**Title**: The World's Most Ethical Companies: does the fame translate into gain?

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**Abstract**

The financial consequences of embracing ethical conduct in business remain a subject of contention in the literature. Most empirical studies focus on corporate social responsibility, and present mixed results, whereas assessments of ethical funds tend to find neutral effects. We propose that ethical companies can have advantages over others due to three distinct effects: cultural (through the congregating and steering potential of the values espoused), stakeholder (by the consideration and satisfaction of relevant stakeholders) and reputation (by signaling to investors and customers what it means to be ethical). We evaluate the long-term financial performance of the World's Most Ethical Companies, a list devised by Ethisphere, using appropriate financial measures. We find that a portfolio of the World's Most Ethical Companies consistently outperforms the market, both in times of market growth and in periods of market decline, suggesting these companies benefit from a special protection in times of crises.

**Introduction**

The question of whether companies can have financial benefits from following ethical and socially responsible conducts has been a major contention in the literature. The diversity of assumptions and views over this matter is well discussed by Orlitzky (2011). Classical financial theories (Markowitz, 1952) can be used to sustain that the constraints imposed to investor's portfolio choice, such as requirements of ethical conduct, will limit their diversification ability and result in less efficient optimized portfolios. Furthermore if information is freely available to investors, then any value that results from companies adhering to ethical and social responsible practices should be reflected in their share prices, and no abnormal returns should be expected from investing in them (Fama, 1970, 1991).

However, Edmans (2011, p. 621) points out that markets seem to fail "to incorporate intangible assets fully into stock valuations — even if the existence of such assets is verified by a widely respected [entity] and highly publicized". He cites evidence of intangible asset underpricing by the market relative to R&D expenditure, advertising, patent citations and software developments, among others. Edmans proposes that investors find it hard to value the tangible effects of intangible assets, especially if they use conventional valuation methods based on physical assets. And even more so when the existing knowledge that might inform investors about the likely tangible outcomes of holding a specific intangible asset is ambiguous or contradictory, as is the case with ethical and socially responsible business conduct (Orlitzky, 2011).

In parallel, studies in the area of corporate social responsibility show that companies with such a reputation may be more apt to sustain the adverse effects of crises, while others fear that economic recession might "undermine commitment to ethical sourcing" (Carrigan and Pelsmacker, 2009, p. 4), presumably affecting companies that

favor ethical conduct. The recent global financial and economical crises make this a particularly relevant question to test.

As pointed out by Joyner and Payne (2002, p. 310), although the value of a firm's ethical conduct can go well beyond any financial association, establishing that link would provide "a strong, quantitative foundation to the push for such actions". In this study, we propose to analyze the long-term financial impact of being recognized as an ethical company by an independent and creditable institution. We concentrate on the list of companies distinguished by Ethisphere as the World's Most Ethical Companies (WMEC henceforth). The WMEC award has been presented annually since 2007. Companies are assessed across different dimensions, including Corporate Citizenship and Responsibility; Corporate Governance; Innovation that Contributes to the Public Well Being; Industry leadership; Executive Leadership and Tone from the Top; Legal, Regulatory and Reputation Track Record; and Internal Systems and Ethics/Compliance Program (for a more detailed description of the methodology, please refer to Ethisphere's website: http://ethisphere.com). So, the award recognizes both espoused corporate commitment to ethics in business as well as actual ethical conduct in their practice. Over the years, 92 to 110 companies have been distinguished each year, having obtained the highest scores in the around 30 industries considered.

**Empirical evidence of the financial performance of ethical companies**

Most studies to date of the impact on financial performance of corporate ethics have concentrated on corporate social responsibility (CSR), and only few focus specifically on corporate ethical conduct. Empirical findings on the relative performance of socially responsible companies have been mixed, with some studies reporting superior

performance while others show neutral effects (Neville, Bell and Mengüç, 2005; Verschoor, 1998). Orlitzky, Schmidt and Rynes (2003) report a consistent (albeit not always strong) positive relation between CSR and financial performance, based on their meta-analysis of 52 studies. They attribute the variation among studies mainly to statistical artifacts such as sampling and measurement error, which they correct in their meta-analysis. Neville et al. (2005), in turn, emphasize the role of organizational and market contingencies not taken into account in the studies. They propose that factors such as fit between social initiatives and corporate strategy, competitive intensity and reputation management capability moderate the impact of CSR and financial performance.

On the other hand, work specifically directed at corporate ethics considers mostly the performance of ethical funds rather than ethical companies. Using information from various markets (including the US, Canada, Europe and Australia), they consistently find no significant differences in terms of performance and risk profile between ethical and conventional funds (e. g., Bauer, Derwall and Otten, 2006; Cummings, 2000; Kreander, Gray, Power and Sinclair, 2005).

Studies focusing on individual ethical companies are much scarcer. Verschoor (1998, 1999) finds that companies where management is publicly committed to a code of ethical corporate conduct (as stated in the managers' declaration in the annual report to shareholders) achieve higher performance than those not expressing such a commitment, measured in both financial (Market Value Added and position on the Business Week annual ranking of large companies) and non-financial terms (position on Fortune's "most admired" companies). Webley and More (2003) replicated Verschoor's study in the United Kingdom, and found that, for the years 1997-2000, British companies with a code of ethics exhibited better measures of Economic Value

Added, Market Value Added and Price/Earnings (P/E) ratio (and lower P/E ratio volatility) than comparable companies without a code of ethics.

On the whole, the existing evidence seems to indicate that, contrary to classical financial theory, investing in companies that demonstrate ethical and socially responsible concerns does not, at worst, compromise financial performance. And in some cases these companies can even do better than their counterparts while undertaking ethical and socially responsible action.

These results notwithstanding, it should be noted that some of the studies testing the link between CSR or ethical conduct and financial performance use accounting measures of performance, the drawbacks of which include being backward-looking, not easily capturing intangible value, and being open to manipulation by management (Berrone, Surroca and Tribó, 2007; Hillman and Keim, 2001; McGuire, Sundgren and Schneeweis, 1988; Orlitzky et al., 2003). The large majority of studies using stock market information, on the other hand, tend to adopt traditional measures of financial performance, that fail to capture the cross-section of expected returns, and ignore potential issues associated with the non-normality of stock returns. Moreover these studies usually use unconditional measures that neglect to take into account the variation of risk and performance over time.

**Why should ethical companies perform better?**

Key and Popkin (1998, p. 331) state that "Ethics are the shelter under which moral, social, and legal issues reside; thus, using components of ethical analysis as a foundation for these decisions may result in the best use of corporate resources." However, explanations for the supposed link between ethical conduct in business and improved financial performance are insufficiently explored in the literature. We

propose three main effects that may lead ethical companies to be more successful: a cultural effect, a stakeholder effect, and a reputational effect.

*The Cultural Effect*

Joyner and Payne (2002, p. 299) define values as "the core set of beliefs and principles deemed to be desirable by (groups of) individuals" and explain that values are derived from one's membership in a culture. In an organizational setting, values are instilled into the organization's mission, goals and plans. They also influence the firm's policies and practices, guiding the behaviors and decisions not only of top managers but of employees in general. Anderson (1997) argues that "ethical principles are constants and serve as building blocks" (p. 27) that guide the definition of goals and plans, thus "enabling managers to address and resolve unavoidable dilemmas" (p. 25).

In the case of employees, Milliman and colleagues explain that people must be able to understand how their individual contribution impacts the company's mission. Deeply held and enacted values can clarify that link. Also, human resource management systems are often designed in ways that reinforce the enactment of such values, making the link between values and behavior stronger (Milliman, Ferguson, Trickett and Condemi, 1999). Moreover, because values and principles provide guidance in judging the appropriateness of actions, corporate ethical principles may contribute to reduce the number of ethical dilemmas faced by employees (Paine, 1996).

Weaver, Treviño and Cochran (1999, p. 42) actually propose viewing formal ethical programs "as organizational control systems aimed at standardizing employee behavior within the domains of ethics and legal compliance". The authors' work on this subject suggests that having formal ethical programs in place is positively

associated with less unethical behavior, with greater willingness to seek ethical advice and to report unethical behavior, with heightened employee awareness of ethical issues at work, and with the perception that decision-making was improved due to the ethics program. Relative to this last finding, the authors advance the explanation that explicit knowledge of rules and expectations may facilitate the decision-making process. Moreover, they find that values-oriented ethical programs (that emphasize ethical values and the potential for employees to be committed to them) have more pronounced effects than compliance-oriented programs (that stress rules, monitoring employee behavior, and disciplining misconduct). Values-oriented programs are also associated with a wider range of employee outcomes, further including stronger commitment to the organization, willingness to deliver bad news to supervisors, and the belief that their integrity is intact (Weaver and Treviño, 1999). Verschoor (1999) reaches a similar conclusion when analyzing large firms with management commitment to ethics (as proclaimed in the managers' declarations contained in the annual reports to shareholders) versus large firms with membership to the Ethics Officer Association (EOA). While the former had better financial performance than a comparable group of large companies with no ethical pledge, members of EOA showed no differences in performance relative to non-members. Verschoor concludes it is the value-orientation (principles, example, objectives, rewards) rather than the compliance-orientation (rules, hierarchy, sanctions) that is relevant, because it has the ability to inspire and motivate loyal employee behavior and result in the long-term retention of favorable relationships with suppliers, customers and other stakeholders (Verschoor, 1999).

Within organizational literature, values have been studied mostly as central component of organizational culture. According to Deal and Kennedy (1982, p. 14)

organizational values "are the basic concepts and beliefs of an organization" . "Values provide a sense of common direction for all employees and guidelines for their day-to-day behavior" (p. 21) establishing standards of achievement and defining 'success' in concrete terms. A solid body of literature on the subject of organizational culture has long argued for the benefits of strong cultures, which can be defined as those in which core values are widely shared and strongly held (O'Reilly, 1989). Kotter and Heskett (1992) propose that companies with strong cultures are more successful because culture sustains goal alignment, ensuring employees pull in the same direction. Also, strong cultures foster unusual levels of motivation in employees, promoting commitment and loyalty. Finally, culture can, to a certain extent, replace formal bureaucratic controls and provide the structure and control necessary in a business, while not hampering innovation and motivation. Deal and Kennedy (1982) emphasize the sense of meaning afforded by organizational values in the guidance and motivation of employees. They state that:

> If employees know what their company stands for, if they know what standards they are to uphold, then they are much more likely to make decisions that will support those standards. They are also more likely to feel as if they are an important part of the organization. They are motivated because life in the company has meaning for them. (Deal and Kennedy, 1982, p. 22)

In the same line, Collins and Porras (1994, p. 48) stress the importance of organizational values as inspirational ideals. They underline the role of a "core ideology – core values and sense of purpose beyond just making money" – as a fundamental element in successful companies.

Empirical research has also shown that sharing a common notion of organizational purpose and a set of beliefs, values and expectations is associated with improved

organizational performance (Gordon and DiTomaso, 1992; Hartnell, Ou and Kinicki, 2011; Kotter and Heskett, 1992). Denison and Mishra (1995, p. 204) found that consistency and mission are "indicators of integration, direction, and vision, and were better predictors of profitability".

So one of the factors contributing to the success of ethical companies, like the ones recognized as WMEC, may be the fact that their ethical concern is incorporated into the organizational culture through its core values. These ethical values may be particularly inspirational in that they provide a sense of greater purpose that both motivate employees and managers and steer their decisions and behavior.

*The stakeholder effect*

Stakeholders include such groups as customers, suppliers, employees, local communities, the authorities, and shareholders, among others. They compose the environment in which firms operate and their actions are interdependent with those of the firms'. Contributions to stakeholder theory largely fall into three main approaches: descriptive/empirical, instrumental and normative (Jones, 1995). The first includes studies that seek to portray companies' actual behavior towards their stakeholders. The instrumental approach is concerned with how stakeholders affect the firm and how firms can manage their relationships with stakeholders in order to better achieve success. A normative approach assumes the intrinsic value of stakeholders' interests and is concerned with guiding the firm's action through principles that take into account the consequences of those actions on stakeholders (Berman, Wicks, Kotha and Jones, 1999; Berrone et al., 2007; Jones, 1995).

The instrumental approach proffers an implicit explanation for the link between a company's conduct towards its stakeholders and its financial success. A firm's

stakeholders directly or indirectly affect its activities and overall business performance. Because stakeholders control resources that are vital to a company's operations, and ultimate survival and success (such as various types of supplies, purchasing power and decision, capital to invest, labor and expertise, etc.), their interests and demands must be taken into account so as to ensure the establishment and maintenance of good business relations, as well as to gain additional cooperation and favor (Berman et al., 1999; Berrone et al., 2007). Goodstein and Wicks (2007) also highlight the reciprocity of these relationships with stakeholders, which entail ethical conduct of stakeholders themselves towards companies as part of an intertwined web of relationships among stakeholders. Therefore, companies that are more attentive and responsive towards their various stakeholders, and that are better able to satisfy their needs and expectations, are likely to enjoy improved performance and success, as well as reciprocal treatment from their counterparts.

At a minimum, the systematic mapping of important stakeholder groups helps companies have a better appreciation of the effects of management decisions on stakeholders (Anderson, 1997). Berman et al. (1999) empirically demonstrate that stakeholder relationships are positively related to financial performance (Return On Assets), and that stakeholder relationships moderate the connection between strategy and financial performance. In their study, relationships with employees and customers seem to be the more relevant, having direct and indirect effects on financial performance, whereas local communities, diversity and natural environment only show indirect influences. Ruf, Muralidhar, Brown, Janney and Paul (2001) find evidence of immediate, as well as continued, effects of corporate social initiatives on financial performance. In particular, companies investing in CSR saw increases in sales growth in the year of the occurrence and the following year, implying a positive

short-term response from customers to the companies' involvement in CRS. Profitability measures, however, seem to take longer to produce effects. Only on the third year after investing in CSR was there significant positive impact on return on sales and return on equity.

Berrone et al. (2007) also empirically verify that stakeholder satisfaction mediates the relationship between corporate ethical identity and financial performance (as measured by Market Value Added). Their concept of corporate ethical identity comprises that of "revealed ethics" (relating to the communication of the company's ethical stance) and "applied ethics" (relating to the actions and policies that can be considered ethical). The authors find that "applied ethics" (actual ethical behavior) has a stronger influence on stakeholder satisfaction, and that "revealed ethics" is only effectual when accompanied by "applied ethics". This means stakeholders seem to credit actions more than words.

In addition to this instrumental gain, some arguments within the normative approach have also been forwarded to suggest superior performance from ethical firms that consider stakeholders' interests as a matter of principle. Taking an ethical stance, of and by itself, implies the consideration of the company's "interests and objectives in relation to those of others" (Paine, 1996, p. 478), which suggests firms with an ethical pledge may be more proactive in managing their stakeholders and possibly more successful in satisfying them. Moreover, Jones (1995) proposes that mere opportunism (as may be implied in an instrumental approach) may not be economically optimal. He argues that firms with genuine commitment to ethical principles in their relationships with stakeholders have a competitive advantage over those that do not. In particular, the benefits companies can reap in instrumentally managing their stakeholders are predicated on securing long-term relationships based

on mutual trust and cooperation (Jones, 1995), which cannot be feigned (Berman et al., 1999) – at least not for long. Based on this notion, Berman et al. (1999, p. 494) propose that "managerial commitment to stakeholder interests will drive strategic decision making, which in turn will affect firm financial performance". They could not, however, empirically confirm this proposition.

Therefore, the World's Most Ethical Companies may also be distinctively apt at managing their stakeholders, particularly as their conduct towards them likely stems from a genuine concern for their interests.

*The Reputation Effect*

Being an ethical company, particularly when that is publicly known and recognized, can positively affect the company's reputation. Reputation can be defined as "a relatively stable, issue specific aggregate perceptual representation of a company's past actions and future prospects compared against some standard" (Walker, 2010, p. 370). As such, reputation is an immediate and expedient basis for judgment and decision-making concerning the company by investors, customers, job applicants and the general public (Fombrun and Shanley, 1990). Walker (2010) reviews some of the benefits accrued by companies from having a good reputation, which range from attracting job applicants, contractors, investors and customers, to securing lower costs, charging premium prices and reaping higher profits. Ghoul, Guedhami, Kwok and Mishra (2011) show that firms investing in CSR are perceived as having reduced litigation risks and thus enjoy lower equity financing costs. In the case of ethical reputation, Berrone et al. (2007, p. 41) also propose that investors may view it as an indication of affluence in that "only companies with sufficient resources can embark on ethical enterprises".

Fombrun (2007) sustains that the inclusion (or exclusion) in rating lists clearly affects firms' reputations. Roberts and Dowling (2002), on the other hand, demonstrate the association between reputation and financial performance, and argue that reputation can be a sustainable source of competitive advantage in that its intangible nature makes it difficult to imitate by competitors.

Studies on the financial effect of having a reputation for being ethical are not common. Reputation for corporate social responsibility (CSR) has been more frequently analyzed. The meta-analysis performed by Orlitzky et al. (2003) shows a consistent positive relation between corporate social performance and financial performance. Their study also confirms that this relation is mediated by corporate reputation, especially when this is assessed by inclusion in reputation indexes (as opposed to disclosure methods). Furthermore, corporate reputation was more highly correlated with financial performance than any other measure (Orlitzky et al., 2003).

Although most studies consider the signaling effect of reputation relative to investors, a similar process can affect other stakeholders. For example, Ioannou and Serafeim (2010) reveal that financial analysts favor socially responsible firms with higher visibility in their investment recommendations. Bhattacharya and Sen (2004), in turn, explore the signaling effect of reputation relative to customers. They explain how CSR activities tend to elicit positive attitudes from customers towards the companies engaging in them, including customer identification with the company. These subsequently translate into customer behaviors, such as purchase, loyalty and word-of-mouth. Luo and Bhattacharya (2006) find that customer satisfaction plays a significant role in the relationship between CSR and firm market value.

So, a similar effect can be expected in the case of reputation for corporate ethical concern and conduct. An award like the WMEC is a good instrument for companies

to signal their ethical conduct to stakeholders as it represents the recognition, by an independent party, of not only ethical concern and pledge, but also of actual ethical activity.

**Resilience in times of crisis**

In addition to the arguments explored above, it can also be postulated that ethical companies might be more resilient in times of crisis. In particular, reputation as that afforded by CSR has "the potential to act as a buffer against unforeseen negative events" (Peloza, 2006, p. 57). Peloza (2006) reports on studies that show, for example, that consumers are more forgiving towards firms with positive reputations for CSR in a product recall situation, and that companies facing an environmental disaster can be less severely punished in stock market prices if they have a higher level of CSR disclosure.

Jones, Jones and Little (2000) found actual stock market evidence that companies with a good corporate reputation (i.e., listed in Fortune's "Most Admired Corporations") suffered lower stock price declines than companies with no such reputation in the 1989 market crash. Similarly, Schnietz and Epstein (2005) found that firms with a reputation for social responsibility (i.e., included in the *Domini Social Index* mutual fund) were protected from the stock declines associated with the 1999 failed Seattle World Trade Organization meeting.

Bhattacharya and Sen (2004) concentrate on the effect of reputation on customer behavior. CSR activities can generate positive attitudes and behaviors from customers, including purchase, loyalty and word-of-mouth, as well as resilience to negative company information. This means that the positive reputation built by companies investing in causes valued by their customers constitutes a "reservoir of

goodwill" (Bhattacharya and Sen, 2004, p. 19) that can protect the company from the potential negative effects of a crisis. Their study shows that customer awareness of companies' initiatives, namely in terms of CSR, is quite varied and overall low. However, customer awareness of company initiatives perceived as favorable are a prerequisite for customer attitudinal or behavioral response. Awards such as the WMEC list can be a useful tool in promoting such awareness by making a company's ethical conduct visible to the general public and, in particular, to its customers. Carrigan and Pelsmacker (2009) also report claims that consumer behavior driven by ethical and environmental concerns has been increasing despite the current global recession.

On the other hand, when companies advertise their involvement in CSR, customer awareness of the underlying cause is also increased (Bhattacharya and Sen, 2004). The favorable outcomes of identification and loyalty to the company are contingent on customers' personal support of the cause being sponsored. So, although customers that value ethical conduct in business will be more sensitive to company efforts in this area, recognitions such as the WMEC award may also help to raise awareness among customers of the importance of business ethics.

Although these studies have considered CSR in general rather than corporate ethical conduct in particular, the logic presented seems to remain irrevocably relevant. Still, this effect has yet to be empirically tested for the case of ethical companies. The recent financial and economic crises make this a particularly relevant question and present a singular opportunity to test this proposition.

**Methodology**

In this study we analyze the long-term stock return performance of the World's Most

Ethical Companies. The choice of stock market data has several advantages. Market values reflect the future impact of information on the value of companies, and are therefore forward-looking, contrary to accounting measures that are based on historical information only. In addition, information that might affect intangible assets is more likely to be incorporated first in the firm's market value than on their accounting variables (Berrone et al., 2007; Hillman and Keim, 2001; Orlitzky et al., 2003). Furthermore, accounting measures are much more susceptible to managerial manipulation (such as window dressing or earnings management) and to the choice of different accounting procedures (McGuire, Sundgren and Schneeweis, 1988).

We also endeavor to overcome some of the shortcomings identified earlier relative to most studies of this kind by using more sophisticated methods that are nowadays the current standard in financial research. As detailed next, the realized excess returns of a portfolio of these companies is compared against its expected excess returns, adjusted for the appropriate level of risk, given by a model that comprises several risk factors including a market index benchmark.

For this purpose we consider all the companies in the WMEC list that have been publicly traded in the US financial markets (NYSE + NASDAQ) any time during the period 2007-2011. All companies traded elsewhere (or not traded in financial markets) were excluded from our analyses. The companies included, totaling 83, are shown in the Appendix. Table 1 presents a summary of the number of companies considered in each of the five years of the study, as well as the announcement dates of the WMEC list in each year.

-------------------------------------- Insert Table 1 about here ---------------------------------


*Methods*

To measure the long horizon financial impact on stock prices of the information concerning their status as the World's Most Ethical Companies, we use the calendar-time portfolio approach suggested by Jaffe (1974) and Mandelker (1974), and favored by Fama (1998) and Mitchell and Stafford (2000) among others. This approach consists of creating a portfolio, comprising all the firms included in the study. Portfolios are rebalanced when there is a WMEC announcement – starting on May, 9 2007, when the first WMEC list was published – and whenever necessary to account for any firm that started/stopped being traded during the period. Every year a new list is published and the portfolio is adjusted at the end of that day, to reflect these changes.

To obtain a measure of performance of the portfolios of WMEC firms adjusted for risk we adapt a widely accepted financial model suggested by Carhart (1997), which adds another factor to the Fama and French (1993) three-factor model. This model is in turn based on the Jensen (1968, 1969) performance model. These added factors try to capture some of the Capital Asset Pricing Model (CAPM) anomalies revealed by several empirical studies (please refer to Fama and French (1993) and Carhart (1997) for more details). This model has been shown to be able to explain a more encompassing cross-section of expected stock returns, and consequently provides a more robust measure of performance.

Traditional measures of performance, including the Carhart (1997) model, assume that risk is constant over time. This can result in biased measures of performance since it is widely accepted that risk changes over time (Ferson and Schadt, 1996; Jagannathan and Wang, 1996; Aragon and Ferson, 2010). Therefore we have opted to use a conditional model, that allows for risk and performance to change over different market regimes. The advantages of such models are twofold: they provide better

(unbiased) estimates of performance; and they allow us to obtain a conditional measure of performance for different market conditions, therefore allowing us to analyze if these firms' performance behave differently in times of crisis.

For the definition of market regimes we consider the method of Pagan and Sossounov (2003) to define 'bull' and 'bear' markets. The expressions 'bull' and 'bear' markets are commonly used to describe cycles in equity prices. 'Bull' markets are associated with sustained periods of growth, and 'bear' markets are associated with periods of market price contraction. Pagan and Sossounov's (2003) method considers only financial market data to identify the systematic movements in the market while ignoring short-term noise effects, and therefore is potentially more informative than other methods that also identify market regimes considering exogenous variables (that most of the times are not contemporaneous to market data).

The conditional model here considered is given by the following equation:

(1) $$R_{p,t} = \hat{\alpha} + \hat{\alpha}_D D_t + \hat{\beta}_m R_{m,t} + \hat{\beta}_{D,m} D_t R_{m,t} + \hat{\beta}_{SMB} SMB_t + \hat{\beta}_{D,SMB} D_t SMB_t +$$
$$\hat{\beta}_{HML} HML_t + \hat{\beta}_{D,HML} D_t HML_t + \hat{\beta}_{MOM} MOM_t + \hat{\beta}_{D,MOM} D_t MOM_t + \varepsilon_t$$

This corresponds to the Carhart (1997) model with dummies for market regimes where: $R_{p,t}$ is the excess return of the WMEC portfolio on time t; $R_{m,t}$ represent market excess returns on time t, given by the benchmark market index; HML, SMB and MOM are the value, size and momentum factors; D is a dummy variable that assumes the value of one in 'bear' markets and zero in 'bull' markets. The parameter $\hat{\alpha}$ corresponds to the estimated performance measure of the WMEC portfolio during 'bull' markets, and $\hat{\alpha}_D$ is the difference in performance during 'bear' markets. The betas in the model correspond to the estimated risk measures for the different risk factors: market, size, value and momentum. The value factor (HML for 'high minus

low') is given by the difference of the returns of portfolios created by the magnitude of the book-to-market ratio; the size factor (SMB – for 'small minus big') corresponds to the difference between the returns of small and large capitalization portfolios; and the momentum (MOM) factor is given by the difference between portfolios with the largest previous period returns and portfolios with the smallest previous period returns. Finally $\varepsilon_t$ are the regression's residuals.

If the estimated alpha ($\hat{\alpha}$) is positive, corresponding to a positive performance measure, this means that the WMEC portfolio had returns in excess of the returns expected by the model, for that level of risk. Conversely a negative $\hat{\alpha}$ corresponds to a negative performance measure. If the information provided by the WMEC list is already acknowledged by the markets, or if investors incorporate that information immediately after its release, then one should expect that the portfolio returns of the WMEC list to have a neutral performance ($\hat{\alpha} = 0$).

The model above is estimated by an Ordinary Least Squares (OLS) regression model. The statistical inference made on the estimated parameters can only be performed if the model residuals ($\varepsilon_t$) comply with the model assumptions, namely: normality, homoscedasticity and independence. Unfortunately, more often than not some or all of these assumptions are violated when the models are estimated. To overcome the heteroscedasticity and autocorrelation of the model, residuals standard errors can be corrected using the approach suggested by Newey and West (1987). To account for non-normality in model residuals it is necessary to use a non-parametric technique such as the bootstrap method.

Bootstrapping has been used in the context of financial performance measurement by Kosowski, Timmermann, Wermers and White (2006) and Kosowski, Naik and Teo (2007). The advantage of this technique is that it allows us to make statistical

inferences about the performance of a designated portfolio, given by an OLS regression, without the need of any parametric assumption regarding the model's residuals. For more details about the bootstrap method please refer to Hall (1992), Politis (2003) and Godfrey (2009) and references therein.

The traditional bootstrap method proposed by Efron (1979) relies on independent identically distributed data (idd). Unfortunately this assumption is often violated, and more robust methods must be considered. We use the stationary bootstrap method of Politis and Romano (1994), which joins together blocks of random length (with a geometric distribution with mean b) and results in bootstrap sample paths that are a stationary series. The mean size of the block sample (b) is computed using the method suggested by Patton, Politis and White (2011). This block-bootstrap method has been shown to perform well with dependent time series, the so-called processes near epoch dependent (NED) on an underlying mixing process (Gonçalves and White, 2002, 2004). For instance Generalized Autoregressive Conditional Heteroscedasticity (GARCH) models, that have successfully captured financial time series stylized facts, are an example of processes NED on an underlying mixing process, under mild regularity conditions.

The bootstrap results in a p-value for the t-statistic associated with each of the estimated model parameters. The t-statistics and not the parameter itself is here considered since, under its associated null hypothesis, it has a limiting distribution that does not depend upon any unknown parameter and therefore is called asymptotically pivotal. The benefits that result from the use of asymptotically pivotal statistics are presented and discussed by Hall (1992), Godfrey (2009), and Beran (1988). Our bootstrap strategy closely follows the residual based bootstrap for linear regression used by Kosowski et al. (2006) and Kosowski et al. (2007), introduced by

Freedman (1981, 1984) and discussed by Efron and Tibshirani (1986) among others.

*Data*

Daily return data for the period from May, 9 2007 to August, 31 2011 for all firms included and market indices were collected from DataStream. The risk-free rate used is the 1-month Eurodollar Deposit Mid rate, and the market return benchmark is the Standard and Poor's 500 index (S&P 500), also collected from DataStream. The other three factors (SMB, HML, and MOM) used in the four-factor model (equation 1) were collected on September 2011 from the Kenneth French website (http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html).

The list of constituents for the WMEC was collected from the Ethisphere website (http://ethisphere.com), and the announcement dates were kindly provided by Ethisphere. Table 2 depicts the number of firms per Standard Industrial Classification (SIC) code, showing that the WMEC portfolio constituents are distributed through a variety of activity sectors.

-------------------------------------- Insert Table 2 about here --------------------------------

Figure 1 displays the evolution of the WMEC portfolio prices and compares it with the market index prices (S&P 500) during 'bull' and 'bear' market regimes. The graphic is constructed in such way that on May 9, 2007 both the WMEC and the S&P 500 have the same base value of 1000. The image is suggestive of a clear advantage of WMEC performance, particularly during the 'bull' period. However, the evolution of share prices alone are not a good measure of financial performance since they do not take into account differences in risk between the two portfolios. To properly compare the returns of WMEC portfolio and make reliable inferences about its

performance we must test the statistical significance of the difference between the portfolio expected and realized returns, using the methods described above. These results are presented next.

-------------------------------------- Insert Figure 1 about here ---------------------------------


**Results**

The results for our conditional four-factor model given by Equation 1 are shown in Table 3. The reported t-statistics use the Newey and West (1987) heteroscedasticity and autocorrelation consistent standard errors. The reported p-values for all the parameter estimates are the ones obtained by bootstrapping (with 2000 iterations) using the afore-mentioned methods.

The WMEC portfolio has a daily excess return of 0.0317% ($\hat{\alpha}$), which means that the portfolio of these firms provided a remarkable annual excess return of 8.28% over what was to be expected for that level of risk during 'bull' market regimes. This over-performance is statistically significant at a level of 1.9%.

The parameter $\hat{\alpha}_D$, that measures the difference in performance during 'bull' and 'bear' market regimes, is not statistically different from 0. This means that the WEMC portfolio equally over-performs the benchmark during 'bear' markets, providing empirical evidence that the financial performance of ethical companies is not affected during financial market crises.


-------------------------------------- Insert Table 3 about here ---------------------------------


The WMEC portfolio returns are also sensitive to the risk factors considered in the model: the market benchmark ($\hat{\beta}_m$), size ($\hat{\beta}_{SMB}$), value ($\hat{\beta}_{HML}$ - only during 'bear'

markets), and momentum ($\hat{\beta}_{MOM}$) factors. The level of sensitivity changes during 'bear' and 'bull' markets ($\hat{\beta}_{D,m}$, $\hat{\beta}_{D,HML}$ and $\hat{\beta}_{D,MOM}$) which adds to the argument that the risk profile of these companies behaves differently during these alternative market regimes. In particular, the systematic risk of the WMEC portfolio ($\hat{\beta}_m$) decreases during 'bear' markets (the systematic risk during 'bear' markets is given by adding the two market risk parameters in the model: $\hat{\beta}_m + \hat{\beta}_{D,m}$=1.053947–0.078658 = 0.975289). This difference between 'bull' and 'bear' market risk is statistically significant at the level of 2.3%.

*Robustness checks*

For the sake of conciseness we present only the results of the analysis described above. However, we performed a battery of robustness checks to guarantee the strength of our results, namely testing different choices of market benchmark, risk-free interest rates and portfolio construction methods, and combinations thereof.

In terms of benchmark index, in addition to the commonly used S&P 500 index, we also tested the models using the Frank Russell 3000 index (source: DataStream), which includes the largest 3000 U.S. companies representing 98% of the U.S. equity market. Both choices provide similar results.

We also considered a different risk-free interest rate, the 1-month Treasury Bill (source: Kenneth French website), again with similar results.

Our analyses assume that the portfolio is revised on the day of the announcement or at the next day after the announcement is made if the announcement day is not a trading day. In order to check if the performance of the WMEC portfolio is due to any short-term price adjustment caused by the announcement of the lists, we tested two other portfolio construction methods where the constituents of the WMEC are revised two

weeks after the announcement, and at the end of the month of the announcement. The performance results are unaffected by this choice which means that the excess performance of the WMEC portfolio is not due to any short-term market reaction to the announcement. Therefore the abnormal performance captured derives from the long-term adjustment of market prices to the revealed information.

Moreover, as Fama and French (2008) show, the choice of weighting scheme for the portfolio can affect the results. Equally-weighted portfolio returns could be dominated by a large number of stocks that have small market capitalization. On the other hand, value-weighted portfolio returns can be dominated by a small number of firms with large market capitalization. In order to check if the results are robust to the choice of portfolio weighting scheme we created value-weighted and equally-weighted portfolios and their performance results were compared. The results are also not affected by the choice of weighting scheme.

**Conclusion**

Our results show marked positive and statistically significant associations between the World's Most Ethical Companies and superior long-term financial performance. They are based on appropriate financial measures, and are robust to a variety of methodological choices. Based on this evidence we can conclude that the fame attached to the World's Most Ethical Companies does clearly translate into long-term financial gain, with a performance over the expected return as high as 8% both in periods of market growth and during market downturns. On the other hand, this also means that financial markets do not fully incorporate the value associated with ethical conduct in share prices, most likely due to its intangible nature (Edmans, 2011). The complexity and lack of consensus in the theory pertaining to this subject can explain

investors' difficulty in correctly assessing the value of ethical conduct. Our results can contribute to raise investors' awareness of the financial value accrued by independently recognized ethical conduct in business practice. It would therefore be interesting in the future to examine the extent to which this revelation of over-performance will start to be taken into account by investors and become gradually reflected in the companies' share prices.

In addition, we are able to show that ethical companies do have an advantage over the market in times of financial decline. Taking into account the fact that the risk associated with investments varies over time, we analyzed the performance of ethical companies under different market regimes, including periods of growth ('bull') and periods of crises ('bear'). Our results show that ethical companies maintain their over-performance even when the market falls. Moreover, the systematic risk associated with this portfolio is lower in periods of crises than in periods of growth, which is surprising since the systematic risk of firms usually increases during 'bear' markets. This suggests ethical companies are in fact, as suggested by some literature, more resilient and better equipped to deal with market turbulence. It seems that, as asserted by Bhattacharya and Sen, (2004, p. 19), ethical companies do benefit from a "reservoir of goodwill" that protects them from the worse blows during financial crises. Their commitment to substantive values other than short-term financial earnings, their heightened awareness and attention to stakeholders' needs and requirements, and the positive reputation associated with ethical conduct, may all work together to afford these companies long-term prosperity. This superior capability translates into improved financial performance, even during periods when most other companies falter.

Although our analyses cover 5 years of daily data (including 1126 observations), there

was only one 'bear' market period during this time. It would be interesting to revisit the study in the future when more 'bear' periods are registered. That would allow us to test whether our results relative to ethical companies' resilience in times of crises is consistent over time, and is not peculiar to this particular period.

It would also be compelling to extend the analyses presented here to all the World's Most Ethical Companies publicly listed, including the ones that are not traded in the US. Such study would present a set of difficulties, as the companies are traded in various markets around the world, and very few are traded in any one of them. Only aggregating all the companies would make the study viable. Unfortunately this makes it hard to identify an appropriate market benchmark, as well as international risk factors (size, value and momentum), which are not readily available. Finding ways to overcome these difficulties might be the subject of another study that could contribute to test and perhaps strengthen our conclusions drawn from American companies.

**Appendix**

List of WME Companies included in the study

| Company | Industry | SIC Code | Years in list |
|---------|----------|----------|---------------|
| **Adobe Systems** | Services-prepackaged software | 7372 | 2010-2011 |
| **AECOM Technology Corporation** | Services-engineering services | 8711 | 2011 |
| **AFLAC** | Accident and health insurance | 6321 | 2007-2011 |
| **Alcoa** | Rolling, drawing and Extruding nonferrous metals | 3350 | 2007-2008 |
| **American Express** | Finance services | 6199 | 2007-2011 |
| **Ashland** | Wholesale-chemicals and allied products | 5160 | 2010 |
| **Avaya** | Telephone and telegraph apparatus | 3661 | 2007-2011 |

| | | | |
|---|---|---|---|
| **Baxter International** | Surgical and medical instruments and apparatus | 3841 | 2007, 2009 |
| **Becton Dickinson** | Surgical and medical instruments and apparatus | 3841 | 2007-2011 |
| **Berkshire Hathaway** | Fire, marine and casualty insurance | 6331 | 2007 |
| **Best Buy** | Retail-radio tv and consumer electronics stores | 5731 | 2009-2011 |
| **Bright Horizons** [a] | Services-child day care services | 8351 | 2007 |
| **Campbell Soup Company** | Food and kindred products | 2000 | 2010 |
| **Caterpillar** | Construction machinery and equip | 3531 | 2007-2011 |
| **Cisco Systems** | Computer communications equipment | 3576 | 2008-2011 |
| **Costoco Wholesale** | Retail-variety stores | 5331 | 2007 |
| **Cummins** | Engines and turbines | 3510 | 2008-2011 |
| **Deere** | Farm machinery and equipment | 3523 | 2007-2011 |
| **Dell** | Electronic computers | 3571 | 2009 |
| **Dole Foods** | Agriculture production - crops | 100 | 2007-2008 |
| **Duke Energy** | Electric and other services combined | 4931 | 2007-2010 |
| **Dun and Bradstreet** | Services-consumer credit reporting, collection agencies | 7320 | 2009-2011 |
| **Eaton** | Misc industrial and commercial machinery and equipment | 3590 | 2007-2011 |
| **eBay** | Services-business services, nec | 7389 | 2011 |
| **Ecolab** | Soap, detergent, cleaning preparations, perfumes, cosmetics | 2840 | 2007-2011 |
| **Fluor** | Heavy construction other than building const - contractors | 1600 | 2007-2011 |
| **Ford Motor Company** | Motor vehicles and passenger car bodies | 3711 | 2010-2011 |
| **Gap** | Retail-family clothing stores | 5651 | 2007-2011 |
| **General Electric** | Electronic and other electrical equipment (no computer equip) | 3600 | 2007-2011 |

| | | | |
|---|---|---|---|
| **General Mills** | Grain mill products | 2040 | 2008-2011 |
| **Genzyme** | Biological products (no diagnostic substances) | 2836 | 2007-2008 |
| **Google** | Services-computer programming, data processing, etc. | 7370 | 2007-2010 |
| **Granite Construction** | Heavy construction other than building const - contractors | 1600 | 2010-2011 |
| **Harris Corporation** | Search, detection, navigation, guidance, aeronautical systems | 3812 | 2009-2010 |
| **Hartford Financial Services Group** | Fire, marine and casualty insurance | 6331 | 2008-2011 |
| **Hewlett-Packard** | Computer and office equipment | 3570 | 2009-2010 |
| **Honeywell International** | Motor vehicle parts and accessories | 3714 | 2008-2009 |
| **Intel** | Semiconductors and related devices | 3674 | 2009 |
| **International Paper** | Paper mills | 2621 | 2007-2011 |
| **Johnson Controls** | Public building and related furniture | 2531 | 2007-2011 |
| **Jones Lang LaSalle** | Real estate agents and managers (for others) | 6531 | 2008-2011 |
| **Juniper Networks** | Computer communications equipment | 3576 | 2011 |
| **Kellog** | Grain mill products | 2040 | 2007-2009 |
| **Manpower** | Services-help supply services | 7363 | 2008, 2011 |
| **Marriot** | Hotels and motels | 7011 | 2007-2009, 2011 |
| **Mattel** | Dolls and stuffed toys | 3942 | 2009-2010 |
| **McDonald's** | Retail-eating places | 5812 | 2007-2009 |
| **MeadWestvaco** | Paper mills | 2621 | 2007 |
| **Medicis** | Pharmaceutical preparations | 2834 | 2011 |
| **Microsoft** | Services-prepackaged software | 7372 | 2011 |
| **Modine Manufacturing** | Motor vehicle parts and accessories | 3714 | 2007 |
| **NextEra Energy, Inc.** | Electric services | 4911 | 2011 |
| **Nike** | Rubber and plastics footwear | 3021 | 2007-2010 |

| | | | |
|---|---|---|---|
| **NYSE Euronext** | Security and commodity brokers, dealers, exchanges and services | 6200 | 2008-2011 |
| **Oracle Corporation** | Services-prepackaged software | 7372 | 2008-2009 |
| **Paychex** | Services-engineering, accounting, research, management | 8700 | 2007-2008, 2010 |
| **PepsiCo** | Beverages | 2080 | 2007-2011 |
| **Pitney Bowes** | Office machines, nec | 3579 | 2007-2010 |
| **PNC Financial Services** | National commercial banks | 6021 | 2007 |
| **Principal Financial** | Accident and health insurance | 6321 | 2007-2010 |
| **Rockwell Automation** | Measuring and controlling devices, nec | 3829 | 2008-2010 |
| **Rockwell Collins Inc.** | Aircraft part and auxiliary equipment, nec | 3728 | 2010-2011 |
| **Safeway** | Retail-grocery stores | 5411 | 2009 |
| **Salesforce.com** | Services-prepackaged software | 7372 | 2007-2011 |
| **Sempra Energy** | Gas and other services combined | 4932 | 2009-2010 |
| **Starbucks** | Retail-eating and drinking places | 5810 | 2007-2011 |
| **Sun Microsystems** [a] | Electronic computers | 3571 | 2007-2008 |
| **Symantec** | Services-prepackaged software | 7372 | 2008-2011 |
| **Target** | Retail-variety stores | 5331 | 2007, 2009-2011 |
| **Teradata** | Electronic computers | 3571 | 2010-2011 |
| **Texas Instruments** | Semiconductors and related devices | 3674 | 2007-2011 |
| **Timberland** [b] | Footwear, (no rubber) | 3140 | 2007-2008, 2011 |
| **Time Warner** | Services-motion picture and video tape production | 7812 | 2007-2010 |
| **Timken** | Ball and roller bearings | 3562 | 2010 |
| **Trex** | Lumber and wood products (no furniture) | 2400 | 2007 |
| **United Parcel Service** | Trucking and courier services (no air) | 4210 | 2007-2011 |
| **Waste Management** | Refuse systems | 4953 | 2008-2011 |
| **Weyerhaeuser** | Real estate investment trusts | 6798 | 2009-2010 |

| | | | |
|---|---|---|---|
| **Whirlpool Corporation** | Household appliances | 3630 | 2008 |
| **Whole Foods Market** | Retail-grocery stores | 5411 | 2007, 2010-2011 |
| **Wisconsin Energy Corporation** | Electric and other services combined | 4931 | 2008-2011 |
| **Wyndham Worldwide** | Hotels and motels | 7011 | 2010-2011 |
| **Xerox** | Computer peripheral equipment, nec | 3577 | 2007-2011 |

[a] Delisted in 2008

[b] Delisted in 2011

## Acknowledgements

## References

Anderson, C.: 1997, 'Values-based management', *Academy of Management Executive* **11**(4), 25-46.

Aragon, G.O. and W.E. Ferson: 2010, 'Portfolio performance evaluation', *Foundations and Trends in Finance* **2**(2), 83-190.

Bauer, R., J. Derwall, and R. Otten: 2006. 'The ethical mutual fund performance debate: New evidence from Canada', *Journal of Business Ethics* **70**(2), 111-124.

Beran, R.: 1988, 'Prepivoting test statistics: A bootstrap view of asymptotic refinements', *Journal of the American Statistical Association* **83**, 687-697.

Berman, S. L., A. C. Wicks, S. Kotha, and T. M. Jones: 1999, 'Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance', *Academy of Management Journal* **42**(5), 488-506.

Berrone, P., J. Surroca and J. A. Tribó: 2007, 'Corporate ethical identity as a determinant of firm performance: A test of the mediating role of stakeholder satisfaction', *Journal of Business Ethics* **76**(1), 35-53.

Bhattacharya, C. B. and S. Sen: 2004. 'Doing better at doing good: When, why, and how consumers respond to corporate social initiatives', *California Management Review* **47**(1), 9-24.

Carhart, M.: 1997. 'On persistence in mutual fund performance', *Journal of Finance* **52**(1), 57-82.

Carrigan, M. and P. de Pelsmacker: 2009. 'Will ethical consumers sustain their values in the global credit crunch', *International Marketing Review* **26**(6), 674-687.

Collins, J. C. and J. I. Porras: 1994, *Built to last: Successful habits of visionary companies*, (Century Business, London).

Cummings, L.: 2000, 'The financial performance of ethical investment trusts: An Australian perspective', *Journal of Business Ethics* **25**, 79-92.

Deal, T. E. and A. A. Kennedy: 1982, *Corporate cultures: The rites and rituals of corporate life*, (Addison-Wesley, Massachusetts).

Denison, D. R. and A. Mishra: 1995, 'Toward a theory of organizational culture and effectiveness', *Organization science* **6**(2), 204-223.

Edmans, A.: 2011, 'Does the stock market fully value intangibles? Employee satisfaction and equity prices', *Journal of Financial Economics* **101**(3), 621-640.

Efron, B.: 1979, 'Bootstrap methods: another look at the Jackknife', *Annals of*

*Statistics* **7**(1), 1-26.

Efron, B. and R. Tibshirani: 1986. 'Bootstrap methods for standard errors, confidence intervals, and other measures of statistical accuracy', *Statistical Science* **1**(1), 54-75.

Fama, E.F. and K. R. French: 1993, 'Common risk factors in the returns on stocks and bonds' *Journal of Financial Economics* **33**(1), 3-56.

Fama, E.F. and K. R. French: 2008, 'Dissecting anomalies' *Journal of Finance* **63**(4), 1653-1678.

Fama, E.F.: 1970, 'Efficient capital markets: A review of theory and empirical work', *Journal of Finance* **25**(2), 283-417.

Fama, E.F.: 1991, 'Efficient capital markets: II', *Journal of Finance* **46**(5), 1575-1617.

Fama E.F.: 1998, 'Market efficiency, long-term returns, and behavioral finance', *Journal of Financial Economics* **49**(3), 283-306.

Ferson, W. and R. W. Schadt: 1996, 'Measuring fund strategy and performance in changing economic conditions, *Journal of Finance* **51**(2), 425-461.

Freedman, D.A.: 1981, 'Bootstrapping regression models', *Annals of Statistics* **9**(6), 1218-1228.

Freedman, D.A.: 1984, 'On bootstrapping two-stage least-squares estimates in stationary linear models', *Annals of Statistics* **12**(3), 827-842.

Fombrun, C.J.: 2007, 'List of lists: A compilation of international corporate reputation ratings', *Corporate Reputation Review* **10**(2), 144-153.

Fombrun, C. J. and M. Shanley: 1990, 'What's in a Name? Reputation building and corporate strategy', *Academy of Management Journal* **33**(2), 233-258.

Ghoul, El, S., O. Guedhami, C. C. Y. Kwok and D. R. Mishra: 2011, 'Does corporate

social responsibility affect the cost of capital', *Journal of Banking and Finance* **35**(9), 2388-2406.

Godfrey, L.: 2009, *Bootstrap tests for regression models,* Palgrave Texts in Econometrics (Palgrave Macmillan, Basingstoke).

Gonçalves, S. and H. White: 2002, 'The bootstrap of the mean for dependent heterogeneous arrays', *Econometric Theory* **18**(6), 1367-1384.

Gonçalves, S. and H. White: 2004, 'Maximum likelihood and the bootstrap for nonlinear dynamic models', *Journal of Econometrics* **119**(1), 199-219.

Goodstein, J. and A. Wicks: 2007, 'Corporate and stakeholder responsibility: Making business ethics a two-way conversation', *Business Ethics Quarterly* **17**(3), 375-398.

Gordon, G. G. and N. DiTomaso: 1992, 'Predicting corporate performance from organizational culture', *Journal of Management Studies* **29**(6), 783-798.

Hall, P.: 1992, *The bootstrap and Edgeworth expansion* (Springer, New York).

Hartnell, C. A., A. Y. Ouand A. Kinicki: 2011, 'Organizational culture and organizational effectiveness: A meta-analytic investigation of the competing values framework's theoretical suppositions', *Journal of Applied Psychology* **96**(4), 677-694.

Hillman, A. J. and G. D. Keim: 2001, 'Shareholder value, stakeholder management, and social issues: what's the bottom line?', *Strategic Management Journal* **22**(2), 125-139.

Ioannou, I. and G. Serafeim: 2010, 'The impact of corporate social responsibility on investment recommendations', Working Paper No. 1507874, Harvard Business School.

Jaffe, J.F.: 1974, 'Special information and insider trading', *Journal of Business* **47**(3),

410-428.

Jagannathan, R. and Z. Wang: 1996, 'The conditional CAPM and the cross-section of expected returns', *Journal of Finance* **51**(1), 3-53.

Jensen, M.C.: 1968, 'The performance of mutual funds in the period 1945-1964', *Journal of Finance* **23**(2), 389-416.

Jensen, M.C.: 1969, 'Risk, the pricing of capital assets, and the evaluation of investment portfolios', *Journal of Finance* **24**(5), 959-960.

Jones, G., B. Jones and P. Little: 2000, 'Reputation as reservoir: Buffering against loss in times of economic crisis', *Corporate Reputation Review* **3**(1), 21-29.

Jones, T.: 1995, 'Instrumental stakeholder theory: A synthesis of ethics and economics', *Academy of Management Review* **20**(2), 404-437.

Joyner, B. and D. Payne: 2002, 'Evolution and implementation: A study of values, business ethics and corporate social responsibility', *Journal of Business Ethics* **41**(4), 297-311.

Key, S. and S. J. Popkin: 1998, 'Integrating ethics into the strategic management process: doing well by doing good', *Management Decision* **36**(5), 331-338.

Kosowski, R., A. Timmermann, R. Wermers and H. White: 2006, 'Can mutual fund "stars" really pick stocks? New evidence from a bootstrap analysis', *Journal of Finance* **61**(6), 2551-2596.

Kosowski, R., N. Naik and M. Teo: 2007, 'Do hedge funds deliver alpha? A Bayesian and bootstrap analysis', *Journal of Financial Economics* **84**(1), 229-264.

Kotter, J. P. and J. L. Heskett: 1992, *Corporate culture and performance*, (The Free Press, New York).

Kreander, N., R. Gray, D. Power and C. Sinclair: 2005, 'Evaluating the performance of ethical and non-ethical funds: A matched pair analysis', *Journal of Business*

*Finance and Accounting* **32**(7/8), 1465-1493.

Luo, X. and C. B. Bhattacharya: 2006, 'Corporate social responsibility, customer satisfaction, and market value', *Journal of Marketing* **70**(4), 1-18.

Mandelker, G.: 1974, 'Risk and return: The case of merging firms', *Journal of Financial Economics* **1**(4), 303-335.

Markowitz, H.: 1952, 'Portfolio selection', *Journal of Finance* **7**(1), 77-91.

McGuire, J., A. Sundgren and T. Schneeweis: 1988, 'Corporate social responsibility and firm financial performance', *Academy of Management Journal* **31**(4), 854-872.

Milliman, J., J. Ferguson, D. Trickett and B. Condemi: 1999, 'Spirit and community at Southwest Airlines:: An investigation of a spiritual values-based model', *Journal of Organizational Change* **12**(3), 221-233.

Mitchell, M. and E. Stafford: 2000, 'Managerial decisions and long-term stock price performance', *Journal of Business* **73**(3), 287-329.

Newey, W.K. and K. D. West: 1987, 'A simple, positive semi-definite, heteroskedasticity and autocorrelation consistent covariance matrix', *Econometrica* **55**(3), 703-708.

Neville, B. A., S. J. Bell and B. Mengüç: 2005, 'Corporate reputation, stakeholders and the social performance-financial performance relationship', *European Journal of Marketing* **39**(9/10), 1184-1198.

O'Reilly, C.: 1989, 'Corporations, culture, and commitment: Motivation and social control in organizations', *California Management Review* **31**(4), 9-25.

Orlitzky, M.: 2011, 'Institutional logics in the study of organizations: The social construction of the relationship between corporate social and financial performance', *Business Ethics Quarterly* **21**(3), 409-444.

Orlitzky, M., F. L. Schmidt and S. L. Rynes: 2003, 'Corporate social and financial performance: A meta-analysis', *Organization Studies* **24**(3), 403-441.

Pagan, A.R. and K. A. Sossounov: 2003, 'A simple framework for analyzing bull and bear markets', *Journal of Applied Econometrics* **18**(1), 23-46.

Paine, L. S.: 1996, 'Moral thinking in management: An essential capability', *Business Ethics Quarterly* **6**(4), 477-492.

Patton, A., D. N. Politis and H. White: 2011, 'Correction to "Automatic block-length selection for the dependent bootstrap" by D. Politis and H. White', *Econometric Reviews* **28**(4), 372-375.

Peloza, J.: 2006, 'Using corporate social responsibility as insurance for financial performance', *California Management Review* **48**(2), 52-72.

Politis, D.N. and J. P. Romano: 1994, 'The stationary bootstrap', *Journal of the American Statistical Association* **89**(428), 1303-1313.

Politis, D.N.: 2003, 'The impact of bootstrap methods on time series analysis', *Statistical Science* **18**(2), 219-230.

Roberts, P. and G. Dowling: 2002, 'Corporate reputation and sustained superior financial performance', *Strategic Management Journal* **23**(12), 1077-1093.

Ruf, B., K. Muralidhar, R. Brown, J. Janney and K. Paul: 2001, 'An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective', *Journal of Business Ethics* **32**(2), 143–156.

Schnietz, K., and M. Epstein: 2005, 'Exploring the financial value of a reputation for corporate social responsibility during a crisis', *Corporate Reputation Review* **7**(4), 327-345.

Verschoor, C.: 1998, 'A study of the link between a corporation's financial

performance and its commitment to ethics', *Journal of Business Ethics* **17**(13), 1509-1516.

Verschoor, C.: 1999, 'Corporate performance is closely linked to a strong ethical commitment', *Business and Society Review* **104**(4), 407-415.

Walker, K.: 2010, 'A systematic review of the corporate reputation literature: Definition, measurement, and theory', *Corporate Reputation Review* **12**(4), 357-387.

Weaver, G. R. and L. K. Treviño: 1999, 'Compliance and values oriented ethics programs: Influences on employees' attitudes and behavior' *Business Ethics Quarterly* **9**(2), 315-335.

Weaver, G. R., L. K. Treviño and P. L. Cochran: 1999, 'Corporate ethics programs as control systems: Influences of executive commitment and environmental factors', *Academy of Management Journal* **42**(1), 41-57.

Webley, S., and E. More: 2003, *Does business ethics pay?*, (Institute of Business Ethics, London).

TABLE 1

WME Companies in portfolio per year

| Year | Announcement date | Number of firms |
|------|-------------------|-----------------|
| 2007 | May, 9 | 44 |
| 2008 | June, 3 | 48 |
| 2009 | April, 12 | 51 |
| 2010 | March, 22 | 53 |
| 2011 | March, 15 | 46 |

TABLE 2

WME Companies in portfolio per sector (SIC code Divisions)

| SIC code division | Description | Number of firms |
|---|---|---|
| Division A | Agriculture, Forestry, And Fishing | 1 |
| Division C | Construction | 2 |
| Division D | Manufacturing | 41 |
| Division E | Transportation, Communications, Electric, Gas, And Sanitary Services | 6 |
| Division F | Wholesale Trade | 1 |
| Division G | Retail Trade | 8 |
| Division H | Finance, Insurance, And Real Estate | 9 |
| Division I | Services | 15 |

TABLE 3

Results of the 4-factor model with bull/bear dummies

| Parameter | Estimate | t-statistic | p-value |
|---|---|---|---|
| $\hat{\alpha}$ | 0.000317* | 2.321238 | 0.0190 |
| $\hat{\alpha}_D$ | -0.000277 | -0.844727 | 0.4228 |
| $\hat{\beta}_m$ | 1.053947 ** | 39.618518 | 0.0010 |
| $\hat{\beta}_{D,m}$ | -0.078658 * | -2.305665 | 0.0230 |
| $\hat{\beta}_{SMB}$ | 0.337037 ** | 7.341727 | 0.0010 |
| $\hat{\beta}_{D,SMB}$ | -0.113139 | -1.696112 | 0.1029 |
| $\hat{\beta}_{HML}$ | 0.075823 | 1.507596 | 0.1469 |
| $\hat{\beta}_{D,HML}$ | -0.276930** | -3.662256 | 0.0000 |
| $\hat{\beta}_{MOM}$ | -0.137193** | -3.377125 | 0.0000 |
| $\hat{\beta}_{D,MOM}$ | -0.148744* | -2.629679 | 0.0110 |

* Statistically significant at the 5% level
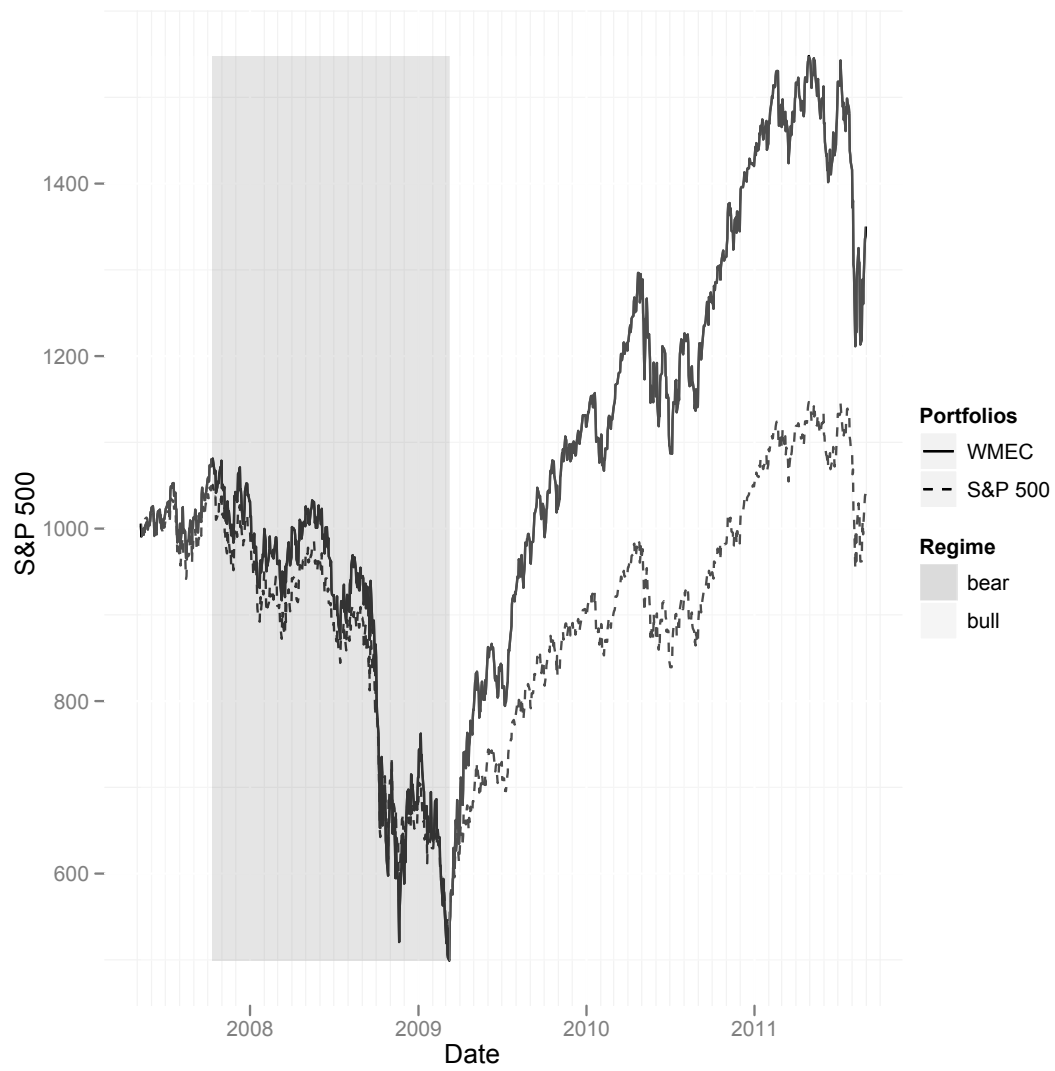
** Statistically significant at the 1% level

FIGURE 1



Figure 1. Evolution of the WMEC portfolio prices as compared to the S&P 500