

UNIVERSIDAD DE SALAMANCA  
MASTER IN INVESTIGACIÓN EN ECONOMÍA DE LA EMPRESA  
TRABAJO DE FIN DE MASTER

**EFFECTS OF CORPORATE SOCIAL  
RESPONSIBILITY ON BRAND VALUE**

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**ABSTRACT:**

This study analyses the impact of corporate social responsibility (CSR) on brand value, with the sample being a select group of US corporations with the best global brands. Based on the instrumental stakeholder theory, we confirm that CSR is a valid source of intangible competitive advantage. It is not used, however, to its full potential, given that CSR has a lesser impact on business performance than the size of the company and other conventional financial indicators. We contend that this undervaluation is due to the nonalignment of CSR initiatives with corporate strategy. The value added of this study in terms of methodology is the successful employment of the panel data technique and the introduction of brand value as a measure of corporate performance. We also provide empirical evidence of the long-term nature of the impact of CSR initiatives on corporate performance.

**Key words: Social responsibility, brand value, stakeholder theory, reputation, correlation analysis, fixed effect panel data.**

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## **1. Introduction**

There is a growing consensus that corporate social responsibility (CSR) has crossed the line from being business jargon to becoming a critical business function. This is demonstrated both in academic circles, with dozens of empirically-based studies and analyses published, and in managerial practice by the growing importance and publicity given to social responsibility issues.

Despite this general recognition, the main characteristic of the CSR concept is still the lack of agreement on what it really means (Brammer and Millington, 2008; Valor, 2005; Lantos, 2001; O'Dwyer, 2003). This may be due to the vagueness and intangibility of the term (Frankental, 2001), its ambiguity (Valor, 2005) or simply to the fact that compared to other business functions, CSR's appearance as a legitimate area of inquiry in the mainstream management literature is very recent (Harrison and Freeman, 1999), even "embryonic" (Lantos, 2001).

The fact is that social responsibility has become an "inescapable priority" (Porter and Kramer, 2006) for business leaders. CSR's emergence as a legitimate, even critical endeavour (Gelb and Strawser, 2001) is corroborated by Schnietz and Epstein (2005), McWilliams et al. (2006), Lockett et al. (2006), Hull and Rothenberg (2008), Quazi and O'Brien (2000) and practically all the authors cited from the year 2000 on.

Our research builds on previous studies on the impact of CSR initiatives/engagement on firm performance. We aim to analyse the select group of US corporations with the top global brands. We will use brand value as a measure of firm performance. We argue that brand value gathers in one single variable a range of components and characteristics that are highly sensitive to CSR.

Most previous researches have used CSR in juxtaposition to conventional financial indicators. By using brand value as a measure of corporate performance – with its integrative combination of economic earnings, driving consumer demand and brand strength (reputation,

loyalty, market position) – we are appraising a new focus on the crucial question of whether CSR pays off or not.

Our research methodology consisted of a longitudinal analysis of top US corporations, comprising brand value as the dependent variable in function of CSR and related control variables. Panel data provides a robust technique to control the unobserved heterogeneity of intrinsic perceptions of CSR by corporations.

For measuring brand value, we used the publications of “Best Global Brands” by the consultancy Interbrand, from 2001 to 2003. This was compared to the CSR indicators of KLD and financial information from Thompson World Scope.

The fundamental framework in which our study is set is the instrumental stakeholder theory and its analogous approaches (coincidence theory, strategic CSR, enlightened self-interest) all according to social contract justification. In terms of definition, we considered CSR to be any activity or investment engaged by a company that is neither mandatory nor required by law. These initiatives, furthermore, would be pursued under the premise that the corporation would be rewarded by its actions. We have considered CSR to be a long-term investment and have constructed our models comparing CSR’s effect on brand value over a one-year and two-year lag.

Given the evolving nature of CSR, we have conducted a robust theoretical review in order to consider the issues of CSR conceptualization. A solid appraisal addresses both Schnietz and Epstein’s (2005) call for a more profound theoretical foundation and the realization made by Locket et al (2006) that the delineation of the paradigms surrounding CSR is more complex than those of other more typical social sciences.

Accordingly, in addition to the stakeholder theory, the theoretical review encompassed elements of the classical approach to CSR, “business of business is business”, with the main arguments being based on the premise that engagement in CSR is damaging not only for the corporations but also for society in general.

We have also noted other authors' concerns over model misspecifications in regards to the use of control variables (McGuire et al., 1988; McWilliams and Siegel, 2000; McWilliams and Siegel, 2006; Orlitzky and Benjamin, 2001) and sampling (Schnietz and Epstein, 2005).

We are assuming the underlying premise of our research to be that brand value is suitable as a measure of corporate performance. This postulation is consistent with Chu and Keh (2006), who stressed the prominence of corporate brand as a corporate performance metric; and with Fehle et al. (2008), who asserted that the best brands have hidden values, not priced by conventional asset pricing models.

## **2. Theory and hypothesis**

### *2.1. Conceptualizing CSR*

Although the term social responsibility may semantically imply an obligation for accountability of some sort, a review of past and present literature does not suggest a consensus of agreement on the matter. Quite on the contrary, both the literature and empirical findings offer arguments and evidence to support contrasting views.

One fundamental perspective coined as the orthodox (Quazi and O'Brien, 2000; Zairi and Peters, 2000) or new-classical approach (Gardiner et al., 2003; Moir, 2003) was developed by the Nobel Laureate in Economics Milton Friedman. He asserted that companies are accountable exclusively to shareholders. Any initiative carried out or cost incurred to address other stakeholders would be counterproductive to business performance (Cannon, 1994; Friedman, 1996; McWilliams and Siegel, 2001; Moneva and Ortas, 2008; Quazi, 2003).

Moreover, companies engaging in CSR would be at a disadvantage in regards to their competitors, since they would be incurring in extra and avoidable costs (Waddock and Graves, 1997). Thus, resources earmarked for CSR initiatives would be more productive or profitable if invested in initiatives to increase the firm's efficiency (McWilliams and Siegel, 2001). From a

positional perspective, McGuire et al. (1988) also pointed to the economic disadvantage affecting companies engaging in CSR expenditure as compared to less responsible firms.

This “business of business is business” (Quazi, 2003) approach assumes the basic principle of the classical view of the economy. Via the “invisible hand” mechanism, the pursuit of profit would lead to socially desired outcomes (Lantos, 2001). This quest for profit maximization would not be arbitrary, however. Friedman (1996) indicated that corporations should play by the rules of the game, engaging in free competition without deception or fraud.

The critique of this view came precisely from the realization that this legal framework in which business should operate (Cuesta-González et al., 2006) may be highly influenced by the increasing power of corporations. In other words, firms as big and powerful as governments (even more so in several cases) could shape these frameworks to their own advantage (Gardiner et al., 2003).

## *2.2. Social contract argument*

This is the point that brings up the ethical or moral duties of corporations. The recognition of a set of moral and ethical rights, unregulated by law, lies at the heart of the current trend in the conceptualization of CSR. In line with these thoughts, McWilliams and Siegel (2001) define CSR as “actions that appear to further some social good, beyond the interests of the firm and that which is required by law”.

Most authors also emphasize this aspect of “going beyond legislation”. Lantos (2001) argues that ethical CSR is obligatory. O’Dwyer (2003) and Quazi and O’Brian (2000) contend that social responsibility should be considered irrespective of narrow economic considerations. Porter and Kramer (2006) and Moir (2001) point to the moral appeal and implicit expectations of society that business has a duty to “do the right thing”, namely, to act in a responsible manner.

Once a corporation voluntarily accepts some degree of moral/ethical duty - beyond what is legally required – it is recognizing its social nature (Wilson, 2000). Alternatively, it can be argued that the corporation is accepting the validity of the social contract.

The social contract is the basis of stakeholder theory. Once it is acknowledged that business and society need each other (Porter and Kramer, 2006), the management of the business side of the relationship becomes a crucial aspect of corporate performance. As equal partners (Lantos, 2001), business and society enjoy a set of rights and have reciprocal responsibilities. This relationship, however, is implicit, and not governed by rules or laws.

### *2.3. Instrumental Stakeholder Theory*

The objective of CSR, both as an academic branch in business studies and as a managerial tool for practitioners, is to become aware of this relationship and understand how business activity influences society and vice-versa (Freeman, 2001; Lantos, 2001; Quazi, 2003). Freeman (1984) argued in his seminal work introducing the term stakeholder theory that “systematic attention to stakeholder interests is critical to firm success”.

This “coincidence” theory (Chryssides and Kaler, 1996) offers a concrete theoretical basis for corporations to operate, bearing in mind that their decisions will affect societal interests in the same way that societal decisions will affect them (Quazi, 2003). According to this premise, it would not only be logical but also natural for a corporation to take advantage of this implicit contract and undertake initiatives that maximize the “pay back” of society in response to those CSR initiatives engaged.

This branch of study – called Strategic CSR by Lantos (2001), modern view by Quazi and O’Brien (2000) and instrumental stakeholder theory (Donaldson and Preston, 1995) – considers CSR as a form of investment (McWilliams and Siegel, 2001). This conceptualization implies the recognition of an “optimum” level of CSR. This would be the level at which CSR investment maximises profit, while also satisfying stakeholder demand for CSR.

Following this approach, as well as acting within the logic of ethical/moral behaviour and the social contract, organizations would be performing according to an enlightened self-interest (Porter and Kramer, 2006), calculating the potential benefits of every CSR investment and initiative.

The instrumental approach offers a solid theoretical framework in which corporations can perform CSR activities under the assumption that, through the implicit social contract, they will be somehow rewarded by society.

The advocates of this perspective on CSR seem to agree on this “conceptual compensation”. Surroca and Tribó (2008) argue that superior performance will be achieved through stakeholder satisfaction, whereas Lantos (2001) points to a “win-win situation” where investment in CSR will yield a return on investment for business.

Previous empirical and theoretical research singles out the numerous benefits corporations can expect from engaging in CSR activities. Authors are wary, however, of presenting these findings as conclusive.

In regards to consumer purchasing preference and stock market performance, Porter and Kramer (2006) report results as being inconclusive. Freeman (2001) reached the same conclusion pointing out that environmentally-friendly products “have never been big sellers”. Ambiguous results (Waddock and Graves, 2007), mixed empirical evidence (Brammer and Millington, 2008), a lack of overwhelming evidence (Frankental, 2001), equivocal evidence (Lantos, 2001) and a dearth of persuasive empirical studies (Schnietz and Epstein, 2005) are some of the other recurrent comments on research results.

There seems to be a general agreement, nevertheless, that this lack of empirical evidence may be due to research methodology issues, presented in the introduction and hereby addressed, as well as the evolving nature of the CSR concept.

*H1: Corporate social responsibility has a positive impact on brand value.*

#### *2.4. Does CSR pay-off?*

Although not empirically conclusive, there are persuasive indications that CSR does indeed pay off, according to both empirical and theoretical studies.

Most of the argumentation and analysis on the benefits of CSR is focused on the quest for correlations between corporate financial performance (CFP) and CSR, which some authors call

corporate social performance (CSP), when used as a macro measure for comparison purposes (Brammer and Millington, 2008; Griffin and Mahon, 1997; Hull and Rothenberg, 2008; Orlitzky et al., 2003; Roberts and Dowling, 2002; Stanwick and Stanwick, 1998; Udayasankar, 2008; Waddock and Graves, 1997).

It is interesting to observe, however, that this financial association is not often directly linked to CSR itself. On the other hand, financial rewards are most frequently considered a direct consequence of benefits from reputation or image status gained through CSR. McWilliams and Siegel (2001) raised this issue pointing out that support for CSR creates a reputation that a firm is reliable and honest and that consumers will tend to assume that products from such corporations would be of a higher quality than those from companies that do not enjoy this perception. Roberts and Dowling (2002) shared a very similar view, remarking that those corporations perceived to have a good reputation are better able to sustain superior profit outcomes over time.

By this reasoning, brand value, with its integrative approach as measured by Interbrand (2008), may serve as an alternative performance estimator instead of conventional indicators of firm performance. Analysing the features of brands, Fan (2005) regarded corporate brand as the core component of corporate reputation. This is corroborated by Martinez et al. (2007), that regarded brand strategy as a unique opportunity for corporations to trigger consumer perception.

Reputation seems to be the “missing link” between corporate financial and social performance. Through and by reputation, companies engaging in CSR would be rewarded by their stakeholders and ultimately, in the long run (Moneva and Ortas, 2008; Porter and Kramer, 2006; Roberts and Dowling, 2002; Zairi and Peters, 2000), this would be reflected in superior financial performance.

The potential value creation of CSR is highlighted as one of the most promising benefits of the engagement in social responsibility. This appears to be the macro-argument justifying CSR commitment. According to Berrone et al. (2007), CSR – through stakeholder satisfaction – would lead to enhanced performance precisely because it is prone to create such intangible assets in

terms of image and reputation. It would be these intangible, difficult-to-replicate assets (Branco and Rodrigues, 2006; Hillman and Keim, 2001; Lantos, 2001; Roberts and Dowling, 2002; Schnietz and Epstein, 2005) that would create a kind of competitive advantage that would ultimately lead to an enhanced financial performance.

Another interesting line of reasoning posited on the benefits of CSR is forestalling (Chryssides and Kaler, 1996), or avoiding legislation. Corporations that continuously disregard certain implicit stakeholder claims may be forced to consider them by law (Orlitzky and Benjamin, 2001). In this case, the implicit contract would become explicit regulations governing its activities. This could be damaging for a company both as an obvious financial cost for having violated its social obligation (Porter and Kramer, 2006) and, more seriously, because the corporation may compromise its reputation – hereby regarded as a valuable source of competitive advantage (McGuire et al., 1988; Quazi, 2003).

We hypothesise that CSR engagement, calculated as a proxy of the KLD index, is positively correlated with Brand Value – here regarded as a measure of economic earnings, driving consumer demand and brand strength (Interbrand, 2008).

We expect the positive correlation to be confirmed between brand value and CSR based on results from previous empirical findings by Gelb and Strawser (2001), McGuire et al. (2008), McWilliams and Siegel (2001), Roberts and Dowling (2002), Schnietz and Epstein (2005), Stanwick and Stanwick (1998) and Waddock and Graves (2007). We hypothesise, however, that the extent and intensity of this effect is not as significant as the competitive advantage generator approach might suggest.

The manner in which corporations approach social responsibility does not seem to regard CSR as a critical business function, one that would be embedded in its overall strategy. Hull and Rothenberg (2008) raise an interesting question in support of this view. They argue that CSR tends to be pursued as a reaction or even a response to pressure from stakeholders. In such a context, the response would be “neither strategic nor operational but cosmetic”. Frankental

(2001) also called certain corporate initiatives in social responsibility a “public relations exercise”.

Once CSR has not been incorporated into corporate principles and practices (Gardiner et al., 2003; Galan, 2006) its effects on the “bottom-line” will be below its value-driven potential. Accordingly, in order to be maximized, CSR needs to be embedded into the corporation’s strategy and taken into account within strategy formulation (Cuesta-González et al., 2006; Porter and Kramer, 2006; Valor, 2005).

We hypothesise that because of the incipient integration of CSR into corporate strategy, its impact on brand value is weaker than conventional accounting-based and market-based indicators of performance.

*H2a: The impact of market-based performance on brand value is more significant than that of corporate social responsibility*

*H2b: The impact of accounting-based performance on brand value is more significant than that of corporate social responsibility*

Applying the same logic as Hypothesis 2, we propose that the size of the corporation, here measured as the firm’s total assets, is also more significant than CSR in terms of its positive correlation with brand value. This occurs as a consequence of the superficial influence of CSR issues on corporate strategy formulation.

According to the perspective developed here, the fact that financially successful corporations have resources is not a reason in itself to incur in CSR. Hillman and Keim (2001) raised this issue questioning whether the “slack resources” approach justifies CSR initiatives. Considering the premise of the instrumental stakeholder theory, the answer would be that it does not.

In an empirically-based research, Udayasankar (2008) concluded that the bigger the corporation (also measured in terms of total revenue), the bigger its motivational base for CSR participation. Stanwick and Stanwick (1998) and Brammer and Pavelin (2006) make a similar

interpretation of the size variable. They argue that because large corporations tend to receive more public attention, they are more prone to engage in CSR, even if this is to avoid public scrutiny or compromising its image.

This view is corroborated by Waddock and Graves (1997), that point to empirical evidence indicating that larger firms tend to be more active in social responsibility initiatives than smaller ones.

*H3: The impact of the size of the corporation, as a variable, is more significant than that of corporate social responsibility.*

### **3. Method**

#### *3.1. Data Sources*

Our research has three sources of data. For measuring brand value, we have used the “Most Valuable Brands” report, elaborated by the consultancy firm Interbrand and published annually by the Financial Times. According to Fehle et al. (2008), Interbrand’s publication rates as the best-known source of brand values, with a methodology that is widely accepted in the business community. The combination of Interbrand and CSR analysis is relatively rare, although it has been used successfully before (see Fehle et al., 2008; Madden et al., 2006, Sotorrio and Sanchez, 2008).

Interbrand’s methodology for assessing brand value encompasses three elements: financial strength, importance in driving consumer selection, and the likelihood of generating brand revenue. As basic premises for inclusion in the publication, a brand needs to be global (with at least one-third of its revenues generated outside its country of origin) and there must be substantial publicly-available financial data on it (Interbrand, 2008).

For measuring CSR, we have used the KLD database. Created by the firm Kinder, Lydenberg and Domini, KLD is amongst the earliest research tools for evaluating CSR performance (Márquez and Fombrun, 2005), being regarded as one of the most well-established

assessment agencies. As well as being well regarded, KLD is also widely used and accepted as a reliable source of information (Cuesta-González et al., 2006; Griffin and Mahon, 1997; Hull and Rothenberg, 2008; McWilliams and Siegel, 2000; Ruf et al., 1998; Schnietz and Epstein, 2005; Waddock and Graves, 1997).

Use of KLD assures the reliability of its data, mainly because these are collated by independent analysts (Harrison and Freeman, 1999) working exclusively on the assessment of corporate performance (Waddock and Graves, 1997), thereby ensuring consistency in data collection and analysis.

The KLD database provides numerical measures of CSR in a variety of segments, including environmental issues, social issues (community, diversity, employee relations, human rights, products), governance and a separate segment containing controversial business areas (adult entertainment, gambling, military, tobacco and such like). In line with Hillman and Keim (2001), that considered controversial business as a separate segment, we will not consider its ratings in our research. Given that we are handling a small – albeit significant – sample, our concern is that rating a few companies negatively on these issues would bias the results.

KLD's dataset is designed as a binary system. For each strength or concern, rating 1 indicates the presence of that rating and 0 indicates its absence. Authors use different methodologies to apply the ratings to their specific research objectives. McWilliams and Siegel (2000) used a dummy variable assigning 1 when a corporation is included in the DSI 400 index, also published by KLD, encompassing the 400 firms with the best score. Many authors (Cuesta-González et al., 2006; Griffin and Mahon, 1997; Hull and Rothenberg, 2008; Ruf et al., 1998; Waddock and Graves, 1997) adapted the KLD score by Hillman and Keim (2001). These scores scale the rates from -2 (strong concern) to +2 (strong strength). We use a similar approach, with an overall sum of ratings for each category and one consolidating all of them. Strengths are added and concerns subtracted.

### *3.2. Population and Sample*

The original sample consisted of 56 brands owned by US-based corporations that were listed in at least one of the publications of the “100 Most Valuable Brands” (Interbrand, 2008) from 2001 to 2003. In order to avoid miscalculations and a significant gap between brand value and overall value of an organization, we have excluded those corporations based on multi-branded strategies. This eliminated two corporations (Procter and Gamble and Yum Brands Inc) and reduced the sample to 54 corporations/brands.

Finally, we ran a cross analysis between these 54 corporations and the Worldscope and KLD databases. This resulted in a total of 45 corporations and 153 observations for Models 01 and 02 (one-year lag) and 46 corporations with 182 observations for Models 03 and 04 (two-year lag). See Appendix I for a list of corporations encompassed in our sample. Considering the specificity of the population studied, we consider our sample significant and in line with previous research based on the Interbrand tool combined with social responsibility (Madden et al., 2006, Sotorrio and Sanchez, 2008; Fehle et al., 2008) and Interbrand alone (Chu and Keh, 2006).

### *3.3. Dependent, independent and control variables*

For hypothesis one, the brand value asserted in the Interbrand publication is the dependent variable in our equation, whereas CSR plays as the independent variable, together with other control variables. Hypothesis two is divided into 2.1 and 2.2, with return on assets (ROA) as the independent variable for the former and market value added (MVA) for the latter. For verifying hypothesis three, size is considered the independent variable.

We have adopted control variables based on their potential impact on brand value assessment and on the prior research analysed.

For measuring financial performance, some authors differ on whether to use accounting-based or market-based indicators (Roberts and Dowling, 2002; Surroca and Tribó, 2008; Waddock and Graves, 1997). According to our line of reasoning and considering the integrative nature of brand value as the independent value, we are using both variables. *Return on assets (ROA)* represents accounting-based research and *market value added (MVA)* is calculated as the

market evaluation of the company minus the capital invested in it (Berrone et al., 2007), being the market-based measure. These variables are in line with previous research by Berrone et al. (2007), Hillman and Keim (2001), Hull and Rothenberg (2008), McGuire et al. (1988), Roberts and Dowling (2002), Surroca and Tribó (2008) and Waddock and Graves (1997).

For measuring *company size*, authors diverge on which parameter to use. Some (Hillman and Keim, 2001; Brammer and Millington, 2008; Stanwick and Stanwick, 1998; Schnietz and Epstein, 2005) use total revenue; others, total assets (Berman et al., 2006; Griffin and Mahon, 1997; Hull and Rothenberg, 2008; Roberts and Dowling, 2002) and a few, fixed assets (Surroca and Tribó, 2008). Waddock and Graves (1997), for instance, use both total revenue and total assets. Given that total assets presented no missing values in our sample, whereas total revenue had three, we will consider the former as the measure of size.

*Risk* is another value that authors consider to influence CSR. Some authors calculate risk as a ratio of the firm's total debt to total assets (Hull and Rothenberg, 2008; Schnietz and Epstein, 2005) or long-term debt to total assets (Waddock and Graves, 1997). We have followed McGuire et al. (1988), Hillman and Keim (2001) and Brammer and Pavelin (2006) that considered risk using *beta*.

Recent researchers into CSR also control for *research and development investment*. This arose from the realization that investment in CSR promotes product differentiation (McWilliams and Siegel, 2000) and that there is strong evidence that a growing number of consumers value CSR attributes aggregated into a product (McWilliams and Siegel, 2001). In terms of measurement, we will use a proxy of R&D, calculated by dividing total expenditure in R&D by total assets. This is in line with previous research by Berrone et al. (2007), Brammer and Millington (2008), McWilliams and Siegel (2001) and Schnietz and Epstein (2005).

Considering that our sample consists of corporations from different business segments, we have applied the remarks made by Berrone et al. (2007), Griffin and Mahon (1997) and Roberts and Dowling (2002) on cross-sectional research. These authors argue that some measures – in

their particular case they referred to ROA – are subjected to specific contexts within an industry. They argue that if their values are used without adjustments, they may conceal critical information. Regarding ROA, Berrone et al. (2007), for example, calculated a proxy of the measure from each individual company based on the industry average.

In the case of our research, in order to avoid biased measures we have adjusted the value of three variables: Risk, ROA and R&D Intensity. The technique for adjusting the values was similar to the one used by Berrone et al. (2007).

#### *3.4. Addressing certain research issues*

Recent CSR studies have identified a potential causality issue in the correlations of CSR and CFP. Branco and Rodrigues (2006), Hillman and Keim (2001) and McGuire et al. (1988) found evidence supporting a two-fold proposition, whereby social performance leads to improved financial performance and that better financial performance leads to social performance. In an analysis of current trends in CSR research, McWilliams and Siegel (2006) even suggested that future research should explore the causality issue in depth.

To avoid falling into a causality bias, we have employed a lag for the brand value variable when contrasted with the other variables. Brand value, therefore, will always correspond to financial information and CSR measures from the preceding year. The lagging of brand value will also benefit a more effective correlative measure with CSR, given the potential inertia inherent to ethical issues (Berrone et al., 2007) and brand evaluation (Chu and Keh, 2006).

Additionally, we consider there to be an implicit understanding that CSR is a long-term investment. This is corroborated by the notion of CSR as a source of competitive advantage and an intangible asset. Although this is not explicit in most research, this argument is directly mentioned by Branco and Rodrigues (2006), Moneva and Ortas (2008) and Zairi and Peters (2000). We shall therefore analyse this longer term impact in Models 03 and 04 using a two-year lag on brand value.

Our model was estimated using the intragroup estimator for fixed-effect models. Potential issues derived from our relatively unbalanced panel and the need to carry out a longitudinal regression considering both cross-section and temporal series call for the panel data methodology. Furthermore, we use this technique to assess the risk of unobserved heterogeneity on managers' conceptions of social responsibility. This potential issue was addressed in a similar manner by Surroca and Tribó (2008) and the panel data technique is consistent with Berman et al. (1999) and Scholtens and Zhou (2008).

We have also applied a Hausman test that indicated correlation between individual effects and independent variables. This discards the estimation using the inter-group estimator and further informs the choice for the intragroup estimator.

#### 4. Results

Previous analysis of the database influenced us not to use the variable ROA. Out of the 182 observations in Model 03, the variable "Net Income before Preferred Dividends" - which is a raw variable to calculate ROA - was missing in 78. We don't consider this drop of ROA as significantly damaging for the research. The assumption in hypothesis two was that conventional financial indicators were more relevant to brand value than CSR. These indicators were broken down into market (MVA) and accounting (ROA) based. Since MVA remains in the model, the hypothesis could still be contrasted.

Table I reports regression results for Models 01, 02, 03 and 04. Models 01 and 02 (both with one year lag on brand value and the second with CSR adjusted) were not significant. Models 03 and 04 (both with two years lag on brand value and the second with CSR adjusted) were significant at a 99% level of confidence.

The equations for the four models can be expressed as: a) for Models 1 and 2; and b) for Models 3 and 4.

$$a) BRAND = \beta_0 + \beta_1 CSR_{it-1} + \beta_2 MVA_{it-1} + \beta_3 SIZE_{it-1} + \beta_4 RISK_{it-1} + \beta_5 R\&D_{it-1} + \alpha_i + u_{it}$$

$$b) BRAND = \beta_0 + \beta_1 CSR_{it-2} + \beta_2 MVA_{it-2} + \beta_3 SIZE_{it-2} + \beta_4 RISK_{it-2} + \beta_5 R\&D_{it-2} + \alpha_i + u_{it}$$

**TABLE I – Regression Results**

	Model 01 <sup>a</sup>	Model 02 <sup>b</sup>	Model 03 <sup>c</sup>	Model 04 <sup>d</sup>
Number of observations	153	153	182	182
Number of groups (companies)	45	45	46	46
R-square	0.0067	0.0103	0.2390	0.2473
F from regression (Prob > F)	0.18 (0.9507)	0.27 (0.8970)	10.37***	10.84***
Chi2 for Hausman test – fixed x random effects. (Prob > chi2)	9.01**	24.91***	-42.41 17.511†***	-157.61 16.889†***
Standardized coefficients				
CSR	-0.0097	0.0094	0.0312	0.0466*
SIZE	0.0980	0.0927	0.3737	0.0679***
MVA	0.0381	0.0422	0.0643**	0.3672**
RES_DEV	-0.5253	-0.4139	-0.2289	-0.2688
RISK	Dropped	Dropped	Dropped	Dropped

<sup>a</sup> one year lag on brand value and KLD with all seven qualitative areas.

<sup>a</sup> one year lag on brand value and adjusted KLD – qualitative areas of COM, ENV, DIV, EMP and PRO.

<sup>c</sup> two years lag on brand value and KLD with all seven qualitative areas.

<sup>d</sup> two years lag on brand value and adjusted KLD – qualitative areas of COM, ENV, DIV, EMP and PRO.

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

† since chi2 from Hausman test was negative, value corresponds to Sargan-Hansen statistic

Table II shows descriptive statistics and correlations between variables in the Model 03. Initial results did not prove to be consistent with hypothesis one, as there was no correlation between brand value and CSR. As for the other hypothesis, brand value did come out as significant at 99% with MVA – market based performance (H2a) and Size (H3). H2b was not contrasted due to the drop of variable ROA.

KLD provides an integrative approach to CSR, encompassing a set of seven major qualitative areas: COM for community, GOV for corporate governance, DIV for diversity, EMP for employee relations, ENV for environment, HUM for human rights and PRO for product.

With the lack of confirmation of H1, we faced two options: combine these qualitative areas and estimate random models until a best fit was found; or to look into the literature and form the models accordingly. We have chosen the second option. Consistent with Berman et al.

(2006), Brammer and Pavelin (2006), Griffin and Mahon (1997), Hillman and Keim (2001) and Waddock and Graves (1997) we have combined the variables COM, PRO, EMP, DIV and ENV. This set of variables is considered by these authors as the ones that best represent the primary stakeholder domain of CSR.

Accordingly, Model 04 proved to be the most suitable of the three models estimated. Its R-square and Prob F > 0 are more robust and the individual significances of the independent variables were improved. At this model, CSR is significant at 90%, MVA at 95% and Size at 99%. The level of impact of each variable in the equation is also consistent with the hypothesis, MVA being the most relevant, followed by size and CSR.

The correlation's matrix in Table III – with the adjusted model – fully supports H1. Brand value is significantly correlated with CSR (at 95%). H2a stated that correlations between market-based (MVA) and accounting-based performance (ROA). MVA's correlation with brand value was 0.4985, which is significantly higher than that of CSR (0.1533). This supports H2a. Although H2b could not be verified, the fact that MVA's correlation was stronger than that of CSR confirmed our assumption that, though significant, CSR's impact on brand value is weaker than conventional financial indicators, in this case MVA.

H3 was also confirmed by the results. We expected the variable size to have a positive correlation with brand value with a higher magnitude than that of CSR. It scored 0.2968 as opposed to 0.1533 for CSR.

By choosing brand value as the dependent variable instead of conventional financial performance indicators, we also intrinsically assumed that, for this sample of corporations, brand value is more responsive to CSR than MVA, for example. We estimated Models 03 and 04 with MVA as the dependent variable instead of brand value. Results in Table IV confirm that brand value is significantly more correlated to CSR than MVA in Model 04. In the original Model 03, neither MVA nor brand value was significant.

TABLE II – Descriptive statistics and correlation matrix of Model 03<sup>a</sup>

	Mean	SD	BrandValue	CSR	SIZE	MVA	R&D	RISK
BrandValue (E + 07)	1.48	1.64	1.0000					
CSR	1.55	3.51	0.0958	1.0000				
SIZE (E + 07)	4.95	9.75	0.2968***	-0.2063***	1.0000			
MVA (E + 07)	5.71	8.76	0.4985***	-0.0674	0.1906**	1.0000		
R&D	0.48	1.25	-0.0460	0.0256	0.0009	0.3421***	1.0000	
RISK	1.25	3.27	-0.0683	0.0418	-0.0486	-0.0973	0.0036	1.0000

<sup>a</sup>n=182. All variables are in their original scale

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

TABLE III – Descriptive statistics and correlation matrix for Model 04<sup>a</sup>

	Mean	SD	BrandValue	CSR	SIZE	MVA	R&D	RISK
BrandValue (E + 07)	1.48	1.65	1.000					
CSR	2.62	3.18	0.1553**	1.000				
SIZE (E + 07)	4.95	9.75	0.2968***	-0.1485**	1.000			
MVA (E + 07)	5.71	8.76	0.4985***	0.0344	0.1906**	1.000		
R&D	0.48	1.25	-0.0461	0.0594	-0.0321	0.3421***	1.000	
RISK	1.25	3.27	-0.0683	0.0369	-0.0302	-0.0973	0.0036	1.000

<sup>a</sup>n=182. All variables are in their original scale. Variable CSR with adjusted KLD - areas of COM, ENV, DIV, EMP and PRO

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

**TABLE IV – Comparison between models with brand value and MVA as dependent variables**

Dependent variable / Parameters to compare	Model 03 <sup>a</sup>		Model 04 <sup>b</sup>	
	BRAND	MVA	BRAND	MVA
R-square	0.2390	0.4581	0.2473	0.4623
F from regression (Prob > F)	10.37***	37.48***	10.84***	38.11***
Corr(u <sub>i</sub> ), x <sub>b</sub>	-0.0968	-0.9994	-0.1129	-0.9994
Ind t-value of CSR (P >   t  )	1.07 (0.287)	-1.52 (0.132)	1.61*	-1.83*
Correlations between dependent variable and:				
CSR	0.0958	-0.0091	0.1533**	0.0344
SIZE	0.2968***	0.1906***	0.2968***	0.1906***
RES_DEV	-0.0460	0.3421***	-0.0460	0.3421***
RISK	-0.0683	-0.0973	-0.0683	-0.0973

<sup>a</sup> two-year lag on brand value and KLD with all seven qualitative areas

<sup>b</sup> two-year lag on brand value and adjusted KLD – qualitative areas of COM, ENV, DIV, EMP and PRO

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

## 5. Discussion and conclusions

The main purpose of our research was to provide empirical evidence to verify the effects of CSR on financial performance. We have sought to do this by introducing brand value as the dependent variable, as opposed to conventional financial indicators. Our results confirmed that given our sample, brand value is more sensitive to CSR than a market-based performance indicator (market value added).

Although CSP had to be broken down and reconstructed using five of its original qualitative areas, the results provide strong evidence supporting our three hypotheses. CSR impacts positively on brand value. This impact however, is of a lesser magnitude than those of size and market-based performance.

Our research brings to light a critical evaluation of the use of CSP as an integrative variable. When broken down into seven categories, each variable seemed to perform under its own logic. Sholtens and Zhou (2008) have already pointed out that these seven themes are all of a very different nature. Other authors (Hillman and Keim, 2001; Waddock and Graves, 1997)

have combined variables in a set of groups, which is what solved our initial non-significant results.

One criticism that our model may receive is that, individually, the variable CSR was only significant at 90%. At a first glance this would be considered statistically inconsistent for empirical research, taking into account that the object of this paper is to prove the impact of CSR on brand value.

To support our case, we argue that the panel data technique is more robust than an OLS regression, as it controls the unobserved heterogeneity intrinsic to corporations' conceptions of CSR. In order to address this issue, we present Table V. This table compares the regression techniques of OLS and fixed-effect for Model 03 and Model 04.

The results indicate first and foremost that in both cases Model 04 is more consistent than Model 03. There is a clear improvement in all parameters. Secondly, if we had opted to estimate our regression using OLS, Model 03 would be statistically accepted without hesitation. We interpret the results for Model 04 under the fixed-effect estimator as a sign of robustness of the proposed model, considering the relatively limited number of observations.

Table V – Comparative results of regressions using OLS and fixed effects

	Model 03 <sup>a</sup>		Model 04 <sup>b</sup>	
	OLS	Fixed effects	OLS	Fixed effects
R-square	0.3388	0.2390	0.3496	0.2473
F from regression (Prob > F)	19.55***	10.37***	20.46***	10.84***
Standardized coefficients				
CSR	0.1521**	0.0312	0.1834***	0.0466*
SIZE	0.2187***	0.3737	0.2153***	0.0679***
MVA	0.5338***	0.0643**	0.5284***	0.3672**
RES_DEV	-0.2255***	-0.2289	-0.2308***	-0.2688
RISK	-0.0153	Dropped	-0.0163	Dropped

<sup>a</sup> two-year lag on brand value and KLD with all seven qualitative areas

<sup>b</sup> two-year lag on brand value and adjusted KLD – qualitative areas of COM, ENV, DIV, EMP and PRO

\*p<0.10; \*\*p<0.05; \*\*\*p<0.01

Our research assists practitioners through the provision of empirical indications that CSR pays off. The results also indicate that market-based performance and the size of the corporation have a more significant impact on brand value than CSR. This was hypothesised and found to be in line with the critiques of the current application of CSR initiatives and investment. This suggests that when optimally used, CSR's potential contribution to brand value can be maximized.

In terms of academic contribution, our research has successfully used brand value as a measure of financial performance. We have also estimated our model with panel data techniques that are more capable than an OLS regression of controlling the heterogeneity inherent to issues of CSR conceptualization. Our regression also confirms the contention of CSR as a long-term investment, as the models with a two-year lag on brand value were significantly more robust than the one with a one-year lag.

Our research also complements the numerous efforts made by researchers both to provide practitioners with the evidence that CSR impacts positively on firm performance and to supply them with an objective framework in which they can operate.

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**APPENDIX I – Table of corporations included in the sample of this study**

3M	FedEx	Microsoft
Accenture	Ford Motor Company	Motorola
Amazon.com	Gap Inc.	Nike
Anheuser-Busch	General Electric	Oracle
Apple	Gillette	PepsiCo
AT&T	H.J. Heinz	Pfizer
Boeing	Hewlett-Packard	Polo Ralph Lauren
Caterpillar	Hilton Hotels	Procter & Gamble
Cisco Systems	IBM	Starbucks
Coca-Cola	Intel Corporation	Texas Instruments
Colgate Palmolive	Kellogg Company	The Walt Disney Company
Dell	Kimberly-Clark	United Parcel Service
Eastman Kodak	Kraft Foods	Wrigley Jr. Co
eBay	McDonald's	Xerox
Estee Lauder	Merck & Co. Inc.	Yahoo
Exxon Mobil Corporation		