Labour reputation and financial performance: is there a causal relationship?

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Abstract

Purpose – The purpose of this paper is to analyse if there is a circular relationship of causality between the labour dimension of corporate social performance (CSP) and corporate financial performance (CFP).

Design/methodology/approach – The sample is formed by the best companies to work for in Spain according to the labour reputation (LR) ranking developed by MERCO from 2006 to 2013. This study overcomes the limitations of previous studies using the panel data methodology (System generalised method of moments) and the Granger causality test.

Findings – The results suggest that the labour dimension of CSP cause CFP, but there is not causality in the opposite direction.

Originality/value – Studies about the relationship between dimensions of CSP and CFP demonstrated that there are divergences in the results depending on the dimension analysed. Despite managers and employees are interested in the impact of labour dimension of CSP on CFP, there are few studies about it and they have important limitations.

Keywords Corporate social performance, Corporate social responsibility, Human resource management, Corporate financial performance, Labour reputation

Paper type Research paper

1. Introduction

The use of economic resources from companies to achieve social objectives is a growing trend in society in response to social demands made by their stakeholders. Investment in corporate social responsibility (CSR) is the preamble to what is known as corporate social performance (hereafter CSP), which is the configuration of a business organisation with social responsibility principles and policies, programmes and observable results about social relations of the company (Wartick and Cochran, 1985). The results of CSP are assessed by the stakeholders. The reputation of the firm serves as a tool to know how well the organisation is satisfying the stakeholders' demands and expectations on it (Figure 1).

The inclusion of social demands in business strategy has generated great interest and controversy in the academic literature. Increasing the economic results of the company is a priority objective, and higher economic resources are useful to invest and growth. However, the conditions under the corporate financial performance (CFP) are obtained affect the sustainability of the company. Stakeholder's theory argues that, in addition to get benefit, if companies respond to social demands they legitimise their activity and thus maintain a sustainable growth over time. For this reason, the line of research in the academic literature to study the relationship between CSP and CFP has been relevant from the 1970s until today. Furthermore, the concept of CSP is defined as a multidimensional construct, as it brings together different social areas (environmental, labour, products, customers, etc.). Thus, in the academic literature, there are studies on the relationship between the specific social dimensions of CSP and CFP, and not all dimensions have the same effect on financial performance. In addition, not all dimensions of CSP have received the same attention, and there is a big difference in the number of studies related to each dimension. Labour dimension of CSP has received less attention despite managers and employees are concerned about the quality of working life (QWL), and it has a critical role in many of

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the labour market theories (e.g. the need satisfaction approach to QWL, or spill-over approach to QWL) (Chauvin and Guthrie, 1994). As a result, there is little empirical evidence of its impact on financial performance (Lau and May, 1998; Ballou *et al.*, 2003). The main reason for the lack of studies in this critical area is the difficulty that has existed in the past to measure the employee's quality working life in a company (Lau and May, 1998; Chauvin and Guthrie, 1994; Sirgy *et al.*, 2001). Thus, studies regarding the labour dimension of CSP have increased in recent years due to the appearance of more labour reputation (LR) rankings at an international and national level. LR is an assessment made by stakeholders and used to know the firm's appeal to work for it when it is compared with other competitors (Odriozola *et al.*, 2015).

The interest in the labour dimension of CSP is justified for several reasons: employees are key stakeholders to the company sustainability because they maintain a formal and legitimises relationship with the company; employees are a large and powerful group of the company, because they have tools to show the urgency of their demands (e.g. strikes), they gather technical knowledge, the intellectual capital and labour force (important factors from which mainly depends the productive performance of the company and can generate important competitive advantages (Mitchell *et al.*, 1997; Huselid, 1995)); from a purely economic perspective, the staff costs represent a large percentage of total gross costs of firms (between 60 and 70 per cent as average); and finally, empirical studies cite CSR practices aimed at employees and customers as those carried out by companies with greater frequency (Papasolomou-Doukakis *et al.*, 2005). Therefore, to make an efficient economic management, it is interesting to know whether resources invested to have better working conditions have impact on CFP.

The purpose of this paper is to test whether the best companies to work for (i.e. with higher LR) have a significant positive causal relationship with financial performance and vice versa. The results of this study provide useful information for human resource managers in the decision-making processes. Besides this work aims to address limitations of previous studies using robust methodologies: panel data technique using a System generalised method of moments (GMM) to contrast the hypotheses, and a vector auto-regression model (VAR) with a Granger causality test to analyse the causality between the main variables (LR and CFP), testing a positive and circular relationship. Therefore, the study of the direction of causality between the variables and the time lag established between them is one of the methodological contributions provided by this study.

2. Research background

The relationship between CSP and CFP becomes important from the 1970s in the academic literature, as a main research line to refute scepticism towards investing in CSR. The results have not been unanimous because positive relationships, negative relationships, and lack of relationship between the two variables have been found. The hypothesis of social impact supports the positive effect of CSP on CFP. This hypothesis is defended by Freeman (1984) in the stakeholder theory (which supports that CSR meets the requirements of the

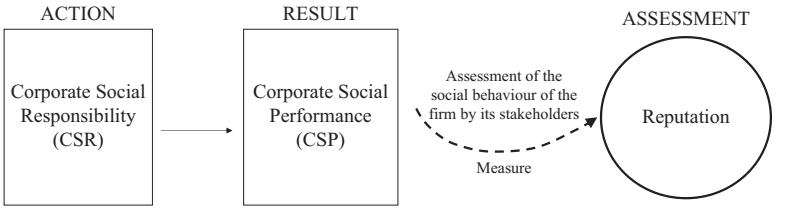

Figure 1.
CSR, CSP and reputation

Source: Own elaboration

stakeholders) leading to improved reputation and CFP. The positive relationship between CSP and CFP clarifies that social and economic objectives may converge in the company. Waddock and Graves (1997) argue that the costs of investment in CSR are lower than the benefits derived therefrom, generating competitive advantages. In the opposite way, a negative effect of CSP on CFP would be consistent with the hypothesis of trade-off defended by Friedman (1970) in his book *Capitalism and Freedom*, whereby companies only have the social responsibility of increase their profits, so that investment in CSR increases their costs and reduces their profitability (Friedman, 1962).

Moreover, this relationship has been also studied changing the causal sequence of the two variables, which is, focussing on the effect of CFP on the CSP. The positive effect of CFP on CSP is explained by the hypothesis of the availability of funds (Waddock and Graves, 1997), according to which the investment in social issues and the social behaviour of the company may depend on the availability of resources. In the case that CFP has a negative effect on CSP, the hypothesis of the opportunism of managers is confirmed, which states that when CFP is high managers reduce the investment in CSR to maximise their personal income in the short term (Williamson, 1988).

Regardless of the direction of causality, the possibility of having a neutral relationship must be considered, that is, an inconclusive relationship between CSP and CFP due to the existence of variables that moderate this relationship or by the fact of using different measures of the CSP (De la Fuente Sabate and De Quevedo Puente, 2003). Finally, there may be a circular relationship between the two variables, arising the likelihood of positive synergies (confirming the hypotheses of the social impact and the availability of funds), and negative synergies (confirming the hypotheses of the trade-off and the opportunism of managers).

In addition, this study goes a step further. Considering the multidimensionality of CSP five types of social dimensions are distinguished: "Environmental dimension", "Diversity", "Consumer relations", "Community relations" and "Labour dimension". The main studies about the relation of some dimension of CSP and CFP classified in Table I are found in Google Scholar in the time interval that goes from 1972 to 2013. The social issues selected to classify the studies follow similar classifications of other reviews based on the dimensions of CSP, such as in Sethi (1975), Carroll (1979), Waddock and Graves (1997), and Inoue and Lee (2011). Analysing the studies of Table I, we can see that the labour dimension is one of the less studied.

Focussing on studies about the relationship of labour dimension of CSP with the CFP (see Table II), they have common aspects:

(1) The empirical analyses are carried out with samples including companies from the USA, thus this relationship has not been studied for Southern European countries, although the results could be different from American samples because of their institutional characteristics or market (Paauwe, 1996).

(2) They used a ranking of reputation for measuring the labour dimension of the CSP. Chauvin and Guthrie (1994) used the ranking of LR developed by *Working Mother* magazine, Hannon and Milkovich (1996) used rankings of the best companies to work for published by several US magazines, and the remaining studies (Lau and May, 1998; Fulmer *et al.*, 2003; Filbeck and Preece, 2003; Ballou *et al.*, 2003) used the ranking published by *Fortune* magazine and developed by "Great Place to Work".

(3) The methodologies used in those previous studies (OLS regression, event study methodology, comparative analysis, standard event methodology, *t*-test statistic, correlations, ANOVA) have limitations. Some of the criteria that accuse the lack of robustness of the results are the use of cross-sectional data, the delay with which the reputation affects profitability and vice versa, the lack of empirical analysis of the causality between variables to eliminate the possibility of spurious relationships

Studies about the relationship between specific dimension of CSP and CFP					
Environmental dimension ($n = 23$)		Diversity (for minorities/women and suppliers) ($n = 11$)	Consumer relations (quality products) ($n = 6$)	Community (ethics and society) ($n = 5$)	Labour dimension ($n = 6$)
Bragdon and Marlin (1972), Belkaoui (1976), Chen and Metcalf (1980), Freedman and Jaggi (1982), Shane and Spicer (1983), Freedman and Stagliano (1991), Blacconiere and Patten (1994), Hart and Ahuja (1996), Klassen and McLaughlin (1996), Russo and Fouts (1997), Judge and Douglas (1998), Stanwick and Stanwick (1998)	Carter *et al.* (2000), Dowell *et al.* (2000), King and Lenox (2001), Sarkis and Cordeiro (2001), Toms (2002), Schaltegger and Synnestvedt (2002), Goll and Rasheed (2004), Horváthová (2010), Moneva and Ortas (2010), Lioui and Sharma (2012), Guenther *et al.* (2012)	Richard *et al.* (2007, 2013), Klassen and Vereecke (2012), Kravitz (2003), Wang and Sarkis (2013), Joecks *et al.* (2013), Shukeri *et al.* (2012), Wagner *et al.* (2012), Cao and Zhang (2011), Greer and Theuri (2012), Golicic and Smith (2013)	Han *et al.* (1998), Berman *et al.* (1999), Calantone *et al.* (2002), Hull and Rothenberg (2008), Kacperczyk (2009), Poolthong and Mandhachitara (2009)	Kumar *et al.* (2002), Rivoli (2003), Carmeli and Tishler (2004), Peinado-Vara (2006), Inoue and Lee (2011)	Chauvin and Guthrie (1994), Hannon and Milkovich (1996), Lau and May (1998), Ballou *et al.* (2003), Filbeck and Preece (2003), Fulmer *et al.* (2003)

Table I.
Review of the literature of the most relevant studies about the impact of specific dimension of CSP on CFP

Author	Measures of labour dimension
Chauvin and Guthrie (1994)	"Best companies for working mothers" created by *Working Mother* magazine
Hannon and Milkovich (1996)	"Best for Blacks" (1982) published by *Black Enterprise* magazine "Most preferred" (1982) published by *Graduating Engineer* magazine "100 Best to work for" (1984) published by *New York Times* "Best for working mothers" (1986) published in *Working Mother* magazine "Best for women" (1988) published in *USA Today* "Best for black engineers" (1989) published by *National Society of Black Engineers*' magazine
Lau and May (1998)	Fortune "The 100 Best companies to work for in America", created by Great Place to Work
Ballou *et al.* (2003)	Fortune "The 100 Best companies to work for in America", created by Great Place to Work
Filbeck and Preece (2003)	Fortune "The 100 Best companies to work for in America", created by Great Place to Work
Fulmer *et al.* (2003)	Fortune "The 100 Best companies to work for in America", created by Great Place to Work Questionnaire to employees "People practices inventory (PPI)" created by Hewitt associates

Table II.
Review of the studies about the relationship between labour dimension of social performance with financial performance

or biased (De la Fuente Sabate and De Quevedo Puente, 2003; Paauwe and Boselie, 2005), the unobserved heterogeneity time (e.g. corporate culture, management decisions or investment policy, among others), and dynamism of the variables. In some cases, the use of OLS regressions with pooled data is not consistent due to the possible correlation between the regressors and the error term (Baltagi, 2008), and more advanced methodologies such as autoregressive models allow solving the deficiencies of OLS regressions and obtaining estimations with higher consistency and efficiency.

Considering the limitations of these studies and the growing interest in understanding the relationship between dimensions of CSP with financial performance (Rose and Thomsen, 2004), this study aims to answer two questions. First, "Which is the sign of the relationship between the labour dimension of CSP (measured by LR) and CFP?", and second, "Is there causality between both magnitudes?", since it is probable the existence of a circular relationship between them. Therefore, two main hypotheses are proposed:

H1. Hypothesis of social impact: LR causes a positive effect on financial performance.

In the first case, a positive relationship between the labour dimension of the CSP and CFP would be due to the positive impact of the social actions. According to the resource-based view theory, reputation can generate competitive advantages for the company due to its specific characteristics (Barney, 1991). The academic literature identifies several competitive advantages from LR, such as reducing search costs to engage and retain productive employees (Chauvin and Guthrie, 1994), reducing cost of training staff due to firms with LR attracts highly qualified personnel (Vergin and Qoronfleh, 1998), reducing transaction costs (Roberts and Dowling, 2002), increasing employee motivation and productivity (Cravens *et al.*, 2003), increasing consumer confidence (Greyser, 1999), and increasing the number of employees that would want to improve their skills to promote (Chauvin and Guthrie, 1994). These issues respond to the benefits of belonging to a company with good LR: greater job security, good human resource practices, or working in a company where the most qualified applicants will seek employment and will form competitive teams, among others. All the above generate barriers to entry in the market to new competitors (Hall, 1992), and leads us to expect a positive relationship between the labour dimension of CSP (LR) and CFP (*H1*):

H2. Hypothesis of availability of funds: financial performance causes a positive effect on LR.

The expected positive relationship in the second hypothesis is justified through the hypothesis of the availability of funds. According to this theory, the more financial resources of the company available, the more social investment to improve working conditions. Programmes and actions to respond the social demands of workers increase its LR through the stakeholders' assessment of the CSP (Odriozola *et al.*, 2015). In addition, the second hypothesis responds to the limitations of previous studies about the relationship of LR and CFP, which has only been tested in one sense of the relationship (see *H1*).

All the above justify the need for new contributions. The causal relationship between the LR and the CFP proposed in this paper could lead to a convergent theory, where economic and social purposes have a joint role in the business activity (social goals should not reduce the possibility of increasing economic benefits, and pursuing a high profitability should not downplay social aims of the company).

3. Methodology and data

Sample

The companies that form the sample used in this study were collected from the list of the 100 best companies to work for in Spain. The index of LR "Merco People" developed by MERCO was collected each year during the period of 2006-2013. Finally, a panel data set composed by 758 observations, which correspond to 119 companies, was constructed. There are companies that have been not considered due to the lack of accounting data.

Data analysis method

To test the causal relationship between LR and CFP, and therefore contrast the hypotheses proposed (*H1* and *H2*), the panel data methodology through the specification of GMM is used. System GMM is an appropriated method used in social sciences (Baltagi, 2008),

because it controls individual unobserved heterogeneity between different companies, it eliminates the risk of obtaining biased results (Nelling and Webb, 2009), and it allows analysing the dynamic behaviour of the dependent variables. The System GMM specification is performed for both senses of causality, thus being the dependent variable CFP in one specification (1a), and being LR as dependent variable in other (1b). Where CFP_{it} is the financial performance of the firm i in year t; LR_{it} the labour dimension of CSP of the firm i in year t; CFP_{it-1} the financial performance of the firm i in year $t-1$; LR_{it-1} the labour dimension of CSP of the firm i in year $t-1$; $SIZE_{it}$ the size of the company i in year t; $DIFF_{it}$ the differentiation strategy of firm i in year t; $DEBT_{it}$ the risk (debt) of the firm i in year t; $\sum_{j=1}^{J} \delta_{5i}\, SECTOR_{ij}$ represents sectorial dummies; $\sum_{t=2006}^{2013} Y_t$ a set of time dummy variables that collet temporary effect; γ_i the unobserved heterogeneity which is assumed constant for the company along t; and μ_{it} the error term:

$$CFP_{it} = \alpha_0 + \beta_{1i} CFP_{it-1} + \beta_{2i}\, LR_{it-1} + \delta_{3i}\, SIZE_{it} + \delta_{4i}\, DIFF_{it} + \delta_{5i}\, DEBT_{it} + \sum_{j=1}^{J} \delta_{5i}\, SECTOR_{ij} + \sum_{t=2006}^{2013} Y_t + \gamma_i + \mu_{it} \quad (1a)$$

$$LR_{it} = \alpha_0 + \beta_{1i} LR_{it-1} + \beta_{2i}\, CFP_{it-1} + \delta_{3i}\, SIZE_{it} + \delta_{4i}\, DIFF_{it} + \delta_{5i}\, DEBT_{it} + \sum_{j=1}^{J} \delta_{5i}\, SECTOR_{ij} + \sum_{t=2006}^{2013} Y_t + \gamma_i + \mu_{it} \quad (1b)$$

The methodology described above help us to know whether there is a significant relationship between LR and CFP and what variables explain the dependent variable in each case, however, it is not determinative to analyse the causation between them (i.e. the existence of correlation between two variables does not mean that one of the variables is the cause of alterations in the values of the other). To confirm the causality between LR and CFP, Granger test is used, which is based on the premise that past values may affect future values of another variable. Granger test contrasts as null hypothesis (H_0: "Independent variable does not cause the dependent variable") that must be refuted (at the 5 per cent of significance level H_0 can be rejected). If H_0 is rejected, the alternative *H1* is accepted (*H1*: "Independent variable can cause the dependent variable"). In this sense, we can say that causality Granger test is necessary, but not sufficient, condition for the existence of causation. So, this test cannot affirm strictly the causality of one variable on another, but it can assert the contrary, the absence of causation. Details about the variables and their measures can be found below.

Labour dimension of CSP

The measures of CSP used in the literature are: the technique of content analysis of social information disclosed (Orlitzky *et al.*, 2003; Wu, 2006); partial measurements by sending questionnaires to managers or employees (about philanthropic activities, labour policies, CSR activities, or pollution control, for example), and the most used in the literature, the reputation indexes developed by independent organisations (KLD, Fortune, Moskowitz, Business Ethics (Wu, 2006) or MERCO (Fernández and Luna, 2007; Saenz and Gomez, 2008; Delgado-García *et al.*, 2010; Odriozola *et al.*, 2015)). These reputation indexes publish the stakeholders' CSP assessment each year.

LR indicates the degree of company compliance with social and labour demands, so it is an appropriate assessment and measure of the labour dimension of CSP. In this contribution, the reputation index "Merco People" (published by MERCO) is used, which

refers to a ranking of the most reputable companies to work for, and it is a multi-stakeholder measure (because it is constructed based on the assessment of stakeholders with different nature, while other rankings, as Fortune, are based on the evaluation of respondents with strong financial halo (CEOs, shareholders, executives and financial analysts) (Odriozola *et al.*, 2015)). The process for developing this index integrates six different assessments. Last year university students, alumni of business schools and human resource managers are surveyed to identify the most desirable companies to work for in Spain. Subsequently, a benchmarking about human resource management policies and then reputation surveys are conducted internally among employees. Finally, a representative sample of the general population is surveyed by telephone using the technique called "Computer Assisted Telephone Interviewing". Finally, the ranking of the 100 better places to work for in Spain is obtained, where each company included have an exact score, being 10,000 points the highest score.

CFP

Market-based measures of CFP (such as the share performance, market performance, market value, and share price) reflecting changing perceptions of stakeholders (Orlitzky *et al.*, 2003) with less lag time, however, they are affected by other economic factors of the market or by circumstantial events in certain sectors, so they are not suitable for a short-term sample (Rose and Thomsen, 2004). Besides, they only reflect the perceptions of financial stakeholders (McWilliams *et al.*, 2006) although non-financial stakeholders are also affected by the actions of CSR, and in the case of having asymmetric information, market measures do not reflect the evaluation of social actions. In this study, many of the companies of the sample analysed are unlisted, so it makes difficult to obtain the market price of them, and severe changes caused by the economic crisis under the Spanish stock market in recent years only affect a portion of the sample, so market measures would be biased. Measures based on accounting sources, such as the return on assets (ROA), asset turnover and growth measures (Wu, 2006), could be more suitable, and they may be affected by CSP (Wu, 2006). This stream has advantages such as the accessibility to the accounting data, its easy interpretation, and that reflects the internal efficiency of the organisation. Due to the above, ROA has been selected for this study to measure CFP, as it is the accounting measure most widely used in the literature, which allows to compare the results with previous studies, increasing its usefulness. This profitability ratio was obtained from the accounting data extracted from the database SABI Bureau van Dijk.

Control variables

To test the relationship between labour dimension of CSP and CFP, it is necessary to include control variables that give internal validity to the model.

Size. The larger the size of the company, the more likely to benefit from economies of scale (Osterman, 1995), or have higher degree of monopoly. Furthermore, the literature review confirms that size may have a positive impact on CSP, because larger organisations have many relationships with stakeholders and they are more vulnerable to pressure from stakeholders. A larger size means a larger number of employees and hence greater investment in social practices that may influence the reputation and future performance (Waddock and Graves, 1997).

Differentiation strategy. Companies adopt a differentiation strategy to make their products stand out against the competition, to retain customers and achieve a supplement on the price of their products. Previous studies concluded that a greater financial effort by companies to differentiate their products or services will lead to obtain more profit from their activities, having a positive effect on financial results (Fernández and Luna, 2007;

Barnett and Salomon, 2012). Investment in research and development (R&D) and advertising for their products can also affect the reputation of the company (Waddock and Graves, 1997; Padgett and Moura-Leite, 2012). The variable of differentiation strategy is measured by a proxy based on the ratio of R&D and advertising expenses divided by net sales of the company. The data of R&D and advertising expenses were not available for each company, so, following Fernández and Luna (2007) "other operating expenses", which cover the above, are used instead.

Debt/risk. The debt variable is necessary in this analysis because it indicates available financial resources in the company. A higher debt, higher risk assumes the company and less capacity to invest in socially responsible practices (Roberts, 1992). The ratio used to measure the level of debt of a company, and therefore the risk, is the total long-term debt divided by total assets (Waddock and Graves, 1997; Mahoney and Roberts, 2007).

Sector. The composition, structure, and degree of activism of stakeholders varies from sector to sector, either by internal pressures arising from the internal competitiveness in each sector (number of competitors, degree of monopoly, differences in demand) or by outside pressures inherent in an industry (asset specificity, specialisation or legislation) that influence the profitability of firms (De la Fuente Sabate and De Quevedo Puente, 2003). Several authors recommend introducing a control variable to consider sectoral differences (Hillman and Keim, 2001). To control the existence of sectoral differences in model estimations, include dummy variables relating to the sector classification determined by the Madrid Stock Exchange. This classification differences six sectors: oil and energy, raw materials, industry and construction, consumer goods, consumer services, financial and real estate services and technology and communications.

4. Results

Table III shows descriptive statistics and Pearson correlations of the variables LR and CFP, and the control variables included in the study. The average value of LR is close to 4,000 points; the minimum value is 405 and the maximum 10,000. The average of CFP stands at 5.82 per cent. Pearson correlation coefficients between the variables show that CFP was positively correlated with LR (for a significance level at 95 per cent) and negatively correlated with size and debt. LR has a negative correlation with strategy of differentiation for a significance level at 95 per cent. Also, LR has a positive relationship at a 99 per cent level of significance with size.

The results of the autoregressive model with system GMM estimator and Granger test are presented in Table IV. The correct use of system GMM estimator in Equations (1a) and (1b) has been verified by specification tests. The test of first-order autocorrelation, M1, with a *p*-value under 0.05 indicates the existence of dynamic effects. The M2 statistic confirms there is not second order autocorrelation. Finally, Hansen test confirms that do not exist

Variables	Mean	SD	1	2	3	4	5
[a]CFP (%)	5.82	10.60	1				
[b]LR	3,970.21	2,140.58	0.08**	1			
[c]Size (thousands €)	2.66e+07	1.24e+08	−0.10**	0.25***	1		
[d]Differ. strategy	0.45	1.14	−0.02	−0.08**	−0.05	1	
[e]Debt (%)	64.82	23.90	−0.32***	0.01	0.20***	−0.15***	1

Notes: The above variables are measured as follows: [a]Return on assets (per cent); [b]ranking of labour reputation "MercoPeople" (0-10,000); [c]total assets (thousands of euros); [d]ratio: R&D and advertising expenses/net sales; [e]ratio: total long-term debt/total assets. **,***Significant at 95 and 99 per cent levels, respectively

Table III.
Means, standard deviations (SD), and Pearson correlations coefficients

Sense of causality	Dependent variable CFP		Dependent variable LR	
Independent variables	(1a) β	(Sig.)	(1b) β	(Sig.)
CFP_{t-1}	0.4629	***	*0.0018*	
LR_{t-1}	*0.0716*	***	0.8093	***
Size	−0.0516	***	0.0243	*
Differentiation strategy	−0.1752	**	−0.0002	
Debt	−0.0414	***	−0.0499	***
Sector 1	−0.0031		−0.0103	***
Sector 2	−0.0348	***	−0.0143	***
Sector 3	0.0115	**	0.0029	
Sector 4	−0.0029		−0.0140	***
Sector 5	−0.0259	***	−0.0001	
Specification test	Statistic	*p*-value	Statistic	*p*-value
Arellano – Bond test M1	−4.12	0.000	−5.47	0.000
Arellano – Bond test M2	−0.89	0.374	−0.13	0.898
Hansen test of overidentification restrictions	101.73	0.988	99.25	0.992
Granger causality test				
LR does not Granger cause CFP	0.0081			
CFP does not Granger cause LR			0.3744	

Notes: The dummies were included in the analysis but not included in the table. *,**,***Significant at 90, 95 and 99 per cent levels, respectively

Table IV.
GMM estimator and granger causality test

over-identified equations. These results confirm that there are no problems of endogeneity between variables and verify the validity of the instruments used.

To test the causality with a Granger causality test is necessary previously analyse the distributed-lag model, which relates the dependent variable to various lags of the independent variable. The aim of this preliminary analysis is determining the number of lags necessary to run the causality model. The number of delays is selected following the indication of the statistical Akaike information criterion and Schwarz Bayesian information criterion. The more convenient order of lags is where the values of these statistical are minimised (Nickelsburg, 1985). In the present study one lag year between the main variables is set in both specifications. This delay is necessary to prove causation of one variable on another, and this result is consistent with the theoretical review of the literature. We find studies about the relationship between CSP and CFP that test the relationship between those variables with one year delay (Vergin and Qoronfleh, 1998; De Quevedo-Puente *et al.*, 2007; De la Fuente Sabate and De Quevedo Puente, 2003). It should be noted that the reputation rankings are published every year after the assessment of the social behaviour of the company about the previous period. Also, the autocorrelation of the residues for the VAR model is contrasted by the Lagrange-multiplier test, which argues the null hypothesis of no autocorrelation in the lag order selected. The results of the Lagrange-multiplier test for one lag order determined the absence of autocorrelation in the residuals (p-value = 0.0053), which does not conflict for the subsequent test of causality.

The dynamic model (using the System GMM estimator) for the Equation (1a) determines that CFP is correlated positively for a significance level at 99 per cent with the lagged dependent variable and the lagged LR. Therefore, the CFP would be affected in a broad spectrum by the profitability of the previous period. The results confirm the existence of a positive relation between CFP and LR, suggesting that LR can cause CFP. To confirm this possible causation, it is necessary to analyse the Granger test results. We should remember that the null hypothesis of Granger test is defined as: "X does not Granger cause Y", in this case it would be that the LR does not Granger cause CFP. The result is a p-value = 0.0081, therefore less than 0.05, which allows us to reject the null hypothesis of the test.

Thus, the hypothesis of social impact (*H1* in this study) cannot be rejected, and therefore, LR could cause financial performance.

In the opposite direction of the previous causality the dependent variable is LR (Equation (1b)). The results of the autoregressive models System GMM show a strong dependence of LR with the LR in the previous year (LR_{t-1}), what is supported by academic literature (De Quevedo-Puente *et al.*, 2007), as reputation is a cumulative asset over time (stock). The relationship between LR and the lagged CFP is not significant. The differentiation strategy has little weight and it is not significant to explain the LR. Sectorial differences of companies are significant in explaining LR. The results of the Granger test confirm the indications of System GMM regarding the hypothesis of the availability of funds (p-value 0.3744), and it does not allow to reject the null hypothesis of the test "CFP does not Granger cause LR". Therefore, the second hypothesis proposed in this study is rejected, and we conclude that CFP does not cause LR.

5. Discussion and conclusions

About the relationship between dimensions of CSP on CFP, there are several authors who believe that all social actions do not have the same effect on firm performance (Makni *et al.*, 2009; Inoue and Lee, 2011), and therefore they consider necessary investigations that shed light on the effect of less aggregated measures of social performance (Hillman and Keim, 2001; Rose and Thomsen, 2004; Nelling and Webb, 2009). The relationship between some dimensions of CSP (environmental (Lioui and Sharma, 2012; Guenther *et al.*, 2012), diversity (Golicic and Smith, 2013), consumer relations (Wang and Sarkis, 2013), community (Inoue and Lee, 2011), labour dimension (Fulmer *et al.*, 2003)) and CFP have been studied, but the causality between these variables has hardly been analysed. The labour dimension of CSP is one of the least studied and with serious limitations in studies that address it.

The present study concludes that in the relationship between labour dimension of CSP (measure by LR) and CFP, higher LR could cause greater economic returns. This conclusion is supported by studies in other countries (Chauvin and Guthrie, 1994; Hannon and Milkovich, 1996; Lau and May, 1998; Ballou *et al.*, 2003; Filbeck and Preece, 2003; Fulmer *et al.*, 2003; Nelling and Webb, 2009), confirming the positive impact of reputation on the profitability and on business growth (Rose and Thomsen, 2004).

In the opposite sense, we conclude that CFP does not cause LR. In the academic literature, there are few previous researches to compare it, due to the literature gap about the labour dimension of CSP. As a reference, the work of Fulmer *et al.* (2003) also contrasted if a greater profitability cause greater LR, using the companies included in the ranking "100 best companies to work for in America", and they did not found statistical evidence that the LR arises from increased CFP. The fact that higher availability of financial funds does not have a direct impact on the labour dimension of the CSP may be due to social investments in the workplace are not so evident as in other dimensions of CSP or because better working conditions are not necessarily associated with a monetary cost (since some of them are the result of organisational improvements, shift changes, or working conditions).

The results obtained in this study are an important contribution for academics and practitioners. The academic contribution is provided through the literature review of the dimensions of CSP, and contrasting with the use of advanced methodologies the causal relationship between one of the less studied dimensions of CSP and CFP. For managers, it can generate a growing interest in obtaining higher LR to enhance the profitability of the company, by improving working conditions and employer engagement, thus generating a "win-win" relationship between managers and employees.

Finally, although this work covers methodological limitations of previous studies, new research lines emerge from it. Taking into account that LR is a joint measure of the

assessment of the labour actions of the company could be an interesting research question to study the causal relationship between specific labour policies of CSR with the CFP. It is possible that could exist differences in the impact generated by some of them, so it would allow to identify if there are policies that fulfil the social and economic purpose together better than others.

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