Are Dividends Detrimental to Corporate Social Performance?

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Abstract: We offer new original insights on the ongoing debate about the financial implications of CSR activities by investigating the relationship between dividend policy and corporate social performance. Based upon the stakeholder theory, we postulate that satisfying shareholder claims may lead to serving the interests of other stakeholders through corporate social policies. However, when dividends paid are too high, the company may no longer have enough financial slack to satisfy the other stakeholders, implying that dividends are paid at the expense of corporate social policies. We thus expect a curvilinear relationship between dividend policy and corporate social performance. Using a worldwide sample of almost 7,000 observations, we find support for a U-inverted relationship. Our findings are robust to both social and environmental pillars, various dividend measures as well as ESG scores.

Keywords: Corporate Social Performance, Dividend Policy, Stakeholder Theory, Slack Resources Theory

JEL Classification: G35, M14

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1- Introduction

Our paper contributes to the open debate on the financial implications of Corporate Social Responsibility (CSR) activities by studying whether firms' dividend policy has an impact on the level of corporate social performance (hereafter, CSP). Numerous studies have been dedicated to understanding the determinants of CSP. For instance, it has been shown that geographical diversification (Brammer et al. 2006), media attention (Zyglidopoulos et al. 2012), CEO power (Jiraporn and Chintrakarn 2013), CEO incentives (Fabrizi et al. 2014), firm maturity (Withisuphakorn and Jiraporn 2016), leverage (Barnea and Rubin 2010) and corporate governance and monitoring mechanisms (Jo and Harjoto 2012, Harjoto and Jo 2011, Jo and Harjoto 2011) influence the level of CSP. However, to the best of our knowledge, no study has explored the effect of dividend policy on CSP. We attempt to fill this gap in the literature. Specifically, we study to what extent the level of dividends paid to investors as financial stakeholders has an impact on the level of CSP, which can be considered as "the ability to manage and satisfy the different corporate stakeholders" (Igalens and Gond 2005). In other words: are dividends detrimental to CSP? The basic idea of this article is to explore whether the payment of dividends to financial stakeholders is contradictory to a high level of CSR activities, the purpose of which is to satisfy non-financial stakeholders.

Two theoretical perspectives conflict concerning this issue. On the one hand, the instrumental stakeholder theory (Jones 1995, Donaldson and Preston 1995) suggests that good relationships with all stakeholders is essential for maximizing a firm's value. Thus, CSR policies can be seen as a means to resolve conflicts between financial and non-financial stakeholders. We can expect that

firms that pay a high level of dividends in order to satisfy their financial stakeholders also try to maintain their reputation as a "desirable partner" (Jones 1995), and thus retain the participation of non-financial stakeholders by implementing CSR policies. On the other hand, dividends distributed to shareholders are amounts of money that cannot be used to try to satisfy stakeholder claims. Indeed, to implement CSR policies, financial resources are necessary. The more (less) a firm's financial performance is strong, the more (less) it has the financial resources that would allow it to increase its CSR engagement (McGuire et al. 1988, Waddock and Graves 1997, Shahzad et al. 2016). If we consider dividend policy, a low dividend payment can be interpreted by non-financial stakeholders as a willingness to keep cash in order to satisfy their claims (Holder et al. 1998, Shapiro 1990). Since the payment of dividends reduces free cash flows (Jensen 1986), high dividend firms may be less likely to engage in CSR activities.

The fact that the theory leads to contradictory predictions about the way dividends impact CSR activities poses a challenge. In this article, we aim to reconcile the two preceding points of view by analyzing, for the first time in the literature, the existence of a curvilinear relationship between dividend policy and CSP. Our argument is that instrumental theory predictions are valid up to a reasonable level of dividends. Indeed, it appears that a high dividend level leads to higher CSP. We explain this result by arguing that firms try to satisfy the claims of both financial and non-financial stakeholders in order to achieve their financial goals (Clarkson 1995). Hence, when a dividend is paid, this causes firms to implement CSR policies in order to maintain the commitment of non-financial stakeholders. However, when dividends paid reach a certain high level, the payment of dividends can no longer be expected to be positively related to CSP. The effect of dividend payouts on CSP should become negative, since surpassing a threshold of

dividends paid seriously reduces a firm's capacity to honor the claims of non-financial stakeholders.

Based on a worldwide sample of almost 7,000 firm-year observations between 2006 and 2010, our paper shows that the relationship between the level of dividends paid and CSP is positive. Thus, it appears that high dividend paying firms have higher subsequent CSP. Moreover, we refine this result by testing for a curvilinear relationship. We reveal that when dividends are particularly high (superior to the 75^{th} percentile), the relationship between dividends and CSP becomes negative. In addition, we investigate the impact of dividend policy on different pillars of CSP to arrive at an in-depth understanding of the relationship between dividend policy and CSP. We show that the relationships between dividend policy and both environmental and social pillars are also U-inverted shaped. Overall, our results are robust to the use of different measures of dividends and of CSP, and to different model specifications. In particular, our main conclusions remain the same when we use MSCI ESG ratings instead of Thomson Reuters Asset4 ratings.

Our work contributes to the literature on the determinants of CSP by investigating the impact of dividend policy on firms' CSP. While some previous studies have explored the impact of CSP on dividend policy (Cheung et al. 2016, Rakotomavo 2012), the reverse causality has never been studied before. Our results clearly highlight that a specific financial decision, dividend policy, impacts subsequent levels of CSP. Our article is organized as follows. In the next section, we present the related literature and formulate our hypothesis. Then, in Section 3 we introduce the data we use as well as the methodology. The main empirical findings are discussed in Section 4. The final section concludes.

2- Related Literature and Hypothesis

Dividend policy is known to be a major financial decision. Since the famous irrelevance proposition by Miller and Modigliani (1961), many works have tried to determine why firms pay dividends. The financial literature reveals that dividends may be paid in order to mitigate agency problems, since a high level of dividends reduces the amount of financial resources under manager control (Jensen 1986, Easterbrook 1984) and thus limits the problem of shareholder expropriation. Another argument is that dividend payments can be explained by the intent to convey information to investors (Bhattacharya 1979, Miller and Rock 1985). The empirical literature provides mixed results on the explanation of dividend decisions. However, the theories all converge in that they all postulate that firms have the goal of satisfying shareholder claims.

However, according to the instrumental stakeholder theory (Donaldson and Preston 1995, Jones 1995), firms must take all stakeholder claims into account, and not only financial ones, in order to maximize their value (Freeman and Phillips 2002, Freeman 1999). Clarkson (1995) explains that firms have an interest in honoring both financial and non-financial stakeholder claims, because the survival of the firms depends on their propensity to meet stakeholder claims. For instance, good relationships with customers may enhance their loyalty (Fombrun et al. 2000), a good employer reputation helps to attract high-quality employees (Turban and Greening 1997, Greening and Turban 2000) and strong environmental performance reduces the likelihood of lawsuits or boycotts (Orlitzky and Benjamin 2001). Hence, it is necessary to adopt CSR policies in order to maximize firm value, as shown by many empirical papers (Bird et al. 2007, Galema et al. 2008, Jiao 2010, Becchetti et al. 2012).

Since good relationships with stakeholders are crucial to achieving firms' financial goals (Donaldson and Preston 1995, Jones 1995, Clarkson 1995), managers of high dividend paying firms are also incited to maintain their reputation with stakeholders. Since stakeholders expect consideration and distributive justice (Donaldson and Preston 1995), paying high dividends should also lead to satisfying the interests of the stakeholders by implementing CSR policies. By considering CSP as the capacity to manage and satisfy the claims of different stakeholders (Igalens and Gond 2005) and as a method of conflict resolution, we thus postulate that a high level of dividends may be followed by high CSP.

However, in line with the slack resources theory, lower slack resources should lead to lower CSP. For instance, Barnea and Rubin (2010) argue that managers easily invest in CSR policies when slack resources are important. In this way, they show that leverage has a negative impact on CSP. A high level of debt reduces investment in CSR activities, because the repayment of debt decreases the level of available cash. Following the agency view of dividend policy, a high level of dividends paid reduces the level of slack resources. In other words, high dividends should lead to less cash, and thus to a diminished ability to implement CSR policies. Thus, a high level of dividend payout may have a negative effect on the level of corporate social performance.

Based on these different preceding theoretical predictions, we may expect a positive or a negative impact of the level of dividends paid out following CSP. On the one hand, high dividend paying firms may implement more CSR policies, because they aim to serve the interests of their non-financial stakeholders fairly. On the other hand, we can also postulate that high dividend paying firms will have insufficient financial resources to implement CSR policies in the future, which

may lead to the hypothesis that a negative relationship exists between dividends and CSP. In order to imbricate the two preceding points of view, we wonder if the relationship between dividend policy and corporate social performance is curvilinear. Hence, we finally posit that initially, and according to the distributive justice argument (Donaldson and Preston 1995), a higher level of dividends may be followed by higher CSP. Given that relationships with stakeholders are important for success (Donaldson and Preston 1995, Jones 1995, Clarkson 1995), after dividends payments are made, managers may try to maintain their reputation with non-financial stakeholders by implementing CSR policies in order to satisfy these non-financial stakeholders. However, once a certain amount of dividends paid has been reached, a high dividend payout leads to a reduced capacity to subsequently invest in CSR activities. Indeed, when dividends paid are too high, firms may not sufficiently hold cash, which limits the possibility for satisfying subsequent stakeholder claims. Thus, once a threshold is reached, we hypothesize that the relationship between dividend payout and CSP becomes negative. Thus, our hypothesis is:

H_1: The relationship between the level of dividends paid and corporate social performance is U-inverted shaped

3- Data and Methodology

3.1 ESG data

Following Ioannou and Serafeim (2012), Eccles et al. (2012), Cheng et al. (2014) and Eccles et al. (2014), we rely on corporate social performance scores from the Thomson-Reuters Asset4 database. Thomson-Reuters Asset4 is a worldwide ESG rating methodology based on more than 250 key performance indicators, generated from more than 750 datapoints from different sources such as annual reports and CSR reports, as well as press articles and NGO websites. We particularly focus on environmental and social scores, and exclude corporate governance (El Ghoul et al. 2011) and economic pillars (Aouadi and Marsat 2016) from the overall score. The environmental pillar consists of three subsets: emissions reduction, product innovation, and resource reduction, while the social pillar is split into seven categories: community, diversity, employment quality, health and safety, human rights, product responsibility, and training and development.

Since the rating methodology may raise some concerns (Chatterji et al. 2014), we also use MSCI ESG Data to control for the robustness of the results. MSCI ESG Data, another worldwide leading ESG score provider, has also been used in preceding research such as Guenster et al. (2011), Derwall (2007) or Aktas et al. (2011). We also use the social and environmental scores, as well as the combination of both, to compare our results with Asset4.

3.2 Financial and control variables

We extracted financial and control variables from FactSet Fundamentals. To proxy corporate dividend policy, we make use of different indicators as in Faccio et al. (2001): dividend yield, dividends by earnings, dividends by sales and dividends by total assets. Furthermore, to control our regressions, we follow previous studies by Artiach et al. (2010) and Jiraporn and Chintrakarn (2013) and retain the following variables, which have been shown to be related to both CSR and dividend policy: Size, Leverage, and ROA (see Table 1).

[Insert Table 1 here]

3.3 Sample

Matching ESG data from Thomson Reuters Asset4, MSCI ESG Data and financial data over the 2006-2010 period leads to almost 7,000 worldwide observations. Table 2 provides a sample description. Among the 51 countries, the most represented are the US (1,344 obs.), Japan (1,220 obs.), UK (872 obs.), Australia (458 obs.), Canada (284 obs.) and France (298 obs.). Since the coverage has broadened over the period, we have an unbalanced panel ranging from roughly 1,200 observations in 2006 to more than 1,600 in 2010. All the industries are represented, with three main industries totalizing more than 1,000 observations: Financials (GICS 40), Industrials (GICS 20) and consumer discretionary (GICS 25).

[Insert Table 2 here]

Table 3 presents the descriptive statistics of the main variables. CSP_A4 and CSP_MSCI are, respectively, the corporate social performance scores of Thomson-Reuters Asset4 and MSCI ESG Ratings, based on the equal weighting of environmental and social scores. Whereas the Thomson-Reuters Asset4 scores vary between 0 and 1, MSCI offers a score ranging from 0 to 10, which explains why the mean is 0.601 for the first and 5.207 for the second.

[Insert Table 3 here]

We find average values for dividend measures close to those reported by previous research (Faccio et al. 2001). For dividend yield, the mean is 2.5 percent, for dividend sales it is 4.8 percent, and for dividend by total assets, 2.1 percent. On average, companies paid 38.6 percent of their net incomes as dividends to shareholders over the period. In addition, the average return on assets is 5.6 percent, leverage is 19.3 percent and the mean size of the sample is more than 10.6 billion dollars.

The correlation matrix (Table 4) shows mixed results concerning the linear association between CSP and dividend proxies. CSP seems to be significantly and positively related to dividend yield and dividend by earnings. Dividend by total assets, however, is only significantly and positively correlated with CSP measured with Asset4, whereas dividend divided by sales proves to be negatively and significantly linked to CSP measures. However, because we expect nonlinear

relationships between the variables, we have relied on multivariate regressions, as in Barnett and Salomon (2012), to obtain more relevant results.

[Insert Table 4 here]

3.4 Methodology

We test our baseline models, linear and quadratic, including a one-year lag between the dependent and independent variables. Our baseline models are as follows:

$$CSP_{i,t} = \alpha_0 + \alpha_1 Dividends_{i,t-1} + \alpha_2 Size_{i,t-1} + \alpha_3 Leverage_{i,t-1} + \alpha_4 ROA_{i,t-1} + Year\ effects + Industry\ effects + Country\ effects + \varepsilon_{i,t} \quad (1)$$

$$CSP_{i,t} = \alpha_0 + \alpha_1 Dividends_{i,t-1} + \alpha_2 Dividends_{i,t-1}^2 + \alpha_3 Size_{i,t-1} + \alpha_4 Leverage_{i,t-1} + \alpha_5 ROA_{i,t-1} + Year\ effects + Industry\ effects + Country\ effects + \varepsilon_{i,t} \quad (2)$$

All variables are described in Table 1. Moreover, since we run panel data regressions from different countries and industries, we include country, year and industry fixed effects as control variables, and cluster by firms (Petersen 2009).

4- Empirical Results

4.1 Baseline models

In this section, we discuss our main empirical findings concerning the link between dividends and CSP. We report the results of estimates of equation (1) in columns 1 to 3 of Table 5, where our variable of interest is div_yield.

[Insert Table 5 here]

Hence, we estimate the linear relationship between dividend yield and lagged CSP. Our dependent variable is our overall CSP measure in column 1 (CSP_A4), our environmental performance measure (Environment_A4) in column 2 and our social performance measure (Social_A4) in column 3. We have used ordinary regressions and robust standard errors, clustered at the firm level. We show that the level of dividends paid seems to have a positive impact on lead CSP, regardless of the CSP proxies, and the relationship appears to be highly significant. These results seem to contradict the view according to which the payment of dividends reduces slack resources and thus the ability to implement CSR policies (Barnea and Rubin 2010). In fact, we observe a positive effect of the level of dividends paid on CSP. To explain this result, we refer to the stakeholder theory, which postulate that "managers and other agents act as if all stakeholders' interests have intrinsic value" (Donaldson and Preston 1995). Thus, we propose that the observed positive relationship between our dividend measure and CSP is due to the fact that high dividend paying firms subsequently try to satisfy non-financial stakeholder claims by

implementing CSR policies, since considering the involvement of each stakeholder must lead to higher financial performance (Clarkson 1995).

Next, we evaluate our hypothesis according to which the relationship between dividends and CSP is U-inverted shaped. One may ask whether our previous results are still true when the level of dividends becomes significant. Indeed, we contend that when dividends are high, firms have fewer financial resources, which limits their ability to satisfy stakeholder claims. To test this hypothesis, we have estimated our equation (2). This model is the same as in equation (1), except that we include squared dividends. The results of these estimations are reported in columns 4 to 6 of Table 5. We can observe that the coefficients of div_yield are still positive and highly significant for each model specification. In addition, the coefficients of div_yield^2 are significantly negative. This result indicates that the relationship between dividend and lead CSP is U-inverted shaped.

Figure 1 presents the U-inverted relationship between div_yield and CSP_A4 graphically. We can observe that the effect of div_yield on CSP becomes marginally negative when div_yield is around 5.58%[1]. Based on Table 1, we note that 5.58% is above the 75^{th} percentile (3.36%). This reinforces our theoretical argument for testing for a non-linear relationship between the level of dividends paid and CSP: initially, div_yield has a positive impact on CSP_A4, but when div_yield becomes particularly high, the impact is negative. We thus interpret the downward part of the curve to mean that when dividends are too high, firms have less cash available to invest in CSR activities in the future.

[1] To compute this point, we derived our CSP_A4 function presented in column 4 of Table 5 with respect to div_yield, and we computed the value of div_yield for which the derivative is equal to zero.

[Insert Figure 1 here]

We also find a U-inverted relationship when we use Environment_A4 and Social_A4 as dependent variables. Overall, it appears that a high dividend level seems to be followed by high CSP up to a threshold level, beyond which higher dividends negatively affect the future level of CSP. These results provide us with an in-depth understanding of the relationship between dividends and CSP. We underscore the fact that there is a positive relationship between dividends and subsequent CSP, as long as the level of dividends paid is reasonable. But when the level of dividends paid reaches a certain threshold, the relationship becomes negative, because paying dividends reduces the possibility to implement CSR policies.

4.2 Sensitivity and robustness tests

In this section, we check the robustness of the results from the previous section. In Table 6, we have re-run equation (2), but by using different proxies for dividends. Following Faccio et al. (2001), we have used dividends by earnings (div_earnings), dividends by sales (div_sales) and dividends by total assets as variables of interest (div_assets). As noted by these authors, the use of different measures of dividends allows researchers to avoid biases of each measure that result from "accounting practices and manipulations by controlling shareholders." These estimations demonstrate that results shown in Table 5 are not sensitive to dividend proxies.

[Insert Table 6 here]

We have also used an alternative variable for CSP to check the sensitivity of our results against measures of dependent variables. In Table 7, we have created a dummy variable separating firms with high CSR ratings, i.e., above the mean of our sample, and low CSR ratings. We have built three dummies, corresponding to pillars that we studied in the previous section: Dummy_CSP_A4, Dummy_Environment_A4 and Dummy_Social_A4. We have estimated probit models, where we regress our dummies on control variables of equation (2). The results presented in Table 7 show that our previous results remains unchanged when we use dummy variables as dependent variables.

[Insert Table 7 here]

In a similar way, we have re-estimated equation (2) with the CSR rating provided by MSCI ESG Research, another leading CSR rating agency, as an alternative CSR proxy. As dependent variables, we employ our four dividend measures (div_yield, div_earnings, div_sales and div_assets). We present the results of these estimations in Table 8. We show again that the U-inverted relationship between dividends and CSP seems to be not sensitive to measures of CSP.

[Insert Table 8 here]

Moreover, we add control variables encountered in the empirical literature on CSR to equation (2) in order to check that our previous results are not impacted by an omitted variables bias. Hence, we have added IO, measured as the percentage of shares owned by insiders, to proxy for

insider ownership. Some authors have argued that a high level of insider ownership facilitates CEO entrenchment, which may lead to the expropriation of shareholders through CSR policies (Barnea and Rubin 2010). We also add proxies for research and development (R&D) expenses: we include in equation (2) rd and rddummy, which are respectively R&D expenses scaled by assets, set to zero when data is missing, and a dummy which takes the value of one when the data is missing and zero otherwise, following Jiao (2010) and Aouadi and Marsat (2016). McWilliams and Siegel (2001) emphasize that R&D expenses may lead to high CSR involvement. Moreover, we proxy for advertising expenses: ad, which is advertising expenses scaled by total assets or zero when data is missing, and addummy, a dummy which controls the availability of the data (Aouadi and Marsat 2016, Barnett and Salomon 2012). Thus, we follow Harjoto and Jo (2011), who argue that firms' product differentiation, proxied by advertising expenses, may influence CSP. We also control for the age of firms with lnage, measured as the natural logarithm of the number of days since first quotation. Withisuphakorn and Jiraporn (2016) have recently shown that mature firms seem to have higher CSP, arguing that these firms are more likely to implement CSR policies since their performance is more stable and predictable. Finally, we include capex, which is capital expenditure divided by total assets. Artiach et al. (2010) show that firms which have significant investments in tangible assets may be less likely to invest in CSR activities "because of their sunk cost investment in existing production technologies." The results of estimations for our extended model are shown in Table 9. We observe that we still find a U-inverted shaped relationship between dividends and lead CSP, indicating that our previous results are not sensitive to an omission variable bias.

[Insert Table 9 here]

We also deal with endogeneity concerns. Indeed, the results provided in Table 5 to 9 seem to indicate that a high level of dividends is followed in the next period by higher CSP, as long as a certain threshold is not reached. However, it is possible to argue that the level of CSP also has an impact on a firm's dividend policy. Indeed, according to the agency theory, dividend payment is a means to reduce the risk of shareholder expropriation by managers (Jensen 1986). Thus, it is possible to posit that high CSP leads to a higher dividend payout, since CSR policies may be linked with the extraction of managers' private benefits (Barnea and Rubin 2010, Surroca and Tribó 2008). Hence, we estimate two-stage least-squares regressions in order to deal with this potential endogeneity issue.

We instrument div_yield by countrysector, which is computed as the average dividend yield for the firm's country and sector. We thus assume that a firm's dividend policy is impacted by sectorial and institutional determinants, as mentioned by Michel and Shaked (1986). Hence, investment opportunities are comparable for firms in the same sector, which may have an impact on the dividend level of firms in this sector. Moreover, the characteristics of some countries, such as their capital market mechanism or tax levels, may also have an influence on dividend policy. Concerning the quadratic terms, which may also be endogenous (div_yield^2), we have used $countrysector^2$. Moreover, we have included all control variables and quadratic control variables as instruments, following Wooldridge (2002). We report the estimations of our two-stage least-squares regressions in Table 10. We observe that the coefficients on div_yield are still positive and highly significant for each specification, whereas coefficients on div_yield^2 are still negative and highly significant. This confirms our previous results and shows that they do not suffer from endogeneity.

[Insert Table 10]

5- Conclusion

In previous literature, great attention has been devoted to understanding the various determinants of CSP (Ziegler and Schröder 2010, Artiach et al. 2010, Ioannou and Serafeim 2012, Withisuphakorn and Jiraporn 2016, Jiraporn and Chintrakarn 2013, Fabrizi et al. 2014). However, no study has investigated the impact of dividend policy on CSP. We thus investigate this relationship which, to our knowledge, has not yet been explored.

Based on a worldwide dataset and on different CSP ratings, we demonstrate a strong U-inverted shaped relationship between dividends paid and CSP. The level of dividends paid is positively related to subsequent CSP until the level of dividends paid reaches a maximum. Due to how important it is to maintain good relationships with stakeholders in order to maximize a firm's value (Clarkson 1995, Jones 1995), high dividend paying firms seem to foster higher subsequent CSP, because these firms then invest in CSR activities in order to maintain the commitment of non-financial stakeholders. Indeed, a good reputation with these stakeholders is crucial for firms to achieve their financial goals (Clarkson 1995), and they may interpret a high level of dividends paid as a decreased ability to act in their interests (Holder et al. 1998, Shapiro 1990). When a certain high level of dividends paid is reached, however, this relationship is inverted, because after a certain threshold, dividends paid reduce the financial resources needed to implement CSR policies. Hence, the relationship becomes negative.

We find the same results for specific pillars of CSP such as environmental and social performance. This result is also robust to different model specifications and to different measures for both variables of interest and endogeneity concerns. Our study contributes to the literature concerning the determinants of CSP by investigating the impact of the dividend policy on firms' CSP.

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Table 1. Variable descriptions

Variable	Variable description
CSP_A4	CSP measure based on the equal weighting of environmental and social scores provided by Asset4 – Thomson Reuters.
Environnement_A4	Environmental score provided by Asset4 – Thomson Reuters.
Social_A4	Social score provided by Asset4 – Thomson Reuters.
CSP_MSCI	CSP measure based on the equal weighting of environmental and social scores provided by MSCI.
div_yield	Dividend per share / price per share
div_earnings	Dividends per share / earnings per share
div_sales	Dividends / total sales
div_assets	Dividends / total assets
Size	Ln(total assets)
Leverage	Total debt / total assets
ROA	Earnings before interest, taxes, depreciation, and amortization / total assets
io	Percentage of shares owned by insiders
rd	Research and development expenditures / sales
ad	Advertising expenses / sales
age	Natural logarithm of the number of days since first quotation.
capex	Capital expenditures/ total assets

Table 2. Sample description

Country	Obs.
Australia	458
Austria	50
Belgium	55
Bermuda	40
Brazil	20
Canada	384
Chile	23
China	85
Colombia	5
Cyprus	6
Czech Republic	13
Denmark	65
Egypt	5
Finland	87
France	298
Germany	181
Gibraltar	3
Greece	46
Hong Kong	206
Hungary	9
India	74
Indonesia	15
Ireland	84
Israel	18
Italy	158
Japan	1,220
Korea (South)	83
Luxembourg	9
Malaysia	33
Mauritius	1
Mexico	47
Morocco	4
Netherlands	78
New Zealand	33
Norway	51
Papua New Guinea	1
Peru	7
Philippines	4
Poland	11
Portugal	50
Russian Federation	40
Singapore	102
South Africa	26
Spain	151
Sweden	144
Switzerland	179
Taiwan	48
Thailand	20
Turkey	19
United Kingdom	872
United States	1,344
All	6,965

Year	Obs.
2006	1,198
2007	1,337
2008	1,308
2009	1,491
2010	1,631
All	6,965

GICS	Obs.
10	440
15	743
20	1,318
25	1,039
30	508
35	406
40	1,381
45	482
50	260
55	388
All	6,965

Table 3. Descriptive statistics

VARIABLES	N	mean	p25	p50	p75	max	min	skewness	kurtosis
CSP_A4	6,965	0.601	0.344	0.671	0.864	0.962	0.065	-0.424	1.760
CSP_MSCI	6,965	5.270	4.295	5.290	6.270	9.770	0.510	-0.128	2.788
div_yield	6,965	0.025	0.010	0.021	0.036	0.118	0.000	1.352	5.546
div_earnings	6,965	0.386	0.158	0.328	0.533	1.997	0.000	1.435	6.058
div_sales	6,965	0.048	0.008	0.023	0.052	0.951	0.000	4.756	34.515
div_assets	6,965	0.021	0.004	0.012	0.028	0.214	0.000	3.197	17.036
Size	6,965	23.085	22.069	22.922	24.009	28.713	18.274	0.494	3.520
Leverage	6,965	0.193	0.074	0.169	0.281	0.990	0.000	0.988	4.212
ROA	6,965	0.056	0.020	0.050	0.080	0.720	-0.670	-0.074	16.830

Table 4. Correlation matrix

	CSP_A4	CSP_MSCI	div_yield	div_earnings	div_sales	div_assets	Size	Leverage	ROA
CSP_A4	1								
CSP_MSCI	0.497***	1							
div_yield	0.114***	0.040***	1						
div_earnings	0.100***	0.055***	0.687***	1					
div_sales	-0.087***	-0.031**	0.462***	0.369***	1				
div_assets	0.038***	0.006	0.539***	0.475***	0.478***	1			
Size	0.305***	0.110***	0.053***	0.001	-0.043***	-0.303***	1		
Leverage	-0.023*	-0.006	0.074***	0.075***	0.063***	-0.030**	-0.058***	1	
ROA	0.025**	0.002	0.160***	0.023*	0.233***	0.538***	-0.273***	-0.162***	1

This table depicts pairwise correlations between our different variables. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1%

Table 5. Curvilinear relationship between dividend yield and CSP measured by ASSET4

VARIABLES	(1) CSP_A4	(2) Environment_A4	(3) Social_A4	(4) CSP_A4	(5) Environment_A4	(6) Social_A4
div_yield	0.971***	0.977***	0.966***	3.628***	3.249***	4.007***
	(4.167)	(3.858)	(3.921)	(7.117)	(5.681)	(7.612)
div_yield^2				-32.535***	-27.824***	-37.246***
				(-6.417)	(-4.955)	(-7.052)
Size	0.102***	0.101***	0.102***	0.099***	0.099***	0.099***
	(27.23)	(24.15)	(26.08)	(26.49)	(23.57)	(25.24)
Leverage	-0.114***	-0.096**	-0.132***	-0.108***	-0.091**	-0.125***
	(-3.081)	(-2.357)	(-3.438)	(-2.942)	(-2.241)	(-3.289)
ROA	0.298***	0.282***	0.314***	0.254***	0.244***	0.263***
	(4.546)	(3.706)	(4.799)	(3.957)	(3.246)	(4.139)
Constant	-1.773***	-1.785***	-1.762***	-1.732***	-1.750***	-1.714***
	(-21.06)	(-18.77)	(-19.81)	(-20.73)	(-18.49)	(-19.43)
Observations	6,965	6,965	6,965	6,965	6,965	6,965
Country FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Adj. R^2	0.391	0.368	0.362	0.397	0.372	0.370

This table shows the results of our ordinary least-squares regressions concerning the relationship between dividend yield and CSP, proxied by Asset4 ratings. Our variables are described in Table 1. All regressions include year, industry and country dummies. Robust t-statistics are in brackets. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.

Figure 1. Relationship between dividend yield and CSP

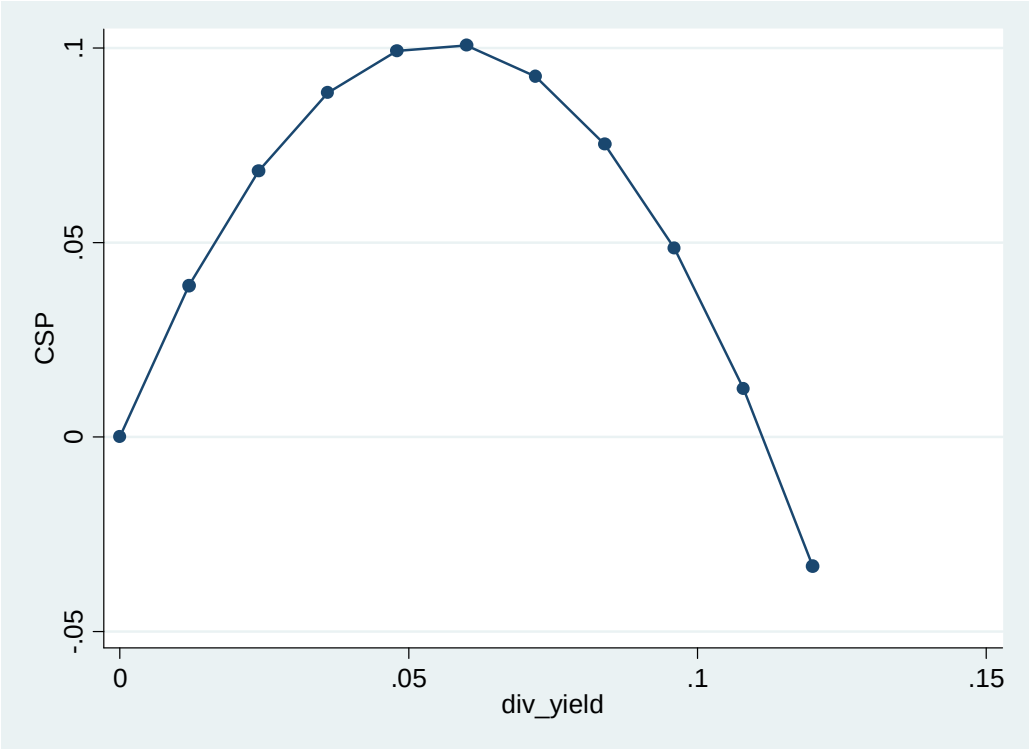

Table 6. Sensitivity analysis for dividend proxies

VARIABLES	(1) CSP_A4	(2) Environment_ A4	(3) Social_A4	(4) CSP_A4	(5) Environment_ A4	(6) Social_A4	(7) CSP_A4	(8) Environment_ A4	(9) Social_A4
div_earnings	0.173***	0.133***	0.213***						
	(5.388)	(3.693)	(6.466)						
$div\_earnings^2$	-0.082***	-0.057**	-0.106***						
	(-3.988)	(-2.525)	(-5.012)						
div_sales				0.512***	0.511***	0.513***			
				(3.794)	(3.397)	(3.733)			
div_sales^2				-0.734***	-0.629***	-0.839***			
				(-3.441)	(-2.606)	(-3.973)			
div_assets							3.476***	3.393***	3.559***
							(9.201)	(8.234)	(8.858)
div_assets^2							-17.377***	-17.413***	-17.341***
							(-8.298)	(-7.673)	(-7.770)
Size	0.101***	0.101***	0.102***	0.104***	0.104***	0.104***	0.106***	0.106***	0.107***
	(27.40)	(24.32)	(26.19)	(27.34)	(24.38)	(26.15)	(28.29)	(25.01)	(27.12)
Leverage	-0.106***	-0.0892**	-0.123***	-0.124***	-0.108***	-0.139***	-0.107***	-0.0889**	-0.126***
	(-2.882)	(-2.205)	(-3.216)	(-3.263)	(-2.600)	(-3.541)	(-2.973)	(-2.233)	(-3.348)
ROA	0.307***	0.306***	0.309***	0.271***	0.246***	0.296***	0.104	0.106	0.102
	(4.714)	(4.037)	(4.769)	(4.054)	(3.202)	(4.406)	(1.567)	(1.335)	(1.548)
Constant	-1.794***	-1.807***	-1.781***	-1.809***	-1.833***	-1.784***	-1.916***	-1.921***	-1.912***
	(-21.36)	(-18.95)	(-20.15)	(-20.93)	(-18.87)	(-19.59)	(-22.39)	(-19.93)	(-21.03)
Observations	6,965	6,965	6,965	6,965	6,965	6,965	6,965	6,965	6,965
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R^2	0.395	0.370	0.369	0.391	0.368	0.362	0.405	0.380	0.377

This table presents our sensitivity analysis for dividend proxies. Both our different dividend proxies (div_earnings, div_sales, div_assets) and control variables are described in Table 1. All regressions include year, industry and country dummies. Robust t-statistics are in brackets. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.

Table 7. Sensitivity analysis using dummy CSP measures

VARIABLES	(1) Dummy_CSP_A4	(2) Dummy_Environment_A4	(3) Dummy_Social_A4
div_yield	33.677***	30.035***	37.031***
	(6.013)	(5.605)	(7.028)
div_yield^2	-295.875***	-252.198***	-351.354***
	(-5.191)	(-4.653)	(-6.489)
size	1.043***	0.864***	0.936***
	(17.90)	(16.40)	(17.52)
Leverage	-0.701*	-0.588	-0.666*
	(-1.688)	(-1.512)	(-1.707)
ROA	2.982***	2.263***	2.448***
	(3.356)	(2.749)	(3.000)
Constant	-24.678***	-20.939***	-21.812***
	(-18.56)	(-17.30)	(-17.93)
Observations	6,898	6,894	6,938
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Sector FE	YES	YES	YES
Pseudo R-squared	0.286	0.251	0.257

This table shows the results of our probit models. Dependent variables are dummy variables separating firms with high CSR ratings and low CSR ratings. Our variables are described in Table 1. All regressions include year, industry and country dummies. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.

Table 8. Sensitivity analysis using CSP scores of MSCI ESG ratings

VARIABLES	(1) CSP_MSCI	(2) CSP_MSCI	(3) CSP_MSCI	(4) CSP_MSCI
div_yield	5.668**			
	(2.101)			
div_yield²	-62.919**			
	(-2.326)			
div_earnings		0.427**		
		(2.570)		
div_earnings^2		-0.237**		
		(-2.322)		
div_sales			2.480***	
			(3.613)	
div_sales^2			-2.981***	
			(-2.775)	
div_assets				10.255***
				(5.018)
div_assets^2				-56.268***
				(-4.885)
Size	0.255***	0.257***	0.267***	0.269***
	(11.79)	(11.95)	(12.34)	(12.44)
Leverage	-0.208	-0.206	-0.308	-0.212
	(-1.111)	(-1.103)	(-1.636)	(-1.146)
ROA	1.036***	1.014***	0.653*	0.511
	(2.779)	(2.776)	(1.734)	(1.272)
Constant	-0.116	-0.205	-0.398	-0.549
	(-0.237)	(-0.419)	(-0.798)	(-1.097)
Observations	6,965	6,965	6,965	6,965
Country FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Adj. R^2	0.223	0.223	0.225	0.228

This table shows the results of our ordinary least-squares regressions concerning the relationship between the dividend yield and CSP, proxied by MSCI ESG ratings. Our variables are described in Table 1. All regressions include year, industry and country dummies. Robust t-statistics are in brackets. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.

Table 9. Additional control variables

VARIABLES	(1) CSP_A4	(2) Environment_A4	(3) Social_A4
div_yield	3.432***	2.883***	3.981***
	(6.104)	(4.483)	(6.835)
div_yield^2	-30.240***	-23.939***	-36.541***
	(-5.356)	(-3.769)	(-6.078)
Size	0.093***	0.093***	0.094***
	(22.54)	(19.99)	(21.24)
Leverage	-0.077*	-0.056	-0.095**
	(-1.916)	(-1.336)	(-2.239)
ROA	0.266***	0.251***	0.281***
	(3.914)	(2.990)	(4.140)
io	-0.088***	-0.084***	-0.091***
	(-3.448)	(-2.917)	(-3.513)
rd	0.170	0.164	0.177
	(1.006)	(0.856)	(1.112)
rddummy	-0.119***	-0.144***	-0.094***
	(-8.157)	(-8.985)	(-6.170)
ad	-0.380	-0.415	-0.345
	(-1.305)	(-1.352)	(-1.113)
addummy	-0.060**	-0.070***	-0.050*
	(-2.484)	(-2.852)	(-1.823)
lnage	-0.012**	-0.009	-0.015***
	(-2.269)	(-1.497)	(-2.683)
capex	0.066	0.123	0.009
	(0.680)	(0.991)	(0.103)
Constant	-1.395***	-1.427***	-1.364***
	(-12.40)	(-11.27)	(-11.43)
Observations	5,226	5,226	5,226
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Sector FE	YES	YES	YES
Adujsted R-squared	0.424	0.402	0.387

This table shows the results of our regressions concerning the relationship between the dividend yield and CSP. We have added additional variables to our baseline models. Our variables are described in Table 1. All regressions include year, industry and country dummies. T-statistics are in brackets. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.

Table 10. Two-stage least-squares regressions (second step)

VARIABLES	(1) CSP_A4	(2) Environment_A4	(3) Social_A4
div_yield	6.271***	7.466***	5.075***
	(3.361)	(3.651)	(2.646)
div_yield^2	-46.568**	-56.078**	-37.059*
	(-2.160)	(-2.370)	(-1.709)
size	0.095***	0.093***	0.097***
	(21.57)	(18.81)	(21.36)
Leverage	-0.114***	-0.0970**	-0.132***
	(-3.118)	(-2.396)	(-3.455)
ROA	0.133	0.0761	0.190**
	(1.634)	(0.831)	(2.271)
Constant	-1.701***	-1.697***	-1.705***
	(-18.85)	(-16.66)	(-18.11)
Observations	6,965	6,965	6,965
Country FE	YES	YES	YES
Year FE	YES	YES	YES
Sector FE	YES	YES	YES
Adujsted R-squared	0.387	0.356	0.366

This table depicts results of the second step of our two-stage least-squares regressions. Our instruments are countrysector, (the average dividend yield for the country and the sector of the firm), $countrysector^2$, and all control variables and quadratic control variables. We include year, industry and country dummies. T-statistics are in parentheses. * Statistical significance at the 10% level. ** Statistical significance at the 5% level. *** Statistical significance at the 1% level.