

Reexamining Performance of Socially Responsible Firms

Tarek Zaher

Abstract

This study reexamines the controversy surrounding “Doing well while doing well” debate within the investment literature. We retest whether investors who are dedicated to socially responsible investing will realize additional returns or will be penalized for their investment philosophy. We control for the size bias and sector concentration bias that were identified in previous studies. Our findings indicate that there is no difference in performance between the socially responsible firms and their conventional counterparts. The Investors who chose to invest in socially responsible firms will not earn additional return nor will be penalized. The findings also suggest that there is no difference in the performance of socially responsible and conventional firms over long periods versus short periods. Our findings also indicate that the constraints that are placed on an investment decision would lower or leave unchanged the maximum utility that an investor may obtain.

I. Introduction

Investors who base their decisions on a company's social and environmental policies have recently moved into the mainstream. According to the Social Investment Forum, Socially responsible investing now captures one out of every eight-investment dollar in the US, and accounts for more than \$2 trillion in investment assets under managements. Some studies report that recent evidence on the performance of socially responsible funds runs counter to previously held wisdom that investors seeking to do good with their money have to be satisfied with lower returns. Other studies provide evidence that lend support to the notion that the performance of socially responsible firms or funds is not significantly different from the performance of the universe of conventional firms or funds in the short run, but in the long run the market tend to price social responsibility characteristics. The evidence in these studies suggests that long term performance of socially responsible firms was better than overall market. At this time it is inconclusive whether socially responsible investing would add value to its followers. Many recent studies also asserts that ethical and moral screening of firms is likely to affect the asset structure, portfolio diversification and also introduce size and other biases into the portfolio, thus negatively affecting the performance of the socially responsible portfolios.

The objective of the study is to reexamine the extent to which socially responsible investing affects the characteristics of assets that investors include in their portfolios and the performance of these portfolios. Can Investors do well on their investments while doing well? Conclusive evidence may indicate a change in the investment philosophy of some investors. In particular we retest whether investors who are dedicated to socially responsible investing will realize additional returns or will be penalized for their investment philosophy. We control for the size bias and sector concentration biases that were identified in previous studies. We match socially responsible firms with conventional firms of the same size (measured by total assets) from the same sector. We also test if there is difference in the performance over long periods versus short periods.

The remainder of the paper is organized as follows: Section II presents the literature review. Section III; provide a short narrative of the data and the research methodology. Data analysis and results are presented in Section IV and in section V; we present the summary and conclusion.

II. Literature Review

The existing literature on the socially responsible funds has mainly focused on the relative performance of fund returns. The majority of studies have compared the risk adjusted returns of socially responsible funds to conventional funds. The studies by Asmundson and Forester (2001), Cummings (2000), and Statman (2000) indicate that on a risk adjusted basis, there is no difference in performance between socially responsible and conventional funds. The same conclusion was reached by Malin (1995) Hamilton et al. (1993), Goldreyer and Diltz (1999), Bauer et al. (2005), Ferson and Schadt's (1997). On the other hand the studies by Reyes and Grieb (1998) present evidence that some socially responsible funds underperformed the market during the 1980s and outperformed the broader market in the 1990s.

The second line of studies on socially responsible investing argue that because ethical and moral screening may impose an additional set of constraints on the investors it will likely affect the characteristics of the assets they include in the portfolio, the portfolio diversification and portfolio performance. These studies include Rudd (1981), Grossman and Sharp (1986), Hall (1986) and Diltz (1995). Rudd (1981) in addition argues that socially responsible investing introduces size bias with consequent deterioration in the run performance. Chow (1999) also argues that social and environmental filters would move investors away from investment in old-line industrial manufacturers leading to a bias in socially screened portfolio towards high tech and growth investments. Grossman and Sharp (1986) also argue that any constraint placed on any decision can only lower or leave unchanged the maximum utility that can be obtained. Ahmed and Diltz (1999) find that application of social screens does not have an effect on the investment performance.

III. Data Sources and Research Method

The main objective of the study is to reinvestigate empirically the controversy surrounding "Doing well while doing well" debate within the socially responsible investment literature. The focus of previous studies was on comparing the performance of existing socially responsible funds and conventional funds. Rudd (1981) predicts that social screening introduces size bias into a socially responsible fund and therefore impairs portfolio diversification and long run investment performance. His hypothesis is that constrained portfolios are more likely to contain small firms thus resulting in higher systematic risk. In this study we control for the size bias by comparing the performance of selected individual firms that are widely recognized as socially responsible to their peers of conventional firms.

The sample of socially responsible firms is drawn initially from ten socially responsible funds that are recognized as the most socially responsible Large Cap funds. These includes Aquinas Growth, American Trust Allegiance, Calvert Social Investment Equity, Citizens Core Growth A, Devcap Shared Return, Domini Social Equity A, Dreyfus Premier 3rd Century A,

Green Equity, MMA Praxis, Neuberger Berman S. R. A. Parnassas Fund and Walden Social Equity. These funds were given their social responsible investing classifications by the Social Investing Forum at www.socialinvest.org. The top 50 stocks holdings of these funds were identified. The firms were then sorted by sector and matching firms with similar size were identified from the conventional firms in the same sector. This also allows us to test if there is difference in the performance across different sectors. Seven sectors were identified as holding socially responsible funds; these are reported in table 1. Another shortcoming of the previous studies is that they were performed mostly over short periods of time. In this study we test if there is difference in the performance of firms over long periods versus short periods.

The monthly return and size data were collected from CRSP and COMPUSTAT tapes. The three months Treasury bill rate extracted from the Federal Reserve web site was used as a proxy for the risk free rate in the regression. The analysis was performed over the whole period of study (1998-2007) and was repeated for a shorter period, June 2002-June 2007 to examine if the performance changes over different periods.

We use two alternative measures of performance to compare the performance of socially responsible firms and their peers of conventional firms. The Jensen's alpha α_p ; and Sharp information ratio, S_p . The Jensen's alpha depends on beta as a measure of the risk of the portfolio. We estimate the Jensen's alpha α_p as:

$$r_{pt} = \alpha_p + \beta_p r_{mt} + \varepsilon_{pt} \quad (1)$$

Where r_{pt} is the excess return (i.e., the observed return minus the risk free rate) on the portfolio p in month t , r_{mt} is the excess return on the benchmark portfolio in month t , β_p is portfolio p 's beta, and ε_{pt} is the residual term during period t .

The second measure of investment performance is the Sharp information ratio. This statistic measures the portfolio's average return in excess of a benchmark portfolio divided by the standard deviation of the excess return. The information ratio is calculated as

$$IR_j = (R_j - R_b) / \sigma_{ER} \quad (2)$$

Where:

IR_j = the information ratio for portfolio j

R_j = the average return for portfolio j during

R_b = the average return for the benchmark portfolio

σ_{ER} = the standard deviation of the excess return

Since the excess portfolio returns are estimated with historical data using the same single factor model to estimate Jensen's alpha, the IR simplifies to

$$IR_j = \alpha_j / \sigma_e \quad (3)$$

Where σ_e is the standard error from the regression

To convert the information ratio that is based on a periodic returns measured T times per year to annualized information ratio we used the following formula,

$$\text{Annualized IR} = (T)\alpha_j / (T^{0.5})\sigma_e = (T^{0.5})IR \quad (4)$$

Since we are using monthly data, we, compute the annualized information ratio by multiplying the monthly IR calculated from equation (3) by the square root of 12 as shown in equation (4). Grinold and Khan (2000) suggest that reasonable information ratio should fall between 0.50 and

1.0. Annualized Information ratio of 0.5 indicates good performance and an IR of 1.0 indicates exceptional performance.

IV. Results

Empirical analysis was performed on eight portfolios of socially responsible firms and their eight matching peers of conventional firm's portfolios. Descriptive statistics for each of the sixteen portfolios and the performance measures are reported in tables I through table IV.

Table I reports monthly returns means, average standard and coefficient of variation for eight portfolios of socially responsible firms representing each of the seven identified sectors and the portfolio that contains all the sample of the socially responsible firms. The same descriptive statistics were calculated for the matching portfolios of conventional firms. Wilcoxon two-sample rank sum test was also computed to compare the characteristics of the two sets of portfolios. The Z scores for the difference in means of monthly return, average standard deviation and average coefficient of variation are 0.338, 0.507, and 1.589 respectively, indicating that none of the descriptive statistics of socially responsible combined portfolio is significantly different from that of matching conventional portfolio over the long period 1998-2207. We repeat the test over the shorter period 2002-2007. The Z scores for the difference in means of monthly return, average standard deviation and average coefficient of variation are 0.336, 0.007, and 0.00189 respectively. The Z scores for the descriptive statistics over the short period are also statistically not significant. These results indicate that after controlling for the size of the firm the investment characteristics of socially responsible firms are not different from the conventional firms.

Table II reports the beta estimates from the regression and the estimated measures of performance (Jensen's alpha and Sharp IR) for the portfolios of socially responsible firms and portfolios of conventional firms over the (January 1998-June 2007) period. The Jensen alpha was computed from equation (1) using NASDAQ equally weighted index from the CRSP as a benchmark. Sharp IR is calculated by dividing the estimated alpha from the regression in equation (1) by the regression standard error. This statistics is then annualized by multiplying the monthly IR by the square root of 12.

The Jensen's alpha estimates are positive and statistically significant for the conventional firms in all sectors except for the health care sector, but it is not statistically significant for the all sectors portfolio of conventional firms. The alpha estimates for the portfolios of socially responsible firms are all positive and are significant for basic materials, industrial goods, services, technology and all sectors portfolio, but not significant for the consumer goods, financials and health care sectors. The Z score for the difference in performance of 1.690 is significant at the 10% level indicating that socially responsible firms outperform their conventional peers. However, this conclusion is not supported by the results of information ratio. The Z-score of 1.352 suggests that there is no difference in the performance of the socially responsible firms and conventional firms. Both socially responsible portfolios and conventional portfolios outperformed the market but have comparable performance. The IR figures of 1.18 for the socially responsible all sector portfolio and 1.39 for conventional all sectors portfolio indicate exceptional performance for both portfolios. The IR estimates for conventional firms in the

sectors indicate good performance for all the sectors except the health care sector. The IR estimates for socially responsible firms indicate mostly good performance within the sectors too.

Table-I Descriptive Statistics of Socially Responsible Firms and Conventional Firms
Jan 1998 to Jun 2007

Sector	Socially Responsible Firms			Conventional Firms		
	Mean	Std dev	CV	Mean	Std dev	CV
Basic Materials	0.022809	0.107074	4.694418	0.024984	0.099784	3.993924
Consumer Goods	0.009775	0.051952	5.314767	0.017086	0.07471	4.372625
Financials	0.012496	0.083991	6.721608	0.014995	0.064042	4.270877
Health Care	0.012292	0.084183	6.848367	0.01733	0.099944	5.767108
Industrial Goods	0.027439	0.141381	5.152606	0.019847	0.082231	4.143136
Services	0.022961	0.07957	3.465464	0.018682	0.073529	3.935866
Technology	0.023469	0.103528	4.411248	0.022472	0.108022	4.807019
All Sectors	0.018156	0.063472	3.496026	0.020444	0.067944	3.32335

Table I reports monthly returns mean, average standard deviation and average coefficient of variation of portfolios of socially responsible firms and peer conventional firms. The Z scores for the difference in means of monthly return, average standard deviation and average coefficient of variation are 0.338, 0.507, and 1.589 respectively.

* Significant at the 5% level

** Significant at the 10% level

The results of performance comparison over the long period using the IR measure in table III indicate that the performance of socially responsible firms is not significantly different from the performance of their conventional firm peers. These results weaken the results we got from the Jensen alpha comparisons. The Z-scores for the difference in betas' means is also

Statistically not significant, indicating that there is no difference in the systematic risk between the socially responsible firms and conventional peers

Table-II Performance of portfolios of Socially Responsible Firms and Conventional Firms, Jan 1998 to June 2007

Sector	Socially Responsible Firms			Conventional Firms		
	Beta	Jensen α	Sharp IR	Beta	Jensen α	Sharp IR
Basic Materials	1.21102	0.015084**	0.564192	0.898922	0.018486*	0.698303
Consumer Goods	0.537289	0.0047	0.352514	0.703424	0.011357**	0.578083
Financials	1.470381	0.00375	0.253684	0.718507	0.009207**	0.577366
Health Care	0.974049	0.005499	0.265563	1.123013	0.009951	0.399678
Industrial Goods	1.172203	0.019866**	0.522593	0.546928	0.014734*	0.647125
Services	1.162016	0.015429*	0.889025	1.00913	0.011751*	0.703591
Technology	1.815953	0.013365*	0.733657	1.9598	0.011802*	0.663645
All Sectors	1.232949	0.010344*	1.180225	0.401713	0.012204	1.391535

Table II provides a comparison of portfolio performance using the Jensen's alpha and sharp information ratio across all the sectors. Jensen alpha was computed from equation (1). The information ratio was calculated from equation (3) and equation (4). The Z scores for the performance measures, Jensen alpha and the information ratio are 1.690, ** and 1.352 respectively. The Z score for the risk measure Beta is 0.845.

* Significant at the 5% level

** Significant at the 10% level

Table-III Descriptive Statistics of Socially Responsible Firms and Conventional Firms, Jun 2002 to Jun 2007

Sector	Socially Responsible Firms			Conventional Firms		
	Mean	Std dev	CV	Mean	Std dev	CV
Basic Materials	0.033016	0.08975	2.718364	0.040624	0.091426	2.250564
Consumer Goods	0.011749	0.039165	3.333486	0.029157	0.075041	2.573661
Financials	0.013871	0.068347	4.927261	0.011822	0.045849	3.878329
Health Care	0.014197	0.069337	4.88387	0.01293	0.087045	6.732233
Industrial Goods	0.040547	0.119173	2.939112	0.018341	0.058084	3.166896
Services	0.02261	0.065216	2.884345	0.017241	0.058564	3.396832
Technology	0.021761	0.072508	3.331987	0.022632	0.08386	3.705359
All Sectors	0.019395	0.048765	2.514343	0.022892	0.058212	2.542888

Table III reports monthly returns mean, average standard deviation and average coefficient of variation of portfolios of socially responsible firms and peer conventional firms. The Z scores for the difference in means of monthly return, average standard deviation and average coefficient of variation are 0.336, 0.007, and 0.00189 respectively.

* Significant at the 5% level

** Significant at the 10% level

The results of performance measures analysis over the shorter period 2002-2007 in table IV support the findings over the long period. The alpha estimates for the socially responsible firms are statistically significant for basic material sector and services sector and all sectors portfolio and insignificant for the remaining sectors. The alpha estimates for the conventional firms are also significant for the all sectors portfolio, the basic materials sector and consumer goods sector only and insignificant for the remaining sectors. However the results of the Wilcoxon two-sample test indicate that there is no significant difference in the alpha estimate indicated by the Z-scores of 1.1833 which suggest that there is no significant difference in the performance of socially responsible firms and conventional firms. The results of the annualized Sharp information ratio analysis provide support to the findings from the alpha measure analysis. The performance of the conventional firms and the socially responsible firms are comparable.

Table-IV Performance of portfolios of Socially Responsible Firms and Conventional Firms, Jun 2002 to June 2007

Sector	Socially Responsible Firms			Conventional Firms		
	Beta	Jensen α	Sharp IR	Beta	Jensen α	Sharp IR
Basic Materials	1.310377	0.01971**	0.865049	1.105996	0.029035*	1.194393
Consumer Goods	0.69803	0.00359	0.39465	1.173881	0.016998*	0.915669
Financials	1.6292	-0.00212	-0.17958	0.897614	0.001985	0.196808
Health Care	1.342007	0.000625	0.040903	1.300771	-0.0003	-0.01351
Industrial Goods	1.505127	0.025604	0.81647	0.008655	0.879674	0.591542
Services	1.416929	0.008408*	0.646074	0.004078	1.293271	0.359339
Technology	1.703469	0.00515	0.398559	2.115416	0.002558	0.198577
All Sectors	1.335527	0.005877*	1.069348	1.575224	0.007359*	1.054193

Table IV provides a comparison of portfolio performance using the Jensen's alpha and sharp information ratio across all the sectors. Jensen alpha was computed from equation (1). The information ratio was calculated from equation (3) and equation (4). The Z scores for the performance measures, Jensen alpha and the information ratio are 1.8593, ** and 0.676 respectively. The Z score for the risk measure Beta is 0.6776.

* Significant at the 5% level

**Significant at the 10% level

The evidence presented in this paper has clear implications for socially responsible investors. Investment practices of socially responsible firms do not differ from those of their peers of conventional firms with similar assets size. These findings are consistent with the findings of Asmundson and Forester (2001), Cummings (2000), Statman (2000), Malin (1995) Hamilton et al. (1993), Goldreyer and Diltz (1999), Bauer et al. (2005) and Ferson and Schadt's (1997). Our findings also support the findings of Sharp (1986) who asserts that the constraints that are placed on an investment decision would lower or leave unchanged the maximum utility that an investor may obtain. Furthermore, our findings do not rule out the possibility of a size bias in some of the existing socially responsible funds as indicated by Rudd (1981).

V. Conclusion

In this study we investigated the extent to which socially responsible investing affects the characteristics of assets that investors include in their portfolios and the performance of these portfolios. Recent studies assert that ethical and moral screening of firms is likely to affect the asset structure, portfolio diversification and also introduce size and other biases into the portfolio, thus negatively affecting the performance of the socially responsible portfolios. In our study we retest whether investors who are dedicated to socially responsible investing will realize additional returns or will be penalized for their investment philosophy. To control for the size bias and sector concentration bias that were identified in previous studies, we match socially responsible firms with conventional firms of the same size from the same sector. We also test if there is difference in the performance over long periods versus short periods.

Our findings suggest that there is no difference in performance between the socially responsible firms and their conventional counterparts with similar assets size. The findings also suggest that there is no difference in the performance of socially responsible and conventional firms over long periods versus short periods. The Investors who chose to invest in socially responsible firms will not earn excess return nor will be penalized.

References

- Asmundson, P. and s. Forester, (2001), "Social Responsible Investing: Better for Your Soul or Your Bottom line?" *Canadian Investment Review* 14, 26-27.
- Bauer, R., K. koedijk and R.Ottten, (2005), " International Evidence on Ethical Mutual Fund Performance and Investment Style." *Journal of Banking and Finance*. 29. 1751-1767.
- Bello, Z. Y. (2005), " Socially Responsible Investing and Portfolio Diversification." *The Journal of Financial Research*, 28(1), 41-57.
- Chow, R. (1999), "Money That Grows on trees." *Institutional Investor* 33, 212 -15
- Cummings, L. (2000), "The International Performance of Ethical Investment Trusts: An Australian Perspective", *Journal of Business Ethics* 25, 79-92.
- Diltz, J.J., (1995), " Does Social Screening Affect Portfolio Performance? *Journal of Investing*.4 (spring),64-69.
- Ferson, P and R. Schadt's (1997), "Measuring Fund Strategy and Performance in Changing Economic Conditions," *Journal of Finance*, 51, 425-462.
- Goldreyer, E. and D. Diltz (1999), "The Performance of Socially Responsible Mutual Funds: Incorporating Sociopolitical Information in Portfolio Selection", *Managerial Finance*, 25, 23-36.
- Goldreyer, E. Ahmed P. and D. Diltz (1999), "The Performance of Socially Responsible Mutual Funds", *Managerial Finance*, 25(1), 25-40.
- Grinold, R. C. and Kahn, R. N. (2000). *Active Portfolio Management*. McGraw-Hill, New York, second edition.
- Grossman, B. R. and W. F. Sharp, (1986), "Financial Implications of South African Divestment" *Financial Analysts Journal*. 42, 15-29.
- Hall, J. P. III, (1986), "Ethics in Investment: Divestment", *Financial Analysts Journal*." 42, 7-10
- Hamilton S., Jo H. & Statman, M. (1993), "Doing well while doing good? The Investment performance of socially responsible mutual funds" *Financial Analysts Journal*, 49 (November/December), 62-66.
- Malin, C., A. B. Saaadouni and R. J. Briston: (1995), "The Financial Performance of Ethical Investment Funds", *Journal of Business, Finance and Accounting*. 22, 483-496.
- Reyes M. G., and Grieb, T. (1998), " The External Performance of Socially Responsible Mutual Funds. *American Business Review*. 16(1), 1-7
- Rudd, A., (1981), "Social Responsibility and Portfolio Performance", *California Management Review*. 23, 55-61.
- Statman, M., (2000) "Socially Responsible Funds." *Financial Analysts Journal*, May/June, 30-39.