TEST Engineering & Management

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

# Do Socially Responsible Stocks Outperform the General Stocks in the Indian Market

**Antony Raj J.M**, Assistant Professor, School of Management Studies, Bannari Amman Institute of Technology

***Article Info***
***Volume 82***
***Page Number: 12536 - 12544***
***Publication Issue:***
***January-February 2020***

***Abstract:***
India being the largest democracy on Earth and the fastest growing economy is still in the mushrooming stage of Responsible investing. Past studies attribute this state to the lack of awareness on such investments among investors and to the uncertainty on Socially Responsible Investing (SRI) performance and the financial returns the investment could generate. As a first step towards clearing the apprehensions with SRI this study has been undertaken. The primary objective is to analyse the performance of Indian SRI stocks via the Sustainability indices of BSE. Past nine years (2010-2018) historical data of five indices from the Indian stock market is used. Three among them BSE 500, BSE SENSEX, NSE NIFTY are conventional indices and the other two BSE CARBONEX and BSE GREENEX are Sustainability indices. BSE 500 represents the market portfolio i.e., used as a benchmark for all other indices. While BSE Sensex and NSE Nifty represent the general stock portfolio, BSE Carbonex and BSE Greenex represent the Socially responsible investment portfolio. For the risk-free rate of return, yield of 364 days T-bills is used. The analysis has been carried out in three sections. First, the performance of SRI stocks against the General stocks with their average monthly return. Second, risk and return measures namely Sharpe, Treynor, Jensen's alpha and Sortino have been employed to study risk associated return of the SRI stocks portfolio. Third, the performance of the SRI stocks during the 2016 Demonetisation period has been studied to ascertain the stability of the investment during an economic crisis. The findings made from the study indicate that the Socially responsible stocks perform similar to the general stocks and do not display any significant variation from the performance of general stocks. The associated risk measured as systematic risk (β) in the study also appears consistent across indices. Even during the crisis period both SRI and conventional stocks behave in the same way.

***Keywords:*** *BSE 500, SENSEX, CARBONEX, GREENEX.*

***Article History***
***Article Received****: 18 May 2019*
***Revised****: 14 July 2019*
***Accepted****: 22 December 2019*
***Publication****: 24 February 2020*

## I. INTRODUCTION

Man is by nature a social animal – said Aristotle. The concept of Socially Responsible Investing (SRI) has centuries-old history in the west and has been practiced institutionally since the 1960s in the developed markets. India being the largest democracy on Earth and the fastest growing economy is still in the mushrooming stage of Responsible investing. Past studies attribute this state to the lack of awareness on such investments among investors and to the uncertainty on SRI performance and the financial returns the investment could generate.

According to a study by Morgan Stanley's Institute for Sustainable Investing's 2017 Sustainable Signals report the standard way of investing in a portfolio of stocks and bonds no longer seem to interest the younger generation. Instead they prefer a new avenue for investing that is run down by social causes and environmental friendliness. This type of investing is called as Socially responsible investing. Almost nine out of ten millennial's said they are interested in SRI or sustainable investing methods.

SRI refers to the practice of incorporating social and environmental factors within investment analysis to avoid investing in companies that have negative impacts on the environment and/or society. It is an investment discipline that considers

TEST Engineering & Management

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

environmental, social and corporate governance (ESG) criteria to generate long-term competitive financial returns combined with positive societal impact.

*Socially Responsible Investing In India*

In India, the setting for Socially Responsible investing is still at an embryonic stage. In the view of academicians, it is evolving and they expect it to gain a significant momentum in the forthcoming years. There is a growing consciousness for the concept among the stakeholders to integrate the aspects of ESG in their conventional investment methods. In India's sustainability space three indices have been placed so far by the Bombay Stock Exchange (BSE).

**1. S&P BSE 100 ESG Index** – Similar to S&P BSE 500 in risk and performance. Intended to measure securities that meet Environmental, Social and Governance criteria

**2. S&P BSE CARBONEX** – Measures the performance of companies within S&P BSE 100 on their actions towards mitigating climate change risks.

**3. S&P BSE GREENEX** – Framed to measure the performance of top 25 Green companies within S&P BSE 100 with regards to Greenhouse gas emissions.

## II. PROBLEM STATEMENT

Though SRI has been practiced in the developed markets since 1960s, In India it is still in the nascent stage. This is due to two main reasons. Firstly, investors lack the awareness on such an investment avenue. Secondly, those investors who are aware tend to avoid investing due to the uncertainty on its performance and the financial returns the investment could generate.

## III. OBJECTIVES OF THE STUDY

1. To explore the difference in return between of socially responsible stocks and conventional stocks.
2. To identify the risk adjusted returns of socially responsible stocks against the conventional stocks using various risk-return measures.
3. To ascertain the impact of crisis situations such as demonetisation on socially responsible stocks portfolios in comparison to the impact on general stocks.

## IV. LITERATURE REVIEW

**VanitaTripathi and Varun Bhandari (2016)** socially responsible stocks perform better than the conventional bonds especially during financial crisis period. They have examined the market for 18 years with three conventional indices such as 1.CNX Nifty, 2. Sensex and 3.CNX 500 equity against two sustainability indices in India such as S&P ESG India and S&P BSE Greenex. The study has compared the stocks based on the risk adjusted return using the ratios Sharpe's, Treynor's and Jenson's. Also takes into account the systematic and unsystematic risks involved in the investments. This suggests that SR stocks can be a good leverage to diversify the investments to reduce the losses due to poor diversification of portfolio.Analysing the stock performance during the 2008 financial crisis the SR stocks have fared better than the conventional stocks found the study. Also, the research has been done in both long term and short-term periods to find the SR stocks performance with regards to the length of the investment period.

**Matthew Haigh and James Hazelton** talks about Shareholder advocacy and Managed investments and argue that both the practices have lacunae in creating significant corporate change. The research is a descriptive study on the performance of SR funds in various world markets and on the efficiency of such investments.

**Karen** have researched the determinants for the flow of fund for Socially responsible funds in comparison to the flow of fund to the conventional funds. The impact of current and past return on the investment decision making has been analysed for both SR and

TEST Engineering & Management

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

Conventional fund. Sample of 5190 has been trimmed using the measures such as the Beta of the fund, Standard deviation of the return and Fama and French model.

**Michael Schroder** has concluded that SRI can be a Special Purpose vehicle that is different from other conventional assets. He has found no clear disadvantage in the performance of SRI funds. In addition to Domini 400 Social index and Dow Jones Sustainability Index, study has incorporated eight other SRI indices that are introduced recently in U.S., German and Swiss markets. The analysis shows that most German, Swiss and U.S. SRI funds do not under-perform their benchmarks.

**NichaLapanam**has used individual investor's equity mutual fund portfolio data in Sweden from 2003-2007.The data set has a distinct characteristic of having included all the mutual fund positions of each individual. It also contains the data on the investor's socio-demographic characteristics, including their gender, education, income status, marital status, wealth etc. This data helped the author in associating them with the investment behaviour of individuals.

## V. RESEARCH METHODOLOGY

*Hypothesis for the Study:*

To realize the set research objectives, the following hypotheses have been designed:

**H1o**There is no significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE Greenex) and the general stock portfolios (BSE Sensex and NSE Nifty) with regards to the average monthly returns.

**H1α** There is significant difference in the returns generated by Carbonex from the returns generated by the general stock portfolios (BSE Sensex and NSE Nifty).

**H1$_\beta$**There is significant difference in the returns generated by Greenex from the returns generated by the general stock portfolios (BSE Sensex and NSE Nifty).

**H2o** There is no significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE Greenex) and the general stock portfolios (BSE Sensex and NSE Nifty) with regards to the risk adjusted measures.

**H2α** Thereis significant difference in the performance of Carbonex and the general stock portfolios (BSE Sensex and NSE Nifty).

**H2$_\beta$** There is significant difference in the performance of Greenex and the general stock portfolios (BSE Sensex and NSE Nifty).

**H3o** There is no significant difference in performance of the general stock portfolios (BSE Sensex and NSE Nifty) during demonetisation 2016.

**H3$_\beta$** There is significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE Greenex) during demonetisation 2016.

## VI. DATA COLLECTION

*Secondary Data*

In the study secondary data on index rates from nseindia.com and bseindia.com has been used

- ✓ The research has been carried out with historical data of index rates for the past nine years (2010-2018).
- ✓ The paper uses five indices from the Indian stock market for the study on performance of socially responsible stocks against the conventional stocks.
- ✓ Three among them BSE 500, BSE SENSEX, NSE NIFTY are conventional indices and the other two BSE CARBONEX and BSE GREENEX are Sustainability indices.
- ✓ BSE 500 represents the market portfolio i.e., used as a benchmark for all other indices.
- ✓ BSE Sensex and NSE Nifty represent the general stock portfolio.
- ✓ BSE Carbonex and BSE Greenex represent the Socially responsible investment portfolio.
- ✓ For the risk-free return, yield of 364 days T-bills has been used

## VII. TOOLS FOR ANALYSIS

*Rate of Return*

Net gain or loss from an investment over a particular period of time when expressed as percentage of the

TEST Engineering & Management

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

invested amount is known as the rate of return of the investment.Also known as Basic Growth Rate or Return on Investment.

**Formula:**

$$Rate\ of\ Return = [\frac{Current\ value - Initial\ value}{Initial\ value}] * 100$$

For determining the simple return of the sustainability indices, general stocks and the market portfolio, Rate of return calculation has been employed in the study. Index rates are analysed based on their past rates to compare and determine the best performing portfolio. Though RoR can be used to determine the year-over-year changes, it does not incorporate the risks associated with investment such as the inflation rate.

*Risk and Return analysis*

*Sharpe ratio*

The reward-to-variability ratio which is generally identified as the Sharpe ratio (SR) was introduced by the Nobel laureate, William Sharpe in 1966. It is illustrated as the ratio of the excess return to the standard deviation of the excess return.

**Formula**

$$\text{Sharpe ratio} = \frac{Rp - Rf}{\sigma}$$

Where,

Rp = Return of the asset

Rf = Risk-free return

$Rp - Rf$ = the excess return

σ = Standard deviation of the excess return

**Treynor ratio**

When an investor is considering investing in a well-diversified portfolio, the Treynor ratio is more appropriate, as it is based on the systematic risk only. Treynor's is the ratio between the excess return and the systematic risk of the return. Similar to Sharpe ratio, Treynor can also be used as ex ante and ex post ratios. It is also branded as the reward-to-volatility ratio. Simply put, the ratio expresses the additional return generated for each unit of systematic risk taken by the investor by investing in the portfolio.

**Formula**

$$t = \frac{Rp - Rf}{\beta}$$

Where,

t = Treynor's ratio

Rp = Return of the asset

Rf = Risk-free return

$Rp - Rf$ = the excess return

$\beta$ = Beta = Systematic risk of the portfolio

**Jensen's ratio**

With the portfolio beta and the average return of the market, the Jensen's measure or Jensen's alpha or simply alpha denotes the average return of the portfolio gained above or below the return projected by the capital asset pricing model (CAPM)

A well-known economist Michael Jensen found the measure in 1986 originally to track the performance of hedge fund managers and ascertain whether the managers can outperform the market consistently.

**Formula**

$$Jensen's\ \alpha = Rp - [Rf + \beta(Rm - Rf)]$$

Where,

α=Jensen's alpha

Rp = Return of the portfolio

Rf = Risk- free return

β = Beta = Systematic risk of the portfolio

Rm = Return of the market

An investment may generate higher or lower return than the return calculated by the CAPM

January-February 2020
ISSN: 0193-4120 Page No. 12536 - 12544

*Sortino Ratio*

Sharpe ratio does not discriminate between upward and downward volatility. The higher extreme returns can increase the denominator i.e., the standard deviation and thus decrease the value of the ratio. Investors just observing at the low valued ratio may reject the portfolio even though it has a positively skewed return. This effect of the higher extreme returns lowering the value of the ratio is considered an obvious flaw of the Sharpe's ratio.

**Formula**

The Sortino ratio, S, is defined as:

$$S = \frac{R - T}{TDD}$$

where

R = average return of the period

T = Target return

TDD = Target Downside deviation

## VIII. ANALYSIS AND INTERPRETATION

*Average Return*

| INDICES | AVR.RETURN |
|---|---|
| **BSE 500** | 0.6 |
| **Nifty** | 0.58 |
| **Carbonex** | 0.56 |
| **Greenex** | 0.56 |
| **Sensex** | 0.55 |

Based on the average return BSE 500 has a higher return of 0.60 percent than all other indices. SRI indices Carbonex and Greenex has a higher return than Sensex but lower than BSE 500 and Nifty. The difference between the returns is very minimal and this difference cannot be taken as a measure to determine the better performer. Hence the null hypothesis H1o stating that there is no significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE Greenex) and the general stock portfolios (BSE Sensex and NSE Nifty) with regards to the average monthly returns is accepted.

*Standard Deviation*

| INDICES | SD |
|---|---|
| **Greenex** | 4.74 |
| **BSE 500** | 4.64 |
| **Nifty** | 4.58 |
| **Carbonex** | 4.51 |
| **Sensex** | 4.5 |

The SRI index – Greenex has a higher standard deviation than all other indices while Carbonex has higher deviation than Sensex only. Standard deviation being the measure of dispersion denotes the dispersion of data from its mean. So, the higher the deviation states that the data highly varies from its mean. This can be a positive extreme or a negative extreme.

These extremes tend to affect the average return of the index. Therefore, with the mean score alone, conclusions on the index performance cannot be drawn accurately.

*Analysis on Risk-Adjusted Returns of Indices*

*Sharpe ratio*

| INDICES | Sharpe's |
|---|---|
| **Nifty** | -0.079 |
| **Greenex** | -0.092 |
| **Carbonex** | -0.099 |
| **Sensex** | -0.101 |
| **BSE 500** | -0.88 |

The higher the Sharpe ratio the better the portfolio performance. The above table shows the results obtained from the Sharpe ratio calculations arranged largest to the smallest. Here, SRI indices (Carbonex and Greenex) have better Sharpe than Sensex and BSE 500 but smaller than Nifty. Nifty has better Sharpe ratio than all the indices. Sharpe takes into account the Standard deviation that is the measure of total risk. Also, using standard deviation means that Sharpe assumes the returns to be

January-February 2020
ISSN: 0193-4120 Page No. 12536 - 12544

normally distributed which is highly impossible. To prevent the shortcomings of Sharpe from impacting the results Sortino ratio. (Rollingar and Hoffman 2014)

*SORTINO*

| INDICES | SORTINO |
|---|---|
| **Nifty** | 0.23 |
| **BSE 500** | 0.2 |
| **Carbonex** | 0.2 |
| **Sensex** | 0.19 |
| **Greenex** | 0.19 |

The above table shows the results of Sortino ratio in the descending order. This ratio is an improved version of Sharpe which considers only returns dropping below a specified target to be risky. Here all the indices have almost the same Sortino ratio. A significant difference between the General and SRI indices is not seen.

*Beta or Systematic risk of the portfolio*

| INDICES | Beta |
|---|---|
| **BSE 500** | 1 |
| **Carbonex** | 0.98 |
| **Greenex** | 0.97 |
| **Nifty** | 0.96 |
| **Sensex** | 0.93 |

In the study, BSE 500 is taken as the benchmark to measure and compare the other indices. Citing the Beta scales from the previous chapter, Beta of 1 has risk similar to the benchmark portfolio. That is to say, when a change of 1 unit take place in the market that results in unit change in the portfolio. Hence, the less the beta more independent the portfolio is from the market changes. Here, the SRI indices (Carbonex and Greenex) have approximately the same betato that of general stocks (Sensex and Nifty). Hence, it is concluded that the SRI behaves in the same way a general stock will to the market changes.

*Treynor ratio*

| INDICES | Treynor's |
|---|---|
| **BSE 500** | -0.41 |
| **Nifty** | -0.43 |
| **Greenex** | -0.45 |
| **Carbonex** | -0.453 |
| **Sensex** | -0.49 |

As stated in the previous chapter Treynor ratio takes into account only the systematic risk ($\beta$) of the portfolio. The results of the above table it is clear that even Treynor displays similar results to the previously discussed ratios. Carbonex and Greenex have better Treynor ratio than BSE 500 and Nifty but less than Sensex. Yet the difference is very minimal. This shows that when the investor looks for diversification in his portfolio with less systematic risk, the SRI stocks givesthe same return that can be generated from than the general stocks.

*Jensen's ratio*

**Jensen's ration for Indices**

| INDICES | Jenson's |
|---|---|
| **BSE 500** | 0 |
| **Nifty** | -0.035 |
| **Greenex** | -0.048 |
| **Sensex** | -0.075 |
| **Carbonex** | -0.105 |

The higher the Jensen's better the performance of the portfolio. The above table gives a negative Jensen value for the SRI indices and General stocks of Nifty and Sensex and even here the result is mixed bag. There seems to be no stark difference fin the indices.

From the above interpretations obtained with the risk-return ratios, the hypothesis H2o stating that there is no significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE

TEST Engineering & Management

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

Greenex) and the general stock portfolios (BSE Sensex and NSE Nifty) with regards to the risk adjusted measures is accepted.

*Performance of SRI during demonetisation in India*

The Government of India declared the demonetisation of all banknotes of denomination of Rs. 500 and Rs. 1,000 on the late evening of 8, November 2016 and the issuance of new Rs. 500 and Rs. 2,000 banknotes to be swapped with the demonetised notes. The action as per the Government was taken to curb black money and to counter the funding to terrorism in the form of counterfeit currency in the economy.

In addition to the cash shortage that happened aftermath there were several other disruptions in the economy. The stock market plunged to a six-month low in the week after the announcement. In the study the effect of demonetisation on the Socially responsible stocks has been studied in comparison to the general stocks. To get a clear picture on the effects the period of demonetisation has been split into three sub-periods:

1. **Pre-Crisis** - Period before the demonetisation – January, 1 2016 to November 7,2016
2. **DuringCrisis** – Period during the demonetisation – November 9,2016 to January 8,2017
3. **Post-Crisis** – Period after the demonetisation – January 9,2017 to November 8,2017

The tables below show the results of the analysis made for the period during demonetisation.

*Beta or Systematic Risk during Demonetisation*

**Beta for indices during Demonetisation**

| Demonetisation (2016-2017) | | | | | | |
|---|---|---|---|---|---|---|
| **INDICES** | | **BSE 500** | **Sensex** | **Nifty** | **Carbonex** | **Greenex** |
| **Beta** | **Pre-crisis** | 1 | 0.95 | 0.91 | -0.047 | -0.034 |
| | **During crisis** | 1 | 0.85 | 0.93 | -0.063 | 0.069 |
| | **Post crisis** | 1 | 0.81 | 0.81 | 0.122 | 0.1 |

In the above table though the SRI indices (Carbonex and Greenex) show a negative beta prior to and during the demonetisation, they show an improvement in the post-crisis period. After the crisis the SRI indices have only 0.122 and 0.1 beta whereas the Sensex and Nifty have 0.81 of beta each. This shows that aftermath a crisis the SRI stocks seem to regain stability against the market sooner than the general stocks.

*Analysis on the Risk-adjusted returnduringDemonetisation*

| Demonetisation (2016-2017) | | | | | | |
|---|---|---|---|---|---|---|
| **INDICES** | | **BSE 500** | **Sensex** | **Nifty** | **Carbonex** | **Greenex** |
| **Sharpe's** | **Pre-crisis** | -0.13 | -0.12 | -0.12 | -0.12 | -0.12 |
| | **During crisis** | -0.14 | -0.14 | -0.14 | -0.14 | -0.14 |
| | **Post crisis** | -0.11 | -0.11 | -0.12 | -0.11 | -0.11 |
| **Treynor's** | **Pre-crisis** | -0.1 | -0.13 | -0.09 | 1.8 | 2.96 |
| | **During crisis** | -0.15 | -0.16 | -0.09 | 3.1 | -2.31 |
| | **Post crisis** | -0.06 | -0.19 | -0.07 | -0.61 | -1 |
| **Jenson's** | **Pre-crisis** | 0 | -0.02 | 0.01 | -0.09 | -0.11 |
| | **During crisis** | 0 | 0 | 0.05 | -0.207 | -0.15 |
| | **Post crisis** | 0 | -0.02 | -0.01 | -0.067 | -0.09 |

January-February 2020
ISSN: 0193-4120 Page No. 12536 - 12544

The above table shows the results obtained for risk return analysis done for the demonetisation period. It is evident from the result that there is no significant difference between the performance of SRI stocks and the general stocks during the crisis period. That is SRI has got the same ups and lows as in Conventional stocks in the Pre, During and Post time periods of Demonetisation of 2016.Hence, the hypothesis H3o stating that there is no significant difference in performance of the general stock portfolios (BSE Sensex and NSE Nifty) during demonetisation 2016 is accepted.

## FINDINGS, SUGGESTION AND CONCLUSION

*Average Return*

The SRI indices have higher return than Sensex and lower return than BSE 500 and Nifty. The difference between the returns are very minimal and this difference cannot be taken as a measure to determine the better performer.

*Standard Deviation*

The measure of dispersion, Standard deviation used here to determine the deviation of return from the mean is found to be with no significant difference for the SRI indices and the General indices.

*Risk-Return analysis*

All the four Risk -Return ratios employed in the study namely: Sharpe, Sortino, Treynor and Jensen ratio give a mixed result. Hence here the null hypothesis stating there is no significant difference in performance of SRI stocks portfolios (BSE Carbonex and BSE Greenex) and the general stock portfolios (BSE Sensex and NSE Nifty) with regards to the risk adjusted measures.

*Performance During and After Demonetisation*

From the result it is evident that there is no significant difference between the performance of SRI stocks and the general stocks during the crisis period. That is SRI has got the same ups and lows as in Conventional stocks in the Pre, During and Post time periods of Demonetisation of 2016.

## CONCLUSION

This research largely addresses the developing discussion whether Socially responsible investing brings more returns to the investor than the conventional investing. The paper scrutinized the performance of two Socially responsible indices namely Carbonex and Greenex against two general stock indices such as Sensex and Nifty and one benchmark index i.e., BSE 500 both during normal times and during an economic crisis (demonetisation). In the previous section the interpretations of average return, standard deviation of the return and the risk-adjusted returns for each index were deliberated. From the interpretations, it is found that the performance of SRI stocks against the general stocks has hit mixed results. With regards to the average return general stocks have performed better and among the three risk-return ratios SRI stocks have explicitly outperformed general stocks only in Treynor's ratio.

While it is a mixed result in Sharpe ratio, Jensen's ratio supports the general stocks without any reserves. The demonetisation period results are all the more inexplicable than the normal times. The risk -adjusted returns of the general stocks are consistent with the SRI stocks. A significant difference between them is indiscernible.

Hence it cannot be distinctly concluded that Socially responsible stocks outperform the general or conventional stocks.at the same time the fact that SRI performs in line with the conventional stocks cannot be plainly denied. With no strong indication that SRI investing leads to a better risk-adjusted returns, it can be more a blend of "doing good" for society while "not doing harm" to investment returns.

## REFERENCES

1. Ali Murad Syed, (2016), Socially Responsible: Are they Profitable? Journal of Research in International Business and Finance.

*January-February 2020*
*ISSN: 0193-4120 Page No. 12536 - 12544*

2. Andrew L. Freidman, Samantha Miles, (2006), Socially Responsible Investment and Corporate Social and Environmental Reporting in the UK: An Exploratory Study.
3. Christophe Revelli1 and Jean-Laurent Viviani, Financial performance of socially responsible investing (SRI): what have we learned? A meta-analysis, (2014),Business Ethics: A European Review Volume 2.
4. Christopher C. Geczy, Robert F. Stambaugh, David Levin, (2005), Investing in Socially Responsible Mutual Funds - March 2003 (revised October 2005).
5. Deutsche Bank Climate Change Advisors, (June 2012), Sustainable Investing – Establishing Long- term Value and Performance
6. Eugene A. Pilotte and Frederic P. Sterbenz, (2006), Sharpe and Treynor Ratios on Treasury Bonds, Source: The Journal of Business, Vol. 79, No. 1 (January 2006), pp. 149-180
7. Karen Benson and Jacquelyn Humphrey, Brisbane, (2007), Socially Responsible investment funds: Investor reaction to current and past returns
8. K.V.Bhanu Murthy, Varun Bhandari, Vishal Pandey,(2011), Does the Indian stock market encourage Socially Responsible investing?
9. Luc Renneboog, Jenketer Horst and Chendi Zhang, (May 2007), The Price of Ethics: Evidence from socially responsible mutual funds.
10. Maia Ceu Cortez, Florinda Silva, Nelson Areal, (2009), Socially Responsible Investing in the Global market: The Performance of US and European funds.
11. Matthew Haigh and James Hazelton, (2002), Financial investment: A tool for social responsibility?
12. Michael Ross Jayne And Glynn Skerratt, (2003), Socially Responsible Investment in the UK - Criteria That Are Used to Evaluate Suitability.
13. Michael Schroder, (2014), Socially Responsible Investments in Germany, Switzerland and the United states – An analysis of Investment funds and Indices.
14. NadjaGuenster, (2012), Performance Implications of SR Investing: Past versus Future, California.
15. NichaLapanan, (2018), TheInvestment Behaviour of Socially Responsible Individual Investors, The Quarterly Review of Economics and Finance
16. Olaf Weber, Marco Mansfeld and Eric Schirrmann, (2010), The Financial Performance of SRI Funds between 2002 and 2009.
17. Patricia Crifo and Nicolas Mottis, (2013), Socially Responsible Investment in France.
18. Peter Waring John Lewer, (1998),The Impact of Socially Responsible Investment on Human Resource Management: A Conceptual Framework
19. VanitaTripathi and Varun Bhandari, (2016), Socially Responsible Stocks: A Boon for Investors in India (2016) - University of Delhi, Delhi, India.
20. W. McLeod & G .van Vuuren, Interpreting the Sharpe ratio when excess returns are negative.