

Socially Responsible Indexes

Composition, performance, and tracking error.

Meir Statman

Socially responsible investing (SRI) is moving into the mainstream of institutional investment management, but not uniformly and not without doubt. A 2004 Mercer survey reveals that 89% of investment managers in Asia and 69% of investment managers in Europe believe that SRI would be in the investment mainstream in the coming ten years, but only 36% of investment managers in the U.S. share that belief.¹

Nevertheless, a broad range of institutional investors do follow SRI, even in the U.S., from the giant CalPERS fund, which serves public employees in California, to the medium-sized Christian Brothers Investment Service, which manages money for more than 1,000 Catholic institutions, and the relatively small New England Foundation for the Arts.

Institutional investors who care about social responsibility do not neglect investment returns. A representative of Bon Secours Health Systems, a Catholic health-care ministry, for example, told Dugan [2005], "As a Catholic organization we need to maximize returns to serve the ministries." Indeed, pressure to maximize returns might be more intense among institutional investors than among individual investors, because institutional investors must serve constituents and answer to boards that are obliged by fiduciary laws to give priority to low risk and high expected returns in their investment choices.

Institutional investors who consider SRI ask: How are socially responsible companies different from conventional companies? Are the returns of socially responsible stocks likely to be higher or lower than those of conventional stocks? And what are the tracking errors of portfolios of socially responsible stocks relative to conventional benchmarks? We answer these questions.

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We explore the characteristics that define socially responsible companies by comparing the S&P 500 index constituents of conventional companies to the four indexes of socially responsible companies; the Domini 400 Social Index (DS 400 Index), the Calvert Social Index (Calvert Index), the Citizens Index, and the U.S. portion of the Dow Jones Sustainability Index (DJ Sustainability Index-US). We find that SRI indexes vary in composition and social responsibility scores, but each has a mean social score higher than that of the S&P 500 index.

Socially responsible indexes also differ in the emphasis they place on social characteristics. For example, the DS 400 Index is the strongest among all indexes on the environment while the Calvert Index is strongest on corporate governance.

We compare the returns of the four SRI indexes and the returns of the conventional S&P 500 index, and examine the comparative tracking errors. The returns of the DS 400 Index were higher than returns of the S&P 500 index during May 1990-April 2004 overall but not in every subperiod. In general, SRI indexes did better than the S&P 500 index during the boom of the late 1990s but lagged it during the bust of the early 2000s.

Return correlations are high, ranging from 0.939 for the DJ Sustainability Index during January 1995-April 2004 to the 0.985 for the DS 400 Index during September 1999-April 2004. But tracking errors are substantial. For example, the expected difference between 12-month returns of the DS 400 Index and the S&P 500 index, based on correlation and standard deviations during May 1990-April 2004, was 2.84%, and the realized mean difference was 2.49%.

SOCIALLY RESPONSIBLE INDEX STANDARDS

"Integrating personal values and societal concerns with investment decisions is called Socially Responsible Investing (SRI)" says the Social Investment Forum in its "1999 Trends Report." But what does that mean?

"Social responsibility is in the eye of the beholder," writes Damato [2000]. She notes that two SRI indexes, the Calvert Social Index and Citizens Index, exclude Wal-Mart, but a third, the Domini 400 Social Index, includes it.

Damato quotes John Blanchard, Jr., of the Calvert Group, saying that Calvert excludes Wal-Mart from its index because "we have a practice of excluding retailers who sell firearms." While KLD, the company that assembles the Domini Index, "has some reservations about Wal-

Mart's activities, it has chosen to address them by engaging Wal-Mart management in discussions and by submitting proxy resolutions." John Shields, the President of Citizens Funds at the time, said that while all three indexes evaluate stocks using several of the same criteria, the application of those criteria "gets down to judgment calls."

Organizations that construct SRI indexes agree on some SRI characteristics but disagree on others. KLD, which compiles the DS 400 Index, excludes from it companies that derive any revenues from the manufacture of alcoholic or tobacco products, companies that derive any revenues from the provision of gambling products or services, electric utilities with interests in nuclear power plants, and companies that derive 2% or more of sales from military weapons systems. Next, KLD evaluates companies in areas such as the environment, diversity, and employee relations. Problems in one area do not necessarily lead to the exclusion of a company from the DS 400 Index. Rather, KLD excludes from the index companies whose records, on balance, are negative.

Calvert evaluates company performance on the environment, workplace, product safety and impact, international operations and human rights, community relations, and indigenous people's rights. For example, Calvert favors Starbucks because it was the first agricultural commodities company in the U.S. to develop a code of conduct for coffee plantation workers. Calvert excludes companies with interests in gambling, tobacco, and military weapons, but includes companies with interests in alcohol, firearms, and nuclear power, unless such interests are substantial. So, for example, Calvert includes in its index the Darden Corporation, which operates Red Lobster and Olive Garden restaurants, because the alcohol portion of its revenues falls below its 20% cutoff.

Citizens excludes from its index companies with any interests in tobacco or alcohol, companies that produce power from nuclear power plants, have material interests in the manufacture of weapons, have gambling as a main line of business, or lack diversity in the board or senior management. Citizens prefers companies with good records on corporate governance, environmental performance, human rights, diversity, employee relations, and no animal testing unless required by law.

The Dow Jones Sustainability Index (DJSI) is different from the other three because it uses best-in-class selection rules in its construction. The DJSI does not exclude all companies in the tobacco, gambling, alcohol, and similar industries that are excluded from the other

three indexes. Rather, it includes the best companies in each industry.

The leading companies in each industry are defined in terms of a detailed set of economic, environmental, and social criteria covering general as well as industry-specific sustainability trends. The DJSI includes corporate sustainability leaders that:

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.

Such companies set "the highest standards for corporate governance and stakeholder engagement, including corporate codes of conduct and public reporting," and they manage

human resources to maintain workforce capabilities and employee satisfaction through best-in-class organizational learning and knowledge management practices and remuneration and benefit programs.

We examine the U.S. companies part of the DJ Sustainability Index-US. That index does not exclude companies that have interests in alcohol, gambling, tobacco or firearms, but the DJ Sustainability Index-US-Ex-All index excludes all such companies.

RATING COMPANIES BY SRI CHARACTERISTICS

KLD Research and Analysis, Inc., supplies social investment research and benchmark, compliance, and consulting services. KLD's Socrates database of company characteristics as of December 31, 2002, included more than 3,000 companies according to characteristics consisting of:

Corporate Governance
Community
Diversity
Employee Relations
Environment
Human Rights
Product
Alcohol
Firearms
Gambling
Military

Nuclear
Tobacco

For each characteristic there are a set of indicators. For example, the diversity characteristic includes eight indicators of strengths, such as a superior reputation as an employer of the disabled, and three indicators of concerns, such as only men on the board of directors.

The overall score of a company is the sum of its scores on the indicators, where a strength adds a point and a concern subtracts a point. For example, Lucent Technologies, Inc., at the end of 2002 scored seven points: one positive point for community, two negative points for corporate governance, seven positive points and one negative one for diversity, two positive points and a negative one for employee relations, one positive point for environment, and one positive point and one negative point for products.

COMPOSITION OF SRI INDEXES

The four SRI indexes and the conventional S&P 500 index share some companies but not all. For example, Harrah's Entertainment, Inc., with interests in gambling, is in the S&P 500 index and the DJ Sustainability Index-US Index but not in Calvert, Citizens, the DS 400, or DJ Sustainability Index-US-Ex-All indexes. Anheuser-Busch Corporation, a company with interests in alcohol, and Boeing, a company with interests in military, is in the S&P 500 index but in none of the socially responsible indexes. Whole Foods Market, Inc., a supermarket specializing in organic foods, is not in the S&P 500 index but is in the DS 400 and Calvert indexes, and Intel and Johnson & Johnson are in all the indexes.

The social scores of the companies in the S&P 500 index ranged from the -10 low of FirstEnergy Corporation and Occidental Petroleum Corporation to the 8 high of Procter & Gamble Company, Intel Corporation, Fannie Mae, and Xerox Corporation. The mean score of the S&P 500 index companies was -0.26 (see Exhibit 1).

Investors are likely to continue to debate the characteristics that make a company socially responsible, but KLD's scores highlight the observation that companies are arrayed in a range; no company is perfectly socially responsible or irresponsible. Moreover, companies with the same overall score differ in their scores by characteristics.

Exhibit 2 shows, for example, that FirstEnergy, a company with a low overall score, scored better on corporate governance than Intel or Procter & Gamble, companies

EXHIBIT 1

Comparison of Social Scores of Companies in Socially Responsible Indexes and S&P 500 as of December 31, 2002

	Calvert Index	Citizens Index	DJ Sustainability Index-US	DS 400 Index	S&P 500 Index
Mean social score	0.42	0.40	1.02	1.24	-0.26
Median social score	0	0	1	1	0
Mode social score	0	0	0	1	-1
Standard deviation	1.97	2.33	3.15	2.19	2.97
Range of social scores	13	17	15	13	18
Minimum of social scores	-5	-9	-7	-5	-10
Maximum of social scores	8	8	8	8	8
Number of index companies	635	300	61	400	500
Number of companies available in the KLD database	527	287	61	400	500

EXHIBIT 2

Scores on Social Characteristics of Companies with High and Low Overall Scores

Social Characteristic	FirstEnergy Corp	Occidental Petroleum Corp.	Intel Corp.	Procter & Gamble Co.
Community	0	-1	1	2
Corporate governance	0	-3	-1	-1
Diversity	0	0	3	5
Employee relations	-3	1	3	1
Environment	-4	-3	2	1
Human rights	-1	-2	0	0
Product	-1	-2	0	0
Alcohol	0	0	0	0
Firearms	0	0	0	0
Gambling	0	0	0	0
Military	0	0	0	0
Nuclear	-1	0	0	0
Tobacco	0	0	0	0
Overall Score	-10	-10	8	8

with high overall scores. Similarly, Intel, a company with an overall score identical to that of Procter & Gamble, did better than Procter & Gamble on employee relations, but lagged it on diversity.

Companies in the DS 400 index generally scored higher than those in the S&P 500 index, ranging from the -5 low of R.R. Donnelley & Sons Company and Albertson's, Inc., to the 8 high of the top four companies in the S&P 500 index. The mean score of the DS 400 index companies was 1.24.

The S&P 500 index includes 7 companies with interests in alcohol, 1 in firearms, 8 in gambling, 27 in military, 22 in nuclear, and 5 in tobacco. None of these is in the DS 400 Index. Companies in the DS 400 Index scored better, on average, than companies in the S&P 500 index on all characteristics. For example, while the mean environment score for DS 400 companies is 0.15, the mean score for

the S&P 500 companies was -0.26, and the exclusion of companies in tobacco, alcohol, firearms, gambling, military, and nuclear from the DS 400 Index is evident.

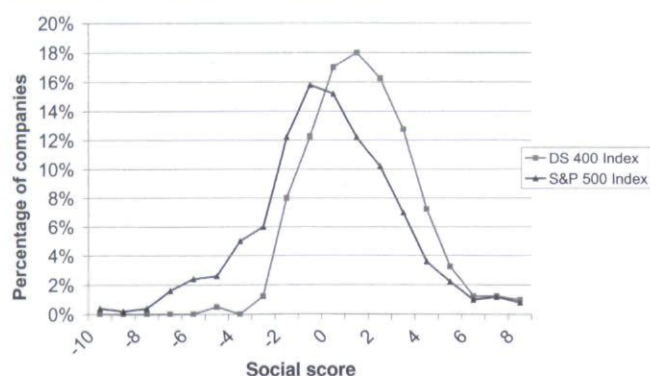
Still, there is much overlap. 247 of the 500 companies in the S&P 500 index are among the 400 in the DS 400 index.

The distribution of the scores of the companies in the S&P 500 index and the DS 400 index is graphed in Exhibit 3. The mean social scores are 0.40 for the Citizens Index, 0.42 for the Calvert Index, 1.02 for the DJ Sustainability Index-US and 1.24 for the DS 400 Index. These are all higher than the mean score of the S&P 500 index.²

Socially responsible indexes vary in the emphasis they place on social characteristics. For example, the Calvert Index scored higher than any other index on corporate governance, while the DS 400 index scored higher than any other on environment. The mean score of the

EXHIBIT 3

Distribution of Social Scores of Companies in DS 400 and S&P 500—Dec. 31, 2002



DJ Sustainability Index-US is higher than the mean score of the DJ Sustainability Index-US-Ex-All, and that difference highlights the trade-off among characteristics. The DJ Sustainability Index-US-Ex-All excludes eight of the companies in the DJ Sustainability Index-US Index, seven for firearms (military) operations and one, Harrah's Entertainment, Inc., for gambling operations.

But some of the excluded companies have high overall scores. For example, Agilent Technologies, Inc., scores 7 and Texas Instruments, Inc., 5.

RETURNS OF SRI INDEXES

Hamilton, Jo, and Statman [1993] and Statman [2000] present three alternative hypotheses about the relative returns of socially responsible companies and conventional companies. The first hypothesis is that the (risk-adjusted) expected returns of socially responsible stocks are equal to the (risk-adjusted) expected returns of conventional stocks.

This is consistent with a world where the social responsibility feature of stocks is not priced. In such a world, socially responsible investors who buy stocks of socially responsible companies find enough conventional investors ready to sell them, so that stock prices do not rise. Because expected returns to investors are also the cost of capital to the company, this hypothesis implies that socially responsible investors do not reduce the relative cost of capital to socially responsible companies by favoring their stocks.

The second hypothesis is that the expected returns of socially responsible portfolios are lower than the

expected returns of conventional portfolios. This hypothesis implies that socially responsible investors have an impact on stock prices. That is, they increase the valuation of socially responsible companies over the valuation of conventional companies by driving down the cost of capital of socially responsible companies. Heinkel, Kraus, and Zechner [2001] develop an equilibrium model where socially responsible investors do just that when they represent a high enough percentage of investors.

The last hypothesis is that the expected returns of stocks of socially responsible portfolios are higher than those of conventional portfolios. This means "doing well while doing good." This is possible if enough investors consistently underestimate the benefits of being socially responsible or overestimate its costs. The hypothesis is articulated, for example, by Donna Marsh, the public relations manager of Citizens Fund:

We believe that social screening enhances financial performance, eliminating from investment consideration companies that, due to their questionable business practice, may present significant risk to their investors. Screening out companies with potentially troublesome practices such as tobacco companies and nuclear power utilities has steered many SRI funds away from some of the market's worst performers in recent years [2000, p. 15].

Studies of the performance of U.S. mutual funds by Hamilton, Jo, and Statman [1993], Goldreyer and Diltz [1999], Statman [2000], and Bauer, Koedijk, and Otten [2002] show no statistically significant relationship between returns of socially responsible mutual funds and returns of conventional funds. While these results are useful, these studies teach us little about the relative returns of stocks of socially responsible companies, because expenses create gaps between the returns of stocks and the returns of mutual funds that include these stocks, and these differences vary from fund to fund.

We can learn more about the relation between the returns of stocks of socially responsible companies and the returns of stocks of conventional companies by comparing indexes of stocks of socially responsible companies to indexes of stocks of conventional companies. Two studies compare the performance of an SRI index, the DS 400 Index, to the S&P 500 index of conventional companies, Sauer [1997] and Statman [2000]. The DS 400 Index was initiated in May 1990, and Sauer examines it through December 1994, while Statman examines it through September 1998.

Both Sauer and Statman use Jensen's alpha and the Sharpe ratio as measures of performance; each finds that the DS 400 Index returned more than the S&P 500 index, although differences were not statistically significant. My study now improves on those by Sauer and Statman in three ways. First, I extend the time horizon through April 2004. Second, I use Fama and French's three-factor model in the analysis of returns. Third, I analyze the returns of three SRI indexes in addition to the DS 400 Index.

The DS 400 Index did better than the S&P 500 index during the overall period from its initiation in May 1990 through April 2004. Exhibit 4 shows that the mean monthly return of the DS 400 Index was 1.10%, exceeding by 0.10 percentage points the return of the S&P 500 index. The monthly alpha of the DS 400 Index was 0.11%, exceeding by 0.09 percentage points the monthly alpha of the S&P 500 index (but the *t*-statistic of the alpha of the DS 400 Index is 1.39, short of the usual critical levels of statistical significance). Beta and the CRSP 1-10 standard deviation of the returns of the DS 400 Index were both higher than those of the S&P 500 index. The S&P 500 was tilted substantially toward large-capitalization stocks and somewhat toward value stocks. The DS 400 Index was tilted toward large-capitalization stocks and growth stocks compared to the tilts of the S&P 500.

The Sharpe ratio of the DS 400 Index was also higher than that of the S&P 500 index. Alpha-*s* (α_s) is a modified version of the Sharpe ratio presented in Statman [1987]:

$$\alpha_s = R_F + \left(\frac{R_{DS} - R_F}{SD_{DS}} \right) SD_{SP} - R_{SP}$$

where R_F is the T-bill return, R_{DS} is the return on the DS 400 Index, SD_{DS} is the standard deviation of the return of the DS 400 Index, SD_{SP} is the standard deviation of the return of the S&P 500 index, and R_{SP} is the return on the S&P 500 index. The α_s of the DS 400 Index is the excess return of the DS 400 Index over the return of the S&P 500 index, where the DS 400 is leveraged to have the S&P 500's standard deviation.

Exhibit 5 shows that the DS 400 Index did not do better than the S&P 500 in every period. There are differences in 12-month moving averages of the monthly returns of the DS 400 Index and the S&P 500. Note particularly the relatively high returns of the DS 400 Index during the late 1990s and the relatively low returns during the early 2000s. The return of the DS 400 Index exceeded that of the S&P 500 by 8.01 percentage points during the

12 months ending in January 1999 but lagged by 5.54 percentage points during the 12 months ending in February 2001.

Much of the difference between the returns of the DS 400 Index and the S&P 500 is due to differences in industry weights. For example, information technology and telecommunication services are weighted more in the DS 400 Index than in the S&P 500, while energy and industrials are weighted less (see Exhibit 6).

To see the effect of industry weights on the relative returns of the DS 400 Index and the S&P 500, consider a DS Industry-Weights Index that is constructed as the weighted average of industry returns, weighted by the market value of each industry in the DS 400 Index as of December 31, 2002. Consider an S&P Industry-Weights Index that is constructed similarly, but weighted by the market value of each industry in the S&P 500.

Exhibit 6 shows the close correspondence of differences between the returns of the DS 400 Index and the S&P 500 and differences between the DS Industry-Weights Index and the S&P Industry-Weights Index. Note, however, that the higher average return of the DS 400 Index is not due to differences in industry weights between it and the S&P 500. While the mean difference in monthly returns between the DS 400 Index and the S&P 500 index during May 1990–April 2004 is 0.10 percentage points, the difference between the DS Industry-Weights Index and the S&P Industry-Weights Index is virtually zero.

Differences in returns between the DS 400 Index and the S&P 500 are likely to understate differences between the returns of stocks of socially responsible companies and stocks of conventional companies, because the two indexes share approximately 250 companies. We have no data on the returns of the portion of the DS 400 Index that does not overlap the S&P 500, however.

The Citizens Index, introduced in January 1995, did better than the S&P 500 during the period ending in April 2004. The monthly alpha of the Citizens Index was 0.05%, exceeding by 0.01 percentage points the alpha of the S&P 500 but lagging by 0.08 percentage points the alpha of the DS 400 Index.

The DJ Sustainability Index-US, introduced in September 1999, lagged the S&P 500, the DS 400 Index, and the Citizens Index during the period ending in April 2004. In this period the DS 400 Index and the Citizens Index also lagged the S&P 500. The monthly alpha of the S&P 500 was higher than those of the DS 400 Index, the Citizens Index, and the DS Sustainability Index by 0.01 percentage

EXHIBIT 4

Monthly Returns of Socially Responsible Indexes and S&P 500

	Mean Monthly Returns (percent)	Standard Deviation of Returns	α	α_s
May 1990 - April 2004				
DS 400 Index	1.10	4.58	0.11 (1.39)	0.01
S&P 500 Index	1.00	4.03	0.02 (0.63)	
DS minus S&P	0.10	0.55	0.09	
January 1995 - April 2004				
DS 400 Index	1.13	4.89	0.13 (1.28)	0.05
Citizens Index	1.14	5.71	0.05 (0.36)	-0.05
S&P 500 Index	1.04	4.64	0.04 (0.97)	
DS minus S&P	0.09	0.25	0.09	
Citizens minus S&P	0.10	1.07	0.01	
September 1999 - April 2004				
DS 400 Index	-0.08	5.16	-0.01 (-0.05)	0.00
Citizens Index	-0.30	6.31	-0.20 (-0.85)	-0.11
DJ Sustainability Index - US	-0.39	5.66	-0.34 (-1.09)	-0.24
S&P 500 Index	-0.07	4.99	0.00 (-0.06)	
DS minus S&P	-0.01	0.17	-0.01	
Citizens minus S&P	-0.23	1.32	-0.20	
DJSI-US minus S&P	-0.32	0.67	-0.34	
May 2000 - April 2004				
DS 400 Index	-0.37	5.02	-0.12 (-0.63)	-0.03
Citizens Index	-0.71	6.27	-0.24 (-0.86)	-0.19
DJ Sustainability Index - US	-0.65	5.66	-0.28 (-0.79)	-0.21
Calvert Index	-0.48	5.76	-0.11 (-0.08)	-0.06
S&P 500 Index	-0.32	4.90	-0.06 (-0.80)	
DS minus S&P	-0.05	0.12	-0.06	
Citizens minus S&P	-0.39	1.37	-0.22	
DJSI minus S&P	-0.33	0.76	-0.18	
Calvert minus S&P	-0.16	0.86	-0.05	

*t-statistics in parentheses.

EXHIBIT 5

12-Month Moving Average of Difference Between Monthly Returns of DS 400 and of S&P 500

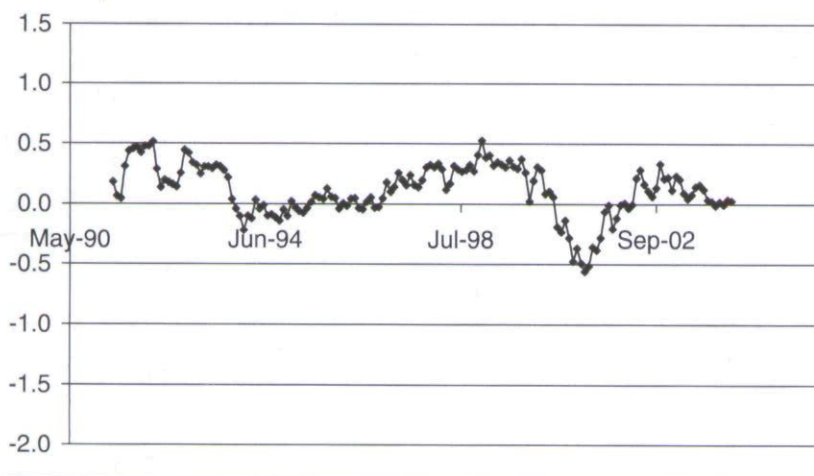
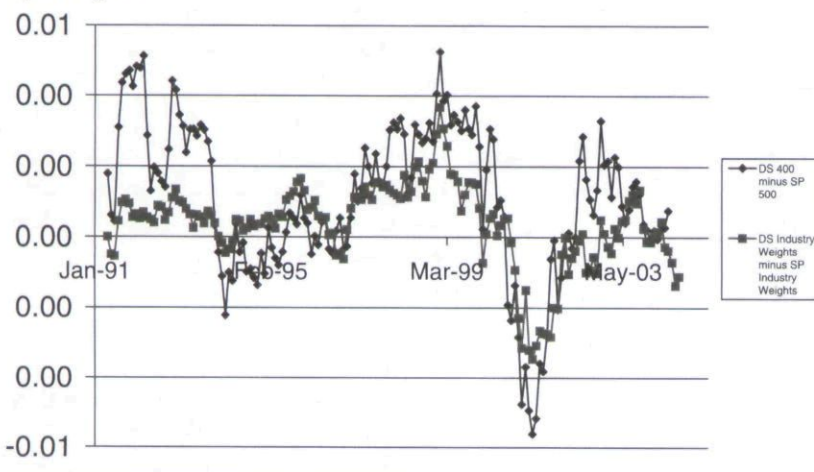


EXHIBIT 6

Comparison of Differences in 12-Month Moving Averages by Weights



points, 0.20 percentage points, and 0.34 percentage points, respectively.

The Calvert Index, introduced in May 2000, lagged the S&P 500 during the period ending in April 2004 but outpaced the other SRI indexes. Its mean monthly alpha lagged the S&P 500 alpha by 0.05 percentage points, while the corresponding figures for the DS 400 Index, the Citizens Index, and the DJ Sustainability Index are 0.06 percentage points, 0.18 percentage points, and 0.22 percentage points.

TRACKING ERRORS OF SRI INDEXES

The correlation between returns of the DS 400 Index and returns of the S&P 500 during May 1990–April 2004 was high, 0.983, but differences between the returns of the two indexes were substantial during many periods. The mean difference between the returns of the two indexes during 12-month periods was 2.49 percentage points, and the maximum difference was 8.01 percentage points (by which the return of the DS 400 Index exceeded that of the S&P 500 during the 12 months ending in January 1999).

Dispersion, in the case of two assets, is the difference between the return of each asset and a portfolio that combines the two in equal proportions. Expected dispersion is derived from the correlation between the returns of the two assets and on the standard deviations of the returns. In particular, as in Statman and Scheid [2004]:

$$\text{Expected Dispersion} = \sigma \sqrt{(1 - \rho) / 2}$$

where σ is the mean standard deviation of the returns of the two assets, and ρ is the correlation between their returns. In our case, dispersion is the deviation of the return of a socially responsible index from the return of a portfolio composed of equal proportions of the socially responsible index and the S&P 500. The tracking error of a socially responsible index relative to the S&P 500 index is twice the dispersion figure.

Exhibit 7 shows that expected tracking errors ranged between 2.83 percentage points for the DS 400 Index during January 1995–April 2004 and 6.42 percentage points for the DJ Sustainability Index during September 1999–April 2004. The mean realized 2.49 percentage points tracking error of the DS 400 Index in 12-month periods during May 1990–April 2004 was not far from the 2.84 percentage points expected tracking error.

Tracking error is a major hindrance to the application of socially responsible investment strategies by institutional investors such as pension plan sponsors, since the performance of institutional investors is usually compared

EXHIBIT 7

Tracking Errors of Socially Responsible Indexes from S&P 500

	SD of Monthly Returns	Correlation Between the Monthly Returns of an SRI Index and the S&P 500 Index	12-month Dispersion	Expected Difference between the 12-month returns of an SRI index and the S&P 500 Index
May 1990 - April 2004				
DS 400	4.579	0.983	1.420	2.84%
S&P 500	4.302			
January 1995 - April 2004				
DS 400	4.894	0.985	1.416	2.83%
Citizens	5.711	0.962	2.476	4.95%
S&P 500	4.642			
September 1999 - April 2004				
DS 400	5.163	0.984	1.586	3.17%
Citizens	6.307	0.962	2.694	5.39%
DJSI	5.663	0.939	3.211	6.42%
S&P 500	4.959			
May 2000 - April 2004				
DS 400	5.022	0.983	1.592	3.18%
Citizens	6.271	0.958	2.820	5.64%
DJSI	5.663	0.939	3.204	6.41%
Calvert	5.759	0.984	1.663	3.33%
S&P 500	4.899			

to conventional indexes. Tracking errors can be reduced by the best-in-class method, where the best companies in each industry are chosen but no industry is excluded.³

Optimization tools such as those described by Troutman [2001] and Milevsky et al. [2006] offer another method to reduce tracking errors. Optimization calls for the identification of tilts in socially responsible portfolios, such as a tilt toward growth companies, and the application of corrective measures, such as an increase in the relative weights of value companies.

CONCLUSION

Does concern for the environment define socially responsible companies? Or is it concern for human rights? Debates about characteristics that define socially responsible companies are sure to continue, but KLD offers social scores of companies by characteristics such as diversity, environment, and human rights.

I examine the composition of four socially responsible indexes and compare them to the composition of the conventional S&P 500 index. The mean social scores of the socially responsible indexes differ, and indexes vary in the emphasis they place on particular characteristics, but the mean score of each is higher than the score of the S&P 500. Still, there is a wide range of scores for the

companies in each socially responsible index and much overlap between the lists of companies in socially responsible indexes and the S&P 500.

Returns of socially responsible indexes generally exceeded returns of the S&P 500 index. For example, the monthly alpha of the DS 400 Index during the 14 years May 1990–April 2004 was higher than the S&P 500 alpha by 0.09 percentage points (but alphas are not statistically significant). We cannot reject the hypothesis that returns of socially responsible companies are equal to those of conventional companies.

The correlations between the returns of socially responsible indexes and the S&P 500 are high, but tracking errors can be substantial. For example, the mean difference between the returns of the DS 400 Index and the S&P 500 in 12-month periods was 2.49 percentage points, and the maximum difference was 8.01 percentage points.

ENDNOTES

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¹See Ambachtsheer [2005]. This is in answer to the question of whether “positive or negative screening for social and/or

environmental factors" would be in the investment mainstream.

²The social scores are calculated by KLD, which also compiles the DS 400 Index. This might introduce a bias favoring the DS 400 Index.

³The DJSI that applies this method has relatively high tracking errors, but the DJSI in this study is only part of an overall index, since it excludes non-U.S. stocks.

REFERENCES

- Ambachtsheer, Jane. "SRI: What Do Investment Managers Think?" Available at www.mercer.com.
- Bauer, Rob, Kees Koedijk, and Roger Otten. "International Evidence on Ethical Mutual Fund Performance and Investment Style." Working paper, Maastricht University, 2002.
- Damato, Karen. "Social Studies: How 'Responsible' Funds Differ on Stock Choices." *Wall Street Journal*, May 18, 2000.
- Dugan, Ianthe Jeanne. "Hedge Funds Attract Catholic Institutions Into the Fold." *Wall Street Journal*, May 24, 2005, p. C1.
- Goldreyer, Elizabeth, and J. David Diltz. "The Performance of Socially Responsible Mutual Funds: Incorporating Sociopolitical Information in Portfolio Selection." *Managerial Finance*, vol. 25, no. 1 (1999), pp. 23-36.
- Hamilton, Sally, Hoje Jo, and Meir Statman. "Doing Well While Doing Good: The Investment Performance of Socially Responsible Mutual Funds." *Financial Analysts Journal*, November/December 1993, pp. 62-66.
- Heinkel, Robert, Alan Kraus, and Josef Zechner. "The Effect of Green Investment on Corporate Behavior." *Journal of Quantitative Analysis*, vol. 36, no. 4 (December 2001), pp. 431-449.
- Marsh, Donna. "Readers Report: What Doing Good Really Gets You." *BusinessWeek*, July 17, 2000, pp. 14-15.
- Milevsky, Moshe A., Andrew Aziz, Al Goss, Jane Thomson, and David Wheeler. "Cleaning a Passive Index." *The Journal of Portfolio Management*, Spring 2006.
- "1999 Trends Report." Social Investment Forum. November 4, 1990. Available at www.socialinvest.org/.
- Sauer, David. "The Impact of Social-Responsibility Screens on Investment Performance." *Review of Financial Economics*, vol. 6, no. 2 (1997), pp. 137-149.
- Statman, Meir. "How Many Stocks Make a Diversified Portfolio?" *Journal of Financial and Quantitative Analysis*, vol. 22, no. 3 (September 1987), pp. 353-363.
- . "Socially Responsible Mutual Funds." *Financial Analysts Journal*, May/June 2000, pp. 30-39.
- Statman, Meir and Jonathan Scheid. "Global Diversification." *Journal of Portfolio Management*, vol. 3, no. 1 (Second Quarter, 2005): 1-11.
- Troutman, Michael. "Risk Control Techniques for Social Investing." *The Journal of Investing*, Winter 2001, pp. 51-57.

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