

Behavioural Biases in Impact Investing –Empirical Analysis

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Abstract

Impact Investing has gained impetus from both investors and financial institutions owing to its dynamism for global sustainability and the financial landscape. Approaches to investing are evolving to incorporate environmental, social, and governance (ESG) aspects, indicating an emergent need for investments that are in line with individual values and ethical convictions. This study aims to provide empirical evidence for the Monday and January returns puzzle in socially responsible stocks while exploring behavioural biases while taking impacting investing decisions. Historical prices for six impact stocks from different sectors for a period of six years (2018-2023) were analysed to identify the existence of Monday returns and January returns puzzle for all the stocks considered. The standard deviation analysis and covariance analysis of daily returns vs Monday returns alongside average monthly returns vs January returns reveals there is a substantial difference, while ANOVA Test results validate the above results and provide evidence for the puzzle. Primary data was collected from 173 retail investors from Bangalore city, to find that 24.3% are emotional in investing and (43.9%) opine emotions play a moderate role. Investors (56.6%) agreed that brisk market trends affect their emotions. A sense of fulfilment (38.2%), societal concern (35.3%) and higher self-esteem (32.4%) are the emotional drivers for impact investing. The over-confidence tendency about impact investing was expressed by (58.3%) while the mental accounting tendency by (63.8%). Investors tend to be more overconfident about impact investing in contrast to their normal investment abilities, while they also tend to exhibit a high framing effect while assessing their investment skills in general and impact investing skills in particular.

Keywords: *Monday Returns, January Returns, Behavioural Bias, Over-Confidence Bias, Framing Effect*

1.0 Introduction

Impact investing also known as a sustainable or ethical investment or socially responsible investment, is one that takes into account the economic, environmental, and moral implications of its actions. This investment approach aligns an investor's financial goals with their values and ethical convictions. It's a way to put money into enterprises and initiatives that benefit people and the planet. Traditional finance theories that analyse the risk and return of investments are on the premise that the investors are rational. However, there is extant empirical evidence to support the irrational decisions leading to sub-optimal returns to investors. Behavioural finance is a sub-domain of finance in an attempt to expound the bounded

rationality leading to anomalies in investment decisions. Among the various anomalies, the Monday Returns and January Returns puzzle has always been often challenging to explain.

2.0 Literature Review

Socially responsible investments are singular in pursuit of financial and social goals simultaneously, Luc Renneboog et al., (2008). Impact investing has an effect on stock returns, although not via positive alpha returns but rather by lowering the book-to-market ratio Rients Galema et al., (2008). Portfolio returns, book-to-market values, and excess stock returns are only a few of the important financial measures that are examined in regard to their association with several aspects of socially responsible performance in this analysis of American companies. It is always a matter of concern whether being socially responsible in investments going to fetch excess returns or is actually less profitable. According to the systematic review of the financial returns of ethical investments by Lars Hornuf et al., (2023), impact investments do neither outperform nor underperform the market on average.

Renu Jon Wall et al. (2022) compared investment behaviour, attitudes, and demographics of Socially Responsible and conventional investors in India, to reveal that ESG is important for investors and they are willing to accept lower financial returns and compromise on purchase decisions. Multiple factors influence equity stock returns and impact equities are a different lot. Halil Kiyamaz et al. (2019) studied the specific factors influencing socially responsible fund performance to understand whether SRI funds consistently achieve their financial objectives and, if not, to pinpoint the key determinants that contribute to their returns. Interestingly, the global financial crisis triggered several novel schools of thought, one such is the need for non-mainstream economic theories by highlighting the need for social responsibility in capitalist economies as analysed by Julia M. Puaschunder et al. (2017) which explains the reasons why the impact investing cares for better goals apart from financial returns.

Owing to its diverse gradient, Impact investing might differ across the demographic profiles of investors. Thomas C. Berry et al. (2010) explored the demographic profile of Socially Responsible Investors to investigate whether individuals who engage in socially responsible investments (SRIs) exhibit distinctive characteristics and whether this profile significantly diverges from that of a conventional or typical investor and found it to be true. Andrew and Ruixun(2023) proposed a quantitative framework for assessing the financial impact of any form of impact investing using Treynor–Black portfolios to maximize the risk-adjusted returns of impact portfolios. Overall, investment firms often expect a showcasing of the (potential) social impact to be achieved by the investee organization Deike Schlütter (2024). Impact investing and nuances are studied to a limited extent in the existing domain knowledge, at the same time there are hardly a few studies aimed at applying behavioural finance concepts to impact investing, hence, the present study.

2.1 Objectives

The study aims to identify the existence of Monday returns and January Returns puzzle in the impact stocks from various sectors. It also aims to explore the tendency of investors to exhibit behavioural biases while making impacting decisions. An attempt is also made to unveil the likely emotional drivers behind the impact investing decisions.

2.2 Scope and Limitations of the Study

The purpose of the research is to decipher the complex relationships between the profitability of socially responsible investments, investor behaviour, and business results. In addition to contributing to the growing body of impact investing research, this study hopes to be useful to ethically and sustainably minded investors, financial institutions, and enterprises.

It's important to acknowledge that this study has certain limitations viz., The study's ability to offer empirical evidence may be constrained due to the complex interplay of factors influencing Impact investing and investor behaviour and also the study is confined to publicly available data and primary data collected from a limited number of respondents.

3.0 Methodology

Positivists accept solely empirical evidence. Positivist researchers must acquire and evaluate data impartially. To clarify, the researcher acts as an impartial third party to avoid bias in the results. This research yields quantitative and observable results (Park et al., 2020). The study employed a deductive strategy to develop a hypothesis based on the literature and a research strategy to test it. A hypothesis or case example with a causal link or correlation is more likely to be right. The survey approach was used since the study questions aim to acquire quantitative data for analysis. This study collected data from participants using self-administered questionnaires. Questionnaires may quickly and cheaply acquire data from big samples (Kabir, 2016). A cross-sectional study is one in which information is collected from a large number of people at a single point in time and space (Thomas, 2020). This research used quantitative data from the sample to test and support the hypotheses. The research used this strategy since it was easy to obtain data from 129 people.

In the field of research, two distinct categories of time perspectives or series exist, namely cross-sectional and longitudinal. The cross-sectional design is a research method that involves collecting data from a sample of individuals. Data collection in research often involves gathering information from respondents at a single point in time within a specified timeframe, which might range from a single day to many months (Lazazzara, 2014). On the other hand, scholars may have the intention to address their research inquiries via the examination of individuals or occurrences at different points in time inside a certain temporal interval (Ployhart & Vandenberg, 2010).

This research used primary data. The researcher generates and obtains primary data from the original, or "primary," source, such as an interviewee or surveyee (Phoebe N, 2013). Interviews, self-administered surveys, and field observations are typical methods for collecting primary data. This research employed self-administered questionnaires. The research employed a self-administered questionnaire. Self-administered questionnaires are completed by individuals. Respondents complete self-administered surveys. Self-administered surveys allow respondents to be honest. Self-administered surveys remove researcher bias (Julie de Jong, 2016). Google Forms created and analyzed quantitative questionnaire surveys. Internet surveys provide results quickly and two-thirds faster than conventional research approaches. Allowing participants to choose a time lowered survey completion time and research expenses. Real-time findings enable participants to remark immediately, construct graphs for reporting, export data for further research, and discuss outcomes (SmartSurvey, 2019).

One recommended approach to doing research involves using primary data and employing a cross-sectional time span. The poll was carried out in Kuala Lumpur, Malaysia, targeting individuals (aged 18-35) of both genders. The data collected The data was subjected to analysis using the Statistical Package for the Social Sciences (SPSS).

Empirical and descriptive research together form the basis of this work. The goal of this study is to validate the integration of qualitative and quantitative approaches. By using such a thorough approach, the research hopes to provide useful insights for responsible and sustainable investing practices in India's financial environment by clarifying the complicated link between SRI performance and Investor behaviour.

4.0 Results And Discussion

Monday Returns Puzzle –Hypothesis Testing

H0: There is a no significant difference between daily returns and Monday returns.

H1: There is significant difference between daily returns and Monday returns.

Table 1a: Monday Returns Puzzle –Hypothesis Testing

	HDFC	Infosys	Divis Lab	ITC Hotels	ADANI Green
% Diff. in Returns	-7.393%	-0.019%	-0.218%	-0.080%	-0.28%
Covariance	0.005	0.0005	0.000688	0.00036	0.001137
ANOVA p-value	0.9148	0.2615	0.0698	0.28717	0.175794
ANOVA Result	H0 cannot be accepted	H0 cannot be accepted	H0 cannot be accepted	H0 cannot be accepted	H0 cannot be accepted

The percentage difference between daily returns and Monday returns for the study period has been in the opposite direction for all the stocks of the study whereas it is high for the HDFC compared to all other stocks. Covariance was calculated to understand the extent to which they change together, the extremely low values of covariance indicate that the daily returns and Monday returns do not change together. There is a significant difference in the daily returns and Monday returns which is evident from the analysis of variance values for various stocks. For, all the stocks it can be concluded that the statistically significant evidence to conclude that the daily returns and Monday returns are two groups with substantial differences which are not random.

January Returns Puzzle –Hypothesis Testing

H0: There is a no significant difference between monthly returns and January returns.

H1: There is significant difference between monthly returns and January returns.

Table 1b: Monday Returns Puzzle –Hypothesis Testing

Company	HDFC	Infosys	Divis Lab	ITC Hotels	ADANI Green
% Diff. in Returns	-7.175%	-0.072%	3.575%	0.165%	-0.563%
Covariance	0.03178	0.000494	0.00057	0.000326	0.00148
ANOVA p-value	0.9104	0.7282	0.04245	0.18917	0.23178
ANOVA Result	H0 cannot be accepted	H0 cannot be accepted	H0 accepted	H0 cannot be accepted	H0 cannot be accepted

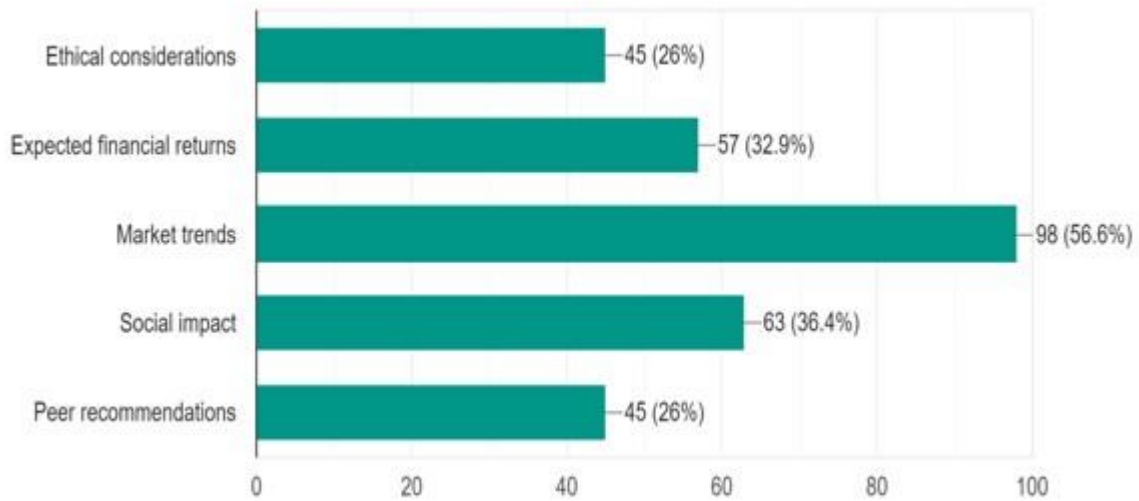
Monthly returns were compared with January returns, to learn that for Divis Lab and ITC Hotels, there is a positive percentage and for the remaining stocks the percentage change is negative. HDFC has shown the highest difference followed by Divis Lab, while Infosys stock's monthly returns and January returns are almost the same. Covariance was calculated to understand the extent to which they change together, the extremely low values of covariance indicate that the monthly returns and January returns do not change together.

There is a significant difference in the monthly returns and January returns which is evident from the analysis of variance values for the stocks under study except for Divis Lab for which the p-value was 0.04245, owing to which the null hypothesis is to be accepted. For, all the stocks except Divis Lab, it can be concluded that the statistically significant evidence to conclude that the monthly returns and January returns are two groups with substantial differences which are not random.

Table 2: Role played by emotions in investment decisions		
Opinion	No. of Respondents	Percentage
significant role	42	24.30%
Moderate Role	76	43.90%
Minimal Role	35	20.20%
No Role	20	11.60%

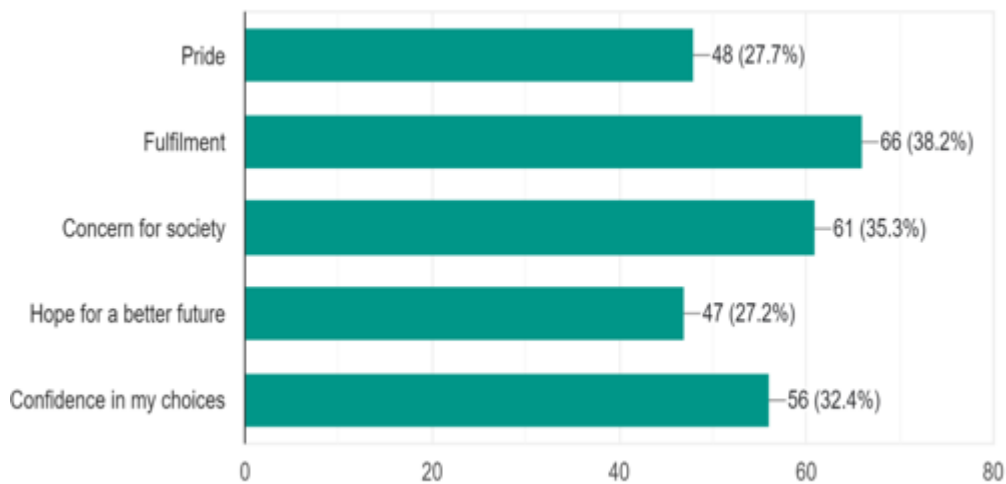
The chi-square value is 227.28 and the table value is 3.841 at 95% confidence interval, investor opinion about the role of emotions in investment decisions doesn't change with gender and the chi-square value for the same for age is 0.1969 and the table value is 9.488 at 95% confidence interval, indicating that opinion doesn't change with age.

Figure 1: Emotional factors most likely to influence investment decisions



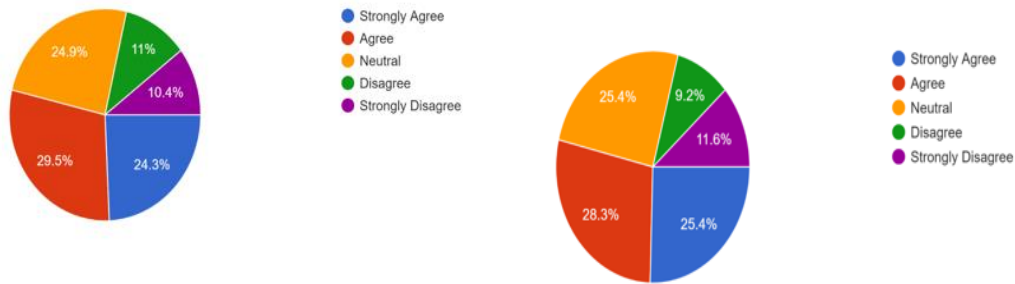
Among the various emotional drivers for impact investing, market trends have been the most significant (56.6%), followed by social impact (36.4%) and expected returns (32.9%), whereas ethical considerations and peer recommendations fall at the bottom.

Figure 2 -Emotions one would associate with impact investing



A sense of fulfilment (38.2%) is the major emotion that the investors associated with impact investing, followed by concern for society (35.3%) and confidence in one's choices (32.4%).

Figure 3: Over-confidence and Mental Accounting about impact investing



Nearly 58.3% of the investors opined that they consider themselves to be more confident about their impact investments and about 63.8% of them opined that they would maintain a separate portfolio for the impact stocks apart from their normal investment portfolio.

Table 3: Responses showing Framing Effect

	Investment Analysis	Impact Investment Analysis
Rating Response	21.3%	31.2%
Question Response	45.1%	50.1%

In the questionnaire, there were two questions related to the ability of investors to conduct investment analysis in general and impact investment analysis in particular. In the first instance, they were asked to rate their abilities and in the second they were asked to opine whether they were better than others. Interestingly there was a significant difference in responses as can be inferred from Table 3 wherein, 21.3% rated themselves seven or more for investment analysis, while 31.2% rated themselves seven or more for impact investment analysis. Similarly, the response was 45.1% opined that they were better than others in investment analysis, while 50.1% felt that they were better than others in impact investing. Thus, clear evidence of the framing effect.

4.0 Conclusion

The average daily returns do not match with average Monday returns and average January returns indicating a clear bias Monday puzzle and January returns puzzle. Hence, investors need to remain vigilant about squaring off the position on Mondays and during January. The standard deviation and variance of the impact stocks are lesser than the standard deviation and variance of the index. This indicates that SRI investment is relatively less risky. The mild covariance of Monday and January returns with index returns indicates that do not change together and change would be in the opposite direction. The investor can hardly use index momentum as an indicator for daily returns on SRI. This result also evidences the existence of the Monday and January return puzzle.

Investors can select “Green bonds” and “Socially Responsible Exchange Traded Funds” for impact investing. The company’s marketing the socially responsible investment instruments need to consider that the current market sentiment and the perceived social impact are

overweighed by the investors while making investment decisions. The investment companies can foster confidence in investors and motivate them towards impact investments by effectively devising strategies that focus on emotional intent drivers, perceptual outlook about impact investments and likely behavioural biases like overconfidence, mental accounting, optimism etc., as evidenced statistically.

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