

A Critical Review of Sustainable Business Indices and their Impact

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ABSTRACT. Most studies into the performance of socially responsible investment vehicles have focused on the performance of sustainable or socially responsible mutual funds. This research has been complemented recently by a number of studies that have examined the performance of sustainable investment indices. In both cases, the majority of studies have concluded that the returns of socially responsible investment vehicles have either underperformed, or failed to outperform, comparable market indices. Although the impact of sustainable indices to date has been limited, the recent launch of sustainable indices by Dow Jones and FTSE suggests that more attention is being paid to the subject by financial markets, investors, and companies. This development raises a number of important issues which are reviewed in this article: (a) the performance of indices compared with their benchmark indices; (b) the methodologies employed in compiling the indices; and (c) the impact of the indices on companies and the investment community. The article concludes with a number of suggestions for areas that merit future research.

KEY WORDS: CSR, SRI, sustainable indices, sustainable investing, sustainable mutual funds

Introduction

Although sustainable or socially screened¹ indices are a relatively recent phenomenon, social screening of investments has been around for more than 100 years. The Quakers' determination that investments should meet their religious convictions, for instance, is perhaps the first example of social investing (Kinder and Domini, 1997). Subsequently, various other religious groups, trade unions, and social groups have adopted similar policies (Domini, 2001). Nonetheless, the Socially Responsible Investment (SRI) industry is a relatively recent phenomenon (Schueth, 2003). The first SRI mutual

fund, for example, is generally considered to have been the PAX World Fund, a fund launched in 1971 that eschewed investments in military-related stocks (Pax World Funds, 2004). Since then, the SRI industry has seen considerable expansion and today the total funds under management in the U.S., that are subjected to some kind of social screen, are estimated to be in excess of \$2 trillion (Social Investment Forum, 2003).

The history of sustainable indices, on the other hand, is considerably shorter. Almost two decades after the PAX World Fund was launched, the Domini 400 Social Index, launched in May 1990 by Kinder, Lydenberg, Domini, and Co., became the world's first sustainable index (Guerard, 1997a, b). Growing acceptance of SRI within the corporate and investment communities has helped spur the introduction of a number of other sustainable indices in the last 5 years, and the field of sustainable indices now includes offerings from: Calvert Group (2004), Dow Jones, E.Capital, Ethibel, FTSE4, Humanix, Jantzi, KLD Analytics, and Vigeo.

Although scholars have largely neglected the recent growth in sustainable indices, the phenomenon offers great promise for academic researchers studying potential links between sustainability and corporate performance. In particular, the following areas offer fertile ground for further study: (a) the performance of indices compared with their benchmark indices; (b) the methodologies employed in compiling the indices; and (c) the impact of the indices on companies and the investment community. In addressing these issues, this article begins with a review of the research that has been conducted into the performance of sustainable mutual funds and indices. We continue with a review of the sustainable index landscape, and an examination of the methodologies employed in compiling the main sustainable indices. We follow

with a brief review of the DJSI, and we conclude with some comments on the impacts of sustainable indices and suggestions for areas that merit further research.

Sustainable investing

Background

Theory suggests that investors are attracted to SRI vehicles out of a desire to match their investment policies with their values (Domini, 2001). As indicated, the earliest investment screens appear to have been employed by religious groups such as the Quakers and the Lutheran Brotherhood looking to exclude “sin industries” such as alcohol and tobacco (Schepers, 2003). Opposition to the Vietnam War was the motivation for the creation of the PAX Fund in 1971 (Pax World Funds, 2004) and in subsequent years, a number of other funds were started with similar peace-driven or other social goals.

Today, estimates suggest that about 10% of all investment funds in the U.S. are subjected to some form of social screen (Sauer, 1997) and current interest appears to be at an all time high (Rivoli, 2003). The total amount of money subject to some kind of social screen has grown significantly, representing \$2,164 billion² in the U.S., as of December 2003 (Social Investment Forum, 2003), and £4 billion in the U.K., as of August 2001 (Ethical Investment Research, 2003). Pension fund and endowments employing a relatively simple negative screen such as avoidance of companies in the tobacco or defense industries manage most of this money (Social Investment Forum, 2003). However, the growing awareness of SRI has led to an increase in the number of fund managers offering mutual funds with a social screen. As of 2003, there were more than 200 SRI mutual funds with \$151 billion under management in the U.S., most of which were managed using negative screens.

Despite the focus on negative screens, there is some evidence of investor demand for an approach that includes positive screening. A 1997 survey of 800 mutual fund investors commissioned by Calvert Group, for example, reported that 81% of investors favored the incorporation of environmental factors into investment decisions by fund managers (Krumstiek, 1997). The

growth in sustainable indices in recent years is largely predicated on this increased interest. Recognizing that positive screening is beyond the resources of many smaller fund managers, most of the organizations offering sustainable indices for license by fund managers have incorporated some element of positive screening in the compilation of their criteria (Dow Jones, 2004; Ethibel, 2004; Vigeo, 2004).

Performance

SRI mutual funds

The results of the academic and practitioner research into the performance of socially responsible mutual funds are mixed. A number of these studies report little evidence of a difference in risk-adjusted returns between ethical and conventional funds (Bauer et al., 2002; Cummings, 2000; Guerard, 1997a, b; Hamilton et al., 1993). Another study finds that SRI funds can be a valuable source of portfolio risk reduction, even for investors who are not driven by social values (Hickman et al., 1999). On the other hand, some researchers report a statistically significant cost associated with socially responsible mutual fund investing (Geczy et al., 2003; Kurtz, 1997; McWilliams and Siegel, 1997). Geczy et al. (2003), for example, note:

In essence, when compared to the broader fund universe, the SRI fund universe does not offer funds that come as close to offering the exposures to the size and value factors possessed by portfolios identified as optimal under the Fama French model (1993).

Barnett and Salomon (2002), however, believe these different research conclusions can largely be explained by faulty methodology, and suggest that not enough research has concentrated on the differences between SRI funds. They conclude that funds that employ many social screens often weed out under performing stocks (and hence improve performance) and funds, that employ relatively few social screens (e.g. Domini (2004)) tend to improve performance through increased diversification. According to the authors, it is the funds that are “stuck in the middle” that under perform. In sum, despite the considerable research, there is no consensus in the academic or practitioner communities on the relative performance of SRI mutual funds.

Sustainable indices

Whereas socially responsible mutual funds have been the subject of much research, sustainable indices have not, in general, received the same level of academic scrutiny. The lone exception is the Domini 400 Social Index, studies of which suggest that risk-adjusted returns have not differed materially from the S&P 500 since its inception (Abramson and Chung, 2000; Sauer, 1997; Statman, 2000). The Domini 400 Social Index notwithstanding, sustainable indices have not been in existence long enough for anything but short-term performance studies. The studies that have been carried out have occurred primarily in the investment-banking realm and, as with studies of SRI mutual funds, the results have been mixed. WestLB Equity, a German investment bank, reported a risk-adjusted out-performance of the DJSI over the Dow Jones Global Index (DJGI) for the period 1999–2001 (WestLB Equity, 2004). Deutsche Bank (2002), on the other hand, conducted a similar study, which showed a statistically significant underperformance of the DJSI over the same period.

Performance comparisons of sustainable indices other than the Domini 400 Social Index are problematic because of their even shorter histories. In addition, performance comparisons against benchmark indices are complicated by differences in size, country, and industry weightings. Although differences between developed and developing country weightings are to be expected, given the greater attention devoted to sustainability issues in richer countries, one would not necessarily expect developed market differentials to the extent demonstrated by the major indices (Deutsche Bank, 2002). Size differentials, however, are to be expected, as are industry differentials, particularly in indices that penalize “dirty” industries. As a result, different assumptions over the appropriate risk-adjustments used in research methodology can impact study conclusions, as was the case with the aforementioned study of the DJSI.

Major sustainability indices

Recent developments

The last 5 years have seen the launch of a number of sustainable indices with global and regional

concentrations. This recent development appears to have been brought about by a number of events including: the increase in funds under management by SRI mutual funds; the launch of the DJSI in 1999; the publicity and legislation resulting from corporate accounting scandals in the U.S. and Europe; and investor demands for comparisons with recognized benchmarks.

Methodology

Various approaches are taken in constructing the indices, the major distinction being made between positive and negative screening. As with SRI mutual funds, the most basic approach is to apply a negative screen that excludes companies which operate in areas that are deemed unethical such as tobacco, alcohol, and nuclear energy. This is the primary approach in the indices run by the fund managers Calvert and Domini, and features prominently in the FTSE4Good index. A review of the DJSI, Ethibel, and Vigeo indices, on the other hand, reveals an approach that focuses on positive rather than negative screens (Table I).

In addition to positive screens, some of the indices adopt a policy of including the best companies from all industrial sectors. This reflects a policy of aiming to achieve an industry weighting that approximates the weighting of the relevant benchmark index. Another notable characteristic of a number of indices is the inclusion of researchers, international agencies, NGOs, and other stakeholders in the construction of selection criteria. This transparency offers an approach that is consistent with investor and company requirements for objectivity, consistency, verifiability, logicity, and replicability, and has helped increase acceptance among companies (Deutsche Bank, 2002).

Review of the Dow Jones sustainability index

In order to get a clearer idea of the methods used in constructing an index, we decided to review one of the major indices in more detail. The DJSI was a logical choice for this review because of its relatively early launch date (September 1999); its global reach; the impact of the Dow Jones brand; and the availability of the index for licensing.

TABLE I
Methodologies employed by the major sustainability indices

Indices	Index tracked	Methodology
Calvert Group: The Calvert Social Index	Benchmark Index: None	Negative Screening Criteria: Excludes companies with bad environmental records and those operating in nuclear power, weapons, tobacco, alcohol, or gambling.
Dow Jones/SAM: Dow Jones Sustainability Index	Benchmark Index: Dow Jones Global Index	Positive Screening Criteria: Includes companies that score highest on a comprehensive list of sustainability criteria.
Ethibel/S&P: Ethibel Sustainability Index	Benchmark Index: S&P Global 1200	Positive Screening Criteria: Evaluates companies according to four main criteria: internal social policy; environmental policy; external social policy; and ethical economic policy.
FTSE: FTSE4Good	Benchmark Index: Fortune 500	Mixed Screening Criteria: Excludes companies operating in: tobacco, nuclear systems, weapons systems, and uranium. Includes companies based on qualitative judgments about: environmental sustainability, relations with stakeholders, and human rights.
KLD Analytics: Domini 400 Social Index	Benchmark Index: Fortune 500	Negative Screening Criteria: Excludes companies operating in: weapons, alcohol, tobacco, nuclear power, and gaming. Also excludes companies based on qualitative judgments about the environment, diversity, employee relations, and product.
Vigeo: Advanced Sustainability Performance Indices	Benchmark Index: DJ EURO STOXXSM	Positive Screening Criteria: Rewards companies for introducing sustainability criteria.

Source: Company documents.

DJSI background

Sustainable Asset Management (SAM) is a Zurich-based fund management firm that devised the idea for the DJSI and is responsible for administering the selection criteria. SAM expresses its view of sustainability as follows:

(Sustainability is) a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. Corporate sustainability leaders achieve long-term shareholder value by gearing their strategies and management to harness the market's potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability costs and risks. (Sustainable Asset Management, 2004)

Sustainable Asset Management's philosophy is founded on the belief that sustainability should have a positive impact on company performance (Barkawi, 2004). It was this guiding belief that, in 1999, led to the formation of the DJSI and related indices in partnership with the Swiss Stock Exchange, STOXX Limited and Dow Jones. The SAM philosophy was shared by Dow Jones, whose motivation in establishing the DJSI was "to establish them as a leader in the sustainable space" (Barkawi, 2004).

DJSI analysis process

For a company to be considered for inclusion in the DJSI, it must be among the largest 2,500 companies, by free-market float capitalization, in the DJGI.

Companies wishing to be considered for inclusion in the index must fill in a detailed questionnaire covering a wide range of weighted economic, environmental, and social factors. The constituent components and weightings are reviewed annually and are based on SAM research and feedback from third party consultants, NGOs, international bodies, and academics.

To illustrate the questionnaire, the Corporate Governance questions, and their respective weightings, are shown in Table II. The list includes question categories such as: number of board members; director compensation; and policies on the CEO/Chair roles and auditors. The “optimum answers” are not clear to the companies, and the detailed allocation of the weightings within each category are confidential.

SAM supplements these company reports with a ‘media and stakeholder’ analysis that comprises a review of internal and external company documents. These documents include: annual reports; environmental reports; health and safety reports

and reviews; press releases; articles; and media and stakeholder commentaries on the company. The results are then subjected to an external and internal audit, after which a Corporate Sustainability Score is calculated for each company.

DJSI weightings

Sustainable Asset Management confirmed that the company does not see the necessity of a balance across the triple bottom line (Swoboda, 2004) and, as Table III shows, the index puts far more emphasis on economic factors than either social or environmental. This emphasis can be viewed as consistent with SAM’s definition of Corporate Sustainability as a “business approach that creates long term shareholder value”, a definition which is consistent with the neo-classical maxim of profit maximization (Friedman, 1962, 1970). This is in contrast with the view of some scholars who have interpreted the sustainability concept to mean that corporate responsibilities should necessarily extend beyond a simple duty to maximize shareholder returns, to recognize the claims of other stakeholders (Donaldson and Preston, 1995; Handy, 2002). SAM’s economic emphasis seems to be consistent with Dow Jones’ (2004) stated aim of including companies which “lead their industries and set industry-wide best practices”. The DJSI criteria are summarized in Table III.

The economic emphasis is further underlined by SAM’s target free float market capitalization coverage for each DJSI market sector of 20% of the DJGI market capitalization for that market sector. As a result, companies from any of the industry groups are eligible for inclusion, as long as the highest company in an industry group achieves a corporate sustainability score equal to 20% or more of the maximum score – a relatively low hurdle and one that might not be as easy to reach if the three main categories were more evenly balanced. The result is an index that appears to be designed to give a close approximation of the industry weightings of the DJGI benchmark, as is shown in Table IV.

TABLE II
DJSI corporate governance weightings

Category	%
1. Number of Board Members	5
2. Employee Representatives	0
3. Independent Directors	10
4. Chair/CEO Role	5
5. Committees	15
6. Formal Governance Policy	10
7. Nationalities on Board	10
8. Women Directors	5
9. Management Consulting/Auditors	10
10. Compensation of Directors	5
Media/Stakeholder Analysis	25
Total	100

Notes:

1. Items 1–10 are based on completed questionnaires supplied by companies.

2. Media/Stakeholder analysis is based on SAM’s analysis of press releases, articles, and media and stakeholder commentary.

Source: SAM – Interview with Senior Research Analyst (Swoboda, 2004).

TABLE III
DJSI weightings: corporate sustainability assessment criteria

Dimension	Criteria	Weighting (%)
Economic: 30.6%	Codes of Conduct/Compliance/Corruption	3.0
	Corporate Governance	5.4
	Customer Relationship Management	3.0
	Financial Robustness (1)	3.6
	Investor Relations	2.4
	Risk & Crisis Management	3.6
	Scorecards/Measurement Systems	4.2
	Strategic Planning	5.4
	Industry Specific Criteria (2)	Industry dependent
	Environment: 9.2%	Environmental Policy/Management
Environmental Performance		4.2
Environmental Reporting (1)		1.8
Industry Specific Criteria (2)		Industry dependent
Social: 20.4%	Corporate Citizenship/Philanthropy	2.4
	Stakeholders Engagement	4.2
	Labor Practice Indicators	3.0
	Human Capital Development	1.8
	Knowledge Management	3.0
	Social Reporting	1.8
	Talent Attraction & Retention	2.4
	Standards for Suppliers	1.8
	Industry Specific Criteria (2)	Industry dependent
Industry Criteria & Media/ Stakeholder analysis: 39.8%		39.8
Total		100.0

Notes:

1. Criteria assessed based on the basis of publicly available information only.

2. Weightings depend on the industry.

Source: SAM

Observations

The DJSI process favors large companies from at least four perspectives: (a) it only considers the largest 2,500 companies from the DJGI; (b) the stated aim is to include industry leaders; (c) larger companies tend to have more resources to devote to the issues raised in the questionnaire; and (d) larger companies are more likely to have the resources to devote to interacting with SAM. This bias is quite marked, with 48.3% of the companies in DJSI having a market capitalization in excess of E50 billion as opposed to only 29.6% of DJGI companies (Table V). Although this may be consistent with the aim of highlighting

industry leaders in market share, the suspicion exists that these companies might not necessarily represent the “sustainable” industry leaders if a more balanced view were taken of the economic, environmental, and social factors defined in the index.

Furthermore, the over-emphasis on economic factors (30.6% of the weighting) and the under-emphasis on environmental factors (9.2%) is difficult to reconcile with the definition of sustainable development given by SAM (2004): “Meeting the economic, environmental and social needs of the present without compromising the ability of future generations to meet their own needs” (Sustainable Asset Management, 2004).

TABLE IV
DJSI sector weights compared to DJGI

DJSI sector	DJSI weight	DJGI weight	Difference
Automobiles	1.59	2.31	-0.72
Banks	13.03	12.15	0.88
Basic resources	1.88	2.32	-0.44
Chemicals	2.77	2.13	0.64
Construction	0.94	1.17	-0.23
Cyclical goods and services	3.19	3.93	-0.74
Energy	9.48	7.43	2.05
Financial services	7.11	6.72	0.39
Food and beverage	5.13	4.41	0.72
Healthcare	18.16	10.91	7.25
Industrial goods and services	6.23	10.45	-4.22
Insurance	3.87	4.77	-0.90
Media	1.03	3.30	-2.27
Non cyclical goods and services	3.49	4.32	-0.83
Retail	3.21	4.99	-1.78
Technology	11.77	10.27	1.50
Telecommunications	4.27	4.63	-0.36
Utilities	2.85	3.79	-0.94
Total	100.00	100.00	0.00

Source: Dow Jones/Deutsche Bank Estimates – 2002.

Impact

Most SRI researchers, as indicated, have concentrated on researching the impact of sustainable mutual funds and as a result, little academic research has been carried out into the impact of sustainable indices. In the absence of an extant academic framework, a proposed approach is to consider the impact of sustainable indices on three dimensions. First, by examining the extent, to which fund

management firms have opted to license sustainable indices. Second, by looking at total investment funds managed using sustainable indices. Third, and more anecdotally, by assessing the importance that companies attach to inclusion in the various indices and the changes, if any, they have implemented in order to be considered for admission.

The figures in Table VI confirm the impression that the impact of sustainable indices to date has been limited. The DJSI figure of E2.45 billion of funds

TABLE V
DJSI and DJGI Compared

Market capitalization (MC) (Euros Billions)	DJSI		DJGI	
	Number of companies	MC weight (%)	Number of companies	MC weight (%)
MC > E50 bn	24	48.3	51	29.6
E25 bn < MC < E50 bn	35	23.3	84	19.0
MC < E25 bn	241	28.4	4,642	51.4
Total	300	100.0	4,777	100.0

Source: Adapted from Deutsche Bank (2002).

TABLE VI
Funds under management using sustainable indices – December 2003

Note	Index	Number of licensees	Funds under management \$ million
1	Calvert Social Index	–	1,906
2	Domini 400 Social Index	–	1,169
3	DJSI	50	2,940
4	FTSE4Good Index	20+	Not revealed
	Total	50+	6,015++

Sources:

1. Based on fund report.
2. Based on fund report.
3. Based on 2,450 Million Euros figure reported by SAM (translated to dollars at exchange rate of 1.2).
4. From interview with FTSE executive (Tanner, 2004).

under management that track the index, suggests that index holds some appeal for a number of fund managers. Figures were unavailable for FTSE, however, the amount under management appears to be less than for the DJSI (Tanner, 2004). The Calvert and Domini indices are for internal fund management use only and, therefore, unavailable for licensing. As a result, the total funds under management using a sustainable index appear to be less than \$8 billion, a relatively small figure compared to the total funds under management in the U.S. of \$19.2 trillion (Social Investment Forum, 2003). In addition, the number of fund managers licensing the indices is relatively small and appears to have been limited to the DJSI and FTS4Good indices.

A detailed study of company reactions to the indices was not carried out. Notwithstanding, anecdotal evidence from corporate website and press releases suggests that some companies value inclusion in the DJSI and FTSE4Good indices (Hydro, 2004; Shell, 2004). This perspective was supported by a FTSE executive who suggested, in an interview, that FTSE has recently seen a significant rise in approaches from companies requesting detailed information on how to gain admission to the FTSE4Good Index (Tanner, 2004).

Conclusions and directions for further research

Various academic and practitioner studies have been carried out on the relative performance of sustainable

indices and mutual funds. Most studies have examined mutual fund performance, and the results generally suggest a lack of significant performance differentials (Bauer et al., 2002; Guerard, 1997a, b; Hamilton et al., 1993) or a significant underperformance (Geczy et al., 2003; Kurtz, 1997; McWilliams and Siegel, 1997). The few studies which have examined the performance of sustainable indices have tended to focus on the Domini 400 Social Index and report similar results (Sauer, 1997; Statman, 2000), although one study of the DJSI index against its benchmark between 1999 and 2001 showed a significant positive risk-adjusted return (WestLB Equity, 2002).

There has been an increase in interest in sustainable indices in the past few years from investors and companies (Deutsche Bank, 2002; Tanner, 2004). Notwithstanding this interest, the impact of sustainable indices has, to date, been limited. The longest lasting social index, the Domini 400 Social Index, has been in existence for a little more than a decade, and the category is, therefore, a relatively recent phenomenon. This is evidenced by the fact that the current amount of money under management in the U.S. using sustainable indices appears to be little more than \$6 billion, a tiny fraction of the total screened assets under management. The entry of Dow Jones and FTSE into the market, however, is evidence of the serious attention that is being paid to SRI indices, and the documented increase in index licensees and the anecdotal evidence of heightened company interest are indications that companies and fund managers are taking more interest.

For sustainable indices to have a meaningful impact, the methodology employed and, by extension, the performance are of crucial importance. To date, we are not aware of any serious academic research into the methodology behind the construction of sustainable indices. This is not necessarily a serious oversight for indices that simply screen for certain criteria such as alcohol, gaming, tobacco, nuclear, or defense-related stocks. It is more problematic, however, in the case of indices that have a detailed methodology for calculating company rankings. In the case of indices such as the DJSI, Ethibel, and FTSE4Good, for example, the assumptions that underlie the component parts of the indices are of crucial importance.

In attempting to begin addressing this issue, we have conducted a limited overview of the methodology employed by SAM Group in calculating the sustainability scores of the companies that comprise the DJSI. Although the SAM methodology appears to meet the desirable traits of consistency, verifiability, logicity, and replicability (Deutsche Bank, 2002), the need for analyst interpretation means it is not entirely objective. Although subjectivity is, perhaps, inevitable, the bias in the methodology is compounded by a clear emphasis on larger companies, which manifests itself in the priority given to economic factors, at the expense of environmental and social issues, and is evidenced by the high percentage of large companies that comprise the DJSI, as compared with its benchmark.

As a result, a useful direction for future research would be to address some of the criticisms of bias by assessing the composition and, therefore, performance impact of applying different weightings to the components of the various indices. In the case of the DJSI, for example, multiple assumptions are made including: the appropriate components to include in the index; the method of calculating the scores for each component; the appropriate weightings for each component and qualitative judgments about the environmental impacts of different industries; the media coverage received by individual firms; and the level of stakeholder engagement. Future studies could, for example, compare the theoretical performance of a sustainable index with its benchmark index under different scenarios that would vary these underlying assumptions. Alternative performance scenarios of the DJSI, for example, could be

compared with the performance of the DJGI to see if a correlation between higher adjusted DJSI index scores and superior stock performance could be observed.

The impact of sustainable indices offers other fertile areas for research. The anecdotal evidence of company interest in gaining inclusion on sustainable indices (Tanner, 2004), for example, suggests that a promising approach would be to examine the steps taken by companies to achieve acceptance to the various indices. In addition, research into the evolution of funds under the management of fund managers that have licensed an SRI index would offer some insight into the reaction of investors and the investment community to SRI indices.

Notes

¹ For the sake of simplicity, the terms “ethical”, “social” “socially screened”, “socially responsible”, “SRI” and “sustainable” are used interchangeably.

² Social Investment Forum’s definition includes screening – \$1,702 billion; shareholder advocacy – \$448 billion; and community investing – \$14 billion.

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