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# Does the market value the social dimension? International evidence

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## **Abstract:**

This paper addresses the link between the social component of corporate social responsibility and the market valuation of equities. Preceding results on this topic, to our knowledge, remain scarce and inconclusive. Using a rich and global dataset – Asset4 by Thomson Reuters – we find that social expenses are clearly value-adding. Moreover, all the social subsets are positively related to goodwill, even if those concerning human capital are revealed to be more significant. Social expenses therefore prove to be a social investment, creating value for both social stakeholders and shareholders. Based on the social subsets, we find that the expenses related to human capital are more value-adding for shareholders than those related to corporate reputation.

**Keywords:** Social dimension, Market valuation, Corporate social responsibility, Reputation, Human capital

**JEL classification:** G11, G12

**Sections for reviewing purposes:** Accounting and Finance; Corporate Responsibility.

“Our investors choose to align their success with forward-thinking corporations – corporations that understand the value of their employees and the communities from which they draw their strength.”

Amy Domini

## **1. Introduction**

The stakeholder approach identifies organizational behavior whereby managers are not only driven by the maximization of shareholder value (Freeman 1984). Corporations dwell within a complex network and their economic performance depends on the capacity of managers to put in place an overall policy that includes shareholders, employees, customers and suppliers, as well as public stakeholders such as local communities, government and environmental agents. Clarkson (1995) tells us that stakeholder management is related to corporate social responsibility (CSR), which means that the stakeholder framework can be used to assess its efficiency.

One common subdivision of CSR among practitioners is based on three dimensions: environmental, social, and governance (ESG) (Chollet et al. 2013). This paper focuses specifically on the value added by the social dimension of CSR. We seek to analyze the link between shareholder value and social expenses related to the social dimension. Our approach is innovative since the literature mainly investigates the overall relationship between CSR performance and financial performance (e.g. Bird et al. (2007); Galema et al. (2008); Jiao (2010); Marsat and Williams 2013). The results have been mixed and inconclusive. An in-depth analysis of the CSR dimensions should therefore be informative and produce explanations that cannot be provided by top-down studies.

The social dimension of CSR consists of social expenses that cover a wide range of activities, such as health and safety, diversity and opportunity, training and development, employment quality, product responsibility, community and human rights. Some expenses are made within firms and go toward the workforce; it can be assumed that they lead to higher labor productivity. Such an increase in productivity can create shareholder value if the marginal expenses are less than the marginal benefits they create (Weber 2008).

The literature on human capital (Becker 1962) reinforces the idea that social expenses toward employees should be linked with financial goodwill. Good working conditions, worthwhile training programs and career planning are factors that both motivate employees and increase productivity. “It is obvious that these skills and knowledge are a form of capital, that this capital is in substantial part a product of deliberate investment...” (Schultz 1961, p. 1). In sum, this human capital, which is used by corporations to produce goods and services, should constitute an intangible asset or goodwill if it generates net residual income (Weber 2008; Ohlson 1995). Another condition for this human capital to be embedded in intangible assets is that managers must adopt an efficient human resources policy that avoids excessive turnover, for if a business is unable to retain its employees, their departure will mean that the training and development expenses will be lost.

Besides human capital expenses, firms also invest in external stakeholders such as customers (e.g. product responsibility) or local communities (e.g. education, donations, and human rights). They need to create positive externalities through reputational effects (Barnea and Rubin 2010) and be attractive for customers.

In the institutional perspective framework (Doh and Guay 2006; Doh et al. 2010; Campbell 2007), social expenses should also be explained by the need for social legitimacy or should be perceived as an “institutional isomorphic change” (DiMaggio and Powell 1983; Deephouse 1996). What is at stake here for corporations is to ensure that stakeholders will not develop a

mistrustful attitude caused by a lack of sustainability. Such an attitude can ultimately weaken a firm's capacity to access the resources it needs. As an "internal marketing" tool, CSR can help firms to enroll the most talented employees (Bhattacharya et al. 2008). Indeed, "the best professionals in the world want to work in organizations in which they can thrive, and they want to work for companies that exhibit good corporate citizenship" (World Economic Forum, 2003).<sup>1</sup> These talents make a key contribution to corporate economic efficiency and ultimately generate greater profits for shareholders.

These considerations point to the fact that social issues are of central importance to shareholder value. Corporate market value is assumed to reflect investor perceptions of a firm's ability to generate future earnings. Market value is therefore a forward-looking indicator, in contrast to accounting ratios measuring corporate financial performance (Damodaran 2007). It includes anticipations and investor psychology (Demsetz and Villalonga 2001) and goodwill (Ohlson 1995), which is primarily attributable to firm reputation and human capital (Jiao 2010).

This paper empirically investigates the net effect of the social dimension on market valuation for shareholders and is different in that with researches investigations the link between social performance and financial performance. We also compare the influence of internal and external social issues. As far as we are aware, few studies so far have included such a specific focus on the social dimension. We also attempt to bridge the top-down and bottom-up literatures, the results of which have been mixed. Our study also builds on previous research, which in most cases has dealt only with US firms, since our sample includes firms from all over the world. This international evidence is a further contribution. We ensure the robustness of our findings using a broad set of control variables and three different proxies for firm value.

Our results show a strong positive relationship between the social dimension and firm market value. Interestingly, even though all the components of the social dimension are positively related to market value, the overall results are especially strong in terms of human capital proxies. This finding is consistent with the idea that social expenses toward employees are a “social investment” that produces intangible assets. These assets raise a firm’s market value and contribute to its overall financial goodwill (Ohlson 1995). Since investments in human capital are value-adding for shareholders, it should also be pointed out that capital markets promote the social component of corporate social responsibility (Scholtens 2006).

The remainder of this paper is organized as follows. Section 2 presents the theoretical background to the relationship between the social dimension and corporate market value. Section 3 provides details of our dataset and methodology. Section 4 outlines our results and discusses the influence of the different components of the social dimension. Section 5 offers a conclusion.

## **2. Theory and hypotheses**

Corporate social responsibility covers a wide range of aspects concerning environmental, social and governance issues. These are measured by an extensive set of ESG data points that are aggregated to assess overall CSR performance using a global social rating. The ESG rating is used in many empirical studies to investigate the link between financial and social performance. Our research is concentrating on the relationship between the social dimension of CSR and corporate market value. Market valuation and corporate financial performance are two distinct concepts (Damodaran 2006, 2007). We concentrate our research on market value because it sheds light upon the perception of investors have of corporate social issues,

something that accounting metrics of financial performance cannot gauge. The empirical literature mainly focuses on the two extremities of the ESG data spectrum: research studies that consider the overall influence of CSR on financial performance and those that explore the effect of a fine detail. Papers considering the link at the scale of a given dimension are mainly dedicated to the environmental and governance dimensions. Surprisingly few papers consider the social dimension itself. In this sense, our paper marks a significant contribution to the existing literature.

The social dimension should be positively related to corporate market value by generating intangible assets – human capital and reputation. Social expenses toward employees might lead to higher labor productivity, while reputational effects may make products more attractive to customers and increase corporate revenue (Heal 2005; Luo and Bhattacharya 2006) and reduce information asymmetry (Pijourlet 2015). Beyond these economic motivations, investments in the social dimension should be determined by non-financial factors such as legitimation or entrenchment strategies (Harjoto and Jo 2011). Legitimation refers to the behavior of corporations seeking a good reputation among local communities, governments or customers, and may lead to value creation (Doh et al. 2010) and reduce risks (Poujet 2014). Managers, however, should also be willing to adopt corporate social policies that reinforce their position in the organization but also afford them private benefits of control (Barnea and Rubin 2010). For instance, an employee-friendly policy should increase the popularity of managers among staff members, thus reinforcing their position within the firm. In this case, social policies might be detrimental to shareholders. Finally, “a reputation for social responsibility protected firms from stock declines associated with this crisis”. Schnietz and Epstein (2005) also argue that “a reputation for social responsibility protected firms from stock declines associated with this crisis”. It works like a “reservoir of goodwill” (Schnietz and Epstein 2005).

In the existing literature, empirical papers generally adopt a “top-down” approach while focusing on the overall ESG rating (sub-section 2.1). Our paper attempts to shed light on the relationship between social issues and market value (sub-section 2.2).

## **2.1 Overall empirical approach to CSR**

The social dimension is the subset of ESG that relates specifically to social issues. It concerns the relationship between a firm and its employees, customers and local communities, and is a major component of its reputation. Moreover, the social dimension attempts to measure human capital, making it a notion that covers a firm’s wider intangible investments. Research studies on this particular dimension, however, are few in number. The existing research either addresses CSR as an overall measurement and its main components or more specific issues like human capital.

The bulk of these studies on the relationship between firm value and the social dimension are “top-down” since they only consider this dimension as a component of CSR, alongside the environmental and governance dimensions. Bird et al. (2007) use KLD CSR data from 1991 to 2003 on a sample of firms belonging to the S&P 500 to show that valuation multiples such as market-to-book and price-to-earnings are positively related to diversity, employee and product strengths, and negatively to employee concerns. Galema et al. (2008), using the same ratings over the 1992-2006 period, and including a larger set of control variables, found only diversity to be positively related.

More recently, Jiao (2010) addresses this issue by measuring the link between stakeholder welfare (including environment) and firm value. She finds that stakeholder welfare, measured by KLD scores, represents intangibles, especially employee welfare and environmental performance. The results are robust to numerous control variables. However, the results concerning diversity and community are not significant. Marsat and Williams (2013)



document only a slight positive relationship with human capital, measured by MSCI ESG data issues and valuation ratios, but stakeholder capital is not significantly related. Moreover, Girerd-Potin et al. (2013) find that ratings for “business stakeholders” (employees, clients and suppliers) are associated with a lower cost of equity in a Fama and French (1993) framework. Based on the partial evidence in the existing literature, we therefore hypothesize that:

**H1:** Higher social performance leads to a higher corporate market value.

It is useful to test this hypothesis with a new worldwide set of data since the evidence on the social dimension is mixed and has been assessed differently. As far as we know, whereas the relationship between the environmental dimension and firm value has been extensively documented (Dowell et al. 2000; Konar and Cohen 2001; Guenster et al. 2011; Horváthová 2010; Lioui and Sharma 2012), the social dimension alone remains much less explored, although a few empirical studies deal more specifically with human capital and firm reputation.

## **2.2 Social issues**

The social expenses made by companies can be toward internal or external stakeholders (Løwendahl and Revang 1998). Internal stakeholders mainly include employees and managers; external stakeholders comprise various external parties such as shareholders, customers, local communities or governments. This division of stakeholders is useful in classifying extra-financial subsets. Among the following KLD headings related to social issues, two relate to internal stakeholders (Diversity and Employee Relations) and two to external stakeholders (Community and Products). These subsets are used in Bird et al. (2007), Galema et al. (2008), and (Jiao 2010).

### **Internal social issues**

Human capital is generally defined as skills acquired by employees through education and practice that make them more productive (Becker 1962; Schultz 1961). Corporations invest in human capital by hiring highly qualified employees and by training them. Becker et al. (1997) pinpoint that “HRM system produces employee behaviors that are focused on key business priorities, which in turn drive profits, growth, and ultimately market value”. Buyens and Verbrigghe (2015) also argue that human resources management is value adding for the firm. Heal (2005) underlines the role played by CSR in employee productivity:

“The central premise here is that employees work harder if they are paid more, so productivity can be raised by paying more than the minimum needed to fill jobs, and consequently paying more than the market wage may help profits by boosting output by more than it boosts costs” (Heal, 2005, p. 397).

Pantzalis and Park (2009) show how confusing it is to capture both input and output of human capital. They find that firms valued at a relatively low level in terms of human capital tend to have higher returns on American stock markets.

Huselid (1995) find a significant positive relationship between systems of “high performance work practices” and corporate financial performance. In terms of value relevance, Lajili and Zéghal (2005) show a positive relationship between labor cost disclosures and market equity. Doong et al. (2011) focus their study on the Taiwanese market. Using different proxies for human capital, they show that more skilled employees are more productive and therefore enhance firm value. Chen et al. (2005) use human capital efficiency to measure human capital in the context of the Taiwanese stock exchange. They find that human capital is significantly related to market-to-book value over the 1992-2002 period.

Edmans (2011) conducted a study on the “100 Best Companies to Work For in America”. He argues that employee satisfaction is a major factor for human capital, enhancing retention and motivation. The results show that companies included in the “100 Best Companies to Work

For in America” list exhibit higher valuation, market-to-book and price-to-earnings ratios. However, the study conducted by Edmans (2011), which only focuses on US firms, fails to investigate a wider range of internal social issues. Edmans et al. (2014) find a positive correlation between employee satisfaction and stock returns for U.S. and U.K. companies. Based on the KLD dataset, Bird et al. (2007) find that diversity strengths and employee relations strengths<sup>2</sup> have a significant positive influence on firm value as measured by the market-to-book ratio. They also point out that employee relations concerns are value-destroying. Galema et al. (2008) use Fama and MacBeth (1973) regressions to show that “the employee relations score has a significant positive effect on excess returns” over the 1992-2006 period. Finally, still based on the same KLD rating, (Jiao 2010) finds that the Tobin’s q ratios for firms belonging to the S&P 500 index are only positively related to diversity and employee relations. These findings provide the empirical evidence that internal social issues are value-adding. The relationship seems to be more robust for employee relations.

### **External social issues**

Besides these internal issues, corporations also adopt social policies aimed at external stakeholders such as local communities or customers. These external social issues also have a more broad impact on firm reputation, as presented by Vilanova et al. (2009). Robinson et al. (2011) show that entering the DJSI (Dow Jones Sustainability Index) increases firm value. Lourenço et al. (2013) assess the reputation for sustainability leadership among firms belonging to the DJSI every year during the 2008-2010 period. They find that market valuation of net income is higher for firms endowed with a stronger reputation. They state that a “firm’s reputation for being committed to sustainability is an intangible resource that can increase the value of a firm’s expected cash flows and/or reduce the variability of its cash flows” (Robinson et al. 2011).

Concerning reputation, Servaes and Tamayo (2013) show that advertising expenses play a mediating role between CSR and firm value. They argue that customer awareness about CSR issues is needed as a channel to enhance corporate value. Empirical analysis supports this prediction and shows that higher prior firm reputation is associated with a stronger relationship whereas the effect is negative for less admired companies.

However, based on KLD scores the empirical evidence of the relationship between external social issues and market value is mixed. Bird et al. (2007) find a significant positive relationship between market-to-book ratios and product strengths. But at the same time the results are confusing for community activities, where both concerns and strengths are value-destroying. Galema et al. (2008) provide evidence that product strengths are value-adding while community scores are not related to book-to-market ratios. Finally, Jiao (2010) finds no significant relationship between Tobin's  $q$  and external social issues, namely community activities and product activities.

Since there is a "lack of strong conceptual foundations" (Bird et al. 2007) in the existing literature, hypothesis H2 is based on the literature providing empirical evidence that results are relatively robust for internal issues but mixed for the relationship between external social issues and firm value. This leads to our second hypothesis:

**H2:** Internal social issues create more corporate market value than external social issues.

Hypothesis H2 complements hypothesis H1 since it depicts the strength of the relationship between the different components of social performance and corporate market valuation. This means that we postulate that investors on the stock market pay more attention to internal social dimensions than to external ones. The dataset we use herein (sub-section 3.1) offers us the possibility to investigate the influence of both internal and external social issues. Our

paper also develops this topic by investigating a broader set of variables in an international context.

### **3. Research design**

#### **3.1 Data**

The social dimension dataset is provided by Asset4 – Thomson Reuters ESG Research Data, one of the major ESG rating agencies, used and described in preceding studies such as Eccles et al. (2014) Cheng et al. (2014) or Ioannou and Serafeim (2010, 2012)<sup>3</sup>. The ESG rating is based on raw extra-financial data collection which stems from publicly available information such as sustainability reports, CSR reports, annual reports and company or NGO websites. Data collection and standardization in more than 750 data points is carried out by specialized analysts. These data points are then aggregated into 250 indicators that are used to assess category scores, which themselves are weighted in the dimension scores. At each level, the scores are equally weighted to ensure objectivity. Moreover, each indicator and score is relative to the universe and normalized between 0 and 1. Information is updated each year.

The social dimension is aimed at measuring the quality of the relationships between a firm and its employees, customers and society. This dimension is therefore an interesting proxy in assessing social issues, including both reputation and human capital. It is composed of seven sub-scores, or categories, computed from indicators. These categories are human rights, community, product responsibility, employment quality, training and development, diversity and opportunity, and health and safety. These categories are described in Table 1.

< Insert Table 1 about here >

The Asset4 – Thomson Reuters ESG Research Data covers the main indices worldwide, including S&P/TSX COMPOSITE (Canada), SMI (Switzerland), DAX (Germany), CAC 40 (France), FTSE 100 & 250 (UK), S&P 500 and NASDAQ 100 (USA), DJ STOXX Europe, Russell 1000 (USA), S&P ASX 200 (Australia) and the MSCI World Index. The number of firms covered annually was around 940 in 2002 and more than 3,800 in 2011. The main countries covered are the US (944 firms), Europe (858), Japan (407), Australia (278), Canada (256), Taiwan (123), China (113) and Hong Kong (100).

We investigate the impact of the social dimension on corporate value through three different measures of firm valuation. Firm valuation is captured by natural logs of Tobin's q measured as in main studies such as Demsetz and Villalonga (2001) or Guenster et al. (2011), the alternative q ratio used by Chung and Pruitt (1994) and the market-to-book ratio, which is often used as a proxy of Tobin's q (Edmans 2011; Galema et al. 2008). The precise definition and computation of these ratios is provided in table 1. Using these three different variables ensures that our results are not sensitive to the valuation proxy used. The correlation between them ranges from 0.76 to 0.97. Unlike accounting metrics of corporate performance, these variables provide information on investors' perception of firm value.

In order to avoid any specification bias that might explain market value, we include a large set of control variables. A strong positive relationship is widely documented between firm value and both performance and growth, while a negative relationship is reported with size. These variables, measured by RoA, sales growth and the log of total assets, are included in all regressions. We also systematically control for industry and year fixed effects.

Moreover, Jiao (2010) highlights the role of other factors, such as R&D (McWilliams and Siegel 2001), advertising, debt-to-asset ratio, capital expenditure, dividend yield, insider ownership or firm age in explaining firm value. In order to ensure that the model is correctly

specified, and that our findings are not affected by these variables, we include these variables in a second model specification.

Financial data and control variables – except insider ownership which is extracted from Asset4 - Thomson Reuters ESG Research Data – are from Factset fundamentals. The final sample is composed of an unbalanced panel of 4,312 firms over the 2002-2011 period. Since we have three different measures of market value and are missing financial and control variable data, the number of firm-year observations ranges from 13,283 to 19,232 with the most parsimonious set of control variables, and from 8,321 to 11,526 with the complete set.

### 3.2 Research method

We test our hypotheses using regressions between the social dimension, as measured by Asset4 – Thomson Reuters, and firm value, assessed by Tobin’s q and market-to-book ratio. In order to account for standard error bias in this panel dataset of 4,312 firms over 10 years, we use standard errors clustered by firms (Petersen 2009), year and industry fixed effects<sup>4</sup>. We test specification 1, given by:

$$MV_{i,t} = \alpha_0 + \alpha_1 SO_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 RoA_{i,t} + \alpha_4 SG_{i,t} + DUM_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where MV is market value, assessed by Tobin’s q or market-to-book ratio; SO is the measure of the social dimension; SIZE is the natural log of total assets; RoA is return on assets; SG is sales growth; DUM denotes industry from the GICS 2-digits classification and year dummies, and controlled with fixed effect.

Following Jiao (2010), we also add in a second set of specification variables that may also have an impact on firm market value:

$$MV_{i,t} = \alpha_0 + \alpha_1 SO_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 RoA_{i,t} + \alpha_4 SG_{i,t} + \alpha_5 RD_{i,t} + \alpha_6 RDDUMMY_{i,t} + \alpha_7 AD_{i,t} + \alpha_8 ADDUMMY_{i,t} + \alpha_9 DA_{i,t} +$$

$$\alpha_{10}CAPEX_{i,t} + \alpha_{11}DIV_{i,t} + \alpha_{12}IO_{i,t} + \alpha_{13}IO^2_{i,t} + \alpha_{14}AGE_{i,t} + DUM_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where RD is research and development expenses scaled by sales; RDDUMMY equals one if RD is non-available; AD is advertising expenses; ADDUMMY equals one if AD is non-available; DA is leverage; CAPEX is capital expenditure; DIV is dividend yield; IO is insider ownership; and AGE is the age of the listing.

Once equation (2) had been analyzed with the overall social dimension, we tested the relationship in respect of different subsamples according to size, performance, subperiods or geographical areas to ensure the robustness of the results. We also tested the sensitivity of each social dimension subset independently, since all subsets are highly correlated.

## 4. Results

### 4.1 Summary statistics

Table 2 provides descriptive statistics. Social ratings are scored from 0 to 1, with their mean and median generally close to 0.5 by construction. Average Tobin's q of the sample is 1.60, 1.32 computed as per Chung and Pruitt (1994), and 2.66 for the market-to-book ratio. Over the period, the average asset size is \$7.2 bn, the return on asset 12 percent, sales growth rate 12.8 percent, debt-to-asset ratio 20.1 percent, dividend yield 2.7 percent, and insiders are shown to own 26 percent of the company. The average age of the listings is more than 11 years.

< Insert Table 2 about here >



R&D and advertising as a percentage of sales seem to be relatively low. Research and development and advertising expenses are often missing in databases; we set non-available data to zero, following Barnett and Salomon (2012). However, we control for the availability of the information through a dummy that is equal to one if data is missing. When excluding missing data, the average R&D/sales ratio is 5.2 percent and advertising to sales is 3.8 percent.

< Insert Table 3 about here >

Table 3 presents variable correlation. Direct correlations between market value and the social dimension lead to mixed links: the relationship seems negative with Tobin's q and Tobin's q as per Chung and Pruitt (1994), and positive but not significant for market-to-book. However, this relationship is moderate and does not account for control variables; multivariate regressions are needed. The positive role of RoA, sales growth and R&D is backed up, as well as the negative impact of size.

#### **4.2 The value of the social dimension**

Table 4 shows that the social dimension, measured to reflect the score given by Asset4 – Thomson Reuters ESG Research, is positively and significantly related to valuation proxies, whatever the model specification concerning control variables. This supports H1. Among the dependent variables, the market-to-book ratio seems to be more affected by the social dimension than pure Tobin's q. More specifically, an increase of 0.1 in the social score leads to an average increase of 1.1 to 3.4 percent of the valuation ratios, and a one standard deviation increase in social dimension increases Tobin's Q, Tobin's Q as in Chung and Pruitt (1994) and market-to-book by respectively by 8.4%, 9.6% and 12.3% of standard deviation. The social dimension seems to be valued by the market as goodwill or as an intangible.<sup>5</sup>

Moreover, the magnitude of this valuation is roughly the same as sales growth, which is already known as a significant determinant of Tobin's q.

< Insert Table 4 about here >

We then explore whether the relationship with Tobin's q is sensitive to firm size, performance, time or geographical area<sup>6</sup> (see Table 5). Overall, results prove to be robust among the subsamples studied. Small and high-performance firms seem to have a slightly stronger social dimension–firm value relationship than larger or less well-performing ones, but the association is still significant.

< Insert Table 5 about here >

We also split the overall period into two parts, the cutoff corresponding to the subprime mortgage crisis. The results are unaffected and remain unchanged for the two sub-periods. Concerning geographical issues, the social dimension–market firm value relationship stands for North American and European firms, but is not statistically significant for Asian firms. To ensure the robustness of our findings of this international dataset, we introduce country fixed effects. This specification does not alter our results, as well as adding a one-year lag between dependent and independent variables, or using the natural logarithm of sales as size proxy<sup>7</sup>.

#### **4.3 Which social dimensions have the highest market value?**

The social dimension score is computed as the mean of seven subcomponents, including human rights, community, product responsibility, employment quality, training and development, diversity and opportunity, and health and safety. Even though these subsets are highly correlated, some may have more influence on corporate value than others.

< Insert Table 6 about here >

Table 6 presents the regressions using the subsets of the social dimension. In contrast to previous studies (Bird et al. 2007; Galema et al. 2008), *all* categories (SO\_SUBSET) are positively related to firm value, indicating that they all capture a part of corporate reputation among stakeholders, employees, customers and local communities. Reputation is seen as an intangible asset (Jiao 2010), and therefore valued by the market. The impact of each subset is, however, not as important on firm value.

We postulated that investment in internal stakeholders would generate higher financial goodwill (H2). Empirical results, however, do not seem to support this view. Internal investments in diversity and opportunity or health and safety seem to be less significant than external investments in local communities. Moreover, involvement in the community has a larger impact than product responsibility, even if customers seem to be closer to value creation and might easier constitute goodwill.

More than the distinction between internal and external stakeholders, human capital versus other reputation categories seems to be particularly relevant in understanding our results. Indeed, the subsets that have the highest impact on firm value, employment quality and training and development, can be viewed as proxies linked to human capital. Training and development is linked to enhancing the competences and skills of employees, and developing human capital as understood by Becker (1962). Employment quality is more focused on human capital retention, relating to job conditions and employee relations, consistent with the study by Edmans (2011). These two subsets prove to be more valued by the market than the others, meaning that human capital is a social investment that might yield a higher payoff, or that there is an intrinsic preference for it among shareholders.

Altogether, on a worldwide basis, we find that the market multiples consistently and positively value the social dimension, including internal and external stakeholders. Shareholders do not seem to consider social expenses as a way for managers to make private

benefits, as in Barnea and Rubin (2010), but rather as a positive signal that is coherent with the good management hypothesis (Waddock and Graves 1997). In this sense, financial markets promote socially desirable activities (Scholtens 2006) which both create shareholder value and take good care of the firm's most differentiated resources: reputation and, especially, human capital. From a firm management perspective, investment in these two domains appears highly beneficial since it satisfies both shareholders and social stakeholders like employees, customers and the community.

## **5. Conclusion**

Social and human factors are obviously key to the success of corporations. Evidence of market valuation of these social issues, however, remains scarce and inconclusive. In this paper, we attempt to address the relationship between the social dimension and the market value of shareholders' equity. Based on an extensive and rich worldwide dataset measuring social issues (Asset4 – Thomson Reuters), we investigate this link.

The impact of the social dimension proves to be positive overall. This relationship is both strongly significant and robust to different model specifications. Contrary to the existing literature, we also find that social dimension subsets, including human rights, community, product responsibility, employment quality, training and development, diversity and opportunity, and health and safety, are *all* positively related to market value. This finding is consistent with the idea that these social expenses ultimately lead to an increase in human capital, which can be seen as a value-adding investment, and therefore a form of goodwill for the company.

Our results have interesting managerial implications. Concerning social issues, shareholders and other stakeholders seem to have converging interests. Money invested in the social

dimension creates value for employees, customers and local communities, as well as for shareholders. This supports the “good management” hypothesis (Waddock and Graves 1997), and it would appear that managers do not have to make a tradeoff between equity holders and social stakeholders. Future research might study this relationship more in details, trying for instance to shed the light on mediating role of governance, dealing more precisely with the causality issue between the social dimension and firm value, or explore cross-country differences in stakeholder orientation as in Dhaliwal et al. (2012).

## Appendices

**Table 1. Variable description**

Variable		Variable description
SO	Social dimension score	The social dimension measures a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It is a reflection of the company's reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value.
SO_SO_HR	Workforce/Human Rights	The society/human rights category measures a company's management commitment and effectiveness towards respecting the fundamental human rights conventions. It reflects a company's capacity to maintain its license to operate by guaranteeing the freedom of association and excluding child, forced or compulsory labor.
SO_SO_CO	Workforce/Community	The society/community category measures a company's management commitment and effectiveness towards maintaining the company's reputation within the general community (local, national and global). It reflects a company's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.).
SO_CU_PR	Workforce/Product Responsibility	The customer/product responsibility category measures a company's management commitment and effectiveness towards creating value-added products and services upholding the customer's security. It reflects a company's capacity to maintain its license to operate by producing quality goods and services integrating the customer's health and safety, and preserving its integrity and privacy also through accurate product information and labelling.
SO_WO_EQ	Workforce/Employment Quality	The workforce/employment quality category measures a company's management commitment and effectiveness towards providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce loyalty and productivity by distributing rewarding and fair employment benefits, and by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs and maintaining relations with trade unions.
SO_WO_TD	Workforce/Training & Development	The workforce/training and development category measures a company's management commitment and effectiveness towards providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty and productivity by developing the workforce's skills, competences, employability and careers in an entrepreneurial environment.
SO_WO_DO	Workforce/Diversity & Opportunity	The workforce/diversity and opportunity category measures a company's management commitment and effectiveness towards maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce loyalty and productivity by promoting an effective life-work balance, a family friendly environment and equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation.
SO_WO_HS	Workforce/Health & Safety	The workforce/health & safety category measures a company's management commitment and effectiveness towards providing a healthy and safe workplace. It reflects a company's capacity to increase its workforce loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, well-being and stress level of all employees.
Q	Tobin's q	$\text{Ln}(\text{market value of equity} + \text{book value of assets} - \text{book value of equity} - \text{balance sheet deferred taxes}) / \text{book value of assets}$
QCP	Tobin's q computed as per Chung and Pruitt (1994)	$\text{Ln}(\text{market value of equity} + \text{liquidating value of preferred stock} + \text{book value of long term debt net} + (\text{short term liabilities} - \text{short term assets}) / \text{book value of assets})$
MB	Market-to-book	$\text{Ln}(\text{market value of equity} / \text{book value of equity})$
SIZE	Size proxy	$\text{Ln}(\text{book value of total assets in } \$ \text{ millions})$
ROA	Return on assets	EBITDA/book value of assets
SG	Sales growth	$(\text{Sales in year } t / \text{sales in year } (t-1))$
RD	Research and development expenses	R&D expenditures / sales
RDDUMMY	R&D dummy	Equals 1 if RD is non-available, zero otherwise
AD	Advertising expenses	Advertising expenses / sales
ADDUMMY	Advertising dummy	Equals 1 if ad is non-available, zero otherwise
DA	Leverage	Book value of debt / book value of assets
CAPEX	Capital expenditure	Capital expenditures/ book value of assets
IO	Insider ownership	Percentage of shares owned by insiders
DIV	Dividend yield	Dividend per share / stock price per share
AGE	Age of listing	Natural log of the number of days since first listed

**Table 2. Descriptive statistics**

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
SO	0.495	0.477	0.989	0.034	0.309	24292
SO_SO_HR	0.464	0.281	1.000	0.021	0.296	24292
SO_SO_CO	0.503	0.511	0.974	0.027	0.309	24292
SO_CU_PR	0.492	0.451	0.992	0.024	0.305	24185
SO_WO_EQ	0.500	0.495	0.986	0.025	0.305	24292
SO_WO_TD	0.502	0.511	0.974	0.052	0.315	24292
SO_WO_DO	0.487	0.428	0.988	0.048	0.310	24292
SO_WO_HS	0.478	0.417	0.995	0.024	0.300	24292
Q	1.602	1.251	9.850	0.340	1.037	15436
QCP	1.320	0.977	9.997	0.000	1.159	19166
MB	2.664	1.933	19.945	0.000	2.426	23093
SIZE	22.698	22.528	28.750	15.504	1.649	23805
ROA	0.120	0.110	0.960	-0.910	0.104	23471
SG	1.128	1.090	3.746	0.488	0.277	21061
RD	0.021	0.000	1.979	0.000	0.071	24292
AD	0.003	0.000	0.424	0.000	0.018	24292
DA	0.202	0.175	0.990	0.000	0.156	21766
CAPEX	0.054	0.039	0.997	0.000	0.060	22707
DIV	0.027	0.020	0.887	0.000	0.031	22619
IO	0.260	0.200	1.000	0.000	0.232	18658
AGE	8.307	8.611	9.202	0.693	0.915	21501

Variables: SO: Social dimension score; SO\_SO\_HR: Workforce/Human Rights; SO\_SO\_CO: Workforce/Community; SO\_CU\_PR: Workforce/Product Responsibility; SO\_WO\_EQ: Workforce/Employment Quality; SO\_WO\_TD: Workforce/Training & Development; SO\_WO\_DO: Workforce/Diversity & Opportunity; SO\_WO\_HS: Workforce/Health & Safety; Q: Tobin's q; QCP: Tobin's q computed as in Chung and Pruitt (1994); MB: Market-to-book; SIZE: Size proxy; ROA: Return on assets; SG: Sales growth; RD: Research and development expenses; DA: Leverage; CAPEX: Capital expenditures; DIV: Dividend yield; IO: Insider ownership; AGE: Age of listing.

**Table 3. Correlation matrix**

	SO	Q	QCP	MB	SIZE	ROA	SG	RD	AD	DA	CAPEX	DIV	IO	AGE
SO	1													
Q	-0.023*	1												
QCP	-0.028**	0.973***	1											
MB	0.016	0.784***	0.756***	1										
SIZE	0.405***	-0.302***	-0.278***	-0.225***	1									
ROA	0.056***	0.557***	0.555***	0.418***	-0.158***	1								
SG	-0.106***	0.17***	0.176***	0.126***	-0.058***	0.133***	1							
RD	0.079***	0.137***	0.106***	0.067***	-0.017	0.004	-0.002	1						
AD	-0.062***	0.02*	0.006	-0.023*	-0.008	-0.009	-0.025**	0.044***	1					
DA	0.065***	-0.165***	-0.057***	0.06***	0.144***	-0.135***	-0.009	-0.15***	-0.118***	1				
CAPEX	-0.025**	0.142***	0.201***	0.08***	-0.038***	0.307***	0.112***	-0.043***	-0.058***	0.098***	1			
DIV	0.084***	0.028**	0.042***	0.062***	-0.049***	0.178***	0.048***	-0.136***	-0.079***	0.078***	-0.012	1		
IO	-0.138***	0.045***	0.058***	-0.013	-0.008	0.053***	0.087***	-0.09***	0.051***	-0.081***	0.128***	0.036***	1	
AGE	-0.036***	-0.015	-0.022*	-0.035***	-0.007	0.025**	-0.028**	-0.027**	0.015	-0.019	-0.005	-0.053***	-0.06***	1

Variables: SO: Social dimension score; Q: Tobin's q; QCP: Tobin's q computed as in Chung and Pruitt (1994); MB: Market-to-book; SIZE: Size proxy; ROA: Return on assets; SG: Sales growth; RD: Research and development expenses; DA: Leverage; CAPEX: Capital expenditures; DIV: Dividend yield; IO: Insider ownership; AGE: Age of listing.



**Table 4. Social dimension and market value**

Dep. Var:	Q	QCP	MB	Q	QCP	MB
Constant	1.363*** (11.668)	2.418*** (10.968)	2.199*** (11.784)	1.244*** (9.284)	1.913*** (7.474)	2.077*** (8.752)
SO	0.132*** (6.614)	0.197*** (5.721)	0.294*** (9.248)	0.107*** (5.078)	0.221*** (6.039)	0.273*** (7.557)
SIZE	-0.066*** (-13.404)	-0.141*** (-15.507)	-0.097*** (-12.596)	-0.057*** (-11.291)	-0.124*** (-12.392)	-0.089*** (-9.939)
ROA	2.451*** (21.905)	3.631*** (22.879)	3.02*** (21.314)	2.448*** (17.396)	3.953*** (18.718)	3.208*** (16.239)
SG	0.143*** (8.682)	0.315*** (11.447)	0.251*** (11.133)	0.119*** (6.607)	0.268*** (7.277)	0.212*** (7.493)
RD				0.814*** (3.804)	1.214*** (4.991)	1.036*** (4.912)
RDDUMMY				0.036** (2.387)	0.11*** (4.804)	0.052** (2.108)
AD				0.405 (1.103)	0.944 (1.542)	0.821 (1.432)
ADDUMMY				0.03 (1.455)	0.052 (1.28)	0.029 (0.769)
DA				-0.097** (-2.531)	0.548*** (7.535)	0.306*** (3.953)
CAPEX				-0.044 (-0.282)	0.387* (1.741)	-0.614*** (-3.333)
DIV				-0.783*** (-5)	-1.639*** (-5.055)	-0.856*** (-3.357)
IO				-0.121 (-1.624)	-0.497*** (-3.772)	-0.126 (-0.962)
IO <sup>2</sup>				0.252*** (2.603)	0.829*** (4.6)	0.308* (1.748)
AGE				-0.005 (-0.881)	-0.013 (-1.466)	-0.01 (-1.113)
N=	13283	16469	19232	8321	10074	11526
Adj. R <sup>2</sup>	0.508	0.428	0.391	0.51	0.457	0.393

Variables: SO: Social dimension score; Q: Tobin's q; QCP: Tobin's q computed as in Chung and Pruitt (1994); MB: Market-to-book; SIZE: Size proxy; ROA: Return on assets; SG: Sales growth; RD: Research and development expenses; RDDUMMY: R&D dummy; AD: Advertising expenses; ADDUMMY: Advertising dummy; DA: Leverage; CAPEX: Capital expenditures; IO: Insider ownership; DIV: Dividend yield; AGE: Age of listing.

**Table 5. Sensitivity analysis of the social dimension – Tobin's q relationship**

Row	Sample	Cons- tant	SO	SIZE	ROA	SG	RD	RDDU MMY	AD	ADDU MMY	DA	CAPEX	DIV	IO	IO <sup>2</sup>	AGE	Adj. R <sup>2</sup>	N
(1)	Only small firms (below median)	3.49*** (7.79)	0.15*** (3.82)	-0.17*** (-8.83)	2.53*** (13.8)	0.17*** (5.52)	0.88*** (3.01)	0.03 (1.33)	-0.03 (-0.05)	0.01 (0.13)	-0.07 (-0.95)	-0.08 (-0.44)	-0.94*** (-4.44)	-0.02 (-0.15)	0.36** (1.97)	-0.01 (-0.81)	0.52	2940
(2)	Only large firms (above median)	0.53*** (3.62)	0.10*** (4.74)	-0.02*** (-3.82)	2.14*** (11.03)	0.06*** (3.68)	0.61** (2.19)	0.01 (0.6)	0.83*** (2.69)	0.03 (1.44)	-0.03 (-0.8)	0.05 (0.23)	-0.56** (-2.46)	-0.19** (-2.37)	0.27*** (2.61)	-0.01 (-1.17)	0.46	5381
(3)	Only high performing firms (RoA above median)	1.96*** (9.31)	0.14*** (4.65)	-0.09*** (-11.08)	2.81*** (15.73)	0.17*** (5.79)	0.64** (2.55)	0.02 (1.21)	0.52 (1.24)	0.06* (1.91)	-0.11* (-1.77)	-0.52** (-2.56)	-1.19*** (-5.09)	-0.07 (-0.58)	0.22 (1.43)	-0.01 (-1.62)	0.47	4198
(4)	Only low performing firms (RoA below median)	0.7*** (5.85)	0.07*** (3.27)	-0.03*** (-6.53)	0.57*** (3.98)	0.1*** (5.35)	0.94*** (3.01)	0.04** (2.44)	0.28 (0.77)	-0.01 (-0.35)	0.02 (0.52)	0.33* (1.86)	-0.38*** (-2.94)	-0.12 (-1.61)	0.21** (2.1)	0 (-0.92)	0.27	4123
(5)	Only 2002-2007 subperiod	1.74*** (9.88)	0.12*** (4.54)	-0.08*** (-11.63)	2.6*** (17.11)	0.1*** (3.82)	1.22*** (4.52)	0.05*** (2.63)	0.3 (0.8)	-0.01 (-0.3)	-0.07 (-1.47)	-0.18 (-1.03)	-1.13*** (-4.64)	-0.06 (-0.51)	0.15 (0.94)	-0.01 (-1.51)	0.52	3816
(6)	Only 2008-2011 subperiod	0.87*** (5.74)	0.11*** (4.49)	-0.05*** (-8.46)	2.33*** (13.27)	0.14*** (6.24)	0.57*** (2.89)	0.03* (1.69)	0.47 (0.88)	0.05** (2.19)	-0.08* (-1.75)	0.08 (0.34)	-0.46*** (-3.08)	-0.15* (-1.82)	0.29*** (2.89)	0 (0.04)	0.47	4505
(7)	Only North American firms	0.87*** (4.19)	0.11*** (3.91)	-0.05*** (-6.89)	3.05*** (13.05)	0.17*** (5.37)	-0.11 (-0.35)	0.09*** (3.56)	0.13 (0.31)	0.03 (1.26)	0.01 (0.17)	-0.04 (-0.17)	-0.88*** (-3.9)	-0.14 (-0.97)	0.3* (1.72)	0 (0.2)	0.51	3496
(8)	Only European firms	1.55*** (8.02)	0.12*** (3.24)	-0.06*** (-8.09)	2.02*** (9.75)	0.06*** (2.6)	0.83** (2.58)	0 (0.05)	1.14*** (3.48)	0 (-0.05)	-0.2*** (-3.51)	0.01 (0.02)	-1*** (-4.12)	0.03 (0.33)	-0.01 (-0.07)	-0.01 (-0.96)	0.51	3562
(9)	Only Asian firms	1.54*** (3.75)	0.08 (1.56)	-0.05*** (-4.64)	2.68*** (10.65)	0.03 (0.52)	2.4*** (4.8)	-0.01 (-0.28)	1.18 (0.65)	-0.21 (-0.84)	-0.05 (-0.63)	0.47 (1.02)	-1.22** (-2.22)	-0.41** (-2.49)	0.42* (1.96)	-0.02 (-1.42)	0.61	1060

Variables: SO: Social dimension score; Q: Tobin's q; QCP: Tobin's q computed as in Chung and Pruitt (1994); MB: Market-to-book; SIZE: Size proxy; ROA: Return on assets; SG: Sales growth; RD: Research and development expenses; RDDUMMY: R&D dummy; AD: Advertising expenses; ADDUMMY: Advertising dummy; DA: Leverage; CAPEX: Capital expenditures; IO: Insider ownership; DIV: Dividend yield; AGE: Age of listing.

**Table 6. Social dimension - Tobin's q relationship using the social dimension subsets**

	SO SO HR	SO SO CO	SO CU PR	SO WO EQ	SO WO TD	SO WO DO	SO WO HS
Constant	1.186*** (8.973)	1.154*** (8.831)	1.125*** (8.68)	1.172*** (9.012)	1.208*** (9.161)	1.17*** (8.939)	1.136*** (8.737)
SO_SUBSET	0.081*** (3.828)	0.069*** (3.964)	0.041** (2.463)	0.106*** (6.119)	0.105*** (5.604)	0.054*** (3.222)	0.053*** (2.804)
SIZE	-0.054*** (-10.869)	-0.052*** (-10.937)	-0.049*** (-10.779)	-0.053*** (-11.344)	-0.055*** (-11.414)	-0.052*** (-10.888)	-0.05*** (-10.763)
ROA	2.467*** (17.523)	2.467*** (17.543)	2.488*** (17.702)	2.457*** (17.507)	2.452*** (17.428)	2.475*** (17.577)	2.475*** (17.527)
SG	0.115*** (6.326)	0.113*** (6.306)	0.113*** (6.227)	0.111*** (6.215)	0.117*** (6.535)	0.114*** (6.314)	0.113*** (6.249)
RD	0.83*** (3.826)	0.836*** (3.839)	0.852*** (3.83)	0.825*** (3.808)	0.82*** (3.808)	0.818*** (3.773)	0.837*** (3.834)
RDDUMMY	0.036** (2.407)	0.031** (2.091)	0.033** (2.195)	0.028* (1.848)	0.032** (2.176)	0.031** (2.069)	0.033** (2.186)
AD	0.388 (1.05)	0.394 (1.064)	0.374 (0.991)	0.344 (0.934)	0.413 (1.121)	0.366 (0.985)	0.387 (1.047)
ADDUMMY	0.031 (1.469)	0.028 (1.326)	0.028 (1.348)	0.024 (1.17)	0.028 (1.351)	0.029 (1.395)	0.028 (1.342)
DA	-0.097** (-2.52)	-0.095** (-2.471)	-0.095** (-2.473)	-0.094** (-2.465)	-0.092** (-2.404)	-0.097** (-2.527)	-0.096** (-2.501)
CAPEX	-0.052 (-0.336)	-0.042 (-0.266)	-0.05 (-0.319)	-0.05 (-0.321)	-0.05 (-0.322)	-0.05 (-0.321)	-0.059 (-0.375)
DIV	-0.738*** (-4.683)	-0.737*** (-4.711)	-0.723*** (-4.612)	-0.769*** (-4.917)	-0.765*** (-4.879)	-0.737*** (-4.725)	-0.749*** (-4.774)
IO	-0.139* (-1.856)	-0.121 (-1.618)	-0.141* (-1.877)	-0.129* (-1.728)	-0.126* (-1.687)	-0.135* (-1.807)	-0.129* (-1.722)
IO <sup>2</sup>	0.271*** (2.797)	0.25*** (2.585)	0.266*** (2.727)	0.245** (2.535)	0.244** (2.522)	0.265*** (2.74)	0.254*** (2.616)
AGE	-0.004 (-0.824)	-0.006 (-1.036)	-0.005 (-0.978)	-0.005 (-0.900)	-0.005 (-0.888)	-0.005 (-1.003)	-0.006 (-1.082)
N=	8321	8321	8307	8321	8321	8321	8321
Adj. R <sup>2</sup>	0.508	0.508	0.506	0.51	0.51	0.507	0.507

Variables: SO: Social dimension score; SO\_SO\_HR: Workforce/Human Rights; SO\_SO\_CO: Workforce/Community; SO\_CU\_PR: Workforce/Product Responsibility; SO\_WO\_EQ: Workforce/Employment Quality; SO\_WO\_TD: Workforce/Training & Development; SO\_WO\_DO: Workforce/Diversity & Opportunity; SO\_WO\_HS: Workforce/Health & Safety; Q: Tobin's q; QCP: Tobin's q computed as in Chung and Pruitt (1994); MB: Market-to-book; SIZE: Size proxy; ROA: Return on assets; SG: Sales growth; RD: Research and development expenses; RDDUMMY: R&D dummy; AD: Advertising expenses; ADDUMMY: Advertising dummy; DA: Leverage; CAPEX: Capital expenditures; IO: Insider ownership; DIV: Dividend yield; AGE: Age of listing.

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## Notes

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<sup>1</sup> Taken from "Responding to the Leadership Challenge: Findings of a CEA Survey on Global Corporate Citizenship," white paper, World Economic Forum, Geneva, Switzerland, 2003, quoted by Bhattacharya et al. (2008).

<sup>2</sup> Bird et al. (2007, p. 193) "examine both a strengths and a concerns score for each activity where strengths can be taken to broadly mean the extent that a company exceeds legal requirements and/or minimum community standards with respect to that activity and concerns can be taken to broadly mean the extent that a company falls short of legal requirements and/or minimum community standards with respect to that activity".

<sup>3</sup> van den Heuvel (2012) shows that, when corrected from weights and indicator differences, the CSR overall scores of *Asset4* and *Sustainalytics* are highly and significantly convergent, exhibiting a correlation between 0.671 and 0.682.

<sup>4</sup> Since all variance inflation factors among the independent variables are less than 2, there seems to be no significant collinearity problems that might impact the results.

<sup>5</sup> Following Barnett and Salomon (2012), we explored a non-linear relationship. However, we do not find significant and robust results.

<sup>6</sup> We find similar results using Tobin's q computed as per Chung and Pruitt (1994) and market-to-book ratio as dependent variables.

<sup>7</sup> Not reported here for parsimony and available on request.