interaction* = 9 if the firm invested only in social and regulation practices,
- *Interaction* = 10 if the firm invested only in client-supplier and regulation practices,
- *Interaction* = 11 if the firm invested in green, social and client-supplier practices,
- *Interaction* = 12 if the firm invested in green, social and regulation practices,
- *Interaction* = 13 if the firm invested in green, client-supplier and regulation practices,
- *Interaction* = 14 if the firm invested in social, client-supplier and regulation practices,
- *Interaction* = 15 if the firm invested in all practices: green, social, client-supplier and regulation.

The main independent variables used in estimation, their definitions and frequency are presented in Table 1A.

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[Insert Table 1A about here]

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4.2.2. The dependent variable is the business performance

Business Performance. Drawing on prior research (e.g. Waddock and Graves, 1997; Brammer and Pavelin, 2006) we measure firm performance as **the logarithm of the firm's profit by the number of employees**.

4.3 Controls

In order to control for firm-level heterogeneity, our analysis includes variables representing firm characteristics and features based on previous studies, specifically those relating

Corporate Social Responsibility and firm performance (e.g. Capon et al., 1990; Waddock and Graves, 1997; Russo and Fouts, 1997; McWilliams and Siegel, 2000; Brammer and Milligton, 2008).

Size. In general, a positive relationship between corporate social responsibility and size is found (e.g. Waddock and Graves, 1997; McWilliams and Siegel, 2000; Brammer and Milligton, 2008). Substantial research has also demonstrated that firm size significantly influences firm performance (e.g. Waddock and Graves, 1997), although the direction of its effect is not consistent (Russo and Fouts, 1997). Hence, we introduce firm size which is measured by a continuous variable representing the number of employees within the firm.

Holding. Being part of a holding company could play a considerable role in firm's decision to invest in corporate social responsibility since it might be that those firms have more financial resources available to them for investment in new practices (Pekovic, 2010). Concerning, the relation between holding and firm performance, it is argued that being part of a holding company could improve firm performance through economies of scope (Eriksson and Jacoby, 2003). Hence, we include a dummy variable that takes a value of 1 when the firm belonged to a holding company in 2003.

Market Uncertainty. A firm that is socially responsible may be able to increase interpersonal trust between and among internal and external stakeholders, build social capital, lower transaction costs, and, therefore, ultimately reduce uncertainty (Orlitzky and Benjamin, 2001). Miller and Bromiley (1990) argue that uncertainty influence negatively firm performance. Hence, we include a variable representing whether the firm has been affected by market uncertainty since 2003.

Market Conditions. Market expansion is expected to have positive influence on firm's probability to invest in corporate social responsibility practices (Russo and Fouts, 1997). Drawing on Capon et al. (1990), we may suppose that market growth influence positively

firm performance. In order to control for market conditions effects we use a variable indicating three different market conditions since 2003: down market, steady market and growing market.

Ratio export/sale. Previous empirical studies have confirmed that export activities influence positively firm's probability to invest in corporate social responsibility practices (Grolleau et al., 2007: Delmas and Montiel 2009; Pekovic, 2010). Exporting activities lead to firm performance improvements that have been identified as "learning by exporting" (Krugman 1980; Bernard et al., 2003). We use a continuous variable representing the ratio export/sale in 2003.

Cost Reduction strategy. Since dimensions of corporate social responsibility practices lead to cost reduction (Grolleau et al., 2007; Pekovic, 2010), investment in corporate social responsibility should be more associated with firms that are pursuing cost reduction strategy. The economic perspective adheres that cost reduction strategy improves firm performance (Robbins and Pearce, 1992). Therefore, we introduce a variable that represents the level of strategic importance the firm provides to cost reduction.

R&D. McWilliams and Siegel (2000) argue that R&D and CSR are positively correlated, since many aspects of CSR create either product innovation or process innovation, or both. An important literature links investment in R&D to improvements in long-run economic performance (Griliches, 1979; Capon et al., 1990). In this study, R&D is considered to be a sum of variables that indicate if a firm collaborated with private businesses or laboratories, and with the Centre for National Scientific Research, universities or other public bodies related to its R&D activities in 2003.

Advertising Intensity. Firm's CSR orientation might not be evident to the buyer directly what induces that advertising plays an important role in raising the awareness of those individuals who are interested in buying goods with CSR attributes (McWilliams and Siegel, 2000;

McWilliams and Siegel, 2001; Brammer and Pavelin, 2006; Brammer and Milligton, 2008). Moreover, Capon et al. (1990), Russo and Fouts (1997) and McWilliams and Siegel (2000) consider advertising intensity as an important determinant of firm performance. To control for this effect, we create a variable denoted *Advertising Intensity* which presents a sum of two variables that indicate whether the firm reported its financial and planned actions activities in 2003.

Sector of Activity. The characteristics of a firm's sector activity have been considered to be a key influence on its corporate social orientation (e.g. McWilliams and Siegel, 2000). The inclusion of the firm's sector activity is essential since it has been shown to explain variation in firm performance across industries, such as economies of scale and competitive intensity (McWilliams and Siegel, 2000). In order to control for sector differences, we include eleven sector dummy variables based on the N36 sector classification, created by the French National Institute for Statistics and Economic Studies: agri-food; consumption goods; cars and equipment; intermediate goods; energy; construction; commercial; transport; financial and real-estate activities; and business services and individual services.

The control variables used in estimation, their definitions and sample statistics are presented in Table 1B.

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[Insert Table 1B about here]

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4.4 Estimation Strategy

4.4.1 Explaining the strategy

We will run two kinds of estimates.

a. The first type of estimates

In the first type of estimates that we called Quantity estimates, we use the above-defined CSR variable. Let us remind that this variable counts the number of CSR dimensions. It varies from 0 to 4, where CSRj = k means that firm j uses k dimension(s) of social corporate responsibility. From this variable CSR, we create five binary variables: CSR_1_0 which is equal to 1 if CSR = 1 and equal to 0 if CSR = 0; CSR_2_0 which is equal to 1 if CSR = 2 and equal to 0 if CSR = 0; CSR_3_0 which is equal to 1 if CSR = 3 and equal to 0 if CSR = 0; finally CSR_4_0 which is equal to 1 if CSR = 4 and equal to 0 if CSR = 0.

We run four regressions with respectively CSR_1_0, CSR_2_0, CSR_3_0 and CSR_4_0 as independent variable. Let us remark that since CSR_1_0, CSR_2_0, CSR_3_0 and CSR_4_0 have the same reference (which is CSR = 0), then we can compare the results of the four regressions.

b. The second type of estimates

In the second type of estimates that we called Quality estimates, we use the above-defined Interaction variable. From this variable, we create 15 dummy variables

- *Interaction_1_0* takes the value 1 if Interaction=1 and takes the value 0 if Interaction = 0;
- *Interaction_2_0* takes the value 1 if Interaction=2 and takes the value 0 if Interaction = 0;
- *Interaction_3_0* takes the value 1 if Interaction=3 and takes the value 0 if Interaction = 0;
- *Interaction_4_0* takes the value 1 if Interaction=4 and takes the value 0 if Interaction = 0;
- *Interaction_5_0* takes the value 1 if Interaction=5 and takes the value 0 if Interaction = 0;

- *Interaction_6_0* takes the value 1 if Interaction=6 and takes the value 0 if Interaction = 0;
- *Interaction_7_0* takes the value 1 if Interaction=7 and takes the value 0 if Interaction = 0;
- *Interaction_8_0* takes the value 1 if Interaction=8 and takes the value 0 if Interaction = 0;
- *Interaction_9_0* takes the value 1 if Interaction=9 and takes the value 0 if Interaction = 0;
- *Interaction_10_0* takes the value 1 if Interaction=10 and takes the value 0 if Interaction = 0;
- *Interaction_11_0* takes the value 1 if Interaction=11 and takes the value 0 if Interaction = 0;
- *Interaction_12_0* takes the value 1 if Interaction=12 and takes the value 0 if Interaction = 0;
- *Interaction_13_0* takes the value 1 if Interaction=13 and takes the value 0 if Interaction = 0;
- *Interaction_14_0* takes the value 1 if Interaction=14 and takes the value 0 if Interaction = 0;
- *Interaction_15_0* takes the value 1 if Interaction=15 and takes the value 0 if Interaction = 0;

We run fifteen regressions with respectively Intercation_1_0 to Interaction_15_0 as independent variable. Let us remark that since Intercation_1_0 to Interaction_15_0 have the same reference (Interaction= 0), then we can compare the results of the fifteen regressions.

Moreover since Interaction=0 corresponds exactly to CSR=0, then we can compare the results of the quantity and the quality estimates.

c. How to check the hypotheses?

Hypothesis	**How to check it ?**
Hypothesis 1A: Isolated CSR dimensions may exert a positive, negative or neutral impact on firm performance.	The first method is to look at the sign of the coefficient associated with Interaction1 (Greene alone), Interaction_2_0 (Social alone), Interaction_3_0 (Client supplier alone), Interaction_4_0 (Regulation alone)
Hypothesis 1B: An aggregate measure of CSR may exert a positive, negative or neutral impact on firm performance.	Look at to the sign of the coefficient associated with CSR2, CSR3, CSR4.
Hypothesis 2A. The interaction among different CSR dimensions may generate complementarity (synergy) or substitutability (trade-offs).	<u>Complementarity.</u> Remind that if the impact of interaction among different CSR dimensions on firm performance is greater than the sum of the impacts of each dimension involved in the interaction then there is a synergy (complementarity) among those dimensions. Hence complementarity can be tested by simply looking at to the coefficient associated with the interaction variables.

	For instance Interaction_5_0 is the interaction of Green and Social. Let α5 be the associated coefficient. If α5 > α1 + α2, where α1 + α2 are respectively the coefficient associated with Interaction_1_0 (Green alone) and Interaction_2_0 (Social alone), then we conclude to complementarity between the Green dimension and the Social dimension. <u>Substitutability.</u> Remind that if the impact of interaction among different CSR dimensions on firm performance is weaker than the sum of the impacts of each dimension involved in the interaction then there is a trade-offs (substitutability) among those dimensions.
Hypothesis 2B. If there is synergy or trade-offs among different CSR dimensions then it is better for firms to use these synergies or trade-offs in order to choose the best combination of dimensions, instead of using a strategy consisting of a purely quantitative addition of CSR dimensions.	This concerns the case with two or three dimensions. In the estimations with interaction variables, if there exists a combination of two (resp. three) dimensions whose coefficient is higher than the coefficient associated with CSR=2 (resp. CSR=3), then hypothesis 2B is true.

4.4.2 Tackling with the endogeneity issue

Noteworthy, the same factors (e.g. size, sector of activity, firm's strategy, etc.) may have an impact on firm performance and the firm's likelihood to invest in Corporate Social Responsibility, environmental standards, social practices, client and supplier practices, regulation practices. Thus, in order to correct for possible endogeneity, we rely on Simultaneous Equations Model (SEM) that considers CSR, environmental standard, social practices, client and supplier practices or regulation practices as endogenous variables.[4] This model relies on a simultaneous estimation approach in which the factors that determine CSR, environmental standard, social practices, client and supplier practices or regulation practices (a) are estimated simultaneously with those defining the firm performance (b). The two equations are jointly estimated using maximum likelihood.

In the following SEM, Y_1^* and Y_2^* are latent variables that respectively influence the probability that the firm invests in CSR or its dimensions and improves its business performance:

In our case, is fully observed, that is the latent variable (the observed variable). However is not fully observed, that is we observe if (a threshold) and otherwise. Finally the model writes:

[4] Let us remark that in our case the explanatory variables that are supposed to be endogenous are dummy variables like the environmental standards, social practices, client and supplier practices, or regulation practices. We use the Roodman (2009) *cmp* command in Stata in order to estimate our model. The advantage of this command is that it allows for different formats (e.g. binary, censored, and continuous) of the dependent variables in the system of equations.

where X_1 , and X_2 are the vectors of exogenous variables including such characteristics and features of the firm as size, being a part of a holding group, market uncertainty, market conditions, exporting activities, cost reduction strategy, R&D strategy, advertising and sector activity.

The variable Z_1 represents the vector of instrumental variables that guarantee the identification of the model and facilitate the estimation of correlation coefficients (Maddala 1983). A SEM circumvents the problem of interdependence by using instrument variables to obtain predicted values of endogenous variables (in our case, CSR and its dimensions). Hence, to identify the model, we need an additional variable that explains the probability of the firm investing in CSR or its dimensions but is not correlated with the error term of firm performance equation. In our case, Z_1 indicates two variables: (1) firm used workgroup tools in 2003; (2) firm's distance from clients and suppliers (located near the firm and not abroad) in 2003. Several rationales can explain why these variables affect corporate social responsibility. Actually, workgroup tools are considered as an important implement of a firm's social responsiveness toward employees (Surocca et al., 2010). Hence, using a group work tools could help employees to enhance their knowledge and motivation to understand the problems, identify solutions and implement improved practices related to social responsibility (Hart, 1995). Concerning firm's distance from clients and suppliers, in a signaling or screening rationale, firms that have distant customers or suppliers are more likely to prove their commitment to social responsibility (Spence, 1973) in order to satisfy their customers and to give an example to their suppliers. Actually, certain elements of Corporate Social Responsibility such as ISO 9000 standards, ISO 14000 standards, CRM, are considered as institutional devices that may prove firm's engagement to corporate social responsibility.

In this sense, King and Lenox (2001) showed that the distance to customers had a significant positive impact on firms' decisions to adopt ISO 14000 standard. However, firms could pay only attention to long distance customers or suppliers and not to customers and suppliers in their near surroundings (Grolleau et al., 2007). Hence, we expect negative effect of the variable that represents the distance between firm and its customers and suppliers on the CSR and its dimensions.

In our SEM, $\beta_1, \beta_2, \gamma_1, \gamma_2, \delta_1$ and δ_2 are the slope coefficients to be estimated; α_1, α_2, μ_1 and μ_2 are the intercepts and the disturbance terms for the two equations, respectively.

To address reverse-causality issues, given that strong profitability will allow a firm to invest time and effort in CSR and its dimensions, we modelled lagged effects by estimating the effect of investment in CSR and its dimensions in 2003 on profit in 2006.

5. EMPIRICAL RESULTS AND DISCUSSION

The main results of the estimations are presented[5] in tables 2 and 3 below, and detail results are presented in the appendix.

Table 2 : Quantitative estimations

Number of dimensions	Sign	Coefficient
1 dimension	ns	1.187
2 dimensions	ns	0.098
3 dimensions	ns	0.391
4 dimensions	+	0.516***

The reference is the case where no dimension is implemented.
(*), (**), (***) indicate parameter significance at the 10, 5 and 1 per cent level, respectively.
ns means non-significant.

[5] In order to check the consistency of our results, we use added value as additional indicator of firm performance. Generally, the obtained results are going in the same direction as using profit as indicator of firm performance. The results are available from the authors upon request.

Table 3 : Qualitative estimations

Type of interaction	Sign	Coefficient
One dimension		
Green alone	+	1.083***
Social practices alone	ns	0.331
Client supplier alone	-	-1.457***
Regulation alone	-	-2.155***
Two dimensions		
Green & Social	ns	1.017
Green & Client supplier	+	0.681***
Green & Regulation	ns	0.479
Social & Client supplier	ns	0.0198
Social & Regulation	ns	0.566
Client supplier & Regulation	ns	0.352
Three dimensions		
Green, Social & Client supplier	+	0.570*
Green, Social & Regulation	ns	-0.0541
Green, Client supplier & Regulation	ns	0.270
Social, Client supplier & Regulation	ns	0.394
Four dimensions		
Green, Social, Client supplier & Regulation	+	0.516**

The reference is the case where no dimension is implemented.
(*), (**), (***) indicate parameter significance at the 10, 5 and 1 per cent level, respectively.
ns means non-significant.

Noteworthy, our analysis provides also information about determinants of CSR dimensions in different forms and firm's profitability (see tables 4-i to 4-xv and tables 5-i to 5-iv in the appendix). Even that we will not discuss them in details, we may conclude that the obtained results, generally, confirm the findings of previous studies (e.g. Capon et al., 1990; Waddock and Graves, 1997; Russo and Fouts, 1997; McWilliams and Siegel, 2000; Brammer and Milligton, 2008).

Isolated and Aggregated Effect of CSR Dimensions

In tables 2 and 3, the reference is the case where no dimension has been implemented in the firm. From table 3, we observe, that comparing to the case where no dimension is implemented, having a green dimension has a positive effect on profit per head. However the social dimension has no effect while the client-supplier dimension and the regulation dimension have a negative effect. This provides an answer to our hypothesis 1A.

From table 2, we observe that our aggregate measure of CSR, which counts quantitatively the number of practices adopted in terms of environmental, social, customers and suppliers and regulatory indicators, affect positively and significantly firm performance only for CSR = 4 (that is when all dimensions are used. Remind that CSR=k means that the firm use k dimension(s) whatever they are. Likewise CSR=2 means that the firm uses two dimensions which could be Green & Social, Green & Client supplier, Green & Regulation, Social & Client supplier, Social & Regulation, or Client supplier & Regulation. The results from table 2 show clearly that a pure quantitative strategy consisting in accumulating the CSR dimensions does work only when CSR=4. This provides an answer to the hypothesis 1B.

The findings are consistent with few studies that consider also several categories of CSR tasks in their theoretical and empirical analysis. For instance, Margolis et al. (2009), who conduct a meta-analysis of 251 studies in which they consider nine categories of CSR strategies, show that the overall effect of CSR on financial performance is positive. Similarly, Waddock and Graves (1997) show that corporate social performance based on eight categories of CSR is positively associated with prior financial performance, supporting the theory that slack resource availability and CSP are positively related. Using KLD database where CSP is constructed on all available data on its multiple aspects, Hull and Rothenberg (2008) also find evidence that support a positive relationship between corporate social performance and

financial performance which is moderated by both innovation and the level of differentiation in the industry.

The effect of synergy and trade-off of CSR dimensions

Let us turn now to the interaction among each CSR dimensions. Two main results could be drawn from table 3. Firstly only three kinds of interactions are associated with a (positive) significant coefficient: Green & Client-supplier; Green Social & Client-supplier; Green, Social, Client-supplier & Regulation.

Secondly when testing synergy and trade-offs, we observe that except for Green & Social, the interactions between some or all of the four dimensions generate a synergy (i.e. a complementarity).

The marginal effect for moving from one configuration to another

Let us now analyse the marginal effect for moving from one configuration of dimension(s) to another. The question we ask is whether the firm is better off by moving from a started configuration. Table 3 shows that when a firm starts with a green dimension then it is better for her not to move by adding some other dimensions to the green dimension. Indeed the coefficient associated with the green alone dimension is 1.083. Moving to any other configuration including the green dimension leads to a coefficient less than 1.083. For instance, if a green alone firm moves to a green & client-supplier configuration then the relative economic performance moves from 1.083 to 0.668. We reach the same conclusion when a firm starts either with green & client-supplier dimensions or with green, client-supplier & social: it is better not to add some other dimensions to the started configuration.

Finally when a firm starts with any other configuration, then it is better for her to move (by adding some other dimensions) directly to the configuration where all dimensions are implemented.

To conclude, the profitability of CSR investments in French firms seems 1) to rely on synergies rather than trade-offs, 2) to qualitative mixed of the CSR dimensions rather than quantitative. This provides an answer to the hypothesis 2A and2B. Our conclusion is consistent in part with Cavaco and Crifo's work (2010) which focusing on the complementarity between various dimensions of corporate responsibility and firm performance shows that activities oriented on human resources and business behaviour towards customers and suppliers appear as relative complements. Their work is based on the 600 biggest Europeans capitalizations in the 2000s. Therefore, we may conclude that French firms appear to have benefited from responsible managerial practices with respect to its various stakeholders (environment, employees, regulators or customers and suppliers), such benefits manifest themselves especially in terms of profit opportunities, and through a coherent and consistent policies that exploit the complementarities between those different dimensions. Due, the results confirms previous literature (e.g. Milgrom and Roberts, 1995; Ichniowski et al., 1997) suggesting that that complementarity of different organizational approaches can lead to better business performance.

6. CONCLUSION

To date, extant and ever-growing theoretical and empirical research has identified no clear pattern in the relationship between CSR and firm's performance (Brummer, 1991; McWilliams and Siegel, 1997; Waddock and Graves, 1997; McWilliams and Siegel, 2001).

Generally, the literature argues that one of the main reasons for this absence of consensus is associated with measurement problems (e.g. Surocca et al., 2010). Given this concern, we perform a quantity-quality trade-off analysis between the various dimensions of Corporate Social Responsibility in order to provide a richer conceptualization and understanding concerning the relationship between CSR and firm performance. In this purpose, we, first, examine the impact of each determinant of CSR separately (environmental performance, social performance, customer and supplier approach and regulatory constraints) what permits to us to understand how CSR measures in their isolation perform on firm's profitability. Our results are consistent across different dimensions indicating positive and significant effect of restricted CSR measures on profit. Second, we create an aggregate measure of CSR indicator based on our four CSR dimensions. The results did not change significantly confirming the positive effect of aggregated measure of CSR on firm performance. Third, we study how the interactions between different CSR dimensions affect corporate economic performance. The findings indicate that the interaction among the different CSR dimensions has a stronger impact on performance, suggesting that synergies matter a lot for firm performance. Finally, we check whether our results are consistent across manufacturing and service sectors due to the different characteristics and nature of sectors. In summary, our results provide supports for the notion that the CSR and firm performance relationship is homogeneous across industries. Actually, corporate performance would rather be positively affected by both a quantitative and qualitative CSR strategy in manufacturing firms, while service firms would rather benefit from qualitative and aggregated policies, compared to investments in isolated CSR practices. Therefore, the effects of different form of CSR help us to explain the inconsistency among previous findings related to CSR and firm performance linkage.

In sum, while our findings are consistent with those supporting a positive relation between CSR and firm's profitability (e.g. Cochran and Wood, 1984; Turban and Greening; 1996;

Waddock and Graves, 1997; McWilliams and Siegel, 2001; Godfrey, 2004), additional analysis confirms McWilliams and Siegel's argument (2000) indicating that their relationship is very complex. In this sense, our findings suggest two sources of this complexity: (1) the interaction among different CSR dimensions produces different effect on firm performance and (2) CSR and firm performance relationship is homogeneous across sectors of activity.

Our findings provide important implications for policy-makers. Even that CSR dimensions exert positive influence on firm's performance, managers need to be careful in choosing appropriate CSR tasks since those dimensions need to be compatible with firm's overall strategy. Therefore, the question for managers is not simply to decide whether to invest in social responsibility, it is rather what form of social responsibility fit for a specific firm's strategy. Additionally, the results suggest that different forms of firm's social orientation are not only beneficial for social improvements, but could be considered as a tool for firm performance improvement.

This study has limitations that could be addressed in future work. First, we work on the sample of French firms what induces that the generalizability of the results is limited since international institutional differences regarding the implementation of social practices do matter. Second, future research could test the effect of CRS practices on employee's outcomes due the fact that literature covering this issue is quite limited. Actually, only anecdotal evidences exist which support the argument that greater employee loyalty and productivity at environmentally or socially-responsible firms. Finally, recent research suggest that the debate concerning CSR and firm performance should be taken further by including additional intermediate variables that can improve our understanding of the processes through which CSR influence firm outcomes (e.g. Surroca et al., 2010). In this sense, for instance, Surocca et al. (2010) propose a model in which firm-based intangible resources, including innovation, human resources, reputation, and organizational culture, are mediator variables

between CRP and firm performance. Therefore, future research avenue should examine indirect mechanism through which CSR influences firm's performance.

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Table 1A: Definition and frequency of main independent variables

Variable	Description	Frequency
Green	Registered for ISO 14001, organic labeling or fair trade Dummy variable (=1 if registered in 2003)	689
Social	The firm invested in social practices Dummy variable (=1 if invested in 2003)	1465
Client-Supplier	The firm invested in client and supplier practices Dummy variable (=1 if invested in 2003)	2031
Regulation	The firm invested in regulation practices Dummy variable (=1 if invested in 2003)	1628
CSR	The firm invested in 0 dimension 1 dimension 2 dimensions 3 dimensions 4 dimensions	 1475 1153 876 620 262
Interaction	Interaction= 0 if the firm did not invest in any of CSR dimensions; Interaction = 1 if the firm invested in green practices only; Interaction = 2 if the firm invested in social practices only; Interaction = 3 if the firm invested client and supplier practices only; Interaction = 4 if the firm invested in regulation practices only; Interaction = 5 if the firm invested in both green and social practices; Interaction = 6 if the firm invested in both green client and client-supplier practices; Interaction = 7 if the firm invested in both green and in regulation practices; Interaction = 8 if the firm invested in both social and client and supplier practices; Interaction = 9 if the firm invested in both social and regulation practices; Interaction = 10 if the firm invested in both client and supplier and regulation practices; Interaction = 11 if the firm invested in green, social and client-supplier practices; Interaction = 12 if the firm invested in green, social and regulation practices; Interaction = 13 if the firm invested in green, client and supplier and regulation practices; Interaction = 14 if the firm invested in social, client-supplier and regulation practices; Interaction = 15 if the firm invested in all practices: green, social, client and supplier, regulation practices.	1475 89 238 508 318 19 91 31 281 163 291 57 22 118 423 262

Table 1B: Definition of control variables (a)

Variable	Description
CONTROL VARIABLES	
Workgroup Tools	The firm used workgroup tools in 2003 Dummy variable (=1 if yes)
Distance	(1) Client is located near the firm; (2) Supplier is located near the firm; (3) Supplier is not located abroad in 2003
Size	Number of employees
Holding	Belong to a holding group in 2003 Dummy variable (=1 if yes)
Market Uncertainty	The firm has been affected by market uncertainty since 2003
Market Condition	How the market of the main activity of the firm has evolved since 2003: DOWN (=3 if yes) STEADY (=2 if yes) GROWING (=1 if yes)
Ratio export to sales	The export to sales in 2003 (€)
Cost Leadership Strategy	Cost leadership strategic importance
R&D	The firm collaborated with (1) private businesses or laboratories; (2) Centre for National Scientific Research, universities or other public bodies related to its R&D activities in 2003 in 2003
Advertising	The firm reported its (1) financial; (2) planned actions activities in 2003
Sector	Agrifood, consumption goods, cars and equipment, intermediate goods, energy, construction, commercial, transport, financial and real-estate activities, business services and individual services

[a]: Because of the table's length we do not report sample statistics for these variables.

Appendix. Results of the estimations (for online publication)

I. Interaction of CSR dimensions estimates

Table 4-i. Estimates of the relation between interaction of CSR dimensions and profit : Green only

VARIABLES	(1) interaction_1_0	(2) profit
group_tool	0.355***	
	(0.166)	
_Idistance_1	-0.203	
	(0.206)	
_Idistance_2	-0.305	
	(0.247)	
_Idistance_3	-0.229	
	(0.285)	
size	0.000329***	-0.000117***
	(0.000117)	(3.67e-05)
holding	0.0754	0.389***
	(0.124)	(0.0908)
_Iuncertain_2	-0.0695	-0.0881
	(0.253)	(0.161)
_Iuncertain_3	0.190	-0.229
	(0.243)	(0.164)
_Iuncertain_4	-0.0415	-0.0715
	(0.276)	(0.175)
_Imarket_fi_2	-0.0734	0.289***
	(0.140)	(0.110)
_Imarket_fi_3	-0.418***	0.409***
	(0.182)	(0.153)
export_sale	0.463	1.236***
	(0.296)	(0.336)
_Icostreduc_2	-0.0162	-0.265
	(0.492)	(0.254)
_Icostreduc_3	0.0664	-0.300
	(0.477)	(0.239)
_Icostreduc_4	0.0301	-0.456*
	(0.480)	(0.247)
_Ir_d_1	-0.00167	0.370
	(0.229)	(0.233)
_Ir_d_2	0.613**	0.240
	(0.302)	(0.365)
_Iadvertisi_1	0.139	0.0854
	(0.195)	(0.126)
_Iadvertisi_2	0.205	0.324***
	(0.157)	(0.103)
agrifood	0.237	-0.131

	(0.234)	(0.205)
consumptiongoods	-0.770***	-0.0676
	(0.298)	(0.185)
carsandequipments	-0.258	-0.315*
	(0.268)	(0.171)
energy	0.146	-0.501
	(0.517)	(0.410)
construction	-0.0954	-0.0270
	(0.241)	(0.148)
commercial	-0.341*	0.396***
	(0.181)	(0.134)
transport	-0.508*	-0.490***
	(0.263)	(0.166)
financialandreal_estate	0.0698	1.094***
	(0.463)	(0.295)
servicesforfirms	-0.836***	-0.342*
	(0.258)	(0.179)
servicesforindividuals	-0.0102	-0.241
	(0.308)	(0.251)
interaction_1_0		1.083***
		(0.407)
Constant	-1.491***	0.828***
	(0.501)	(0.287)
Observations	1,564	1,564

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-ii. Estimates of the relation between interaction of CSR dimensions and profit : Social only

VARIABLES	(1) interaction_2_0	(2) profit
group_tool	0.309**	
	(0.132)	
_Idistance_1	-0.129	
	(0.154)	
_Idistance_2	-0.302*	
	(0.177)	
_Idistance_3	-0.148	
	(0.205)	
size	0.000330***	-0.000153
	(9.24e-05)	(0.000181)
holding	0.198**	0.325***
	(0.0932)	(0.0872)
_Iuncertain_2	0.309*	0.133

	(0.183)	(0.204)
_Iuncertain_3	0.267	-0.0357
	(0.186)	(0.208)
_Iuncertain_4	0.153	0.108
	(0.209)	(0.213)
_Imarket_fi_2	-0.265**	0.311***
	(0.113)	(0.106)
_Imarket_fi_3	-0.0583	0.357**
	(0.137)	(0.151)
export_sale	0.171	1.236***
	(0.275)	(0.340)
_Icostreduc_2	-0.0218	-0.281
	(0.300)	(0.252)
_Icostreduc_3	0.0655	-0.338
	(0.290)	(0.241)
_Icostreduc_4	0.100	-0.447*
	(0.294)	(0.247)
_Ir_d_1	0.351**	0.174
	(0.157)	(0.211)
_Ir_d_2	0.779***	0.614*
	(0.269)	(0.329)
_Iadvertisi_1	0.189	0.160
	(0.156)	(0.123)
_Iadvertisi_2	0.367***	0.290***
	(0.126)	(0.101)
agrifood	0.306	-0.0980
	(0.251)	(0.200)
consumptiongoods	0.0763	-0.291
	(0.227)	(0.200)
carsandequipments	0.213	-0.451**
	(0.231)	(0.176)
energy	0.941**	0.755
	(0.397)	(0.773)
construction	0.130	-0.0497
	(0.243)	(0.150)
commercial	0.507***	0.313**
	(0.172)	(0.132)
transport	0.394*	-0.632***
	(0.202)	(0.169)
financialandreal_estate	1.474***	1.081***
	(0.248)	(0.235)
servicesforfirms	0.408**	-0.390**
	(0.189)	(0.167)
servicesforindividuals	0.518**	-0.168
	(0.251)	(0.236)
interaction_2_0		0.331
		(0.256)
Constant	-2.018***	0.769***
	(0.389)	(0.287)

Observations	1,713	1,713

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-iii. Estimates of the relation between interaction of CSR dimensions and profit : Client supplier only

VARIABLES	(1) interaction_3_0	(2) profit
group_tool	-0.0855	
	(0.132)	
_Idistance_1	-0.0603	
	(0.122)	
_Idistance_2	0.166	
	(0.132)	
_Idistance_3	0.354**	
	(0.159)	
size	0.000303***	3.75e-05**
	(0.000104)	(1.76e-05)
holding	0.491***	0.505***
	(0.0771)	(0.133)
_Iuncertain_2	0.355**	0.126
	(0.155)	(0.159)
_Iuncertain_3	0.238	-0.169
	(0.154)	(0.149)
_Iuncertain_4	0.184	0.0939
	(0.171)	(0.171)
_Imarket_fi_2	-0.0251	0.332***
	(0.0926)	(0.108)
_Imarket_fi_3	0.144	0.548***
	(0.113)	(0.136)
export_sale	0.146	1.365***
	(0.252)	(0.284)
_Icostreduc_2	0.246	-0.305
	(0.315)	(0.241)
_Icostreduc_3	0.505	-0.193
	(0.309)	(0.233)
_Icostreduc_4	0.524*	-0.312
	(0.318)	(0.244)
_Ir_d_1	0.309**	0.651***
	(0.124)	(0.167)
_Ir_d_2	1.073***	1.192***
	(0.228)	(0.365)
_Iadvertisi_1	0.149	0.0893
	(0.131)	(0.127)
_Iadvertisi_2	0.524***	0.539***
	(0.108)	(0.134)
agrifood	0.442**	0.265

	(0.181)	(0.217)
consumptiongoods	-0.106	-0.00399
	(0.173)	(0.181)
carsandequipments	0.222	-0.310*
	(0.150)	(0.167)
energy	-0.727	-0.0968
	(0.479)	(0.501)
construction	-0.0688	-0.0371
	(0.159)	(0.157)
commercial	0.102	0.463***
	(0.121)	(0.131)
transport	0.0440	-0.435**
	(0.146)	(0.172)
financialandreal_estate	-0.204	1.166***
	(0.310)	(0.252)
servicesforfirms	-0.117	-0.420***
	(0.136)	(0.162)
servicesforindividuals	-0.163	-0.345
	(0.200)	(0.242)
interaction_3_0		-1.457***
		(0.612)
Constant	-2.264***	0.656**
	(0.379)	(0.273)
Observations	1,983	1,983

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-iv. Estimates of the relation between interaction of CSR dimensions and profit : Regulation only

VARIABLES	(1) interaction_4_0	(2) profit
group_tool	-0.126	
	(0.116)	
_Idistance_1	0.233	
	(0.145)	
_Idistance_2	0.345**	
	(0.148)	
_Idistance_3	0.434**	
	(0.183)	
size	0.000150	9.43e-07
	(0.000145)	(6.58e-06)
holding	0.142*	0.396***
	(0.0791)	(0.0943)
_Iuncertain_2	0.284	0.123
	(0.190)	(0.169)

_Iuncertain_3	0.322*	0.0258
	(0.191)	(0.167)
_Iuncertain_4	0.485**	0.188
	(0.199)	(0.183)
_Imarket_fi_2	-0.0846	0.309***
	(0.0970)	(0.114)
_Imarket_fi_3	0.0283	0.554***
	(0.123)	(0.155)
export_sale	0.147	1.700***
	(0.282)	(0.345)
_Icostreduc_2	-0.0395	-0.254
	(0.249)	(0.251)
_Icostreduc_3	0.140	-0.226
	(0.242)	(0.232)
_Icostreduc_4	0.267	-0.267
	(0.243)	(0.240)
_Ir_d_1	0.173	0.385*
	(0.136)	(0.210)
_Ir_d_2	0.738***	0.765**
	(0.273)	(0.303)
_Iadvertisi_1	0.328***	0.199
	(0.112)	(0.132)
_Iadvertisi_2	0.201**	0.389***
	(0.0949)	(0.110)
agrifood	0.171	0.238
	(0.181)	(0.223)
consumptiongoods	-0.348*	-0.177
	(0.178)	(0.208)
carsandequipments	0.0353	-0.346*
	(0.167)	(0.200)
energy	-0.0249	0.198
	(0.647)	(0.919)
construction	0.117	-0.00273
	(0.142)	(0.159)
commercial	-0.157	0.271*
	(0.125)	(0.144)
transport	0.00920	-0.509***
	(0.151)	(0.174)
financialandreal_estate	0.362	1.233***
	(0.257)	(0.273)
servicesforfirms	-0.196	-0.393**
	(0.148)	(0.179)
servicesforindividuals	-0.301	-0.270
	(0.212)	(0.274)
interaction_4_0		-2.155***
		(0.174)
Constant	-1.837***	0.818***
	(0.307)	(0.287)
Observations	1,793	1,793

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-v. Estimates of the relation between interaction of CSR dimensions and profit : Green & Social

VARIABLES	(1) interaction_5_0	(2) profit
interaction_5_0		1.017
		(1.023)
size	0.000516***	-0.000157
	(0.000156)	(0.000259)
holding	0.339	0.356***
	(0.228)	(0.0925)
_Iuncertain_2	-0.0141	-0.0766
	(0.544)	(0.163)
_Iuncertain_3	0.0429	-0.223
	(0.495)	(0.167)
_Iuncertain_4	-0.369	-0.0646
	(0.713)	(0.181)
_Imarket_fi_2	-0.573*	0.373***
	(0.295)	(0.113)
_Imarket_fi_3	-0.0694	0.412***
	(0.273)	(0.158)
export_sale	1.279***	1.455***
	(0.398)	(0.339)
_Icostreduc_2		-0.299
		(0.247)
_Icostreduc_3		-0.349
		(0.231)
_Icostreduc_4	0.117	-0.473*
	(0.240)	(0.243)
_Ir_d_1	-0.584	0.416*
	(0.459)	(0.216)
_Ir_d_2	-0.0513	0.252
	(0.646)	(0.392)
_Iadvertisi_1	0.570	0.0947
	(0.492)	(0.127)
_Iadvertisi_2	0.400	0.348***
	(0.374)	(0.105)
agrifood	-0.614	0.0563
	(0.596)	(0.218)
consumptiongoods	-0.645	-0.140
	(0.463)	(0.191)
carsandequipments	-0.208	-0.414**
	(0.394)	(0.176)

energy		-0.534
		(0.436)
construction	-0.471	-0.0489
	(0.482)	(0.151)
commercial	-0.269	0.365***
	(0.385)	(0.135)
transport	-1.070*	-0.538***
	(0.610)	(0.167)
financialandreal_estate		1.247***
		(0.258)
servicesforfirms	-1.008***	-0.366**
	(0.348)	(0.165)
servicesforindividuals	-0.373	-0.155
	(0.605)	(0.273)
group_tool	1.049***	
	(0.257)	
_Idistance_1	0.835**	
	(0.481)	
_Idistance_2	0.823	
	(0.521)	
_Idistance_3	0.608	
	(0.645)	
Constant	-3.411***	0.857***
	(0.771)	(0.280)
Observations	1,494	1,494

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-vi. Estimates of the relation between interaction of CSR dimensions and profit : Green & Client-supplier

VARIABLES	(1) interaction_6_0	(2) profit
group_tool	0.580***	
	(0.169)	
_Idistance_1	-0.160	
	(0.178)	
_Idistance_2	-0.0619	
	(0.219)	
_Idistance_3	-0.0557	
	(0.250)	
size	0.000621***	-4.59e-05
	(0.000130)	(4.63e-05)
holding	0.533***	0.291***
	(0.146)	(0.0912)
_Iuncertain_2	0.336	-0.0458
	(0.351)	(0.167)

_Iuncertain_3	0.239	-0.158
	(0.348)	(0.168)
_Iuncertain_4	0.193	-0.0858
	(0.376)	(0.181)
_Imarket_fi_2	0.0789	0.317***
	(0.165)	(0.108)
_Imarket_fi_3	-0.0281	0.324**
	(0.215)	(0.148)
export_sale	0.736**	1.336***
	(0.299)	(0.319)
_Icostreduc_3	-0.0251	-0.400*
	(0.198)	(0.229)
_Icostreduc_4	-0.0879	-0.500**
	(0.219)	(0.237)
_Ir_d_1	0.185	0.289
	(0.210)	(0.211)
_Ir_d_2	1.095***	0.0490
	(0.280)	(0.283)
_Iadvertisi_1	0.175	0.102
	(0.288)	(0.126)
_Iadvertisi_2	0.335	0.343***
	(0.241)	(0.104)
agrifood	-0.000123	-0.123
	(0.288)	(0.197)
consumptiongoods	-0.952**	-0.0796
	(0.371)	(0.188)
carsandequipments	0.0849	-0.388**
	(0.217)	(0.172)
energy	1.270*	0.408
	(0.691)	(0.501)
construction	-0.367	-0.0361
	(0.248)	(0.148)
commercial	-0.385*	0.384***
	(0.207)	(0.135)
transport	-0.331	-0.553***
	(0.247)	(0.165)
servicesforfirms	-1.069***	-0.336*
	(0.260)	(0.179)
servicesforindividuals	-1.033*	-0.114
	(0.626)	(0.265)
interaction_6_0		0.681***
		(0.298)
_Icostreduc_2		-0.322
		(0.244)
financialandreal_estate		1.301***
		(0.258)
Constant	-2.413***	0.887***
	(0.463)	(0.281)
Observations	1,566	1,566

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-vii. Estimates of the relation between interaction of CSR dimensions and profit : Green & Regulation

VARIABLES	(1) interaction_7_0	(2) profit
group_tool	0.177	
	(0.249)	
_Idistance_1	0.191	
	(0.294)	
_Idistance_2	0.00857	
	(0.375)	
_Idistance_3	-0.217	
	(0.400)	
size	0.000448***	-2.73e-05
	(0.000131)	(0.000157)
holding	0.139	0.339***
	(0.171)	(0.0927)
_Iuncertain_2	-0.314	-0.0708
	(0.312)	(0.161)
_Iuncertain_3	-0.0638	-0.239
	(0.322)	(0.165)
_Iuncertain_4	0.0518	-0.0603
	(0.363)	(0.175)
_Imarket_fi_2	-0.0529	0.332***
	(0.206)	(0.113)
_Imarket_fi_3	0.559**	0.426***
	(0.247)	(0.161)
export_sale	0.605	1.281***
	(0.432)	(0.349)
_Icostreduc_3	-0.0981	-0.364
	(0.220)	(0.230)
_Icostreduc_4	-0.0861	-0.451*
	(0.247)	(0.239)
_Ir_d_1	0.419*	0.397*
	(0.240)	(0.228)
_Ir_d_2	0.835**	0.284
	(0.375)	(0.371)
_Iadvertisi_1	0.0966	0.110
	(0.303)	(0.127)
_Iadvertisi_2	0.131	0.332***
	(0.242)	(0.104)
agrifood	0.0361	0.0195
	(0.452)	(0.208)
consumptiongoods	0.137	-0.0780

	(0.303)	(0.185)
carsandequipments	-0.0344	-0.324*
	(0.372)	(0.178)
energy	1.421***	-0.929*
	(0.521)	(0.501)
construction	-0.241	0.0111
	(0.476)	(0.150)
commercial	0.0235	0.409***
	(0.265)	(0.137)
transport	-0.305	-0.475***
	(0.354)	(0.169)
servicesforfirms	-0.537	-0.369**
	(0.346)	(0.176)
interaction_7_0		0.479
		(0.621)
_Icostreduc_2		-0.280
		(0.245)
financialandreal_estate		1.263***
		(0.257)
servicesforindividuals		-0.179
		(0.272)
Constant	-2.434***	0.846***
	(0.591)	(0.280)
Observations	1,506	1,506

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-viii. Estimates of the relation between interaction of CSR dimensions and profit : Social & Client-supplier

VARIABLES	(1) interaction_8_0	(2) profit
group_tool	0.767***	
	(0.136)	
_Idistance_1	0.0309	
	(0.175)	
_Idistance_2	0.231	
	(0.190)	
_Idistance_3	0.0917	
	(0.242)	
size	0.000551***	-2.83e-05
	(9.69e-05)	(1.74e-05)
holding	0.656***	0.328***
	(0.109)	(0.100)
_Iuncertain_2	0.172	-0.0442
	(0.203)	(0.152)

_Iuncertain_3	0.229	-0.170
	(0.201)	(0.147)
_Iuncertain_4	0.225	-0.0259
	(0.220)	(0.160)
_Imarket_fi_2	-0.0642	0.216**
	(0.123)	(0.105)
_Imarket_fi_3	0.168	0.430***
	(0.154)	(0.137)
export_sale	0.0698	1.408***
	(0.335)	(0.283)
_Icostreduc_3	0.235	-0.402*
	(0.145)	(0.228)
_Icostreduc_4	0.391**	-0.459*
	(0.160)	(0.237)
_Ir_d_1	0.286	0.492***
	(0.177)	(0.169)
_Ir_d_2	1.262***	0.807***
	(0.251)	(0.273)
_Iadvertisi_1	0.373*	0.101
	(0.215)	(0.133)
_Iadvertisi_2	0.817***	0.303***
	(0.189)	(0.110)
agrifood	0.287	-0.0104
	(0.290)	(0.205)
consumptiongoods	0.298	-0.0343
	(0.210)	(0.169)
carsandequipments	0.261	-0.434***
	(0.212)	(0.162)
energy	1.353**	0.332
	(0.653)	(0.637)
construction	-0.131	-0.0361
	(0.283)	(0.142)
commercial	0.579***	0.330**
	(0.162)	(0.138)
transport	0.473**	-0.569***
	(0.204)	(0.188)
financialandreal_estate	0.649*	1.175***
	(0.361)	(0.237)
servicesforfirms	0.234	-0.332**
	(0.185)	(0.161)
servicesforindividuals	0.268	-0.180
	(0.265)	(0.264)
interaction_8_0		0.0198
		(0.352)
_Icostreduc_2		-0.282
		(0.243)
Constant	-3.384***	0.929***
	(0.369)	(0.271)
Observations	1,756	1,756

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-ix. Estimates of the relation between interaction of CSR dimensions and profit : Social & Regulation

VARIABLES	(1) interaction_9_0	(2) profit
group_tool	0.464***	
	(0.158)	
_Idistance_1	0.0514	
	(0.169)	
_Idistance_2	0.291	
	(0.190)	
_Idistance_3	0.393*	
	(0.230)	
size	0.000549***	-1.60e-06
	(0.000108)	(0.000124)
Holding	0.185*	0.308***
	(0.112)	(0.0879)
_Iuncertain_2	0.587**	-0.270
	(0.263)	(0.172)
_Iuncertain_3	0.619**	-0.385**
	(0.256)	(0.175)
_Iuncertain_4	0.767***	-0.229
	(0.272)	(0.187)
_Imarket_fi_2	-0.0192	0.419***
	(0.138)	(0.110)
_Imarket_fi_3	0.186	0.485***
	(0.157)	(0.149)
export_sale	0.241	1.473***
	(0.310)	(0.298)
_Icostreduc_2	-0.392	-0.254
	(0.342)	(0.247)
_Icostreduc_3	0.0797	-0.296
	(0.310)	(0.227)
_Icostreduc_4	0.260	-0.401*
	(0.316)	(0.235)
_Ir_d_1	-0.00656	0.320
	(0.214)	(0.214)
_Ir_d_2	1.096***	0.101
	(0.296)	(0.295)
_Iadvertisi_1	-0.0137	0.143
	(0.200)	(0.130)
_Iadvertisi_2	0.341**	0.350***
	(0.156)	(0.111)
agrifood	-0.243	-0.221

	(0.283)	(0.211)
consumptiongoods	-0.543**	-0.0302
	(0.243)	(0.183)
carsandequipments	-0.363	-0.370**
	(0.259)	(0.170)
energy	0.525	-0.500
	(0.668)	(0.423)
construction	-0.169	-0.130
	(0.218)	(0.152)
commercial	-0.0684	0.412***
	(0.177)	(0.128)
transport	0.0143	-0.561***
	(0.204)	(0.167)
financialandreal_estate	0.938***	1.044***
	(0.276)	(0.274)
servicesforfirms	-0.448**	-0.408**
	(0.205)	(0.166)
servicesforindividuals	-0.129	-0.362
	(0.295)	(0.290)
interaction_9_0		0.566
		(0.354)
Constant	-2.609***	0.861***
	(0.458)	(0.275)
Observations	1,638	1,638

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-x. Estimates of the relation between interaction of CSR dimensions and profit : Client-supplier & Regulation

VARIABLES	(1) interaction_10_0	(2) profit
group_tool	0.510***	
	(0.132)	
_Idistance_1	-0.0859	
	(0.139)	
_Idistance_2	0.160	
	(0.163)	
_Idistance_3	0.272	
	(0.193)	
size	0.000399***	-7.97e-05**
	(8.26e-05)	(3.98e-05)
holding	0.315***	0.372***
	(0.0884)	(0.0863)
_Iuncertain_2	0.479**	-0.153
	(0.217)	(0.154)
_Iuncertain_3	0.394*	-0.307**

	(0.219)	(0.152)
_Iuncertain_4	0.614***	-0.142
	(0.227)	(0.168)
_Imarket_fi_2	0.0432	0.270***
	(0.110)	(0.103)
_Imarket_fi_3	0.145	0.406***
	(0.135)	(0.139)
export_sale	0.0954	1.226***
	(0.278)	(0.291)
_Icostreduc_2	-0.170	-0.354
	(0.449)	(0.249)
_Icostreduc_3	0.0179	-0.440*
	(0.436)	(0.237)
_Icostreduc_4	0.0649	-0.538**
	(0.437)	(0.245)
_Ir_d_1	0.297**	0.279
	(0.148)	(0.183)
_Ir_d_2	1.211***	0.0810
	(0.219)	(0.250)
_Iadvertisi_1	0.440***	0.0202
	(0.154)	(0.124)
_Iadvertisi_2	0.471***	0.287***
	(0.126)	(0.104)
agrifood	0.123	-0.0533
	(0.200)	(0.181)
consumptiongoods	-0.418**	-0.131
	(0.182)	(0.180)
carsandequipments	-0.145	-0.287*
	(0.167)	(0.158)
energy	0.724	-0.0385
	(0.727)	(0.609)
construction	-0.473**	-0.106
	(0.185)	(0.147)
commercial	-0.354**	0.378***
	(0.140)	(0.129)
transport	-0.412**	-0.560***
	(0.172)	(0.164)
financialandreal_estate	-0.386	1.194***
	(0.306)	(0.222)
servicesforfirms	-0.652***	-0.465***
	(0.162)	(0.172)
servicesforindividuals	-0.596**	-0.281
	(0.284)	(0.242)
interaction_10_0		0.352
		(0.327)
Constant	-2.022***	1.101***
	(0.496)	(0.283)
Observations	1,766	1,766

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4-xi. Estimates of the relation between interaction of CSR dimensions and profit : Green, Social & Client-supplier

VARIABLES	(1) interaction_11_0	(2) profit
group_tool	1.165***	
	(0.204)	
_Idistance_1	-0.510***	
	(0.217)	
_Idistance_2	-0.605**	
	(0.297)	
_Idistance_3	0.136	
	(0.343)	
size	0.000642***	-8.40e-05***
	(0.000132)	(2.64e-05)
holding	0.531**	0.336***
	(0.224)	(0.0920)
_Iuncertain_2	-0.458	-0.0840
	(0.303)	(0.161)
_Iuncertain_3	-0.393	-0.185
	(0.279)	(0.162)
_Iuncertain_4	-0.322	-0.0180
	(0.317)	(0.173)
_Imarket_fi_2	0.0118	0.415***
	(0.220)	(0.116)
_Imarket_fi_3	0.127	0.433***
	(0.274)	(0.155)
export_sale	-0.0819	1.331***
	(0.342)	(0.343)
_Icostreduc_2	-0.440	-0.278
	(0.545)	(0.244)
_Icostreduc_3	-0.0625	-0.338
	(0.459)	(0.228)
_Icostreduc_4	0.0156	-0.442*
	(0.462)	(0.235)
_Ir_d_1	-0.161	0.407*
	(0.295)	(0.238)
_Ir_d_2	1.521***	0.199
	(0.337)	(0.300)
_Iadvertisi_1	0.0721	0.113
	(0.441)	(0.127)
_Iadvertisi_2	0.998***	0.327***
	(0.353)	(0.104)
agrifood	-0.884**	0.0913

	(0.381)	(0.207)
consumptiongoods	-0.766	-0.0553
	(0.522)	(0.189)
carsandequipments	0.137	-0.353**
	(0.219)	(0.161)
energy	1.236*	-0.271
	(0.631)	(0.385)
commercial	-0.697***	0.403***
	(0.265)	(0.135)
transport	-0.551	-0.491***
	(0.338)	(0.170)
servicesforfirms	-1.892***	-0.294
	(0.484)	(0.188)
servicesforindividuals	-0.964**	-0.0881
	(0.392)	(0.268)
interaction_11_0		0.570*
		(0.345)
construction		0.0274
		(0.154)
financialandreal_estate		1.299***
		(0.257)
Constant	-2.288***	0.748***
	(0.570)	(0.279)
Observations	1,532	1,532

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-xii. Estimates of the relation between interaction of CSR dimensions and profit : Green, Social & Regulation

VARIABLES	(1) interaction_12_0	(2) profit
interaction_12_0		-0.0541
		(5.580)
size	0.000770***	8.03e-05
	(0.000200)	(0.000651)
holding	-0.0133	0.343***
	(0.262)	(0.0936)
_Iuncertain_2	-0.0532	-0.0820
	(0.760)	(0.170)
_Iuncertain_3	0.136	-0.213
	(0.504)	(0.178)
_Iuncertain_4		-0.0699
		(0.240)
_Imarket_fi_2	-0.982***	0.338**
	(0.297)	(0.150)
_Imarket_fi_3	0.00286	0.409**

	(0.286)	(0.162)
export_sale	0.659	1.492***
	(1.373)	(0.556)
_Icostreduc_2		-0.309
		(0.267)
_Icostreduc_3	0.0353	-0.364
	(0.615)	(0.241)
_Icostreduc_4		-0.498**
		(0.242)
_Ir_d_1	0.777	0.349
	(1.271)	(0.352)
_Ir_d_2	0.575	0.335
	(1.346)	(0.565)
_Iadvertisi_1	-0.593	0.0978
	(0.472)	(0.141)
_Iadvertisi_2		0.329***
		(0.109)
agrifood		-0.0662
		(0.363)
consumptiongoods	-0.749*	-0.170
	(0.421)	(0.258)
carsandequipments	-0.112	-0.432**
	(0.502)	(0.175)
energy	3.060***	-0.515
	(1.146)	(2.132)
construction	-0.644	-0.0676
	(0.933)	(0.156)
commercial	-0.0997	0.341**
	(0.371)	(0.137)
transport	-0.263	-0.506***
	(0.602)	(0.184)
financialandreal_estate	0.617	1.239***
	(0.946)	(0.273)
servicesforfirms		-0.412
		(0.261)
servicesforindividuals	0.167	-0.241
	(0.751)	(0.297)
group_tool	0.963***	
	(0.290)	
_Idistance_1	0.936	
	(0.739)	
_Idistance_2	1.081*	
	(0.602)	
_Idistance_3	-0.396	
	(1.640)	
Constant	-3.205***	0.890***
	(0.665)	(0.283)
Observations	1,497	1,497

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4-xiii. Estimates of the relation between interaction of CSR dimensions and profit : Green, Client-supplier & Regulation

VARIABLES	(1) interaction_13_0	(2) profit
group_tool	0.483***	
	(0.167)	
_Idistance_1	-0.189	
	(0.192)	
_Idistance_2	-0.177	
	(0.246)	
_Idistance_3	0.0776	
	(0.287)	
size	0.000665***	3.11e-05
	(9.11e-05)	(0.000154)
holding	0.296**	0.331***
	(0.151)	(0.0917)
_Iuncertain_2	1.144**	-0.103
	(0.541)	(0.165)
_Iuncertain_3	0.970*	-0.243
	(0.536)	(0.161)
_Iuncertain_4	1.269**	-0.0655
	(0.544)	(0.184)
_Imarket_fi_2	-0.130	0.318***
	(0.153)	(0.108)
_Imarket_fi_3	-0.176	0.368**
	(0.204)	(0.148)
export_sale	0.708**	1.108***
	(0.335)	(0.313)
_Icostreduc_3	0.193	-0.364
	(0.202)	(0.227)
_Icostreduc_4	0.465**	-0.472**
	(0.213)	(0.236)
_Ir_d_1	0.217	0.388*
	(0.208)	(0.203)
_Ir_d_2	1.239***	0.421
	(0.259)	(0.351)
_Iadvertisi_1	0.356	0.109
	(0.309)	(0.126)
_Iadvertisi_2	0.803***	0.307***
	(0.249)	(0.104)
agrifood	0.331	-0.237
	(0.270)	(0.193)
consumptiongoods	-0.496	-0.0161

	(0.310)	(0.188)
carsandequipments	-0.0165	-0.397**
	(0.193)	(0.162)
energy	-0.0979	-0.411
	(0.523)	(0.468)
construction	-0.411	-0.0763
	(0.303)	(0.147)
commercial	-0.533**	0.333**
	(0.215)	(0.133)
transport	-0.350	-0.569***
	(0.260)	(0.162)
financialandreal_estate	0.660**	1.105***
	(0.330)	(0.233)
servicesforfirms	-0.434*	-0.415**
	(0.232)	(0.165)
servicesforindividuals	-0.455	-0.285
	(0.445)	(0.256)
interaction_13_0		0.270
		(0.424)
_Icostreduc_2		-0.301
		(0.243)
Constant	-3.622***	0.952***
	(0.671)	(0.275)
Observations	1,593	1,593

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-xiv. Estimates of the relation between interaction of CSR dimensions and profit : Social, Client-supplier & Regulation

VARIABLES	(1) interaction_14_0	(2) profit
group_tool	0.512***	
	(0.122)	
_Idistance_1	0.0395	
	(0.156)	
_Idistance_2	0.175	
	(0.170)	
_Idistance_3	0.358*	
	(0.202)	
size	0.000773***	-6.70e-06
	(0.000113)	(1.72e-05)
holding	0.464***	0.289**
	(0.0985)	(0.115)
_Iuncertain_2	0.233	-0.000233
	(0.237)	(0.168)

_Iuncertain_3	0.347	-0.0431
	(0.233)	(0.163)
_Iuncertain_4	0.584**	0.000264
	(0.243)	(0.182)
_Imarket_fi_2	-0.135	0.344***
	(0.115)	(0.115)
_Imarket_fi_3	0.185	0.516***
	(0.139)	(0.150)
export_sale	0.190	1.270***
	(0.279)	(0.248)
_Icostreduc_2	-0.131	-0.338
	(0.585)	(0.246)
_Icostreduc_3	0.427	-0.472**
	(0.572)	(0.232)
_Icostreduc_4	0.609	-0.543**
	(0.575)	(0.240)
_Ir_d_1	0.476***	0.217
	(0.153)	(0.156)
_Ir_d_2	1.490***	0.326
	(0.217)	(0.243)
_Iadvertisi_1	0.308	0.0733
	(0.222)	(0.134)
_Iadvertisi_2	0.872***	0.358***
	(0.177)	(0.111)
agrifood	0.364*	-0.129
	(0.208)	(0.199)
consumptiongoods	-0.339*	-0.0709
	(0.191)	(0.166)
carsandequipments	-0.210	-0.384*
	(0.195)	(0.209)
energy	0.919**	0.421
	(0.389)	(0.465)
construction	-0.184	-0.139
	(0.196)	(0.142)
commercial	-0.130	0.258**
	(0.147)	(0.126)
transport	0.0689	-0.636***
	(0.171)	(0.166)
financialandreal_estate	0.589**	0.966***
	(0.281)	(0.283)
servicesforfirms	-0.504***	-0.337**
	(0.177)	(0.162)
servicesforindividuals	-0.475*	-0.559**
	(0.268)	(0.250)
interaction_14_0		0.394
		(0.295)
Constant	-3.045***	0.859***
	(0.690)	(0.284)
Observations	1,898	1,898

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4-xv. Estimates of the relation between interaction of CSR dimensions and profit : Green, Social, Client-supplier & Regulation

VARIABLES	(1) interaction_15_0	(2) profit
group_tool	1.035***	
	(0.136)	
_Idistance_1	-0.318*	
	(0.172)	
_Idistance_2	-0.150	
	(0.208)	
_Idistance_3	-0.300	
	(0.269)	
size	0.000669***	1.51e-06
	(9.49e-05)	(7.41e-06)
holding	0.597***	0.287***
	(0.141)	(0.0934)
_Iuncertain_2	0.828**	-0.229
	(0.386)	(0.162)
_Iuncertain_3	0.730*	-0.268
	(0.387)	(0.163)
_Iuncertain_4	0.729*	-0.216
	(0.399)	(0.174)
_Imarket_fi_2	0.0503	0.314***
	(0.159)	(0.107)
_Imarket_fi_3	0.154	0.412***
	(0.189)	(0.141)
export_sale	0.0655	1.119***
	(0.306)	(0.254)
_Icostreduc_2	-0.565	-0.210
	(0.456)	(0.241)
_Icostreduc_3	-0.298	-0.233
	(0.438)	(0.225)
_Icostreduc_4	0.0149	-0.359
	(0.442)	(0.233)
_Ir_d_1	0.554***	0.259
	(0.169)	(0.168)
_Ir_d_2	1.621***	0.381*
	(0.267)	(0.203)
_Iadvertisi_1	0.0499	0.0363
	(0.275)	(0.130)
_Iadvertisi_2	0.643***	0.307***
	(0.219)	(0.104)
agrifood	-0.398	0.102

	(0.275)	(0.191)
consumptiongoods	-0.654***	0.0399
	(0.218)	(0.175)
carsandequipments	-0.220	-0.257*
	(0.190)	(0.145)
energy	1.410***	0.455
	(0.373)	(0.364)
construction	-0.565**	-0.0334
	(0.261)	(0.141)
commercial	-0.612***	0.420***
	(0.188)	(0.124)
transport	-0.397	-0.416**
	(0.246)	(0.200)
financialandreal_estate	-0.596*	1.584***
	(0.350)	(0.277)
servicesforfirms	-1.208***	-0.295
	(0.244)	(0.180)
servicesforindividuals	-0.845*	-0.181
	(0.469)	(0.258)
interaction_15_0		0.516**
		(0.239)
Constant	-2.664***	0.840***
	(0.594)	(0.273)
Observations	1,737	1,737

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

II. Agreggated CSR variables estimates

Table 5-i. Estimates of the effect of quantitative CSR over profit: 1 dimension versus 0 dimension

VARIABLES	(1) csr_1_0	(2) profit
group_tool	0.320***	
	(0.1000)	
_Idistance_1	-0.156*	
	(0.0928)	
_Idistance_2	-0.173	
	(0.127)	
_Idistance_3	-0.0605	
	(0.185)	
size	0.000202*	-3.71e-05*
	(0.000111)	(2.25e-05)
holding	0.313***	0.0969

	(0.0590)	(0.165)
_Iuncertain_2	0.348**	0.0473
	(0.137)	(0.210)
_Iuncertain_3	0.346***	-0.172
	(0.132)	(0.204)
_Iuncertain_4	0.321**	0.0555
	(0.146)	(0.208)
_Imarket_fi_2	-0.130*	0.367***
	(0.0722)	(0.107)
_Imarket_fi_3	0.0415	0.455***
	(0.0880)	(0.119)
export_sale	0.0610	1.242***
	(0.193)	(0.274)
_Icostreduc_2	0.172	-0.294
	(0.218)	(0.253)
_Icostreduc_3	0.357*	-0.390
	(0.209)	(0.269)
_Icostreduc_4	0.420**	-0.597**
	(0.210)	(0.292)
_Ir_d_1	0.305***	0.0291
	(0.103)	(0.189)
_Ir_d_2	0.782***	0.179
	(0.194)	(0.354)
_Iadvertisi_1	0.201**	-0.0609
	(0.0935)	(0.141)
_Iadvertisi_2	0.389***	0.0944
	(0.0753)	(0.183)
agrifood	0.399***	-0.119
	(0.140)	(0.214)
consumptiongoods	-0.205	0.00108
	(0.131)	(0.168)
carsandequipments	0.129	-0.477***
	(0.124)	(0.144)
energy	0.123	0.816
	(0.300)	(0.507)
construction	0.115	-0.197
	(0.136)	(0.145)
commercial	0.0659	0.316***
	(0.0977)	(0.119)
transport	0.131	-0.677***
	(0.122)	(0.155)
financialandreal_estate	0.599***	0.729**
	(0.192)	(0.332)
servicesforfirms	0.00242	-0.542***
	(0.115)	(0.146)
servicesforindividuals	0.0591	-0.293
	(0.163)	(0.187)
csr_1_0		1.188
		(1.034)
Constant	-1.292***	0.725***

	(0.270)	(0.273)
Observations	2,628	2,628

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5-ii. Estimates of the effect of quantitative CSR over profit: 2 dimensions versus 0 dimension

VARIABLES	(1) csr_2_0	(2) profit
group_tool	0.602***	
	(0.103)	
_Idistance_1	-0.00295	
	(0.115)	
_Idistance_2	0.235*	
	(0.124)	
_Idistance_3	0.252*	
	(0.152)	
size	0.000557***	-2.62e-05**
	(9.12e-05)	(1.33e-05)
holding	0.436***	0.325***
	(0.0684)	(0.0902)
_Iuncertain_2	0.362**	-0.135
	(0.151)	(0.152)
_Iuncertain_3	0.369**	-0.299**
	(0.151)	(0.147)
_Iuncertain_4	0.491***	-0.147
	(0.162)	(0.159)
_Imarket_fi_2	0.00196	0.226**
	(0.0826)	(0.0893)
_Imarket_fi_3	0.192*	0.480***
	(0.103)	(0.111)
export_sale	0.265	1.384***
	(0.215)	(0.216)
_Icostreduc_2	0.141	-0.314
	(0.352)	(0.246)
_Icostreduc_3	0.402	-0.446*
	(0.343)	(0.235)
_Icostreduc_4	0.506	-0.498**
	(0.345)	(0.242)
_Ir_d_1	0.318***	0.273**
	(0.121)	(0.130)
_Ir_d_2	1.137***	0.353**
	(0.183)	(0.167)
_Iadvertisi_1	0.297**	0.0870
	(0.121)	(0.124)
_Iadvertisi_2	0.532***	0.340***

	(0.0994)	(0.112)
agrifood	0.167	-0.0554
	(0.170)	(0.165)
consumptiongoods	-0.287**	0.0248
	(0.144)	(0.152)
carsandequipments	-0.0712	-0.342**
	(0.135)	(0.134)
energy	1.046**	0.546
	(0.442)	(0.442)
construction	-0.287*	-0.155
	(0.148)	(0.130)
commercial	-0.00767	0.380***
	(0.106)	(0.114)
transport	-0.103	-0.580***
	(0.129)	(0.172)
financialandreal_estate	0.352	1.119***
	(0.221)	(0.226)
servicesforfirms	-0.374***	-0.472***
	(0.122)	(0.144)
servicesforindividuals	-0.253	-0.253
	(0.205)	(0.235)
csr_2_0		0.0986
		(0.285)
Constant	-2.166***	1.046***
	(0.393)	(0.269)
Observations	2,351	2,351

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5-iii. Estimates of the effect of quantitative CSR over profit: 3 dimensions versus 0 dimension

VARIABLES	(1) csr_3_0	(2) profit
group_tool	0.585***	
	(0.106)	
_Idistance_1	-0.0308	
	(0.133)	
_Idistance_2	0.0448	
	(0.146)	
_Idistance_3	0.268	
	(0.179)	
size	0.000752***	-8.07e-06
	(0.000106)	(1.76e-05)
holding	0.429***	0.287***
	(0.0890)	(0.110)
_Iuncertain_2	0.349*	-0.00253
	(0.212)	(0.163)
_Iuncertain_3	0.374*	-0.0555
	(0.207)	(0.158)
_Iuncertain_4	0.624***	0.0201
	(0.216)	(0.176)
_Imarket_fi_2	-0.136	0.360***
	(0.102)	(0.106)
_Imarket_fi_3	0.119	0.504***
	(0.126)	(0.137)
export_sale	0.338	1.109***
	(0.248)	(0.223)
_Icostreduc_2	-0.0419	-0.306
	(0.499)	(0.241)
_Icostreduc_3	0.476	-0.440*
	(0.487)	(0.226)
_Icostreduc_4	0.680	-0.534**
	(0.490)	(0.235)
_Ir_d_1	0.457***	0.203
	(0.137)	(0.133)
_Ir_d_2	1.405***	0.321
	(0.202)	(0.196)
_Iadvertisi_1	0.346*	0.0855
	(0.197)	(0.132)
_Iadvertisi_2	0.954***	0.338***
	(0.157)	(0.112)
agrifood	0.327*	-0.118
	(0.188)	(0.177)
consumptiongoods	-0.437**	0.0764
	(0.181)	(0.156)
carsandequipments	-0.148	-0.361**

	(0.150)	(0.165)
energy	0.995***	0.354
	(0.345)	(0.402)
construction	-0.300*	-0.124
	(0.179)	(0.133)
commercial	-0.207	0.280**
	(0.127)	(0.118)
transport	-0.0365	-0.563***
	(0.153)	(0.156)
financialandreal_estate	0.536**	0.964***
	(0.246)	(0.249)
servicesforfirms	-0.542***	-0.300*
	(0.155)	(0.156)
servicesforindividuals	-0.420*	-0.479**
	(0.248)	(0.234)
csr_3_0		0.392
		(0.259)
Constant	-2.874***	0.800***
	(0.584)	(0.271)
Observations	2,095	2,095

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5-iv. Estimates of the effect of quantitative CSR over profit: 4 dimensions versus 0 dimension

VARIABLES	(1) csr_4_0	(2) profit
group_tool	1.035***	
	(0.136)	
_Idistance_1	-0.318*	
	(0.172)	
_Idistance_2	-0.150	
	(0.208)	
_Idistance_3	-0.300	
	(0.269)	
size	0.000669***	1.51e-06
	(9.49e-05)	(7.41e-06)
holding	0.597***	0.287***
	(0.141)	(0.0934)
_Iuncertain_2	0.828**	-0.229
	(0.386)	(0.162)
_Iuncertain_3	0.730*	-0.268
	(0.387)	(0.163)
_Iuncertain_4	0.729*	-0.216
	(0.399)	(0.174)

_Imarket_fi_2	0.0503	0.314***
	(0.159)	(0.107)
_Imarket_fi_3	0.154	0.412***
	(0.189)	(0.141)
export_sale	0.0655	1.119***
	(0.306)	(0.254)
_Icostreduc_2	-0.565	-0.210
	(0.456)	(0.241)
_Icostreduc_3	-0.298	-0.233
	(0.438)	(0.225)
_Icostreduc_4	0.0149	-0.359
	(0.442)	(0.233)
_Ir_d_1	0.554***	0.259
	(0.169)	(0.168)
_Ir_d_2	1.621***	0.381*
	(0.267)	(0.203)
_Iadvertisi_1	0.0499	0.0363
	(0.275)	(0.130)
_Iadvertisi_2	0.643***	0.307***
	(0.219)	(0.104)
agrifood	-0.398	0.102
	(0.275)	(0.191)
consumptiongoods	-0.654***	0.0399
	(0.218)	(0.175)
carsandequipments	-0.220	-0.257*
	(0.190)	(0.145)
energy	1.410***	0.455
	(0.373)	(0.364)
construction	-0.565**	-0.0334
	(0.261)	(0.141)
commercial	-0.612***	0.420***
	(0.188)	(0.124)
transport	-0.397	-0.416**
	(0.246)	(0.200)
financialandreal_estate	-0.596*	1.584***
	(0.350)	(0.277)
servicesforfirms	-1.208***	-0.295
	(0.244)	(0.180)
servicesforindividuals	-0.845*	-0.181
	(0.469)	(0.258)
csr_4_0		0.516**
		(0.239)
Constant	-2.664***	0.840***
	(0.594)	(0.273)
Observations	1,737	1,737

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1