Indian Investors’ Attributes and Non-Economic Goals Using Hierarchical Regression

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The cognitive psychological and behavioral attributes of individuals are reflected in their economic decisions. The present study has made an attempt to examine the Indian investors’ socially responsible investing behavior and has examined various attributes of individual investors’ which affect their non-economic goals. The study under consideration is based on primary data and reflects the impact of investors’ attributes like religiosity, environmental attitude, collectivism, materialism, risk tolerance and social investing efficacy on their socially responsible investing behavior. The results obtained have highlights the relevance and significance of green and socially responsible investment avenues for investors.

Keywords: Hierarchical Multiple Regression, Mediation Effect, Social Investing Efficacy, Socially Responsible Investment (SRIs)

1. Introduction of the Study

The companies in India have become more aware about ESG (environmental, social and governance) issues. These companies understand that many international investors are concerned about ESG risk in emerging markets. Countries like Brazil, China and South Africa are actively focusing on ESG challenges and making various attempts to create investment climate promoting sustainable portfolio investment. Such countries have already realized that a investor, while preparing their investment portfolios, do not depend absolutely on risk-return characteristics but also apply their own filters and try to incorporate Economic, Social, Governance (ESG) facet related risk to their analysis. The theory of Behavioral Portfolio says that cognitive biases and emotions affect the investors’ choices of investment decisions. Further, it says the investment decisions taken by investors considering dual objective of maximization of returns and minimization of risk called ‘utilitarian’ benefits are also called expressive benefits as personal investments are also among different ways of expressing personal values by the investors. Consequently investment choices are determined by trade-off between utilitarian (financial) benefits and expressive (psychic) benefits derived by an investor. The evidences of existence of such notions are found even before Modern Portfolio Theory (Weisenberger 1952; Markowitz, 1999). But three decades back the environmentalists started discussion on the impact of individual’s decisions on the oxidization of environment. And it was the period when concepts and fundamentals of social responsibility and social values gained momentum. But it is only during last couple of years that SRIs (socially responsible investments) have become a special class of investment avenues and several world level banks and financial institutions are working specifically for this investment avenue. The SRIs focus on social welfare and good financial returns at same point of time. In recent years, many ETFs and indices have been introduced based on socially responsible investment theme. The companies introducing SRIs for investors to promote their practices of various initiatives like, environment protection, social justice, human rights, gender equality, good governance practices and other similar efforts. In this milieu, SRI strategy came out to be a mean to integrate personal values and investment decision by screening out companies which do not stick to the value system, promoting shareholder support, community investment and economically targeted investment (Fama and French, 2005; Statman, 2005).

However, like other emerging markets, SRI funds have not been able to achieve much position in India. In India, Socially responsible funds are almost non-existent and therefore, there would be uncertainty in term of the products and information related to SRI funds as these are completely new to the investment market. Investors think these funds to be more risky but in reality these funds are less risky. Understanding the behavior of these investors for such kind of funds will be helpful for fund managers to launch such kind of investment instruments for investors. And the hypothesis statement examined says that the risk perception attitude of investors is positively related to an investor’s predisposition to chase his/her non-economic goals.

The number of socially responsible investment funds is very less in India. “Tatva”, the socially responsible equity investment programme by Yes Bank, is one of few such examples. Other noticeable SRI mutual fund is ABN Amro Sustainable Development Fund which was launched in 2007. It was India’s first socially responsible investment fund. The companies which become the part of this fund are screened by CRISIL on an ESG scale. The lack of ESG (Economic, Social and Governance) measurement and disclosure practices and code of conduct are the major reasons for lesser number of SRI funds in India. A few years back, an ESG index called S&P ESG India index was made which is composed of 50 best performing equity stocks of Indian market on three ESG (Economic, Social and Governance) parameters. Companies like Wipro, Infosys, Mahindra & Mahindra, ITC, TCS, L&T, Tata Chemicals, ACC, HCL Technologies and Dr. Reddy’s Laboratories are part of this index. The following chart shows the performance of S&P ESG India index since 2007. The disclosures of ESG parameters for companies are not similar in developed and emerging countries. Therefore the issues
related to ESG are more important in emerging markets like India for an investor who is motivated by personal values and look for investment avenues which are socially responsible.

Under diverse environment, an individual is influenced by various psychic and spiritual benefits he is going to get from investment. The socially responsible investing behavior of Indian individuals is result of impact of various forces. Pareek (1986) indicated that need for extension is the major determinant of individual behavior in India. The individual investor’s economic and non-economic goals are affected by various factors which are not similar to what has been identified in western world (Mehta, 1994). The study indicated that desire for social achievement is the main determinant of individual’s behavior in India. Therefore it is important to understand which factors affect the individual investor’s behavior towards socially responsible investment decisions in India. In this milieu, the present study attempts to comprehend characteristics of the Indian investors, which affects the non-economic i.e. ethical goals of investment. A study on investor characteristics conducted by Iyer and Kashyap (2009) postulated that social investing efficacy affects the individual’s characteristics to take noneconomic investment decisions. This study indicated that SIE or social investing efficacy characteristic of the investors make them believe that a company remain stick to all essential values considered by investors.

### 2. Literature Review

The existing literature on investors’ characteristics affecting socially responsible investing behavior has broadly considered five major attributes. These are 1) Collectivism, 2) Religiosity, 3) Materialism, 4) Environment Attitude and 5) Risk Tolerance. The Risk Tolerance is further categorized in individual risk propensity and individual risk affinity. Any SRI fund or SRI investment scheme introduced for investors require study of above mentioned five factors as the intensity of these attributes affects the choice of noneconomic goals of the investors. For example, Collectivists always emphasized on group welfare so in such culture pro social behavior is given high priority (Hui and Triandis, 1986). Materialism imitates the significance attached by an individual to worldly possessions (Belk, 1984). Likewise, strong positive association has been found in religiosity and business ethics (Mohkils, 2006; Vitell, Paolillo, and Singh, 2005; Kennedy and Lawton, 1998; Tepstra, Rozell, and Robinson, 1993). People who practiced their religion consider themselves to be more ethical than other individuals (Phau and Kea, 2007). Now-a-days people look for products that are environmentally safe and produced by fair means (Iyer and Kashyap, 2009). Douglas and Wildavsky (1982) developed Cultural theory of risk and put forward that risk perceptions are influenced by cultural values, social institutions and ways of life (hierarchical, individualist, egalitarian, and fatalist). The above mentioned five factors have been repeatedly studies by researchers to understand how they affect the behavior of socially responsible investors while setting their noneconomic goals.

Further, various evidences have been obtained in the studies conducted by Dhawan, Roseman, Naidu and Rettek (1995) where Indian investors have shown more intensity towards collectivism as they are dependent upon each other to take decisions while it is not the case of American individuals. The country is diverse but within a specific group, viz., people belong to a specific caste, language, religion or cultural background etc., individuals help each other therefore collectivism is found as a major attribute of Indian individuals. Shavitt et. al., (2006) have defined four dimensions of individual. These are Vertical individualism (VI), Horizontal Individualism (HI), Vertical Collectivism (VC) and Horizontal Collectivism (HC). The horizontal individualism places individual’s tendency to be independent as priority whereas vertical individualism focuses on the importance of competition. Further, horizontal collectivism emphasizes on importance of social relations with equality for individuals and vertical collectivism emphasizes of importance of social relations with superiors. These four attributes are found in individuals and vary from one group to another group. Thomas and Au (2002) documented that vertical collectivism and horizontal individuals are the outcome of cultural differences.

Considering the relevance of above mentioned factors and obtaining evidences from the literature, the present study is confined to studying the impact of following factors on the determination of socially responsible investment behavior of individuals that is reflected through noneconomic goals of individuals.

1. **Religiosity**: Research conducted by McDaniel and Burnett (1990), Sood and Nasu (1995), Johnson, Jang, Larson and Li (2001), Essoo and Dibb (2004) and Lindsay (2007) documented that an individual’s dedication towards religion is reflected in his behavior and all decision. Many times the individuals do not prefer their investment in some ‘negative list’ industries. These are the companies which are producing harmful products under the category of ‘sin’ by the definition of religion. The increasing importance of Islamic finance is an example of this. Therefore the importance of religion to an individual affects his behavior and attitude.

2. **Environmental Attitude**: The companies’ efforts towards green marketing indicate that the consumers’ attitude towards environment is changing. The environmental concerns have also influenced the finance and investment aspects too. Although the awareness towards environmental concerns is very low but now individuals have started paying attention towards green concepts of the companies. Poloiinsky et. al. (1995), Tripathy and Panda (2003), Fernando (2006), Bidappa and Kaul (2011) are few studies among many which have focused on the green practices. Therefore environmental attitude may have a positive relationship with the individual’s choice of noneconomic goals

3. **Collectivism**: Hofstede (1980), Diltz (1995), Wagner (1995), Triandis (1995), Sirmor and Lane (2004), Ramamoorthy et. al. (2005 and 2007), Kulkarni, et. al., 2010 have supported the evidences that individualism and collectivism affects the cultural differences and hence the behavior of individuals. Many of these studies say that the cultural differences in social
behavior in various countries are because of individualism-collectivism (IC). Finding cues from these studies, the present study has also considered collectivism as an important attribute affecting the individuals’ decision making.

4. **Materialism**: Materialism is related to individual’s possessions. Many studies have documented a negative correlation between materialism and noneconomic goals. Material possession may have different meaning for different individuals. Highly materialistic individuals are tend to spend more on consumption in order to prove social expectations while low materialists are expected to have less material possession for a sense of belongingness. Various studies, Belk (1983, 1984), Richins & Dawson (1992), Wright and Larsen (1993), Richins and Rudmin (1994) and Chatterjee, Hunt and Kernan (2000) are among the initial studies documenting relationship between materialism and individual’s decision making.

5. **Risk Tolerance (Individual Risk Propensity and Individual Risk Affinity)**: Different individuals have different risk tolerance. The investors do not behave rational all the time. The risk tolerance of individual is dependent upon how risk and uncertainty is assessed by the individuals. The tendency to bear risk and preference for an opaque situation specify the risk tolerance capacity of the individuals. Yet, Kahneman and Tversky (1974) and Slovic et. al. (1982) documented that individuals assess the risk in different ways therefore they are not rational in every decision taken by them.

6. **Social Investing Efficacy (SIE)**: Block and Keller (1995), Diamond and Iyer (2007) and Iyer and Kashyap (2009) documented how perceived effectiveness/efficacy influence the individual attitude and behavior on various issues. As per Protection Motivation Theory proposed by Rogers’s (1975) effectiveness is significant to bring about a change in behavior and attitude of the individuals. If an individual have this perception that his/her actions will do good for society, then he/she will definitely do good for the society by taking good actions. Social investing efficacy (SIE) is supported by how strongly a person believes that their investment strategies would be capable of influencing corporate behavior. Having such belief investors can transmit their social values to the corporations by adopting appropriate investment strategies. Such characteristics guide investors to have a trade-off between economic and non-economic goals. SIE influence the force of the relation between investor characteristics and quest of non-economic goals.

### 3. Research Methodology

**Objective of Study**

As mentioned above, the present study is destined to study the relationship between individual attributes, i.e., religiosity, environmental attitude, collectivism, materialism, risk tolerance and social investing efficacy, and noneconomic goal setting or investors’ behavior towards socially responsible investments.

**Hypotheses Tested**

- **H1**: Religiosity will be positively related to investors’ noneconomic goal.
- **H2**: Environmental Attitude will be positively related to investors’ noneconomic goals.
- **H3**: Collectivism will be positively related to investors’ noneconomic goals.
- **H4**: Materialism will be related to investors’ noneconomic goals.
- **H5a**: Risk Propensity will be positively related to investors’ noneconomic goals.
- **H5b**: Risk Affinity will be positively related to investors’ noneconomic goals.
- **H6**: Social Investing Efficacy will be positively related to investors’ noneconomic goals.
- **H7**: Social Investing Efficacy will mediate the relationship between other investor characteristics and their noneconomic goals.

### 4. Sampling Design and Data Collection

The study under consideration is based on primary data which is collected through both online and offline surveys. The data was collected from 296 respondents out of which 41 responses were discarded due to incomplete responses and final sample was composed of 255 respondents. 68% of the respondents were professionals with MBA, CFA, MIB or equal degree and 17% respondents were holding masters degree but not in business or economics related course. 11% respondents were holding an undergraduate degree. More than 45% of the respondents were of more than 3 years experience and 77% of them working in different companies. 20 of respondents were working in finance or finance related companies. Further, a structured questionnaire used by Iyer and Kashyap (2009) was used as an instrument of data collection. The questions were asked on a seven point Likert scale anchored at “Strongly Disagree” and “Strongly Agree” to measure the constructs. Individual characteristics of the investors were measured using scales with 3-8 items. The collected data was tested for reliability analysis and all scale items were found in acceptable range for Cronbach’s alpha (More than 0.68).

### 5. Methods for Data Analysis

The investor’s behavior towards socially responsible investment is studied on the basis that how noneconomic goals of investors are determined by individual attributes like their values and risk tolerance. In order to meet the objective of study under consideration, the present study has applied a hierarchical multiple regression model. The regression model has
considered noneconomic goals of the investors as independent variable and religiosity, environmental attitude, collectivism, materialism, risk propensity and risk affinity as independent variables. The social investing efficacy has been used as mediating variable. The mediation is a hypothesized chain wherein one variable affects the second variable and in turn, affects the third variable. The intervening variable is the mediator. The mediator ‘mediates’ the relationship between a predictor and an outcome.

\[
X \xrightarrow{a} M \xrightarrow{b} Y
\]

The direct effect can be understood through path \(a\) and path \(b\). and effect of \(X\) on \(Y\) is indirect which is through \(M\). The indirect effect means that portion of the total relationship between \(X\) and \(Y\) which is mediated by \(M\). Baron and Kenny (1996) gave a four step method of testing the mediation.

\[
\begin{align*}
X & \xrightarrow{a} M \xrightarrow{b} Y \quad \text{(Step 1)} \\
X & \xrightarrow{a} M \xrightarrow{b} Y \quad \text{(Step 2)} \\
X & \xrightarrow{a} M \xrightarrow{b} Y \quad \text{(Step 3)} \\
X & \xrightarrow{a} M \xrightarrow{b} Y \quad \text{(Step 4)} 
\end{align*}
\]

Under this, the regression coefficients are calculated and their significance is tested at each step. The following figure has explained the four step process of testing mediation. The \(C'\) in the above equation indicates the direct effect.

![Figure 1](image)

If first three equation results in one or more insignificant relationship then it is said that there is no mediation effect found. And in step four, if the effect of \(M\) remains significant after controlling for \(X\). If, even after controlling the \(M\), the \(X\) remains insignificant then the findings will support full mediation and if \(X\) remains still significant, the findings will support only partial mediation. In the context of present study, four regression models have been run as mentioned above. The regression results help us to understand the following:

- Relationship between mediator and independent variables
- Relationship between mediator and outcome variable, and
- Relationship of independent variable with the outcome variable with and without the mediating variable.

6. Findings of Study

The SIE (Social Investing Efficacy) is the mediator in the regression models. Table 1 has depicted the results of regression in which SIE is the independent variable and individual difference variables. The results have reported that Environmental Attitude (\(\beta = 0.515, t = 4.696\)) and Collectivism (\(\beta = 0.228, t = 2.139\)) were found significantly related with Social Investing Efficacy.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta Coefficient</th>
<th>t-test</th>
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<tbody>
<tr>
<td>Religiosity</td>
<td>0.107</td>
<td>1.216</td>
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<tr>
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<td>0.515</td>
<td>4.696</td>
</tr>
<tr>
<td>Collectivism</td>
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<td>2.139</td>
</tr>
<tr>
<td>Materialism</td>
<td>0.029</td>
<td>0.289</td>
</tr>
<tr>
<td>Individual Risk Propensity</td>
<td>0.106</td>
<td>1.207</td>
</tr>
<tr>
<td>Individual Risk Affinity</td>
<td>-0.069</td>
<td>-0.767</td>
</tr>
<tr>
<td>R-Square</td>
<td>0.689</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-Square</td>
<td>0.671</td>
<td></td>
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</table>
Religiosity ($\beta = 0.107, t = 1.216$), Materialism ($\beta = 0.029, t = 0.289$), Individual risk Propensity ($\beta = 0.106, t = 1.207$) and Individual risk affinity ($\beta = -0.069, t = -0.767$) were found insignificantly related with social investing efficacy. The adjusted R-square (0.671) found reasonably higher when compared with previous studies. Further, Table 2 has shown the regression results of relationship between median variable and outcome variable. The social investing efficacy ($\beta = 0.746, t = 11.703$) was found significantly related with noneconomic goals of investors. The findings of this regression results support the arguments in favor of hypothesis $H_{6a}$ which states that Social Investing Efficacy is positively related to investors’ noneconomic goals.

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Further, Table 3 has reported the results of mediation effects. As mentioned in the following table, two regression equations were run. In the first, the noneconomic goals were regressed on individual difference variables. The adjusted R-square is found 0.653. The religiosity ($\beta = 0.282, t = 3.049$) and environmental attitude ($\beta = 0.301, t = 2.610$) were found significantly and positively related to noneconomic goals of investors while collectivism ($\beta = 0.149, t = 1.431$), materialism ($\beta = -0.078, t = -0.709$), individual risk propensity ($\beta = 0.057, t = 0.617$) and individual risk affinity ($\beta = 0.157, t = 1.654$) were found insignificantly related with the noneconomic goal. Therefore the results support $H_1$ and $H_2$, $H_a$, $H_b$, and $H_5$ are not supported by the findings.

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Further, the next regression model was run for noneconomic goals as dependent variable and individual difference variables were taken as independent variable in the presence of social investing efficacy as mediator. The R-square with mediation effect is improved further, i.e., 0.668. The coefficients obtained with mediation effect were found attenuated. Religiosity ($\beta = 0.247, t = 2.778$), environmental attitude ($\beta = 0.134, t = 1.107$), collectivism ($\beta = 0.140, t = 1.403$), materialism ($\beta = -0.004, t = -0.035$) and risk tolerance [individual risk propensity ($\beta = 0.023, t = 0.256$), and individual risk affinity ($\beta = 0.144, t = 1.416$)] were lower than the coefficient found in regression without social investing efficacy as mediator. It supports $H_{6b}$ but not for all variables. The impact of social investing efficacy (SIE) is found significant with a t-test coefficient 3.280 and improved adjusted R-square (0.668). The SIE has partial mediation effect on religiosity and full mediation effect on other individual attributes.

### 7. Summary and Conclusion

The findings of the current study can be summarized as under.

**Religiosity**: The results have indicated that religiosity is one of the significant antecedents to individual investor’s noneconomic goals in India. It indicates that the investors do not prefer a company producing and selling products which is considered as ‘sin’ product.

**Environmental Attitude**: Environmental attitude is found significantly related with the social investing efficacies of individuals. Environmental attitude was also found significantly related with non-economic goals. But its effect gets mediated with the SIE.
Collectivism: In the initial discussion, collectivism was identified as an important individual value affecting social investing behavior. But the findings of the result have not supported it and it was found that collectivism has a very low and insignificant relationship with noneconomic goal. The findings are quite robust as expected and need further investigation.

Materialism: Materialism is found negatively related to noneconomic goals of individuals. But in both cases, i.e., without mediation (social investing efficacy) and with mediation, it was insignificantly related to non-economic goals.

Risk Tolerance: Both individual risk propensity and individual risk affinity were found positively related to investors’ noneconomic goals.

Social Investing Efficacy: The social investing efficacy was found the most significant and positively related coefficient affecting the individual socially responsible behavior.

To conclude, it can be stated that the social investing efficacy has a great impact on individual’s decision to decide about the economic goals. It means the individuals believe that their action will espouse corporate to initiate socially responsible behavior as individuals subsume such kind of attempts while taking investing decision. The findings will be useful for fund managers to understand that individual investor decision is just like any other consumer choice process and there are several factors which influence the decision of the individuals’ while setting their noneconomic goals. In such case, the fund managers, specifically in India, must consider that the factors like religiosity, environmental attitude and social investing efficacy have significant impact on investing decision. Regulators have already started discussing about SIE and to identify one more segment of industrial classification in which industries promoting sustainability of environment will be kept in one class and others will be kept in second class. Such initial talks in India are giving indication that there will be paradigm shift in investor awareness as well as perception regarding socially responsible investing and more fund managers will come forward with a strategy of offering social responsible investing funds for individuals.

8. References