

The performance of the faith and ethical investment products: A comparison before and after the 2008 meltdown

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Abstract

This article explores the risk and return characteristics of socially responsible investment and faith-based mutual funds before and after the market crisis of 2008. Findings show a high level of correlation between the indices studied as well as a higher volatility than the S&P 500. We also find a significant shift in the mix of performance and volatility of these funds before and after the crash of 2008. This is an important consideration for both planners and investors in making an informed decision that is tempered by both the intensity of their social or faith based investment preferences and resultant risk and return on those investments. © 2014 Academy of Financial Services. All rights reserved.

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1. Introduction

In the classical financial theory of Markowitz (1952), the choice of an efficient portfolio of assets, is predicated on the maximization of the investor's maximization of return and minimization of risk, disregarding other rewards of a social nature. Increasingly, planners are faced with client discussions regarding socially, ethically, and religious investment preferences and should be aware of the various implications that each type of investment presents

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In a pioneering article, Sen (1999) showed the significance of social, moral, or ecological motives on the selection of investment products and that selection on the growth of market economics.

The first study used data between 1998 and 2008 whereas this study updated those findings with data taken between 2008 and 2012; continuing to explore the risk and return characteristics of socially responsible investing and faith-based investing by comparing three indices, the MSCI KLD 400 Social Index (KLD 400), the updated FTSE KLD Catholic Values 400 Index (CV400), and the Dow Jones Islamic Market Index (DJIM). This study also compares the performance of the socially responsible investing and faith-based indices with the S&P 500 before and during the 2008 meltdown and then again in the recovery through 2012.

The traditional measures of performance of Sharpe, Treynor, and Jensen are again used to measure performance. However, because these measures are based on the assumptions that the portfolio returns can be totally characterized by the mean and variance of the return distribution (Condition 1) and that investors care only about the mean and variance of the return distribution (Condition 2), the traditional performance measures are appropriate when returns are normally distributed. Reality, however, is complex and returns are rarely normally distributed. Returns distribution is often characterized by “fat tails” and “skewness” (Maheu and McCurdy, 2009).

To account for these features of the data we use the Lower Partial Moment as an alternative measure for risk (Baillie and DeGennaro, 1990; Nantell, Price, and Price, 2009). The authors then calculate the Sortino measure of performance and modify the Treynor measure and the Jensen alpha by using the semi-standard deviation as the measure of risk. Findings show that all of these performance measures generally yield similar inferences. Results also show that socially responsible investment and faith based funds provide above average profit opportunity.

Empirical studies about socially responsible investing and faith-based are important and should be pursued even further. Sparkes and Cowton (2004) reported that the socially responsible investing and faith-based industry has grown and matured significantly since the early 2000. They showed that socially responsible investing and faith-based industries are now mainstream investments. Socially responsible investing and faith-based investing have evolved from an activity managed by a small number of specialty retail investment funds into an investment philosophy adopted by a growing proportion of some of the large investment institutions. This may be evolving even further with classes in ethics now required at many colleges and universities. This trend is reflected in student managed investment funds, which may well be a precursor to the investment philosophy of future investors. Clinebell (2013) points out that incorporating socially responsible investing into student managed investment funds may prove to be “a useful vehicle for addressing the ethical and social issues faced in today’s investment environment.” This bodes well for increased focus on socially responsible investing and its relevance to advisors and investors alike.

Only a few studies have compared the performance of socially responsible funds with faith based funds (Hakim and Rashidiank, 2002; Sadeghi, 2008). These studies have different focuses. Sadeghi (2008) focus is not on performance but rather on the impact of the introduction of Shariah-compliant Index on the Malaysian stock exchange. Hakim and

Rashidian (2002) examines the stochastic properties of the Islamic index. The authors also investigate the relation between the Islamic index and the broader stock market represented by the Wilshire 5000 index. Increasingly, investors and financial planners are seeking socially responsible or faith based funds for investments in an effort to address concerns based on social or religious values. Although this is important, it also introduces a level of volatility that may not be anticipated but is relevant to planners and investors. While some trusts or faith based investments are required to remain within the guidelines, alternatives should be discussed with clients in light of a balanced portfolio and its implications for risk and volatility. Should these alternatives be rejected by the investors or advisory boards then the advisors have done their job in considering appropriate alternatives in increasing performance, and/or decreasing risk and volatility.

In addition to a different focus, there are no studies that use both traditional and less traditional measures of performance in comparing these indices. This article addresses these shortcomings. It consists of 5 sections. Section 2 reviews the literature. Section 3 introduces the data and the methodology. Section 4 presents the findings. Section 5 concludes the study.

2. Literature review

Over the past two decades, exchange-traded funds (ETFs) and mutual funds have become the preferred investment option for small-scale investors and many independent planners. Today, the number of mutual funds exceeds the number of listed securities in the New York Stock Exchange (NYSE) (Rouwenhorst, 2004). With the advent of even more ETFs this gap continues to widen.

There is a wide variety of mutual fund categories and objectives. This article will focus on specialty funds. Specialty funds are mutual funds that mainly invest in a specific market, a region, an industry, or a somewhat narrow group of assets. Socially Responsible Funds (SRF) and faith based funds (FBF) belong to this category.

The increasing interest for faith-based funds has grown significantly and inspired recent empirical studies. Kreander, McPhail, and Molyneaux (2004) examined the motives of socially responsible investors and came to the conclusion that in many cases, the demand for these funds is based on “riba.” There are two types of “riba.” The first type prohibits practices that could lead to one party increasing his or her wealth without providing services to the other party. The second type prohibits exchanges of commodities in unequal quantities. Girard and Hassan (2005) described investment based on *riba* as: “... Muslims deemed that profit should come as a result of efforts”; this is not the case in interest-dominated investments. This growth in interest for this type of fund would seem to confirm a growing concern by ethically motivated investors about issues such as the environment, women, employees, and communities and the selection of their investments accordingly.

Some studies also investigated the screening process used by faith-based funds. Scatizzi (2010) explained that most faith-based funds avoid companies that produce alcohol, tobacco, and pornography, companies engaged in producing and selling firearms and those in the oil industry. Types of ETFs include Islamic, Christian faiths, and other religions. Lyn and Zychowicz (2010) studied the impact of faith-based screens on investment performance from

May 2001 to February 2008 in the United States. The comprehensive set of tests show that faith-based funds mostly outperformed the market, including socially responsible investing funds.

There are some interesting differences between faith-based mutual funds and ETFs (screened) and unscreened funds. Geczy, Stambaugh, and Levin (2005) noticed significant differences in the expense ratios between screened and unscreened funds. Screened funds have an average expense ratio of 1.3% versus 1.1% for unscreened ones. Screened funds have lower turnover (81.5% average vs. 175.4%) and they tended to be smaller (\$150 million average assets vs. \$260 million).

Evidence related to SRF performance is mixed. Barnett and Salomon (2006) showed that as the number of social screens increase, financial returns decline. Stone, Guerard, Gultekin, and Adams (2001), supporting the findings of Waddock and Grave (1977) concluded:

No cost in risk-adjusted return means that an organization can affirm its social values without foregoing return. However, if socially responsible investing provides better risk-adjusted returns, then it pays to be socially responsible even if there is no issue of affirming social values.”

an important point for advisors in the discussion of this type of funds.

Bauer, Koedijk, and Otten (2005) did not find evidence of a significant difference in risk-adjusted returns between ethical and conventional funds for the 1990–2001 periods. Renneboog, Ter Horst, and Zhang (2008) concluded that existing studies “hint but do not unequivocally demonstrate” that SRF investors are willing to accept suboptimal financial performance to pursue social or ethical objectives. Barnett and Salomon (2003) concluded that the screened funds underperformed the S&P 500 on a nominal basis. The authors also indicated that the best performers were those with the strongest and weakest social screens.

Other studies introduced evidence more in favor of the hypothesis that SRF outperformed most traditional investments. In similar studies Statman (2000, 2005) and Sauer (1997) compared the performance of the SRF and the S&P 500 index. Utilizing Jensen’s alpha and Sharpe’s ratio, they found that the DS400 raw return and risk-adjusted returns are higher than the S&P 500 index. Goodmacher (2006) found that “the mean raw [excess] returns for the group of SRF funds are actually superior to those of the group of non-SRF funds, although this difference was not statistically significant.”

Although we believe that socially and ethically conscious investors seek to invest in assets that yield good profit and at the same time give them peace of mind, results from previous studies are contradictory. Are SRF and FBF outperforming the S&P 500, or is it the other way around? Our first goal is thus to revisit previous findings using different types of performance measures. Specially, our study uses traditional measures of performance and, as mentioned earlier, to mitigate the fact that returns do not follow a normal distribution, some measures based on downside risk. As stated previously, this important limitation is often ignored in studies. Violation of the normality assumption can compromise empirical studies results. Beer, Estes, and Munte (2011), prove that measures of downside risks explain the downturn of worldwide markets in 2008.

One purpose of this article is to compare the performance of Christian and Muslim funds and the impact of the screening process on the risk and return of these funds. A dynamic

explored in this article is the effect on performance of the inclusion of financial stocks in the S&P 500 and their specific exclusion from the Catholic, Muslim, and Social Index funds when explored in the downturn in 2008 and corresponding recovery for the next four years. Scholars comparing Christianity and Muslim faith report both similarities and differences (Smith, 2002; Hsu et al., 2008). These similarities and differences explain why investors' religious beliefs are a determinant of their investment decisions.

Empirical studies attempted to evaluate the impact of economic downturn on SRI performance. Dania and Malhotra (2012) identify linkages between four major Islamic indexes and the corresponding "conventional" indexes. In particular they found evidence of a positive and significant spillover from conventional indexes on their corresponding Islamic indexes.

Even if SRI and market have common performance patterns, the screening process of SRI can also protect the investors, in some cases, from market risks. For example, when the stock market crashed in 2008, one of the most impacted sectors was financial services. Funds serving Christian principles never bought shares in those companies because of their support for alternative lifestyles such as including same-sex couples in employee-benefit plans.

3. Data and methodology

3.1. Data

Data for the indexes used in this article were collected from various databases, that is, the MSCI database, yahoo finance and CRSP.¹ (these indices are described below). Data were also collected for monthly treasury bills using the U.S. Department of the Treasury Web site.

3.1.1. The MSCI KLD 400 Social Index (DS400)

KLD Research and Analytics (Kinder, Lydenberg, Domini, and company), Inc. established the Domini 400 Social Index (DS400) in May 1990 as the first ethical-social index that is concerned with environmental, social and governance factors (ESG). KLD uses a two-step screening process for selecting companies for the DS400 (www.msci.com). First, companies involved in alcohol, gambling, tobacco, military weapons, civilian firearms, nuclear power, adult entertainment, and genetically modified organisms are excluded from the index: Second, using the list mentioned above, KLD Screens companies based on considerations of ESG performance, sector alignment and size representation.

3.1.2. The MSCI U.S.A. Catholic values index (CV 400)

"The CV 400 is a free float-adjusted market capitalization index designed to be used as a U.S. equity benchmark for Catholic investors who seek equity ownership in alignment with the moral and social teachings of the Catholic Church. The CV 400 consists of 400 companies selected from the MSCI U.S.A. Investable Market Index (IMI)." (www.msci.com). Each Company's Catholic Values performance is evaluated based on respecting

human life, promoting human dignity, reducing arms production, pursuing economic justice, protecting the environment, and encouraging the corporate responsibility.

3.1.3. *The Dow Jones Islamic market index (DJIM)*

The third index used in this study is the DJIM, the main indicator for the performance of Islamic funds and provides a benchmark tracking Sharia-compliant, based on the Koran, securities. The index selected companies in 34 countries whose activities are consistent with Islamic principles.

The majority of financial institutions are prevented from been part of the index along with companies involved in the production or distribution of alcohol, pornography, tobacco, gambling, weapons, music, entertainment, and pork meat or non-halal meat, hotels and airlines that serve alcohol on their premises. Typical holdings are technology, telecommunications, steel, engineering, transportation, health care, utilities, construction, and real estate.

3.1.4. *Rate of returns*

As commonly done in the financial literatures, all index series returns are calculated using the continuously compounded formula (Hussein and Omran, 2005):

$$R_t = \ln\left(\frac{P_t}{P_{t-1}}\right) \quad (1)$$

Where P_t and P_{t-1} represent the closing price of an index at time t and $t-1$, respectively, and \ln is natural logarithm.

Our data include 174 monthly observations over the periods July 1998 to June 2008 and January 2008 to December 2012. The major benchmark for these indices is the S&P 500 for which the data are taken from CRSP. In Figs. 1 and 2, the monthly returns of CV400, DS400, and DJIM indices are plotted with the monthly return of S&P 500.

Figs. 1 and 2 show some monthly patterns between the indices. Further as depicted in Table 1, for the period 1998–2008, the mean return for the S&P 500 was lower than those of the socially responsible and faith based funds. During the same period, the monthly mean return of the DJIM is the highest; an investment in the DJIM index was slightly more rewarding than investments in other indices. Notice, however, that the DJIM is also the most volatile index. After the crisis, it is the CV400 that provides the largest mean return and the DS400 that exhibit the lower volatility.

MSCI For the period 1998–2008 and for the period 2008–2012, the correlation coefficient between the CV400 and the DS400 remain the higher coefficient reaching a value of 99%. The CV400 is similar to the KLD's Domini 400 Social index with additional layers of screens covering abortion, contraceptive products and embryonic/fetal stem cells. The high correlation coefficient can probably be explained by the fact that both indices are produced by KLD Research and Analytics.

For the period 1998–2008 and the period 2008–2012, the smallest coefficient is found between the DJIM and the CV400. The DJIM is, however, more restrictive than the CV400

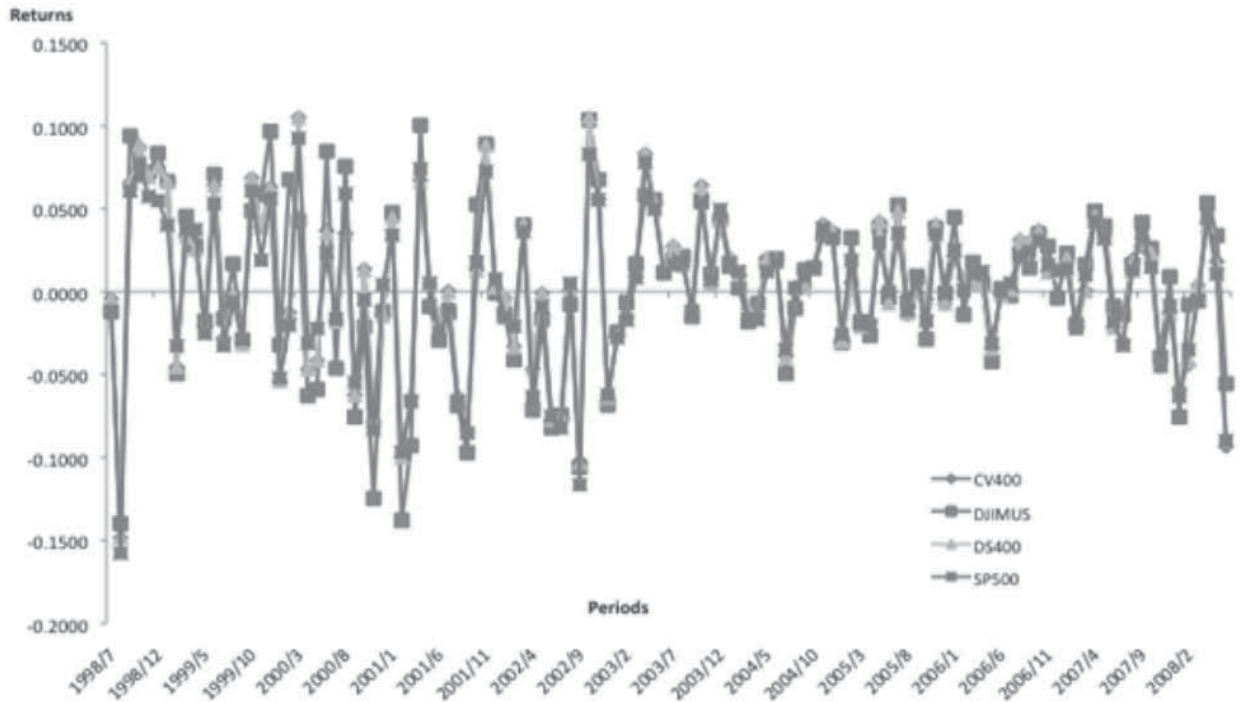


Fig. 1. Monthly returns distribution 1998–2008.

and the DS400. The DJIM excludes companies involved with pork products, hotel and leisure industries, and conventional financial services (banking, insurance, etc.). The magnitude of the correlation coefficients, explain why Kempf and Osthoff (2007) used the terms

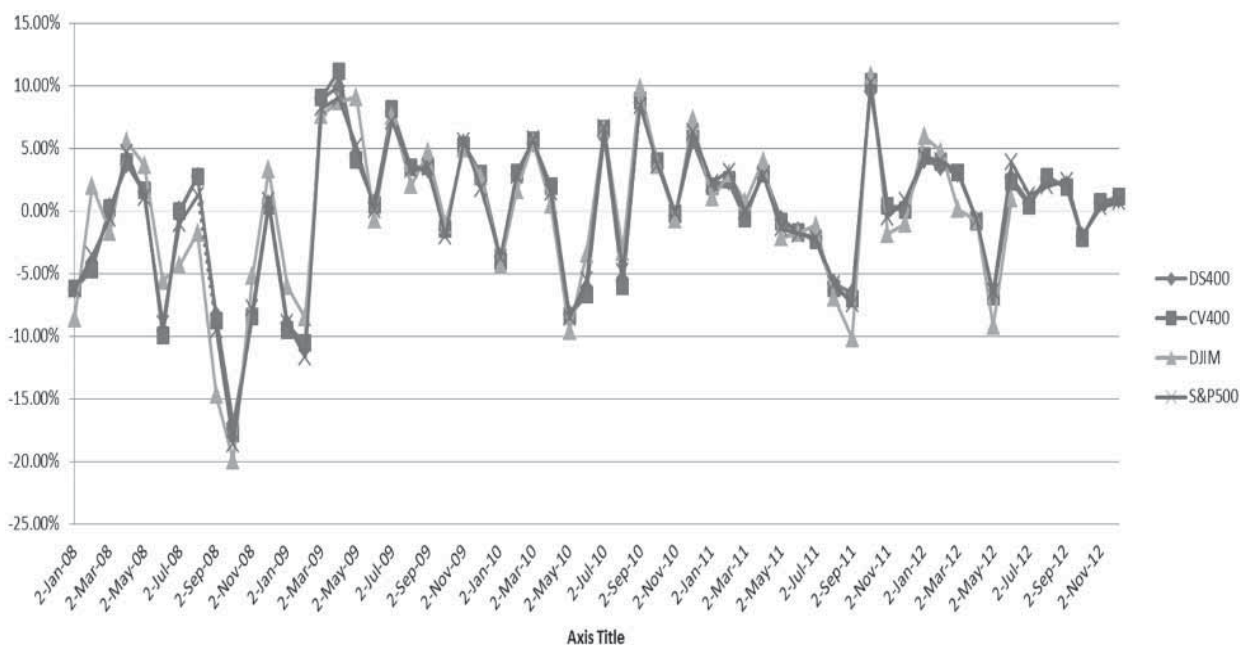


Fig. 2. Monthly returns distribution 2008–2012.

Table 1 Descriptive statistics and correlation

	CV400	DS400	DJIM	S&P 500
Panel A: 1998–2008				
Mean	0.0029	0.0030	0.0037	0.0010
Median	0.0037	0.0039	0.0066	0.0070
Maximum	0.1052	0.1052	0.1037	0.0923
Minimum	−0.1484	−0.1481	−0.1398	−0.1576
Standard deviation	0.0456	0.0455	0.0507	0.0436
Correlation				
	CV400	DS400	DJIM	S&P 500
CV400	1	0.9998	0.9308	0.9819
DS400		1	0.9314	0.9819
DJIM			1	0.9316
S&P 500				1
Panel B: 2008–2012				
	CV400	DS400	DJIM	S&P 500
Mean	0	−0.0001	−0.0012	−0.0005
Median	0.0059	0.0061	0.003	0.0081
Maximum	0.1114	0.0989	0.1077	0.1023
Minimum	−0.1777	−0.1701	−0.1991	−0.1856
Standard deviation	0.0570	0.0548	0.0629	0.0561
Correlation				
	CV400	DS400	DJIM	S&P 500
CV400	1	0.9991	0.9255	0.9919
DS400		1	0.9258	0.9931
DJIM			1	0.9464
S&P 500				1

“conventional funds in disguise” when referring to SRF and FBF. The correlation between the S&P 500 and the other three indexes rose from all three religious and socially based indexes rose more than 1% in the post 2008 era.

3.2. Methodology

As mentioned earlier, we rely on six different performance measures: Sharpe’s ratio, Treynor’s ratio, Jensen’s Alpha, Sortino ratio, Treynor Semi-Standard Deviation (SSD), and the Jensen SSD. Each measure is briefly presented below.

3.2.1. Sharpe ratio

$$\text{Sharpe Ratio} = \frac{r_i - r_f}{\sigma_i} \quad (2)$$

In Eq. (2), r_i represents the return of the index; r_f is the benchmark asset, that is, the Treasury bill and σ_i is standard deviation of the index. A higher Sharpe ratio indicates superior performance, whereas lower Sharpe ratio indicates poor performance.

3.2.2. Treynor ratio

$$\text{Treynor Index} = \frac{r_i - r_f}{\beta_i} \quad (3)$$

In Eq. (3) r_i and r_f are as defined previously, and β_i is beta of the index. The higher the value of Treynor index, the more return is gained per unit of systematic risk.

3.2.3. Jensen alpha

$$\text{Alpha} = \alpha = r_i - [r_f + \beta_i(r_m - r_f)] \quad (4)$$

In Eq. (4) r_i , r_f , and β_i , are as defined above and r_m is the S&P 500 Composite Index. Alpha evaluates the returns that the fund has generated against the returns actually expected out of the fund given the level of its systematic risk, a positive Jensen Alpha indicates the index profit more than expected.

The Sharpe Ratio, the Treynor Index, and the Jensen Alpha have the convenient property of being completely captured by a risk-return frontier, from which one can interpret them as the slope of the efficient line, or return per unit risk (Pedersen and Rudholm-Alfvén, 2003). As a consequence the performance measures of Sharpe, Treynor, and Jensen Alpha are appropriate when returns are normally distributed. In addition, the CAPM assumes that a quadratic utility function adequately apprehended investors' preferences. This assumption is counterintuitive. A quadratic utility function implies that as people become wealthier their risk aversion increases. In reality, investors are concerned with earning less than expected not more than expected. Rational investors should try to avoid "downside" volatility only. When the underlying assumptions are violated, alternative measures of risk can be used. One of the best known alternative measures of risk is the Lower Partial Moments or LPM (t,k) (Fishburn and Kochenberger, 1979; Luce, 1980; Sarin (1987); Fishburn, 1980, 1981; Kahnemann and Tversky, 1979; Thaler, 1993).

3.2.4. Lower partial moment

$$\text{LPM}_i(\text{BEN}, k) = [E(\text{BEN} - r_i)^k | \text{BEN} > r_i]^{1/k} \quad (5)$$

In Eq. (5), BEN is a specific benchmark against which performance is measured (e.g., the risk free rate); k measures the sensitivity to extreme losses (Pedersen and Rudholm-Alfvén, 2003) whereas r_i was being defined previously. As shown in (5), LPM uses only the returns that are less than the predetermined benchmark.

Several subcases of LPM (BEN,k) can be used, that is, absolute shortfall (AS), the probability of shortfall (PS), and semistandard deviation (SSD). This study relies on the SSD, mainly because it's well established relationship with the CAPM

3.2.5. Capital asset pricing model

$$\text{SSD} = \text{LPM}_i(r_f, 2) = [E(r_f - r_i)^k | \text{BEN} > r_i]^{1/k} \quad (6)$$

Hogan and Warren (1972), Bawa and Lindenberg (1977), Harlow and Rao (1989), and Satchell (1996) introduced a SSD derived CAPM. In the model, “the risk measure, β_i^{SSD} , is defined in terms of the “semicovariance” with the market.” Pedersen and Satchell (2002) demonstrated that when risk is identified by the SSD equation, the risk/return frontier exhibits the same desirable convexity properties as the traditional mean-variance frontier. The SSD has led to the development of a Treynor SSD and an Alpha SSD (Henriksson and Merton (1981), Henriksson (1984), Pedersen and Satchell (2000)). These measures are presented below.

3.2.6. Treynor ratio SSD

$$\text{Treynor (SSD)} = \frac{r_i - r_f}{\beta_i^{SSD}} \quad (7)$$

3.2.7. Jensen alpha SSD

$$\text{JensenAlpha(SSD)} = \alpha^{SSD} = r_i - [r_f + \beta_i^{SSD}(r_m - r_f)] \quad (8)$$

In addition to the Treynor (SSD) and the Jensen Alpha (SSD), the Sortino Ratio introduced by Sortino and Price (1994) was also calculated. The Sortino ratio is expressed below.

3.2.8. Sortino ratio SSD

$$\text{Sortino} = \frac{r_i - r_f}{SSD} \quad (9)$$

As shown in Eq. (9), the Sortino ratio is similar to the Sharpe measure. The only difference being the denominator, that is, the measure of risk.

The performance measures presented above have an important advantage. Pedersen and Rudholm-Alfvén (2003), show that these measures are appropriate (the measures capture essential features of the asset return distribution), derived from solid models (the measures have a solid foundation either in finance theory or are a universally applied market standard) and they provide clarity (the measures are easy to explain to a nontechnical individual). Pedersen and Satchell (2002) find evidence that the Sortino ratio is a reliable measure of performance. Barndorff-Nielsen, Kinnebrock, and Shephard (2008) report that realized semivariances have important predictive qualities for future market volatility.

4. Findings

Results in Table 2 show the S&P 500 returns depart from normality for both the pre- and post-crisis periods. Results also indicate that for the other indices, the normality hypothesis cannot be rejected.

The betas (β_i) presented in Table 3 show the indices beta coefficients computed as the regression coefficients of the indexes studied on the portfolio returns. As shown in Table 3 between 1998 and 2008, ethical-based and faith-based investment betas were somewhat

Table 2 Normality test Jarque-Bera statistic

	CV400	DS400	DJIM	S&P 500
Panel A: 1998–2008				
Skewness	−0.3593	−0.3522	−0.4671	−0.6447
Kurtosis	3.4129	3.4201	3.1852	3.8963
Jarque-Bera	3.4339	3.3636	4.5351	12.3306***
Panel B: 2008–2012				
	CV400	DS400	DJIM	S&P 500
Skewness	−0.6165	−0.6510	−0.7192	−0.7698
Kurtosis	0.5306	0.4934	0.0830	0.8909
Jarque-Bera	4.5039	4.8466	6.1061	7.9100

Note. ***Significant at 1%.

higher than one, showing volatility slightly higher than the S&P 500. The highest beta found is for the DJIM index. When calculating β_i^{SSD} , ethical-based and faith-based investment betas also remain slightly above one. β_i^{SSD} are also obtained by regression, however, β_i^{SSD} uses only observations that fall below the risk free rate. Indeed, semivariance estimates the average loss that a portfolio could incur. With the exception of the DS400 β_i^{SSD} , betas for the period 2008–2012 are somewhat lower, another indication of a less volatile market.

ANOVA F-tests and p-levels presented in Table 4 confirm that we cannot reject the hypothesis that the monthly mean returns are different from each other when we used data for the entire period sampled. The hypothesis of monthly mean different returns before 2008 cannot be rejected either. Further, the hypothesis of monthly mean different returns after 2008 cannot be rejected. Finally, for the ethical-based, faith-based investment and S&P500 cannot be rejected. Clearly, although monthly means for the ethical-based and faith-based investment (DS400, CV400, and DJIM) performed better than the S&P 500 on a risk adjusted basis during the period before 2008 and generally better after with the exception of the DJIM after 2008 (see Table 5). Results are not significant.

5. Summary and conclusion

This article explores the risk and returns characteristics of socially responsible investment and faith-based investment investments and compares them to the S&P 500 index for the

Table 3 Beta and Beta-SSD

Index	Beta	Beta SSD
Panel A: 1998–2008		
CV400	1.02679	1.00050
DS400	1.02454	1.00046
DJIM	1.08193	1.00171
S&P 500	1	1.0002
Panel B: 2008–2012		
CV400	0.9919	0.9931
DS400	0.9536	1.0274
DJIM	0.9926	0.9003
S&P 500	1	.9833

Table 4 Risk-adjusted performance measures

Index	Sharpe	Treynor	Jensen alpha	Sortino	Treynor (SSD)	Jensen (SSD)
Panel A: 1998–2008						
CV400	0.004469	0.00021	0.00197	0.01132	0.00021	0.88893
DS400	0.00636	0.00028	0.00204	0.01532	0.00029	0.88958
DJIM	0.01945	0.00091	0.00283	0.04535	0.00098	0.88037
S&P 500	−.03918	−.00171	.000001	−.099010	−.001710	.000000
Panel B: 2008–2012						
CV400	−0.05475	−0.00315	0.00050	−0.06898	−0.00314	0.00050
DS400	−0.05944	−0.00341	0.00023	−0.07437	−0.00317	0.00049
DJIM	−0.06924	−0.00439	−0.00074	−0.09165	−0.00484	−0.00107
S&P 500	−0.06508	−0.00371	−0.00006	−0.08078	−0.00365	0.00000

period 1998 through 2012. The analyses are carried using the traditional risk-adjusted measures of Sharpe, Treynor, and Jensen. These performance measures are also adjusted to account for downside risk (Barberis and Huang, 2001; Ang, Bekaert, and Liu, 2005). In contrast to other studies, the analysis concentrates on indices and not investment funds, eliminating issues of transaction costs of funds, the timing activities and the skill of the fund management.

Findings show a high level of correlation between the indices studied, mainly between CV400 and DS400, probably because of the similarity of the screening methods used. Planners and investors should note that diversification between ethical investments is not recommended.

Additionally, the findings show a statistically different level of performance before and after the 2008 market collapse. A compromise may in fact be possible with socially responsible investing, although less so with faith based investing. Finding, also show that when we compare the performance measure before and after 2008, we have reasons to reject the null of means equality. Our results are different to those reported by Sauer (1977), Statman (2000, 2006), and Goodmacher (2006) who found that the risk adjusted returns of SRF funds are superior to those of other mutual funds. Our results are similar to Schroder (2006) and Kreander (2004) who found SRI stock indices do not exhibit a different level of risk-adjusted return than conventional benchmarks. However, many SRI indices have a higher risk relative to the benchmarks.

The exclusion of the financial sector and health care sectors contributed to both stability

Table 5 F-test and p level

	F-test	p level
Whole sample	16.25345	.E+0
Sharpe	.09875	.96058
Treynor	.0445	.98748
Jensen alpha	.0209	.99588
Sortino	11.4	.96
Treynor (SSD)	.03148	.99246
Jensen (SSD)	.01	.99

and better investment performance during the collapse in 2008; but seems to have contributed to under performance in the years following the collapse. Although it is important for investors and planners to take into account faith and social preferences when investing, it is equally important that both understand the ramifications of making those choices and present them logically to their clients. Although some trust funds and managed funds for religious organizations may require compliance with religious or social values, most investors express only a preference for this type of investing. A planner or investor can compensate, should the client agree, by investing in separate ETFs that are specific to health care or financials. This effectively eliminates their exclusion from the portfolio but may not solve the investor preferences. However, in a study by Beal (1998) return did not appear to be the main consideration of socially conscious investors, but a lower return may not be consistent with the required return that planners have established to reach retirement goals. The difficult decision for the planner is the strength of the preference versus appropriate diversification and exposure to growth sectors and the overall return and performance of the portfolio in light of long term retirement goals.

Notes

1. CRSP (*Center of Research in Security Prices*) The University of Chicago.

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