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Analysis of Active Vs Passive Investment Behavior in Emerging Markets

1. Introduction

Active investment involves frequent buying as well as selling of the securities into the market to earn short term returns. It also focuses on acquiring gains from inefficiencies in the market. Passive investment involves investment in an index over a long term horizon to earn steady and consistent returns over a period (Gârleanu & Pedersen, 2022).

The customary model of investment assumed that the investors and the market always behave rationally and they have all the information available in their hand to make the rational decisions (Lansing et al., 2022). Over a period, it has been proved that this approach does not work in actual practice and the investors move away from rationality during the investment decision-making process. (Johnstone, 2021; Nigam et al., 2018; Sharma et al., 2021). Investors base their investment choices on their personal convictions., make decisions based on incompetency, irrationality, inconsistency when they face uncertain situations (Barros, 2010; D. Kahneman & Tversky, 1982; Olsen, 1998; Stracca, 2004; Thaler, 1999; Westerhoff & Dieci, 2006). It was in the 1990's that the field of

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behavioural finance started making headlines in the newspaper, differentiating itself from the original portfolio theory (Shefrin & Statman, 1994). Behavioural finance has its roots originating from the psychological, finance and sociology (Calzadilla et al., 2021). Behavioural finance tries to interpret psychological the errors made by the human beings while making investment decision-making process (Daniel et al., 1998). Thus, different cognitive biases play a major role as a part of behavioural bias (Jain et al., 2021).

Irrational and sentiment driven behaviour of the individual investors is caused by the psychological errors which are known as behavioural biases (Suresh G, 2021). Majority of the data for the behavioural analysis has been taken from the trading pattern of the individual investors from the stock exchanges or mutual funds (Barber & Odean, 2001; Chen et al., 2007; Faulkner, 2002). Although it is valid secondary data, the primary data collected from the individual investors will always be a good indicator of the individual investor behaviour (Lin, 2011).

In the case of developed markets, passive investments have already taken over active investments (Gittelsohn, 2019) and the passive investment pattern is slowly emerging into emerging markets. India is a country where hardly 4% people investors invest into the market via equity, mutual funds or ETF route (Akhtar & Das, 2019). Because of the decline in interest rates, there has been a significant increase in investment in Indian financial markets during the past several years in search of greater returns. People are interested in investing, but they rarely do their homework, and there is a lot of financial illiteracy in India, which exacerbates these behavioural biases (Baker et al., 2019).

2. Literature Review

Emerging markets ETFs as financial products, face various obstacles such as lack of liquidity (Atanasova & Weisskopf, 2020), higher tracking errors (Joshi & Dash, 2022), availability of limited product types (Saha et al., 2020), difficulty in price discovery (Atilgan et al., 2022), limited market makers (Jaiswal & Singh, 2022). Despite these difficulties, in the recent years, there has been a lot of interest by retail and institutional investors in ETFs. Therefore, it was important to understand if investors have specific behavioral preferences associated with investment in ETFs vs MF. There have been hardly any studies comparing the behaviour of the individual investors during the active and passive investment decisions. By utilising primary data, this research attempts to address this gap by gaining an understanding of how individual investors' behavioural biases during active and passive investments affect total investment decisions.

Traditional portfolio theory believed that the investor behavior was always rational, but the further studies in behavioral finance showed that while making real time investment decisions, the investors always have some behavioral biases based on their perception and heuristics which indicates tendency to adopt to mental shortcuts during investment decisions (Barber & Odean, 2001). Emotional biases and cognitive biases are two potential sources of behavioral biases that have been identified in the existing literature (Sahi et al., 2013). Emotional biases arise because of irrational thinking resulted from personal instincts or emotive perceptions, whereas cognitive biases are associated with the memory errors, data errors or statistical errors (Pompian, 2012).

2.1. Studies associated with cognitive biases

2.1.1. Conservation Bias. Investors do not update their future views or existing opinions about an instrument after receiving new information about it, which is known as conservation bias (Barberis et al., 1998). People may act on their previous opinions when investing, and the outcome may be negative (Luo, 2012). The best way to avoid falling into this trap is to use analytical methods when making investment decisions (Hoppe & Kusterer, 2011).

2.1.2. Confirmation Bias. Investors have a tendency to pay attention to ideas that echo their thought process or opinion, while ignoring other ideas that may be appropriate for their thought process. This is referred to as confirmation bias. This leads to overconfidence in investments, which can have a negative impact on the portfolio (Costa et al., 2017; Daniel et al., 1998; Jonas et al., 2001).

2.1.3. Representativeness Bias. In a practice known as representativeness bias, investors categorize new events that are happening around them precisely compared to historical occurrences that have already occurred (Daniel et al., 1998; Busenitz, 1999). There can be a desire to connect current happenings in accordance with historical event records (Chen et al., 2007; Ricciardi, V., & Simon, 2000). This bias is more prevalent among people who have little or no financial awareness (Grether, 1980; Daniel Kahneman & Frederick, 2012).

2.1.4. Anchoring Bias. Unjustified investments may originate from anchoring bias, which happens when investors base their decisions excessively on the initial piece of information (Carlson, 1990; Ricciardi, V., & Simon, 2000; Wright

& Anderson, 1989). These investors frequently attempt to correct their initial investment, a practice known as adjustment bias, after understanding their errors later on, but the changes are rarely adequate to repair the damage (Piattelli-Palmarini & Botsford, 1997; Tversky & Kahneman, 1974).

2.1.5. Availability Bias. People prefer to use the first example that comes to mind when assessing the likelihood of an event as the deciding factor because of a mental shortcut known as availability bias. As a result, easy-to-recall consequences are perceived as more likely to occur than difficult-to-recall consequences (Javed et al., 2017; Tversky & Kahneman, 1974). This bias presents a barrier in the investment process because it causes investors to invest in the stocks of businesses that increase their visibility through advertising rather than in better businesses after conducting their own research (Barber & Odean, 2000; Harris & Raviv, 2005; Waweru et al., 2008; Zacharakis & Shepherd, 2001).

2.1.6. Self-attribution Bias. Self-attribution bias refers to the inclination of investors to attribute investment success in their portfolio to their own skill, while external variables are to blame for investment failures (Hoffmann & Post, 2014). Overconfidence bias can be developed over a period because of self-attribution bias (Barber & Odean, 2000; Billett & Qian, 2008; Chevalier & Ellison, 1999; Daniel et al., 1998; Daniel & Titman, 1999; Gervais & Odean, 2001; Lalwani & Duval, 2000; Mishra & Metilda, 2015; Zeckhauser et al., 1991). Personal market volatility, aggressive trading and excessive risk taking are some of the visible characteristics associated with this bias (Baginski et al., 2000; Gervais & Odean, 2001)

2.1.7. Ambiguity Aversion Bias. Investors typically steer clear of securities with uncertain returns, which is known as the ambiguity aversion bias (Ellsberg, 1961). Investors anticipate considerably bigger returns even if they invest in such scenarios because the level of risk is higher owing to the uncertainty (Maenhout, 2004). People dislike uncertainty of returns on a larger scale than taking risks during the investment process (Knight, 2012).

2.1.8. Herding Bias. Investors' propensity to mimic the majority of other investors so that, in the event of losses, the remorse is minimized with the notion that everyone is losing (Cipriani & Guarino, 2008; Messis & Zapranis, 2014; Patel et al., 1991). Therefore, people often rely on their family, friends, and coworkers to make investing decisions rather than conducting their own rigorous research

(Chang et al., 2000; Christie & Huang, 1995; Lakonishok et al., 1992; Patel et al., 1991).

2.1.9. Mental Accounting Bias. Investors have a propensity to compartmentalize their gains from individual investments rather than having a comprehensive perspective of all of their returns and is known as mental accounting bias (Thaler, 2008). In this instance, the performance of each asset return is measured independently (Agnew et al., 2003; Tversky & Kahneman, 1974).

2.2. Studies associated with emotional biases

2.2.1. Loss Aversion Bias. It refers to the propensity of investors, wherein they try to avoid loss at all costs while expecting equivalent gains during the investment process (Benartzi & Thaler, 1995; Tversky & Kahneman, 2019). People have a strong aversion to accepting losses, so they frequently maintain the status quo in their investments and avoid selling securities at a loss (Barberis & Huang, 2001; Daniel Kahneman et al., 2019).

2.2.2. Overconfidence Bias. It refers to the propensity among investors to believe they can simply and regularly create returns that are superior to the benchmark (Acker & Duck, 2008; Barber & Odean, 2000; Benartzi & Thaler, 1995; Brenner et al., 1996; Chuang & Lee, 2006). Overconfident investors frequently engage in active market trading, which can lead to short-term momentum, an increase in number of transactions, and a lack of portfolio diversification (Barber & Odean, 2001; Daniel et al., 1998; De Bondt & Thaler, 1995; Fisher & Statman, 2000; Goetzmann & Kumar, 2008; Scott et al., 2003; Statman et al., 2006).

2.2.3. Self-control Bias. Self-control bias is the tendency of investors to seek immediate gratification, which leads them to spend more money now rather than planning for future investments to yield multiple returns (Laibson et al., 1998; Thaler & Benartzi, 2004). As a part of self-control bias, people frequently place short-term desires above long-term investment objectives (Watson & Milfont, 2017).

2.2.4. Status Quo Bias. Status quo bias occurs when investors avoid change and attempt to keep their portfolios as they are, despite the fact that a prior investment was disastrous (Burmeister & Schade, 2007; Daniel Kahneman et al., 2019). This pattern has also been observed in pension funds and mutual funds,

where the decision-making fund managers avoid the churning of portfolios (Agnew et al., 2003; Camerer & Kunreuther, 1989; Samuelson & Zeckhauser, 1988; Zeckhauser et al., 1991).

2.2.5. Regret Aversion Bias. The tendency for investors to behave irrationally in an effort to lessen the regret brought on by previous investing blunders is known as the regret aversion bias (Hirshleifer, 2001; Larrick & Boles, 1995; Odean, 1998; Shiller, 2003; Waweru et al., 2008). People frequently feel twice as much pain when they lose money on an investment as when they obtain comparable returns because of this prejudice (Daniel Kahneman & Tversky, 1979; Shiller, 2000).

Accoring to (Statman, 2019), the first generation of investors in 1980's focused on people's errors, mistakes and shortcuts while they were making investments, whereas recent second generation of investors in behavioural finance differentitates people's wants from errors and thereby trying to presesnt a picture of normal investor rather than normal investor.

Although behavioral finance and related investment biases have received a great deal of attention, most of these studies focus on secondary data (Barber & Odean, 2001; Bowman & Buchanan, 1995; Chen et al., 2007; Faulkner, 2002; Glaser & Weber, 2007; Tuyon & Ahmad, 2016). There have been few Indian studies related to behavioral biases (Baker et al., 2019; Prosad et al., 2015; Ritika & Kishor, 2022), but they do not focus on active and passive investment comparison.

The study's purpose is to determine how much different behavioural biases influence individual individuals' investing decisions in terms of products MF and ETF.The study advances knowledge of the various forms that behavioural biases may take as well as their potential influence on investing choices (Weixiang et al., 2022). Since each person creates their own set of investing principles or copies the techniques of other investors, each investor's method of making investment decisions is unique (Din et al., 2021). Therefore, it was important to understand how the investor behaviour of the respondents differ during active and passive investing.Limited studies have been done in the past on behavioral biases by using the primary data. This research article uses primary data to address the above existing gaps and tries to contribute to the field of behavioral finance literature.

3. Methodology

This research was mainly based on a comparitive analysis of two different financial products MF and ETF, in terms of individual investor behaviour.

During the data collection, it was important to distinguish between the investors investing in ETF and MF, as investors were investing in either or both the products. Additionally, there were some recent campaigns run by the government to promote the MF in collaboration with exchanges and regulators and authors wanted to make sure that there was no undue impact of the campaign on the overall perception of the investors while answering the questionnaire.

Data was collected from western Indian cities of Pune and Mumbai, from 496 individual investors out of which 248 investors were investing in Mutual Funds (MFs) and 248 were investing in Exchange-Traded Funds (ETFs). Some of these ETF investors were earlier investing in MFs or still investing in MFs, so there was some chance of overlapping of the opinions. To avoid this confusion, separate questionnaires pertaining to specific ETF and MF questions were given to individuals to avoid any assumption biases.

Data was collected via a google form by using a questionnaire. Apart from the standard demographic questions, users were asked 16 specific questions related to their investment behavior in MF and ETFs and this data was processed further for analysis. From 496 observations, data was cleaned up and outliers were removed. After this process, authors had a total of 480 records comprising 240 records each for MF and ETF investors. This data was used for further statistical analysis.

Although ETFs were available in India since 2003, there was hardly any liquidity in Indian equity ETFs, till 2015, when the Indian government stated promoting ETFs by using different policy measures. Therefore, a specific question was asked to ETF investors if they were prior MF investors to understand their overall association with the markets. During the data analysis, it was observed that most of the ETF investors had previous experience of investing in MFs, whereas many of the only MF investors were investing in the market for the first time by using MF as an investment tool.

As a part of comparative investment bias analysis between MF and ETF, authors have focused on 5 important biases herding, market, prospect, overconfidence and availability bias.

Research questions

Do MF & ETF investors differ in herding, market, prospect, overconfidence and availability bias type behavioral biases?

Null Hypothesis

H0 = MF & ETF investors do not differ in herding, market, prospect, overconfidence and availability bias type behavioral bias

Alternative Hypothesis

H1 = MF & ETF investors differ in herding, market, prospect, overconfidence and availability bias type behavioral bias

Level of significance $\alpha = 0.05$

As a part of table 1 described below, various independent and dependent variables are defined with the dependent variable construct code. These codes have been used in all further analysis during the research.

Statistical Test

Multivariate analysis of variance (MANOVA) test has been used in this case for comparison between MF and ETF data set. It is a useful test when the dependent variables are co-related and in this case MANOVA can get in depth statistical analysis as compared to ANOVA. Some alternative methods of analysis, such as T test, SEM (Structural Equation Modeling) were also available. After considering advantages and disadvantages of each method, authors went ahead with analysis using MANOVA.

Table 1. Measuring and Scaling Technique

Independent Variable Measurement type	Dependent Variable	Dependent Variable Construct	Dependent Variable Construct Code
MF/ETF	Herding	I invest in MF/ETFs while keeping up with other investors.	H1
		When I observe that others are investing in MF/ETF Schemes with high asset under management (AUM), I decide to do the same.	H2
		When others buy or sell MF/ETF units, I usually do the same.	H3
		When I notice people adjusting their investment choices and behaviors, I respond right away.	H4
MF/ETF	Market	I typically look at the MF/ETF scheme's past performances before investing.	M1
		Before investing in MF/ETF, I usually make an effort to gather the newest information and overall market sentiment.	M2
		Every day, I check the NAVs of the MF/ETF schemes where I have investments.	M3

MF/ETF	Prospect	I am becoming more cautious given my prior MF/ETF investing losses.	P1
		I never sell MF/ETF schemes whose NAV has decreased since I bought them.	P2
		I do not compare the returns from my investments in MF/ETFs to those from other asset classes..	P3
MF/ETF	Overconfi-dence	By investing in MF/ETF, I can easily outperform Nifty benchmark returns.	O1
		I am skilled at timing the market and invest in MF/ETFs at the right moment.	O2
		I can forecast whether certain MF/ETF schemes will generate negative or positive returns.	O3
MF/ETF	Availability Bias	I exclusively invest in MF/ETF schemes linked to major fund houses.	A1
		When a conventional DMAT account is available, I never utilize a discount broker's DMAT account to store MF/ETF units.	A2
		I often make investments in MF/ETF schemes run by particular fund managers.	A3

Source: created by authors

Herding is the first latent construct with four indicators as shown in table 2 below. Other latent constructs include market, prospect, overconfidence, anchoring and availability bias with three indicators each shown in table 2.

Table 2. Descriptive Statistics

Behavior-al Bias	Dependent Variable Construct Code latent indicators	Group	Mean	Std. Deviation	N	F	Sig.
Herding	H1	ETF	2.2	0.997	240	348.478	0..000 (p<0.05)
		MF	3.95	1.056	240		
		Total	3.07	1.349	480		
	H2	ETF	2.11	0.975	240	444.632	0..000 (p<0.05)
		MF	4.03	1.02	240		
		Total	3.07	1.385	480		
	H3	ETF	2.27	1.065	240	318.588	0..000 (p<0.05)
		MF	4	1.063	240		
		Total	3.13	1.372	480		
	H4	ETF	2.1	0.98	240	349.921	0..000 (p<0.05)
		MF	3.9	1.022	240		
		Total	3	1.346	480		
Market	M1	ETF	2.09	1.029	240	651.938	0..000 (p<0.05)
		MF	4.23	0.793	240		
		Total	3.16	1.411	480		
	M2	ETF	2.12	1.301	240	430.325	0..000 (p<0.05)
		MF	4.19	0.841	240		
		Total	3.15	1.509	480		
	M3	ETF	2.11	1.021	240	718.23	0..000 (p<0.05)
		MF	4.26	0.709	240		
		Total	3.18	1.389	480		

Prospect	P1	ETF	1.98	1.18	240	482.662	0..000 (p<0.05)
		MF	4.11	0.933	240		
		Total	3.05	1.506	480		
	P2	ETF	1.79	1.089	240	431.765	0..000 (p<0.05)
		MF	3.89	1.12	240		
		Total	2.84	1.523	480		
	P3	ETF	1.95	1.149	240	414.653	0..000 (p<0.05)
		MF	3.98	1.027	240		
		Total	2.96	1.487	480		
Overcon-fidence	O1	ETF	2.12	1.018	240	322.662	0..000 (p<0.05)
		MF	3.88	1.129	240		
		Total	3	1.39	480		
	O2	ETF	1.83	1.146	240	561.844	0..000 (p<0.05)
		MF	4.1	0.947	240		
		Total	2.97	1.549	480		
	O3	ETF	2.16	1.136	240	344.638	0..000 (p<0.05)
		MF	4.01	1.045	240		
		Total	3.09	1.431	480		
Availabil-ity Bias	A1	ETF	2	0.838	240	573.483	0..000 (p<0.05)
		MF	4.08	1.048	240		
		Total	3.04	1.406	480		
	A2	ETF	1.66	0.959	240	916.442	0..000 (p<0.05)
		MF	4.15	0.84	240		
		Total	2.9	1.538	480		
	A3	ETF	1.78	1.039	240	648.508	0..000 (p<0.05)
		MF	4.01	0.88	240		
		Total	2.89	1.476	480		

Source: SPSS output

A two groups comparison (ETF and MF) within MANOVA was conducted on five dependent variables hedging, market, prospect, anchoring and availability bias whereas MF/ETF itself is an independent variable.According to the table above, the mean values for all 16 variable constructs for five different behavioral biases differ between ETFs and MFs, however, a test of significance is necessary for generalization.

Test of Significance

Table 3. Bartlett's Test of Sphericity

Bartlett's Test of Sphericity				
Behavioral Bias	Likelihood Ratio	Approx. Chi-Square	df	Sig.
Herding	0.000	629.472	6	0.000
Market	0.000	397.271	3	0.000
Prospect	0.000	332.678	3	0.000
Overconfidence	0.000	523.184	3	0.000
Availability Bias	0.000	638.193	3	0.000

Source: SPSS output

From the above table, it can be concluded that the Bartlett's test for sphericity is significant ($P < 0.001$) for all different behavioral biases suggesting sufficient co-relation between the variables to proceed with analysis.

Test for Data homogeneity

Table 4. Box's Test of Equality of Covariance Matrices

Behavioral Biases	Box's M	F	df1	df2	Sig.
Herding	18.755	1.859	10	1092353.785	0.046
Market	103.440	17.123	6	1655431.245	0.000
Prospect	28.244	4.675	6	1655431.245	0.000

Overconfidence	85.108	14.088	6	1655431.245	0.000
Availability Bias	39.418	6.525	6	1655431.245	0.000

Source: SPSS output

Box's Test of Equality of Covariance Matrices was insignificant (P > 0.001) for behavioral bias herding and hence the assumption of homogeneity of variance and co-variance was supported in this case. Therefore, in the case of Herding, Pillai's trace was used as a part of multivariate test analysis, whereas in other cases, Wilk's Lambda was used.

Table 5. Multivariate Tests

Multivariate Tests						
Behavioral Bias	**Effect**	**Value**	**F**	**Hypothesis df**	**Error df**	**Sig**
Herding	Pillai's Trace	0.686	259.791[b]	4	475	0..000 (p<0.05)
Market	Wilks' Lambda	0.203	623.958[b]	3	476	0..000 (p<0.05)
Prospect	Wilks' Lambda	0.264	443.483[b]	3	476	0..000 (p<0.05)
Overconfidence	Wilks' Lambda	0.378	261.267[b]	3	476	0..000 (p<0.05)
Availability Bias	Wilks' Lambda	0.230	531.523[b]	3	476	0..000 (p<0.05)

Source: SPSS output

The Wilk's Lambda is significant (P <0.005) in case of market, prospect and overconfidence and availability bias and hence the null hypothesis was rejected. It is concluded that MFs and ETFs differ in market, prospect and overconfidence. Box's test is insignificant for herding. Hence in this case, for multivariate analysis, Pillai's Trace was used. Pillai's Trace was significant (P <0.005) for herding bias and hence the null hypothesis is rejected. It is concluded that MFs and ETFs differ in herding.

Since Wilk's Lambda is significant, univariate Anova is conducted on each variable separately.

As the impact of investment type (MF/ETF) is examined on each dependent variable, Bonferroni correction alpha is used to avoid alpha inflation.

Hence the new value of alpha is 0.005 / 4 = 0.0125

Since P value from table 2 for herding is less than 0.0125, it is concluded that investors in MF and ETF differ in terms of herding.

Thus it can be evident that investors in MFs and ETFs differ in terms of their investment behavior in all considered factors viz. herding, market, prospect, overconfidence and availability bias.

4. Results

4.1. Herding

From the table 2, the MF investors show much higher behavioral bias (higher Mean value of H1 = 3.95, H2 = 4.03, H3 = 4, H4 =3.9) in terms of herding mentality, than the ETF investors (Mean value of H1 = 2.2, H2 = 2.11, H3 = 2.27, H4 = 2.1). This indicates higher expectation of Herding from MF investors as compared to ETF investors.

Above results indicate that MF investors follow other investors decisions while choosing the asset management company associated with MF, choosing the scheme, selling the units of the scheme and they have overall influence in terms of other's reaction in individual decision making.

One of the reasons for the same can be, the amount of new MF investors in the Indian markets. Out of the total population of India, approximately 4% Indians invest in financial markets and many have just begun their investment journey and not spent enough time in the markets, whereas Indian ETF investors, might have gone through such situations in their earlier investment cycles and they could have made these mistakes in the past, but now they are showing matured behavior after gaining experience in investment decisions. The exact reasoning for such behavior needs to be confirmed by using qualitative studies.

4.2. Market

Table 2 shows that Mutual fund investors have higher mean values (M1 = 4.23, M2 = 4.19, M3 = 4.26) as compared to ETF investors mean values (M1 = 2.09, M2 = 2.12, M3 = 2.11). This indicates that MF investors have higher Market bias as compared to ETF investors.

If we consider detailed market information as one of the parameters for investments, it was seen that MF investors were more keen to learn about the historical trends of the mutual fund scheme in which they are investing, general market information and sentiment and regular NAV changes as compared to ETF investors which can be evident from the mean value numbers from table 2. Reason for the same can be the volatility and associated fear associated with the direct equity MF schemes. In case of ETFs, the prices move according to index movement and hence historical performance of the ETF scheme may not matter much and ETF NAV prices move directly as per index movements. In short, MF investors show higher behavioral bias in case of Market information parameter, as compared to ETF investors.

4.3. Prospect

If we refer to table 2, it is evident that Mutual fund investors show higher mean values (P1 = 4.11, P2 = 3.89, P3 = 3.98) as compared to ETF investors (P1 = 1.98, P2 = 1.79, P3 = 1.95). Thus, it has been evident from the mean values, that MF investors have been more risk averse as compared to ETF investors.

One of the reasons for the same can be MFs are volatile and correct higher as compared to general markets in case of downtrends whereas ETFs NAVs normally match the market corrections. Another prospect behavior related to non-acceptance of incorrect investment or justification of the investment behavior is observed much more through mean values in case of MF investors as compared to ETF investors. In both category of investors, the compartmentalization effect treating returns from each investments separately as compared to aggregate returns from all investments is observed, however the tendency is much higher in case of MF investors as compared to ETF investors.

4.4. Overconfidence

Mean values from table 2 suggest that MF investors have much higher mean values (O1 = 3.88, O2 = 4.1, O3 = 4.01) as compared to ETF investors (O1 = 2.12, O2 = 1.83, O3 = 2.16). This shows that the MF investors are much more overconfident to outperform benchmark returns, timing the market tendencies, self judgement in terms of returns from the market as compared to ETF investors. ETFs normally follow benchmark returns and hence defeating the benchmark returns may not apply directly in case of ETFs, but in case of timing the markets and self

judgements about the returns from markets, ETF investors show much matured behavior.

4.5. Availability Bias

Table 2 shows that the MF investors have much higher mean values (A1 = 4.08, A2 = 4.15, A3 = 4.01) as compared to ETF investors (A1 = 2.0, A2 = 1.66, A3 = 1.78), indicating that when choice is available, MF investors prefer MF schemes from proven asset management companies as compared to ETF investors. One of the reasons for the same could be, better historical performance of the old asset management companies with high assets under management and renowned fund managers provide mental comfort and mental assurance regarding returns from such investments. It is also seen that discount brokers DMAT accounts are preferred for short-term investments and trading by MF investors. For long-term investments they prefer regular DMAT accounts. Such bias is less in case of ETF investors, because the returns from ETFs mostly depend on the performance of the benchmark index rather than AUM or fund manager name.

5. Discussion

From the results, the behavioral bias tendency is visible while investing in MF and ETFs. Historical literature data confirms behavioral biases in developed markets (Bailey et al., 2011; Cashman et al., 2014; Gu & Yoo, 2021) as well as emerging markets (Jiang et al., 2020; Raut, 2020). The similar trend has been spotted in case of ETF behavioral biases (Lee et al., 2021; Shanmuganathan, 2020). These studies vouch the findings of MF and ETF as an individual product. Some studies point out to behavioral pattern of the investors while migrating from risky and volatile instruments like stocks to ETFs (Meier & Maier, 2022). Thus, from an individual product perspective, the findings of the study are in line with the past literature.

The research also points to important fact the intensity of higher behavioral biases in mutual fund investors in the form of herding, market, prospect, overconfidence and availability is much higher as compared to the mutual funds. The likely reasons for such behavior might depend upon two important factors viz. time spent in the market and financial literacy. Both play an important role. During the data analysis, it was observed that most of the MF investors are relatively new players in the financial markets and they have not gone through the market turmoil cycles in the past, and this may be the reason

for their herding and overconfidence behavior. It was also observed that most of the ETF investors were MF or stock investors earlier. Having spent sufficient time in the market and after understanding various products, ETF investors knew the details regarding the market and had adequate financial literacy while choosing their investment product. This article also compares investor behavior of MF and ETFs investors, which is first such attempt in the context of emerging markets, where currently MF have huge stronghold and ETFs are emerging as hot favorite investment products.

Thus, it is important to note that financial literacy, understanding of the product, time spent in the investments are very important factors and may help in overall reduction in the behavioral bias, while investing the financial markets.

6. Implications

From a theoretical perspective, this research gives an opportunity to explore various comparative biases in terms of active and passive investments which were unexplored till date.

In practice, financial advisors can utilize these findings to advise their customers on how to maximize the returns on their investments. It is also necessary to remove these biases from investors' minds over time, and many relevant strategies such as financial education and investor counselling can be used. Investors may not be consciously establishing these prejudices while investing, but until they are informed, the biases will remain unaddressed. The findings can be utilized to raise awareness about these biases among ordinary investors.

7. Conclusion

The authors of this article attempt to investigate how people respond when making active and passive investments. According to the study's findings, individual investors exhibit significant bias in their overall investment decisions. The degree of bias is determined by financial literacy and experience in the market.

The findings show that investors desire to take shortcuts, avoid the problems and discomfort of the investment process, as evidenced by the herding phenomena in direct active investments. The trend can be seen in passive investments as well, but the percentage is significantly lower because passive investments follow the returns from benchmark indices.

Active investors exhibit characteristics such as a tendency to monitor market news on a regular basis, as well as a willingness to examine past patterns and NAVs of the MF schemes in which they have invested. Passive ETF investors show much less evidence of such characteristics because ETF returns are directly proportional to benchmark returns.

Active investment investors (MF) are more risk averse, as there is a higher chance of loss in case of active investments. They believe in the concept of averaging out by buying on lower prices and wait for selling till the time their original price returns before selling the MF units. This shows the tendency that they are not ready to bear the loss. By doing this, they also lose the other returns which would have been available through time value of money. They also show a much higher compartmentalization effect as compared to passive ETF investors.

Active investment investors (MF) have shown a much higher tendency of overconfidence about returns, timing the markets, and daily tracking of investments as compared to passive investors. One of the reasons for the same could be, that there is an expectation and possibility of higher returns in case of active investments as compared to passive investments.

When the choices are available, active investors show higher availability bias as compared to the passive investors in anticipation on the higher returns on their investments.

Thus it can be evident that in emerging markets, the active investors are more susceptible in terms of volatility in returns as compared to passive investors, because of higher behavioral biases shown by active investors.

8. Limitations and Future Research

This study was conducted on a small sample population in western India. More large-scale population studies in different emerging markets are needed to confirm the viability of this study. More case studies or qualitative research on the topic can be done to validate the findings of this quantitative study.

The above research was primarily concerned with the behavioral biases of investors related with active and passive investments in emerging markets. It has been noticed that ETF investors who have spent substantial time in the markets exhibit fewer behavioral biases than novice MF participants. Similar studies can be conducted for other asset classes in different markets to examine investor behavior and biases.

One of the intriguing findings of the above research is that people make fewer investment mistakes as they gain expertise. Machines monitor and learn from

human behavior and follow patterns in the trend of machine learning, artificial intelligence, and algorithmic trades. It would be interesting to examine the behavior of computers with similar data patterns and see if they truly improve on human errors over time.

Abstract

Responses from 480 Indian respondents, 240 each investing in MFs and ETFs were studied to assess individual investors behavioral biases with the help of factors of herding, market, prospect, overconfidence and availability bias by using one way MANOVA approach. Results show that the MF investors show statistically significant behavioral biases as compared to ETF investors in emerging markets. As the contributions from capital markets of emerging economies continue to rise with larger market capitalizations, passive investments are likely to play a major role in overall investments. With this background, it's important to understand the emerging market investors perception about active and passive investments, which is addressed in this article. Behavioral biases have received little attention in the developing markets and results of this paper have practical implications for policymakers in understanding the dynamic behavior of the active and passive investors and educate the investors for proper investment decisions.

Keywords: *Passive investments, Active investments, Exchange Traded Funds, Mutual Funds, MANOVA, Investor behavior, Financial literacy.*

JEL Classification: G11, G14, G41.

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