

Corporate Social Performance

and

Financial Characteristics

*Australian evidence on the relationship between ratings on environmental, social and governance criteria and financial characteristics**

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Abstract

This paper compares publicly available corporate social performance (CSP) measures, on environmental, social and corporate governance criteria, with the financial characteristics of 237 Australian firms over the August 1997 to July 2003 period. Findings indicate strong and consistent negative relationships between CSP and risk, and that relationships between CSP and financial performance are much more likely to be positive than negative. Relationships are particularly strong for corporate governance performance, and appear to be contingent on some firm characteristics. Relationships are particularly strong within an industry group which includes banks, diversified financials, insurance companies and telecommunication companies.

Key terms: Corporate environmental performance, corporate social performance, corporate governance performance, financial performance

Classification codes: G10 (General Financial Markets); M14 (Social Responsibility)

Corporate Social Performance and Financial Characteristics

Australian evidence on the relationship between ratings on environmental, social and governance criteria and financial characteristics

Firms have traditionally been evaluated solely on financial criteria, as firms have been expected to assume only economic responsibilities, besides the legal responsibilities of operating within the law. Increasingly contemporary firms are also evaluated on non-financial criteria, such as corporate social performance (CSP), implying that firms may also be expected to assume some level of corporate social responsibility (CSR). The question of whether managers should be expected to, and allowed to, assume CSR and pursue CSP as a part of, or instead of, the traditional objective of wealth maximisation has been debated since the early 1900s. An evaluation of this debate is beyond the scope of this paper. The objective of the present study is to evaluate the empirical case for the financial incentive to do so, using Australian data.

The theoretical and empirical literature concerning possible links between CSP and financial characteristics, and particularly financial performance, is extensive. Nonetheless, proposed theories remain unconfirmed as empirical evidence is largely inconsistent. The empirical literature is plagued with problems of inconsistent and often questionable use of data and research methodology, which has been suggested as a possible reason for inconsistent findings (Ullman 1985; Roman, Hayibor and Agle 1999). One problem is that while recent theoretical development has provided a strong case for heterogeneity in CSP-financial characteristics relationships, such heterogeneity is not well incorporated into research design. The present study provides an important contribution to the literature by using well-researched measures of CSP, financial characteristics consistent with contemporary financial asset evaluation methods, a sample including a wide spectrum of companies, and allowing for some heterogeneity related to company size, trading history and industry. Moreover, the present study

provides much needed evidence on the relationship between CSP and financial characteristics in Australia, as nearly all previous empirical research has been conducted based on U.S. data.

The present study examines the evidence for a relationship between CSP, including environmental, social and governance performance, and financial characteristics, including investment style, financial performance and risk. Discussions proceed as follows. First, a brief review of the literature is provided in order to give a theoretical and empirical background to the present study. This is followed by a discussion of the CSP and financial characteristics measures included in the present study, and the research methodology employed. Research findings are then reported and their implications discussed. The conclusion summarises the contribution of this study.

A BRIEF REVIEW OF THE LITERATURE

Theoretical Background

The CSR literature presents various theories of how and why CSP may affect financial variables. The most interesting question in the context of a CSP-financial characteristics relationship is perhaps the question of how CSP may indicate ability to create value. This can be indicated by a CSP-financial performance relationship as well as a CSP-risk relationship. Firms' financial characteristics, including financial performance, may be affected by CSP via benefits of CSP, costs of CSP, any effects of CSP on risk, and supply of capital from socially responsible investment (SRI). It is also possible that CSP is affected by firms' financial characteristics. Some examples are provided here.

CSP may affect revenue where customers value CSP. The idea that CSP is valued by customers, and therefore has potential to increase consumer and producer surplus, has been referred to as the "social impact hypothesis" (Preston and O'Bannon 1997). CSP may increase or reduce costs. It has been suggested that CSP may increase costs by increasing agency costs because managers pursue CSP as a means to further their own social, political or career agendas,

at the expense of shareholders (Friedman 1962; Friedman 1970). Furthermore, it seems likely that, regardless of possible future returns from pursuing CSP, the cost of such activities may be prohibitive for some firms, especially small and risky companies with tight budgets and high capital costs. Preston and O'Bannon (1997) call the assumption that CSP production represents a net cost to the firm the "trade-off hypothesis".

Stakeholder theory provides much of the basis for arguments that high CSP may imply lower costs to the firm. It has been suggested that failure to meet the expectations of various non-shareholder constituents will ultimately result in higher costs and/or lost profit opportunities, and that CSP may reduce both explicit and implicit costs via lower transaction costs (McGuire, Sundgren and Schneeweis 1988; Preston and O'Bannon 1997; Ruf et al. 2001). Zingales' (2000) discussion of implicit contracts implies that loss of CSP can cause loss of valuable organisational capital, representing significant cost to the firm.

Stakeholder theory, contracting theory and a transaction-cost perspective have been used to justify arguments that a negative relationship between CSP and risk can be expected because CSP will strengthen explicit and implicit contracts between the firm and its stakeholders and therefore reduce the probability of stakeholder action. Higher risk of encountering such stakeholder action (including boycotts, strikes, litigation, 'clean-up', or other government intervention) is likely to imply higher uncertainty and variability of returns (Waddock and Graves 1997a; Anderson 2000). Waddock and Graves (1997b) suggest CSP may represent better quality management, which implies that pursuing CSP may in some cases serve as a risk management strategy. This argument is seconded by Orlitzky and Benjamin (2001), who suggest investors and lenders may regard poor CSP as a symptom of poor management and will regard poor CSP as an indication of higher risk via higher uncertainty and cash flow variability, and by Cornell and Shapiro (1987), who argue that failure to meet the expectations of various non-shareholder constituents will generate market fears, which in turn will increase a company's risk premium. It has however also been suggested that pursuing CSP may lead to higher exposure to

public scrutiny hence increasing risk (Rowley and Berman 2000). To the extent that CSP affects perceived risk, and to the extent that this risk is priced in the market, CSP may affect a firm's risk premium, which affects the cost of capital. Similarly, to the extent that CSP affects investors' willingness to hold shares, CSP affects the supply of capital.

SRI reflects CSP demand from shareholders in particular, rather than stakeholders in general (Freeman 1984). The growth in the SRI industry in most highly developed countries provides evidence that social and environmental issues are a concern to some investors (The Allen Consulting Group Pty. Ltd. 2000). SRI and investor activism may imply that at least some shareholders value other factors besides financial wealth. Investors' willingness to hold shares affects firms' cost of capital. While individual investors' divestment from a firm may not notably affect the firm's cost of capital, a major divestment by a large group of investors or a fund manager may have such an affect, especially for closely-held companies.

While the above theories imply causal effects of CSP on financial characteristics, theories proposing causal effect of financial characteristics on CSP are also suggested in the literature. Firstly, it has been suggested that larger firms are more likely to achieve high CSP than smaller firms because they have more resources and will allocate more funds towards activities that have a positive effect on CSP (Preston and O'Bannon 1997; Waddock and Graves 1997a). A variation of this idea suggests CSP depends on financial performance, since companies that perform well may be more likely to afford to pursue CSP (Preston and O'Bannon 1997). The idea that CSP may be more expensive for firms with high financing cost implies smaller riskier firms are likely to have lower CSP than larger less risky firms. Theories of how financial characteristics may affect CSP imply that caution must be taken when interpreting results from cross-sectional CSP-financial characteristics research. Evidence of significant CSP-financial characteristics relationships may not only be evidence that CSP affects financial characteristics, but also that financial characteristics may affect CSP.

It has been argued that the nature and strength of a CSP-financial characteristics relationship should depend on certain factors. Rowley and Berman (2000) provide an in-depth discussion identifying a comprehensive set of CSP-financial performance contingency factors which they sort into five main groups: firm characteristics, issue conditions, industry characteristics, stakeholder environment, and institutional context. This suggests that CSP-financial characteristics relationships may differ across groups. Companies with higher exposures to controversial CSR issues, who supply to industries with exposures, or who supply goods or services which are controversial in themselves or have a perceived risk of harm, may find it difficult to feasibly align their operations with stakeholder values.

Empirical Evidence

The empirical evidence provided on possible CSP-financial characteristics relationships is extensive. Although literature reviews on such research has been provided, they are either outdated (such as Ullman 1985), flawed (Griffin and Mahon 1997, as argued by Roman, Hayibor and Agle 1999) or incomplete (such as Roman, Hayibor and Agle 1999). As both Ullman (1985) and Roman, Hayibor and Agle (1999) point out, the empirical evidence remains inconclusive, which is likely a result of significant inconsistencies in research design. This warrants an extensive examination of empirical evidence with special attention to whether there is a link between use of certain types of data or research methodologies and certain results. Such an examination falls outside the scope of this paper, and is dealt with in a separate paper.¹ Findings are summarised here.

An examination of 55 identified empirical studies confirms earlier reports of inconsistent empirical evidence, but finds no evidence that certain periods in time, CSP measures, financial performance measures, use of control variables, or types of methods produce certain results. While research on CSP-financial performance relationships are more commonly

¹ Please contact the corresponding author for further information.

reported on, other financial characteristics are also covered in the literature. Among the 55 studies examined, 51 report on CSP-financial performance relationships, seven report on CSP-size relationships, 10 report on CSP-risk relationships, and three report on CSP-book-to-market value (or similar) relationships.

Although the body of reported evidence is inconsistent, there is, overall, stronger evidence for a positive than for a negative CSP-financial performance relationship, as 27 studies report a positive CSP-financial performance relationship and only four studies report a negative CSP-financial performance relationship. Twelve studies report no evidence of a relationship, and eight report inconsistent results.

Although the majority of studies reporting on CSP-size relationships find a positive relationship, there appears to be no strong evidence that size and CSP are consistently positively or negatively related. There is however reasonably strong evidence for a negative CSP-risk relationship. The consistent reports of a negative CSP-risk relationship, together with some reports of a positive relationship between CSP and research and development investment intensity and negative relationships between CSP and book-to-market equity, suggests that the use of unadjusted financial performance measures, which are frequent in the literature, are inappropriate and likely to yield unreliable results. Appropriate performance measurement should adjust for book-to-market value as well as size and risk. The need to develop methods that allow for CSP-financial characteristics contingency factors is strongly indicated in the literature, as very few studies allow for any heterogeneity.

There is a strong theoretical basis, supported by a small amount of available empirical evidence, for an industry-contingent CSP-financial characteristics relationship, implying that such relationships vary across industries, but form more consistent patterns within industries (Spencer and Taylor 1987; Herremans, Akathaporn and McInnes 1993). Studies allowing for across industry heterogeneity in the CSP-financial characteristics relationship, such as Spencer and Taylor (1987) and to a certain extent Herremans, Akathaporn and McInnes (1993), present

an important improvement in research methods. Such research may improve the consistency of findings and provide much needed information on how CSP and financial characteristics are interrelated, and in what circumstances a CSP-financial characteristics relationship may be expected to be positive, negative or neutral.

THE DATA

The CSP Measures

The present study uses CSP data provided by Corporate Monitor Pty. Ltd., who provide ratings on the environmental, social and governance performance of Australian companies. A detailed examination of the Corporate Monitor CSP ratings, together with alternative ratings from Reputation Management Pty. Ltd., is provided in a separate paper.² CSP ratings from Corporate Monitor have been published monthly in the Ethical Investor magazine since June 2001, covering the largest 200 companies listed on the Australian Stock Exchange, by market capitalisation, as well as a smaller subset of companies. Ratings are produced on a scale from one (low performance) to five (high performance). The present study uses average monthly CSP ratings, collected between 1 August 2000 and 1 July 2003, for 237 companies. The use of average ratings is appropriate because ratings are very stable over time, suggesting that CSP is a short-term stable characteristics type variable rather than a volatile tracking-device. CSP ratings are calculated based on cumulative public information available from 1 July 1999 until the time the ratings are calculated.

The Corporate Monitor CSP data set is sound for many reasons. Firstly, the relatively large number of companies of different size means that research will be less prone to the bias towards very large firms that is evident in the empirical literature. Secondly, ratings are provided for a reasonable period of time, though time-series analysis is not possible due to the lack of

² Please contact the corresponding author for further information.

variability in the data. Thirdly, Corporate Monitor provide ratings on three categories comparable to other types of CSP data used in the literature which allows investigation of separate CSP-financial characteristics relationships.³ Fourthly, information included is not biased by managers' own perceptions of their efforts and performance in pursuing CSP. Lastly, the statistical properties of the data indicate ratings are normally distributed across the companies in the included sample, which implies parametric analysis will yield reliable results.

The Financial Characteristics Measures

The financial characteristics measures used in the present study are selected based on a perspective of firms as financial assets. Eight different financial characteristics measures are included, which fall into three categories of style characteristics, measures of financial risk and measures of financial performance. Style characteristics include size (total market capitalisation) and value (book-to-market value). Measures of financial performance include unadjusted market performance (total shareholder return), performance adjusted by total risk (Sharpe Ratio), performance adjusted by factor covariation (three-factor Jensen alpha) and performance adjusted by characteristics-matched benchmark performance. Measures of financial risk include total risk (standard deviation of monthly returns) and systematic market risk (single-factor market beta). Measures of financial characteristics are calculated over the period from 1 August 1997 to 1 July 2003, both covering the entire six-year period and the two three-year periods from 1 August 1997 to 1 July 2000 and 1 August 2000 to 1 July 2003.⁴

³ For example, the French rating agency AReSE provide CSP ratings on five criteria, including employee relations, shareholder relations, product quality, and community, environment (D'Arcimoles and Trebucq, 2000). Many commonly used U.S. CSP data sources include a higher number of CSP measures, such as the KLD ratings which covers seven categories (Waddock and Graves, 2000) and the Fortune ratings which covers eight categories (Stanwick and Stanwick, 1998). Many of these rating agencies provide ratings on issues that are more management-performance related than CSR-related, in addition to certain common CSR issues.

⁴ Sample periods longer than six years were deemed impractical due to limited data availability, and sample periods shorter than three years are also impractical as it is difficult to estimate Jensen alphas and market betas over short periods. Note that Jensen alphas and market betas cannot effectively be measured for individual firms due to estimation problems. These measures are instead estimated based for portfolios of firms which are formed on the basis of CSP.

With respect to the financial characteristics data, the following should be noted. Firstly, outlier observations of the market return of four companies causes problems with positively skewed distributions. This is corrected for by omitting four companies from the second part of the analysis, where parametric techniques are employed. Secondly, 159 of the 237 sampled companies are listed during the sample period, which means they do not have complete data. Finally, the sample shows tendencies of a reversal in market return between the two three-year periods over which financial performance is tracked, as companies who perform well in one period perform poorly in the other, and vice versa.

METHODOLOGY

Testing for CSP-Financial Characteristics relationships

The analysis of CSP-financial characteristics relationships comprises two parts. In the first part, the evidence for general bi-variate relationships between CSP and financial characteristics are investigated. This part of the analysis uses ordinal or ranked data, calculating Spearman Rank correlations between CSP and financial characteristics.⁵ Since the literature suggest CSP-financial characteristics relationships are likely to differ across different types of firms Spearman Rank correlations are calculated within twelve different samples, including (1) the full sample of 237 companies, (2) the 100 largest companies in the sample (by average full-period market capitalisation), (3) the 137 smaller companies in the sample, (4) the 156 companies with full period trading data (listed prior to 1 August 1997), (5) the 81 companies with limited coverage (listed after 1 August 1997) and (6) each of seven industry groups. The construction of these industry groups is discussed in turn. This approach allows heterogeneity in

⁵ The use of ranked data means some information is lost (in terms of density of CSP ratings), however the advantage of using ranked data is that non-normal distributions will not affect the reliability of results and that all companies may be included in the analysis, also companies with extreme financial characteristics values.

CSP-financial characteristics relationships across industry groups and firms of different size and trading history.

The second part of the analysis compares the financial characteristics of portfolios of companies with different CSP. Such an approach allows for non-linear CSP-financial characteristics relationships, consistent with reported inverted U-shaped relationships where firms with moderate CSP outperform firms with high and low CSP (Bowman and Haire 1975; Sturdivant and Ginter 1977). Portfolios are constructed by sorting the sample into groups of high, moderate and low CSP. This procedure is repeated for environmental, social and governance performance. The average financial characteristics values of each portfolio are compared and portfolio differences tested for statistical significance.

Allowing For Heterogeneity in CSP-Financial Characteristics Relationships

In spite of a strong theoretical basis for industry-contingent CSP-financial characteristics relationships, the empirical literature presents few attempts to incorporate this into research methodologies with the exception of Herremans, Akathaporn and McInnes (1993) and Spencer and Taylor (1987). The methodology applied by Herremans, Akathaporn and McInnes (1993) has some weaknesses when compared Spencer and Taylor (1987). The latter approach is therefore taken here.⁶

Spencer and Taylor (1987) sort companies into industry groups, and then apply a ‘within-and-between analysis’. The within-industry analysis tests for a CSP-financial characteristics relationship within each industry, and the between-industry analysis test for such relationships between industries using industry averages. A similar within-industry analysis is replicated here though a between-industry analysis is beyond the scope of this paper.

⁶ Pilot studies were conducted using both approaches. The methodology of Herremans, Akathaporn and McInnes (1993) proved inappropriate due to significant heterogeneity in CSP ratings within industries. This causes problems as their method is based in industry averages of CSP and financial characteristics data. The results of the pilot study did not yield meaningful results.

A within-industry analysis requires a reasonable number of constituents within each industry, and if possible relatively similar numbers of constituents across industries. Australian companies are categorised using the GICS system, which sorts companies into 23 industry groups (hereafter referred to as industries). Due to the uneven distribution of companies across industries, and the small average constituency of each industry, industries are sorted into a smaller set of larger industry groups on the basis of suggested CSP-financial characteristics contingency factors, based on the framework of Rowley and Berman (2000) and related aspects from consumer behaviour is used for this purpose. The classification is based on the following factors:

1. Presence of important CSR issues
2. Type of consumers (industrial or household sector)
3. Extent of choice and consumers' ability to intervene directly (via demand) or indirectly (via organised stakeholder and political action)
4. Consumer purchase process (frequency and level of involvement; rational or emotional decision-making)
5. Perceived risk of harm, type of risk-factors (financial, functional, physical, social, psychological) and reliance on reputation (high or low credence)

Figure 1 provides an overview of how the seven industry groups are constructed.

FIGURE 1 ABOUT HERE

Constructing CSP-Sorted Portfolios for Alpha and Beta Estimation

In the second part of the analysis, where the financial characteristics of high, moderate and low CSP portfolios are compared, Jensen alphas and market betas are estimated based on the portfolio returns constructed with equal weighting. Additional steps are however required for the

first part of the analysis, where firms' CSP and financial characteristics are compared on an individual basis. In this case it is necessary to construct many small portfolios, each of which having reasonable homogeneity in terms of CSP. This is addressed by sorting the sample into twenty-seven portfolios as follows. First, the sample was sorted into three approximately equally sized groups according to environmental performance. Second, each of these three groups was again sorted into three groups according to social performance. Third, each of the nine groups was again sorted into three groups according to governance performance producing twenty-seven portfolios of companies with similar CSP ratings.

RESULTS

Spearman Rank Correlations

Spearman Rank correlations between CSP and financial characteristics are provided in Table 1. Correlations between CSP and size, book-to-market value, financial performance measures and risk are reported here in turn. Correlations between environmental performance and size and between social performance and size follow a similar pattern as significant positive correlations are found among large companies whereas significant negative correlations are found among small companies, and as correlations are inconsistent between industry groups. Strong positive correlations between social performance and size are also found within the sample of companies with full-period coverage. In the governance performance category, correlations are significantly positive within the full sample, significant negative correlations among recently listed companies, and not notably different across industry groups. Significant correlations between CSP and book-to-market value are scarce, though to the extent that they do appear they are largely negative.

TABLE 1 ABOUT HERE

Significant correlations between environmental performance and financial performance are sparse and are only found within some industry groups. Significant positive correlations between environmental performance and total shareholder return are observed in the energy-related and necessity services groups, and some significant negative correlations are found in the situational (lifestyle) consumption group. Correlations between social performance and financial performance are more prevalent. Some significant positive such correlations are found within the full sample, and strong and significant positive correlations are found in the necessity services group. Correlations between governance and financial performance are more prevalent again. A significant reversal between the two three-year periods is observed, where significant positive correlations are found in the 2000-2003 period and significant negative correlations are found in the 1997-2000 period. Correlations are consistently strong, significant and positive among recently-listed companies and the necessity services industry group. Jensen alphas, which are only calculated within the full sample, are significantly and positively correlated with both social and governance performance, though only for the 2000-2003 period.

Significant correlations between CSP and risk are prevalent and are always negative. Significant negative correlations between risk governance performance are most prevalent, followed by social performance and then by environmental performance. Though there are some minor differences between the various samples, correlations are not very different across these. Significant negative correlations between risk and social performance, and particularly governance performance, are particularly strong in the necessity services group. Correlations between governance performance and market beta, based on the full sample, are consistently significant, negative and strong. Correlations between social performance and market beta significant only for the 1997-2000 period.

Comparing High, Moderate and Low CSP Portfolios

Comparisons between portfolios of high, moderate and low CSP companies are provided in Table 2. Results suggest that companies with high social and governance performance are larger than companies with moderate and low performance. In both cases, high CSP portfolios exhibit significantly larger average company size compared to moderate CSP portfolios, whereas differences between moderate and low CSP portfolios are not significant. High, moderate and low environmental performance portfolios are not statistically different by company size. No consistent differences are found between portfolios' average book-to-market values, although high and moderate governance performance companies have significantly lower book-to-market values compared to low governance performance companies over the 2000-2003 period. There are no consistent significant differences between the financial performance of high, moderate and low environmental performance portfolios. There is however some evidence of a significant positive association between governance performance and financial performance, which is strong when measured by the Sharpe Ratio, followed by total shareholder return. Strong reversals are observed in the Jensen alphas between the two three-year periods, for all CSP categories, all indicating positive association between CSP and financial performance during the 2000-2003 period and negative association during the 1997-2000 period. There is strong evidence that companies with high CSP exhibit lower risk than companies with lower CSP in all CSP categories, though particularly in the governance category. This evidence is persistently strong for both total risk and market beta.

TABLE 2 ABOUT HERE

DISCUSSION

The results provide evidence of significant cross-sectional correlations between ranks of CSP and financial characteristics measures, which often depend on company size, trading history and industry classification. Portfolios with high, moderate and low CSP often exhibit significantly different financial characteristics, though there is no evidence of any inverted U-shaped CSP-financial characteristics patterns as suggested by Bowman and Haire (1975) and Sturdivant and Ginter (1977). Results from the two parts of the analysis are largely consistent, though results are stronger in the first part.

Among the CSP measures, more significant relationships are found between governance performance and financial characteristics, fewer significant relationships are found between social performance and financial characteristics, and very few significant relationships are found between environmental performance and financial characteristics. Strong and consistent evidence is found of a negative relationship between CSP and risk, which is strongest for governance performance, followed by social performance, and environmental performance. Governance performance is strongly and positively related to financial performance. This evidence is particularly strong and consistent among recently-listed companies and companies in the necessity services industry group.

The evidence presented here provides important insights into the relationship between CSP and financial characteristics. Significant patterns are found in terms of investment style and in terms of financial performance and risk. The evidence suggests an overall positive association between size and governance performance, not dependent on industry. This could be interpreted as supporting the suggestion that larger firms are, to a greater extent than smaller firms, able to allocate resources towards pursuing CSP (Preston and O'Bannon 1997; Waddock and Graves 1997a). However, it makes better intuitive sense that this relationship is caused by a positive association between organisational complexity and governance performance. Hence, size itself is likely to be the important factor in determining governance performance, rather than the ability

to spend on particular activities. The fact that this relationship appears to be independent of industry group classification also makes intuitive sense. While it is likely that particular industries are prone to particular controversies driving demand and supply of environmental and social performance, expectations of governance performance are perhaps less likely to be dependent on industry.

Environmental and social performance is contingent on industry as well as size, although the association between size and social and environmental performance possibly exists for different reasons compared to governance performance. The link between size and environmental and social performance is also dependent on industry, indicating that large companies achieve higher environmental and social performance in some industries, but that small companies achieve higher performance in others. This is further supported by the fact that very large and very small companies tend to perform better on social and environmental criteria than moderately sized companies. When very large companies outperform moderately sized companies this may well be evidence of the 'slack resources' and 'available funds' hypotheses. When very small companies outperform moderately sized companies this is more likely to be explained by the fact that very small companies are likely to operate within particular niches which gives these companies a comparative advantage in achieving CSP. This appears to be the case within the commercial goods and services industries, where there is a negative relationship between size and environmental performance, and within the technology industries, where there is a negative relationship between size and social performance.

This has implications for the investment style of SRI funds. If the constituency of SRI funds reflects CSP, which may or may not be the case, although there should be a very strong link, investment style will depend on the specific criteria on which the constituent firms are selected. Emphasis on governance issues will likely result in a portfolio dominated by large companies. Emphasis on environmental and social issues is however more likely to result in a portfolio of both very large companies, which possibly achieve high CSP because they can

afford to, and very small companies that operate within particular niches. Furthermore, emphasis on environmental and social issues is likely to result in portfolios that are over-exposed to certain industries and under-exposed to others.

Some weak evidence is found of a negative relationship between governance performance and book-to-market value. This is consistent with evidence provided by Cochran and Wood (1984) and Pava and Krausz (1996), although they use a composite CSP measure rather than a specific measure of governance performance. This evidence supports the arguments provided by Ruf et al. (2001) that CSP is linked to valuable implicit contracts. Governance performance may be linked to valuable assets that are not accounted for on the balance sheet, hence this could link to valuable reputation, organisational capital or other intangibles. This in turn suggests that SRI portfolios selected based on governance performance may exhibit value rather than growth characteristics. Such portfolios are however not likely to exhibit particular value or growth characteristics if selected based on environmental or social performance.

The present study provides evidence that governance performance is strongly and positively related to financial performance. This evidence is robust across full-sample analyses, and is concentrated among recently-listed companies, large companies and companies in the necessity services industry group. Similar but weaker evidence is found for social performance. This is interpreted as being particularly supportive of the idea that CSP, and specifically governance, is an indicator of quality of management (Waddock and Graves 1997a), rather than the idea that governance is determined by financial performance or available resources. The fact that governance is a long-term stable characteristic, whereas financial performance is erratic, gives further support to this position. This implies that the ‘good management theory’ holds particularly strongly among recently listed companies, large companies and the group of companies that include banks, diversified financials, insurance and telecommunications companies, and among recently listed companies.

Corporate governance may be particularly important to recently listed companies because they cannot depend on a track-record of good management and financial performance. Recently listed companies therefore need to convince their investors, suppliers and customers that they can be relied upon (or that the implicit contracts they hold with stakeholders are valuable), and must pursue the strategies available to them in order to lower the perceived risk of buying from, supplying to or investing in these companies. Governance may be particularly important to the success of large companies because they face higher expectations of governance. Note that the relationship between governance performance and financial performance is also significant among large companies when financial performance is adjusted by size. Lastly, governance may be particularly important to banks, diversified financials, insurance and telecommunications companies because these companies produce high-credence services. In the case of banks, diversified financials and insurance companies a high level of regulation also discourages and departure from good governance standards. Stakeholders are likely to rely heavily on reputation and other factors that can lower perceived risk. High governance performance may therefore be important to gain competitive advantage within these markets. It is worth noting that the companies within this industry group are very large compared to the constituents of other industry groups.

Further support for the idea that CSP is indicative of the quality of management is provided by the very strong and consistent evidence of a negative relationship between CSP and risk, which is also stronger in the governance category compared to the other categories. This evidence is robust across various samples, and is not contingent on size, trading history or industry. Note that this relationship is strong for all CSP measures, including environmental and social performance, although it is strongest for governance performance.

This evidence is useful to managers, investors, SRI fund managers and regulators. To corporate managers, this evidence suggests that the pursuit of corporate governance and excellence in management may be justified as a strategy for furthering the objective of wealth

maximisation. The pursuit of social performance may be similarly justified, but there is little evidence that the pursuit of environmental performance is generally positively related to financial performance (although there is a negative relationship between environmental performance and risk). Investors may consider CSP measures to contain useful information, and would in particular be justified in selecting companies with high governance and social performance, even for pure financial wealth-maximising reasons. To SRI fund managers, this provides good reason to continue to offer such products to investors, since they add value to investors financially (in addition to presumed non-wealth related utility).

Regulators may use this evidence as an indication that good governance is a market-driven virtue and that the need for intervention is limited. More specifically, governance is linked to quality of management, and quality of management is intuitively linked to financial performance. There is therefore a strong financial incentive for self-regulation in terms of governance. This incentive is strongest among recently listed companies, who may rely on sending strong signals of high quality of management for lack of established reputation capital. This incentive is also particularly strong within the necessity services sector, possibly because of the high-credence nature of the services provided. The evidence provided here, paired with continued high governance performance within this industry group, should send credible signals to regulators of strong financial incentives to self-regulate.

Social performance is not so clearly a market-driven virtue, and environmental performance even less so. The evidence provided here suggests that high environmental performance is not often associated with high financial performance. The only exception is perhaps the energy-related industry group, where there is some evidence of a significant positive relationship between environmental performance and financial performance. This could be due to the fact that these companies are large and being proactive on environmental issues is perceived as a requirement for maintaining a healthy relationship with stakeholders, and particularly regulators. This evidence suggests regulators should target industries where there is

no financial incentive to self-regulate on environmental issues, as appears to be the case in the situational (lifestyle) consumption industry group, where costs of environmental performance appears to outweigh the benefits.

In sum, relationships between governance performance and financial characteristics are much more easily detected than relationships between social and environmental performance and financial characteristics. These latter relationships appear to be rather elusive, and are not explained well by existing theories. They appear to be prone to contingencies, which are likely to be very specific to size and industry-type characteristics.

The present study presents many interesting areas of future research. Firstly, findings suggest relationships between CSP and financial characteristics, and financial performance in particular, may differ across different time periods, which implies a need to expand the sample period of this type of research beyond the six-year period covered here. Secondly, the evidence presented here requires explanation. The question of how and why CSP-financial characteristics relationships exist has been explored to some extent from a theoretical perspective. It is perhaps time to search for evidence of why such relationships exist. Thirdly, the industry-specific analyses provided in the present study indicate that more specific similar approaches could yield clearer and more useful evidence of how industry-specific factors affect CSP-financial characteristics relationships. Lastly, the evidence provided here could also be used as a basis for more specific research on self-regulation within industries, and the extent to which negative environmental and social externalities of production are internalised and corrected by market forces.

CONCLUSION

The present study makes a significant contribution to the existing literature by providing much needed Australian evidence and investigating a large sample of 237 companies covering a wide spectrum of different companies. The analysis employs publicly available CSP

measures of environmental, social and corporate governance, sourced from an independent agency, and measures of financial characteristics consistent with contemporary conventions. The methodology employed also allows for important sources of heterogeneity in CSP-financial characteristics relationships linked to size, trading history and industry.

The study provides important evidence of CSP and financial characteristics among Australian firms. Among measures of environmental, social and governance performance, the strongest and clearest patterns between CSP and financial characteristics are found using governance performance measures, while more elusive patterns are found using environmental and social performance. Governance performance is strongly and positively associated with size, though only when considering a larger spectrum of firms. The association between social and environmental performance and size is non-linear, as very large and very small firms tend to perform better on environmental and social criteria than medium-sized firms. CSP-size relationships are otherwise sensitive to industry categorisation, as strong negative relationships are found on some industry groups while strong positive relationships are found in others.

Strong evidence is presented for a positive association between governance performance and financial performance, followed by some evidence also of a positive association between social performance and financial performance. There is limited evidence of a consistent relationship between environmental performance and financial performance. The strongest and most consistent evidence of a CSP-financial characteristics relationship appears when comparing CSP and risk, where the association is strongly, consistently and significantly negative. This association is strongest in the governance category and is not overly sensitive to size, trading history or industry classification.

This evidence is important to managers, investors, SRI fund managers and regulators. It is important to managers because it means they may justify the pursuit of governance performance by as good governance is associated with lower risk and higher financial performance, though care must be taken in insinuating causality without further evidence. On the

other hand, it suggests managers in general should be wary of pursuing environmental performance (and to a lesser degree social performance) as part of a wealth-maximising corporate strategy, since the effectiveness of such a strategy is likely to be very specific to the type of company. The evidence is important to investors and SRI fund managers because it suggests socially responsible investors do not need to sacrifice financial return for CSP satisfaction. In fact, they are likely to gain financially on it if investment criteria include governance and, to some extent, social issues. Lastly, this evidence is important to regulators because the strong positive relationship between governance performance and financial performance suggests that governance performance may be a market-driven virtue, and that undue intervention may be unnecessary. On the other hand, social and particularly environmental performance is not always a profitable strategy, hence intervention may be necessary in certain markets.

The present study contributes significantly by providing important Australian evidence of significant relationships between CSP and financial characteristics, and by demonstrating that CSP-financial characteristics research must adopt and further explore research methods that allows and searches for CSP-financial characteristics contingency factors. Such research is important because CSP and financial characteristics are related, and although the present study presents important findings there is much that can be done to further improve our understanding of why and how such relationships occur.

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FIGURES AND TABLES

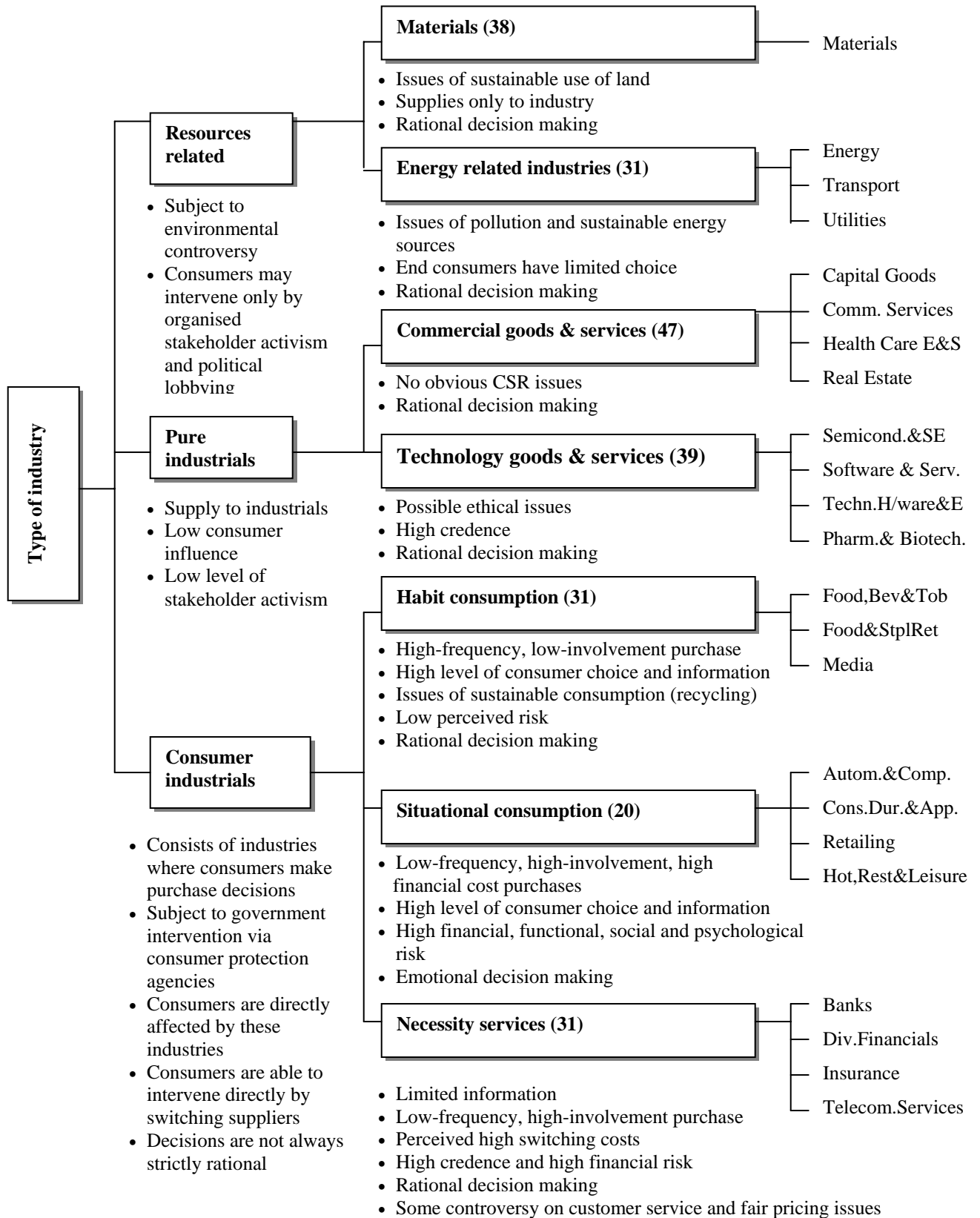


Figure 1: Industry Groups Sorted by CSP-FC Contingency Factors

Table 1: Spearman Rank Correlations Between CSP and Financial Characteristics

This table presents Spearman Rank correlations between CSP, including environmental, social and governance performance, and financial characteristics measures, including size, book-to-market value, total shareholder return, Sharpe Ratio, benchmark-adjusted performance, total risk, Jensen alpha, and market beta. Correlations are calculated based on the full sample of 237 companies, the largest 100 companies in the sample (large companies), the smaller 137 companies (small companies), the 156 companies with full-period coverage in trading data (full-period sample), the 81 companies with limited coverage (recently listed companies), and seven industry groups. Alphas and betas are only compared to CSP for the full sample. Statistical significance at the 90, 95 and 99 percent level is indicated by *, ** and ***, respectively.

Panel 1: Correlations between CSP and size

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	0.03	0.09	0.14**
	2000-2003	0.02	0.08	0.15**
	1997-2000	0.10	0.23***	0.21***
Large companies	1997-2003	0.25**	0.30***	-0.11
	2000-2003	0.24**	0.30***	-0.10
	1997-2000	0.31***	0.32***	-0.18
Small companies	1997-2003	-0.18**	-0.19**	-0.09
	2000-2003	-0.16*	-0.15*	-0.06
	1997-2000	-0.21**	-0.08	-0.08
Full-period sample	1997-2003	0.13*	0.29***	0.07
	2000-2003	0.13	0.28***	0.06
	1997-2000	0.14*	0.29***	0.07
Recently listed companies	1997-2003	0.00	-0.12	-0.21*
	2000-2003	-0.03	-0.13	-0.16
	1997-2000	0.56**	0.36	-0.41*
Commercial goods & services	1997-2003	-0.31**	0.04	0
	2000-2003	-0.30**	0.04	-0.02
	1997-2000	-0.35**	0.1	0.07
Energy related industries	1997-2003	0.08	0.27	0.2
	2000-2003	0.14	0.23	0.16
	1997-2000	0.2	0.64***	0.39*
Habit consumption industries	1997-2003	0.34*	0.21	0.16
	2000-2003	0.34*	0.21	0.22
	1997-2000	0.46***	0.22	0.14
Situational (lifestyle) consumption industries	1997-2003	-0.37	-0.2	-0.22
	2000-2003	-0.41*	-0.23	-0.28
	1997-2000	-0.18	-0.27	-0.19
Materials	1997-2003	-0.13	0.43***	0.44***
	2000-2003	-0.18	0.41**	0.47***
	1997-2000	-0.13	0.43**	0.43**
Necessity services	1997-2003	0.42**	0.35*	0.09
	2000-2003	0.40**	0.39**	0.14
	1997-2000	0.48**	0.31	-0.07
Technology industries	1997-2003	0.46***	-0.66***	-0.16
	2000-2003	0.44***	-0.68***	-0.14
	1997-2000	0.48**	-0.39*	0.15

Panel 2: Correlations between CSP and book-to-market value

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	-0.03	-0.05	-0.04
	2000-2003	-0.02	-0.06	-0.09
	1997-2000	-0.03	-0.06	0.09
Large companies	1997-2003	-0.21**	-0.11	-0.06
	2000-2003	-0.17*	-0.08	-0.14
	1997-2000	-0.17	-0.15	0.15
Small companies	1997-2003	0.03	0.03	-0.10
	2000-2003	0.00	-0.06	-0.14*
	1997-2000	0.03	0.08	-0.01
Full-period sample	1997-2003	-0.03	-0.10	-0.08
	2000-2003	-0.08	-0.15*	-0.14*
	1997-2000	0.03	0.00	0.02
Recently listed companies	1997-2003	-0.06	0.09	-0.07
	2000-2003	0.00	0.08	-0.16
	1997-2000	-0.47**	-0.11	0.20
Commercial goods & services	1997-2003	0.01	-0.12	0.03
	2000-2003	0.02	-0.14	-0.02
	1997-2000	-0.02	-0.15	0.07
Energy related industries	1997-2003	-0.28	-0.08	0.02
	2000-2003	-0.26	-0.08	-0.06
	1997-2000	-0.38*	-0.18	-0.04
Habit consumption industries	1997-2003	-0.28	-0.23	-0.38**
	2000-2003	-0.23	-0.19	-0.28**
	1997-2000	-0.22	-0.28	-0.47**
Situational (lifestyle) consumption industries	1997-2003	0.43*	0.02	0.2
	2000-2003	0.37	0.05	0.16
	1997-2000	0.78***	-0.28	0.47*
Materials	1997-2003	0.08	0.27*	-0.1
	2000-2003	0.14	0.25	-0.22
	1997-2000	-0.05	0.12	0.27
Necessity services	1997-2003	-0.44**	-0.3	-0.09
	2000-2003	-0.38**	-0.35*	-0.19
	1997-2000	-0.13	0.15	0.49**
Technology industries	1997-2003	0.07	0.04	-0.14
	2000-2003	0.09	0.03	-0.18
	1997-2000	0.27	-0.1	-0.23

Panel 3: Correlations between CSP and total shareholder return

Total shareholder return is estimated as follows: $RI_t = RI_{t-1} * \frac{P_t + D_t}{P_{t-1}}$ where RI , P , and D

represent total shareholder return index value, share price and dividend distribution, respectively, and t and $t-1$ represents current day and previous trading day, respectively. Total shareholder return is calculated as the percentage change in the return index value from one month to the next. Data for measuring total was collected from Datastream.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	0.01	0.08	0.08
	2000-2003	0.00	0.11*	0.25***
	1997-2000	0.01	-0.04	-0.13*
Large companies	1997-2003	-0.02	-0.05	0.09
	2000-2003	-0.08	0.02	0.25**
	1997-2000	0.03	-0.13	-0.22**
Small companies	1997-2003	0.00	0.02	0.02
	2000-2003	0.06	0.09	0.14
	1997-2000	-0.06	-0.05	-0.10
Full-period sample	1997-2003	0.04	-0.07	-0.10
	2000-2003	0.05	0.05	0.12
	1997-2000	0.01	-0.12	-0.21**
Recently listed companies	1997-2003	-0.08	0.16	0.27**
	2000-2003	-0.07	0.23**	0.35***
	1997-2000	0.01	-0.05	0.13
Commercial goods & services	1997-2003	0.11	0.02	0.05
	2000-2003	0.02	0.04	0.18
	1997-2000	0.06	0.01	-0.04
Energy related industries	1997-2003	0.31*	0.04	0
	2000-2003	0.07	-0.04	0.05
	1997-2000	0.45**	0.06	-0.18
Habit consumption industries	1997-2003	-0.01	0.05	0.07
	2000-2003	0.06	0.15	0.04
	1997-2000	-0.09	0.03	0.11
Situational (lifestyle) consumption industries	1997-2003	-0.48**	-0.27	0.06
	2000-2003	-0.22	-0.41*	0.24
	1997-2000	-0.43	0.07	-0.46*
Materials	1997-2003	-0.06	0.02	0.19
	2000-2003	0	0.06	0.31*
	1997-2000	-0.2	-0.03	-0.08
Necessity services	1997-2003	0.40**	0.40**	0.43**
	2000-2003	0.15	0.50***	0.48***
	1997-2000	0.18	-0.3	-0.21
Technology industries	1997-2003	-0.13	0.13	0.03
	2000-2003	-0.33**	0.30*	0.29*
	1997-2000	0.2	-0.19	-0.41*

Panel 4: Correlations between CSP and Sharpe Ratio

The Sharpe Ratio is estimated as follows: $SH = \frac{ER}{\sigma_{ER}}$ where ER is the average

excess return on an asset, and is calculated using a 10-year Australian government as the risk-free rate of return, σ_{ER} is the standard deviation of excess returns, calculated based on monthly excess returns.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	-0.09	-0.01	0.09
	2000-2003	-0.03	0.10	0.27***
	1997-2000	0.08	0.01	-0.10
Large companies	1997-2003	-0.02	-0.01	0.06
	2000-2003	-0.05	0.06	0.29***
	1997-2000	0.02	-0.09	-0.27**
Small companies	1997-2003	0.07	0.10	0.15*
	2000-2003	0.02	0.07	0.21**
	1997-2000	0.07	0.06	-0.17
Full-period sample	1997-2003	0.08	0.10	0.09
	2000-2003	0.04	0.04	0.20**
	1997-2000	0.10	0.11	-0.01
Recently listed companies	1997-2003	-0.02	0.09	0.34***
	2000-2003	-0.09	0.15	0.37***
	1997-2000	0.10	-0.17	0.01
Commercial goods & services	1997-2003	0.09	-0.02	0.02
	2000-2003	-0.04	0	0.17
	1997-2000	0.1	0.04	-0.06
Energy related industries	1997-2003	0.38**	0.06	0.11
	2000-2003	0.18	0.03	0.19
	1997-2000	0.43**	0.08	-0.17
Habit consumption industries	1997-2003	0	0.12	0.09
	2000-2003	0.09	0.19	0.06
	1997-2000	-0.03	0.04	-0.01
Situational (lifestyle) consumption industries	1997-2003	-0.51**	-0.3	0.15
	2000-2003	-0.32	-0.43*	0.27
	1997-2000	-0.46*	0.14	-0.38
Materials	1997-2003	-0.08	0.09	0.27*
	2000-2003	-0.06	0.02	0.33**
	1997-2000	-0.13	0.02	-0.11
Necessity services	1997-2003	0.29	0.52***	0.43**
	2000-2003	0.05	0.48***	0.55***
	1997-2000	0.2	0.04	-0.03
Technology industries	1997-2003	-0.03	0.1	0.17
	2000-2003	-0.26	0.26	0.21
	1997-2000	0.36*	-0.25	-0.08

Panel 5: Correlations between CSP and Benchmark-adjusted performance

The benchmark-adjusted performance measure is based on the characteristics-matched benchmark portfolios developed by Daniel, Grinblatt, Titman and Wermers (1997). Benchmark-adjusted performance is the return on an asset, less the return on a portfolio of assets with similar characteristics as the objective asset. Portfolios are constructed on a quarterly basis as follows. First, only companies with complete size, value or returns data are included. Second, the included companies are ranked by size and sorted into five portfolios of approximately the same number, all with similar size. Third, each of these portfolios are ranked by book-to-market value and sorted into five portfolios producing 25 portfolios of similar size and value characteristics, with an average of 18.8 companies. Benchmark-adjusted performance is adjusted for outlier returns which would otherwise give bias to the measures.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	0.03	0.15**	0.09
	2000-2003	0.04	0.11*	0.21***
	1997-2000	0.02	0.07	-0.04
Large companies	1997-2003	-0.05	0.07	0.20**
	2000-2003	-0.11	0.00	0.24**
	1997-2000	-0.03	-0.02	-0.07
Small companies	1997-2003	0.08	0.09	0.01
	2000-2003	0.13	0.14	0.10
	1997-2000	0.01	-0.04	-0.09
Full-period sample	1997-2003	0.07	-0.02	-0.04
	2000-2003	0.09	0.03	0.09
	1997-2000	0.02	-0.06	-0.14*
Recently listed companies	1997-2003	-0.04	0.27**	0.23**
	2000-2003	-0.06	0.26**	0.31***
	1997-2000	-0.08	0.05	0.15
Commercial goods & services	1997-2003	0.18	0.07	0.08
	2000-2003	0.07	0.03	0.15
	1997-2000	0.04	0	0.08
Energy related industries	1997-2003	0.1	0.11	-0.12
	2000-2003	-0.01	-0.02	0.02
	1997-2000	0.3	0.16	-0.05
Habit consumption industries	1997-2003	0.06	0.18	0.06
	2000-2003	0.14	0.11	-0.05
	1997-2000	-0.06	0.12	0.12
Situational (lifestyle) consumption industries	1997-2003	-0.15	-0.27	0.05
	2000-2003	-0.17	-0.29	0.24
	1997-2000	-0.16	-0.2	-0.34
Materials	1997-2003	-0.05	0.07	0.2
	2000-2003	0.28*	0.1	0.35**
	1997-2000	-0.25	-0.07	0.04
Necessity services	1997-2003	0.23	0.38**	0.50***
	2000-2003	0.08	0.37**	0.52***
	1997-2000	0.37*	0.05	0.18
Technology industries	1997-2003	-0.07	0.17	0.05
	2000-2003	-0.38**	0.31*	0.21
	1997-2000	0.26	-0.05	-0.43*

Panel 6: Correlations between CSP and Total risk

Total risk is measured as the standard deviation of monthly return. Data for measuring total risk was collected from Datastream.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full sample	1997-2003	-0.14**	-0.16**	-0.37***
	2000-2003	-0.12*	-0.13**	-0.33***
	1997-2000	-0.19**	-0.21***	-0.34***
Large companies	1997-2003	-0.15	-0.17*	-0.26***
	2000-2003	-0.10	-0.17*	-0.25**
	1997-2000	-0.23*	-0.17	-0.1314
Small companies	1997-2003	-0.14	-0.08	-0.31***
	2000-2003	-0.12	-0.07	-0.23***
	1997-2000	-0.09	-0.09	-0.24**
Full-period sample	1997-2003	-0.09	-0.25***	-0.35***
	2000-2003	-0.07	-0.22***	-0.27***
	1997-2000	-0.07	-0.21***	-0.33***
Recently listed companies	1997-2003	-0.13	0.02	-0.28**
	2000-2003	-0.11	0.03	-0.28**
	1997-2000	-0.27	-0.04	0.03
Commercial goods & services	1997-2003	-0.02	-0.03	-0.21
	2000-2003	-0.07	0.00	-0.06
	1997-2000	0.10	-0.05	-0.32*
Energy related industries	1997-2003	-0.20	-0.11	-0.44**
	2000-2003	-0.23	-0.16	-0.54***
	1997-2000	-0.15	-0.21	-0.22
Habit consumption industries	1997-2003	-0.15	-0.37**	-0.28
	2000-2003	-0.18	-0.33*	-0.27
	1997-2000	-0.21	-0.36*	-0.24
Situational (lifestyle) consumption industries	1997-2003	0.00	0.28	-0.59***
	2000-2003	0.07	0.33	-0.55**
	1997-2000	-0.05	-0.13	-0.42
Materials	1997-2003	-0.03	-0.28*	-0.36**
	2000-2003	0.09	-0.23	-0.31*
	1997-2000	-0.22	-0.19	-0.21
Necessity services	1997-2003	-0.02	-0.52***	-0.41**
	2000-2003	-0.09	-0.57***	-0.42**
	1997-2000	0.04	-0.53**	-0.32
Technology industries	1997-2003	-0.10	0.15	-0.41**
	2000-2003	-0.23	0.21	-0.21
	1997-2000	-0.10	-0.04	-0.72***

Panel 7: Correlations between CSP and Jensen alpha

The equation

$R_t - R_{ft} = \alpha + \beta_M (R_{Mt} - R_{ft}) + \beta_S (R_{St} - R_{Lt}) + \beta_V (R_{Gt} - R_{Vt}) + e_t$ is used to estimate a three-factor Jensen alpha. R_t is the company total return for month t ; R_{ft} is the risk-free rate of return for month t , measured by the 10-year Australian government bond; R_{Mt} is the market return for month t , measured by the ASX All Ordinaries Index; R_{St} is the return on small companies for month t , measured by the S&P/ASX Small Ordinaries Index; R_{Lt} is the return on large companies for month t , measured by the S&P/ASX 200 Index; R_{Gt} is the return on growth companies for month t , measured by the MSCI Growth Index; and R_{Vt} is the return on value companies for month t , measured by the MSCI Value Index. Of the estimated parameters, α is the three-factor Jensen alpha, the factor β 's measure exposure to the respective risk factors, and e_t is a residual error term.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full Sample	2000-2003	0.04	0.43**	0.46**
	1997-2000	-0.06	-0.20	-0.28

Panel 8: Correlations between CSP and market beta

The equation $R_t - R_{ft} = \alpha + \beta_M (R_{Mt} - R_{ft}) + e_t$ is used to estimate a single-factor market beta. R_t is the company total return for month t ; R_{ft} is the risk-free rate of return for month t , measured by the 10-year Australian government bond; and R_{Mt} is the market return for month t , measured by the ASX All Ordinaries Index. Of the estimated parameters, α is a single-factor Jensen alpha, β_M is the single-factor market beta, measuring exposure to the market factor, and e_t is a residual error term.

Sample	Period	Env. Perf.	Social Perf.	Gov. Perf
Full Sample	2000-2003	-0.29	-0.11	-0.48**
	1997-2000	-0.27	-0.49**	-0.50**

Table 2: Comparing Financial Characteristics of High, Moderate and Low CSP Companies

This table reports average financial characteristics measures of high (H), moderate (M) and low (L) CSP company portfolios. Comparisons are made based on portfolios formed from the full sample with the four companies with the largest monthly return outliers omitted, hence the sample base consists of 233 companies. Portfolios are formed by first ranking companies by CSP ratings, then dividing the sample into three portfolios of approximately equal size (by number of companies). The procedure is repeated for environmental, social and governance performance ratings. Financial characteristics measures include size (measured by average monthly total market capitalisation), book-to-market value (measured by average monthly book-to-market value), total shareholder return (measured as annualised average monthly return), Sharpe Ratio (measured as average monthly total excess return divided by total risk), benchmark-adjusted performance (measured as annualised average monthly abnormal return), Jensen alpha (adjusted for systematic market, size and value risk factors, estimated using monthly portfolio returns), total risk (measured as standard deviation of monthly return), and market beta (measured in a single-factor model, estimated using monthly portfolio returns). Differences between high and low (H-L), high and moderate (H-M) and moderate and low (M-L) environmental performance portfolios are reported in the last three columns. Results for portfolios constructed based on environmental, social and governance performance are presented in panels 1, 2, and 3, respectively. Statistical significance at the 90, 95 and 99 percent level is indicated by *, ** and ***, respectively.

Panel 1: Environmental performance

FC measure	Period	Average portfolio values			Portfolio differences		
		H	M	L	H-L	H-M	M-L
Size	1997-2003	8.6899	8.6972	8.5646	0.1253	-0.0073	0.1326
	2000-2003	8.7081	8.7280	8.5993	0.1088	-0.0198	0.1286
	1997-2000	8.7551	8.7091	8.4723	0.2827	0.0460	0.2368*
Book-to-market value	1997-2003	0.6286	0.7371	0.6946	-0.0660	-0.1085	0.0425
	2000-2003	0.6552	0.7713	0.7343	-0.0791	-0.1161	0.0370
	1997-2000	0.5527	0.5732	0.6264	-0.0737	-0.0205	-0.0532
Total shareholder return	1997-2003	0.0950	0.1256	0.0925	0.0025	-0.0307	0.0331
	2000-2003	0.0685	0.0104	0.0211	0.0475	0.0582	-0.0107
	1997-2000	0.1416	0.3287	0.2265	-0.0850	-0.1872***	0.1022
Sharpe Ratio	1997-2003	0.0521	0.0590	0.0241	0.0280	-0.0069	0.0349
	2000-2003	0.0563	0.0222	0.0445	0.0118	0.0341	-0.0223
	1997-2000	0.0477	0.1212	0.0190	0.0287	-0.0735*	0.1022***
Benchmark-adjusted performance	1997-2003	0.1029	0.0917	0.0616	0.0414	0.0113	0.0301
	2000-2003	0.0111	-0.0751	-0.0638	0.0749	0.0862	-0.0114
	1997-2000	0.2560	0.4079	0.2828	-0.0268	-0.1519**	0.1251
Jensen alpha	2000-2003	0.0053	0.0020	0.0000	0.0053***	0.0033***	0.0020*
	1997-2000	0.0068	0.0281	0.0133	-0.0064***	-0.0213***	0.0148***
	1997-2003	0.1142	0.1387	0.1472	-0.0329***	-0.0245**	-0.0085
Total risk	2000-2003	0.1101	0.1267	0.1350	-0.0249**	-0.0166	-0.0083
	1997-2000	0.1114	0.1329	0.1483	-0.0369**	-0.0215	-0.0154
	2000-2003	0.8724	1.3726	1.3321	-0.4596***	-0.5002***	0.0406
Market beta	1997-2000	0.8605	1.1674	1.0477	-0.1872***	-0.3068***	0.1196***

Panel 2: Social performance

FC measure	Period	Average portfolio values			Portfolio differences		
		H	M	L	H-L	H-M	M-L
Size	1997-2003	8.8233	8.5560	8.5704	0.2529**	0.2673*	-0.0144
	2000-2003	8.8537	8.5741	8.6064	0.2473*	0.2796*	-0.0323
	1997-2000	9.0190	8.4811	8.4321	0.5868***	0.5379***	0.0490
Book-to-market value	1997-2003	0.6241	0.7463	0.6930	-0.0690	-0.1223	0.0533
	2000-2003	0.6030	0.7763	0.7808	-0.1778*	-0.1733	-0.0045
	1997-2000	0.5671	0.5843	0.6050	-0.0379	-0.0172	-0.0207
Total shareholder return	1997-2003	0.1127	0.0947	0.1053	0.0075	0.0181	-0.0106
	2000-2003	0.0907	-0.0009	0.0094	0.0813	0.0916*	-0.0102
	1997-2000	0.1671	0.2398	0.2809	-0.1138	-0.0728	-0.0411
Sharpe Ratio	1997-2003	0.0488	0.0495	0.0353	0.0135	-0.0007	0.0143
	2000-2003	0.0682	0.0197	0.0352	0.0330	0.0485	-0.0156
	1997-2000	0.0482	0.0823	0.0509	-0.0027	-0.0342	0.0315
Benchmark-adjusted performance	1997-2003	0.1152	0.0809	0.0592	0.0560	0.0342	0.0218
	2000-2003	0.0114	-0.0702	-0.0715	0.0829	0.0817*	0.0012
	1997-2000	0.2898	0.3301	0.3190	-0.0292	-0.0403	0.0111
Jensen alpha	2000-2003	0.0075	0.0004	-0.0016	0.0091***	0.0071***	0.0020*
	1997-2000	0.0103	0.0159	0.0204	-0.0101***	-0.0056***	-0.0045***
Total risk	1997-2003	0.1232	0.1232	0.1544	-0.0311**	0.0000	-0.0312**
	2000-2003	0.1140	0.1159	0.1422	-0.0282**	-0.0019	-0.0263**
	1997-2000	0.1138	0.1266	0.1524	-0.0386**	-0.0128	-0.0258
Market beta	2000-2003	1.1243	1.1477	1.3258	-0.2014***	-0.0234	-0.1781***
	1997-2000	0.7424	1.0459	1.2680	-0.5256***	-0.3035***	-0.2221***

Panel 3: Governance performance

FC measure	Period	Average portfolio values			Portfolio differences		
		H	M	L	H-L	H-M	M-L
Size	1997-2003	8.9035	8.4955	8.5676	0.3359**	0.4080***	-0.0721
	2000-2003	8.9327	8.5286	8.5900	0.3427**	0.4041***	-0.0614
	1997-2000	8.9503	8.4942	8.4448	0.5055***	0.4560***	0.0495
Book-to-market value	1997-2003	0.6385	0.6627	0.7629	-0.1243	-0.0242	-0.1002
	2000-2003	0.6329	0.6469	0.8877	-0.2547***	-0.0140	-0.2407**
	1997-2000	0.6557	0.5287	0.5726	0.0830	0.1270	-0.0440
Total shareholder return	1997-2003	0.1252	0.1044	0.0842	0.0410	0.0208	0.0202
	2000-2003	0.1138	0.0326	-0.0455	0.1594***	0.0813*	0.0781
	1997-2000	0.1509	0.2558	0.2949	-0.1439*	-0.1049*	-0.0390
Sharpe Ratio	1997-2003	0.0705	0.0506	0.0126	0.0579**	0.0200	0.0379*
	2000-2003	0.1010	0.0362	-0.0114	0.1123***	0.0648**	0.0475
	1997-2000	0.0304	0.0876	0.0635	-0.0331	-0.0572	0.0241
Benchmark-adjusted performance	1997-2003	0.1195	0.0827	0.0527	0.0668	0.0368	0.0300
	2000-2003	0.0193	-0.0495	-0.0993	0.1186**	0.0688	0.0498
	1997-2000	0.2808	0.3199	0.3439	-0.0631	-0.0392	-0.0239
Jensen alpha	2000-2003	0.0083	-0.0002	-0.0016	0.0098***	0.0085***	0.0013
	1997-2000	0.0077	0.0175	0.0226	-0.0149***	-0.0098***	-0.0051***
Total risk	1997-2003	0.1044	0.1329	0.1638	-0.0594***	-0.0285**	-0.0309**
	2000-2003	0.0968	0.1285	0.1467	-0.0499***	-0.0317***	-0.0182
	1997-2000	0.1082	0.1234	0.1679	-0.0597***	-0.0152	-0.0445**
Market beta	2000-2003	0.9524	1.1021	1.5496	-0.5971***	-0.1497***	-0.4474***
	1997-2000	0.7993	0.9473	1.3607	-0.5613***	-0.1480***	-0.4134***

