

Risk-Return Comparison of Actively Managed Mutual Funds vs. Passive ETFs in India

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Abstract

The paper will be a comparison of risk-return performance of active-managed mutual funds and passive exchange-traded funds (ETFs) in India based on the effect they have on their investing strategies between 2022 and 2025. The study employs the use of experimental methodology using the analysis of the secondary data and point of interest is the Net Asset Values (NAVs) of the chosen funds of different types and nature including equity, hybrid-equity funds, and hybrid-debt funds. This was in order to establish whether differences in returns are not type of investment dependent as well as to establish whether active management is effective in generating risk-adjusted returns compared to passive management.

To determine the performance, we measured performance in terms of such conventional statistics analysis tools as average return, standard deviation, correlation ratio, beta ratio, Sharpe ratio, and Treynor ratio. These signs helped us to identify both the total and systemic risk and the degree to which the investors are accepting to bear the risk. It stated that the hybrid-equity funds always were at a better risk-adjusted performance, i.e., the balance between risk and higher returns. The ETFs based on equity did well and gave the investors good access to the market although they were more susceptible to changes in the market. The money that was channeled into debt was more stable and was more applicable to the conservative investors even though they had less returns.

The difference between the domains was analyzed by using Analysis of Variance (ANOVA) to establish whether it was significant or not. The results showed that the investment sphere had a strong impact on the fund performance, and the hybrid-equity schemes are superior to others. This conclusion is representative of the significance of the asset allocation and diversification to reduce the risk and maximize profits simultaneously.

The report leads to the increasing body of knowledge on mutual funds and ETFs in the emerging markets by illustrating the importance of passive investment vehicles in the new financial landscape in India. It underlines the fact that risk level of the investors, legal environment and integration of technology will be significant factors which will determine how individuals will invest in future. In general, the research unveils that hybrid solutions and passive tools may be of great importance to improve portfolio management as well as make financial inclusion in India more meaningful.

Keywords

Active-managed mutual funds, Asset allocation, Financial inclusion, Hybrid-debt funds, Hybrid-equity funds, Net Asset Value, Passive ETFs, Risk-adjusted returns, Statistical analysis.

INTRODUCTION

Financial services business is a developing large-scale venture in India and other parts of the world. The globalization process introduced the people of other countries into the domestic market and this made the industry bigger. The financial markets became a single place hence people had the freedom of movement. Movement of funds across the borders as the increasing number of investors demand new financial products that would provide them with the most lucrative offer with the minimum level of risk. The financial services industry became competitive due to the growing need of new financial solutions by both the borrowers and investors. Capital markets in India have developed significantly ever since the government of India and the Reserve Bank of India had started the Unit Trust of India in 1963. This was the start of the mutual fund schemes in India. In 1978, the RBI had lost control over UTI. UTI had all its functions shifted to the Industrial Development Bank of India (IDBI). It had about two million investors towards the end of

the year in 1988. The protagonists between 1988 and 1993 were LIC, GIC and SBI among other state-owned banks. The private sector banks followed afterwards. The business has undergone several mergers and acquisitions and the influx of foreign companies that are penetrating the domestic markets is ever-growing.

The ETF is a pool of different securities, which are traded in a stock exchange in real time just as with a single stock. You can constantly buy or sell ETF at any time of the trading day and not by accident, as would be the case with any other stock. This is not as compared to the mutual funds in the traditional form used to be open-ended. An ETF resembles an index fund in that it can either invest in the whole securities of an index or a sample of securities. The initial exchange-traded funds had been launched in the US in 1993. The interesting fact about the ETFs is that you are able to trade in securities in great quantities in real time as you can do with a single security. The ETFs are different depending on the day trading individuals who sell them. An ETF is not calculated on a daily basis as net asset value (NAV) of a mutual fund because it is traded as a stock. Being an ETF

holder, you can sell short, borrow on margin and can purchase few as a single share. This can be referred to as index fund. The other strength of ETFs is that they carry low expense ratios as compared to most mutual funds. You will also need to remit your commission, in the form of the same dollar amount, in purchase and sell ETFs as you would with any other commission.

Various Schemes of Mutual Fund

The schemes which are offered by mutual funds could be classified into different categories, based on the place where they are based, the duration they are expected to remain, the main target which they set out to accomplish, the financial instrument they mostly employ, etc.

- Open Ended Fund: The stocks in this fund are bought and sold daily or 24 hours daily at the price at which the fund is valued.
- Closed ended funds: these funds have a predetermined term of existence. They are not redeemed but stand in their own right until they are redeemed or upon a date set at issue.
- Fund of Funds (FOF): This fund offers two levels of diversification. When the mutual funds invest in the different securities, this is known as the former diversification, whereas when FOF invests in the different mutual funds, this is known as the latter diversification.
- Exchange-Traded Funds (ETFs): ETFs are unit trusts and generally are similar to index mutual funds, except that they are traded like stocks. They are a group of stocks that are traded in an exchange.

About Risk and Return

Risk and the return on investment interact in a way that is the only way to make smart investing decisions.

Risk: Risk is a lack of confidence with regard to the amount of money an investment will earn. It includes the risk of losing some or all of the money invested. There are many types of danger, and their variations are:

Market risk represents the risk of the whole market dropping and will have a negative impact on every investment.

- Company-specific risk: It refers to those involving risks that are specific to a certain business, like bad decisions made by management, or competition.
- Interest rate risk: It is the risk that changes in interest rates will impact on the value of investments, especially of fixed-income investment.
- Inflation risk: This risk occurs when there is a likelihood of a decrease in the money you are making out of your investments due to inflation.
- Liquidity risk: the risk of an investor not being able to sell an investment at the right time, without affecting its price, in a material way.
- Return: The percentage of initial investment revealed the amount of money earned or lost over some period

of time. These different kinds of returns are:

- The amount of money you earn when you are able to sell the investment that you have bought at a higher price than you paid is called the capital gains.
- Dividend income: This refers to the amount paid to the stock holders in a company and is usually in the form of a dividend.
- Interest revenue: Money received on investments that yield interests like savings account or bonds.

Return can be calculated in different ways such as:

- Absolute return: This is the gain or loss in an investment.
- Annualized return: The average annual returns.
- Total return: the amount of money an investment gains or loses, not including the capital gains.
- The relationship between risk and returns: the greater the risk, the greater the returns will tend to be. This is what is known as risk-return trade-off.
- In order to decide the right combination of risk and return, investors need to identify the degree of risk they are willing to take and this is the level of variance in returns that are made on an investment.
- Among the most popular ways of reducing risks and possibly deriving the maximum out of your investments is to diversify or to invest in a variety of asset classifications and securities.

Importance of Asset Allocation

When making investment decisions, investors should put into consideration their financial goals, the duration of their financial investment and risk willing to assume.

Asset allocation is a group of investment strategies that one may use in diversifying his or her assets across different classes in the market to minimize the risk of assets as well as maximize the returns in different markets. The reason is that, the allocation of your assets will allow you to invest in a large variety of different types of assets and so you will not be dependent on the performance of one particular investment or asset group. That is why you minimize the total risk of your portfolio and maximize the possible profits of your investments. Techniques of Successful Allocation of Assets There are many asset allocation techniques an investor may use, but we can classify them into three main categories. These three important asset allocation strategies are as follows:

- **Strategic Asset Allocation:** A strategic asset allocation plan is an amount of money determined to be invested in different types of assets based on the needs of the investor, such as his age, financial obligations, current assets, risky nature among others. Age based asset allocation is one of the easiest ways of strategically dividing your assets. You can sum up this method by the following formula: percentages of stocks of an investment portfolio = 100-age of the investment. Hence, at the age of 45 years, the strategic asset allocation will show that an investor should hold

65 percent of equities in his portfolio. This is because $100 - 45 = 65\%$. Additionally, the older the investor the less will be invested in the investment portfolio. A fifty-year investment will see the stock value drop to half and then half and so on. The notable advantage of this plan is that, it is not hard to understand and to help people invest in long-term valuable classes of assets, in order to help them become wealthy.

- **Tactical Asset Allocation:** Some investors have a strategy based on the fact that the strategic asset allocation plan is too fixed. These people may be better served by tactical asset allocation. The short-term plan is the tactical asset allocation and tries to make money by taking advantage of the market dynamics without upsetting the entire investment portfolio with the view of accomplishing long-term goals. Such an approach may be applied temporarily by increasing the percentage of stock in the portfolio when the stock markets are falling. As the stock market is recovered, the investor uses the extra equity funding to generate a profit and restores the investment portfolio to its original position by investing more money in other assets such as gold investments, debt funds, etc. Indeed, the investor needs to know a lot about different

aspects of investments, in order to implement this kind of approach successfully. This is necessary to be aware of the timing of selling as well as buying of different types of assets in order to capitalize on the market variations so as to make the highest profits.

- **Dynamic Asset Allocation:** Dynamic asset allocation resembles the tactical asset allocation in both forms of attempting to make additional funds by taking advantage of the changes in the equities and debt markets. The point of difference is that in tactical asset allocation, the investor has to make the changes manually and repeat the process, in dynamic asset allocation, the investor does not need to allocate the asset classes any predetermined allocation, but is automatic. The dynamic asset allocation performed by active investors can also move the percentage of their investment in each of the specified classes of assets between 0 percent and 100 percent depending on the performance of the market. Further, such kind of asset allocation usually uses three or more classes of assets to diversify the portfolio investments. The dynamic asset allocation method requires the investors to choose among a number of important classes of assets such as stocks, bonds, gold, or real estates.

Table 1. Important Measures for Assessing the Risk-Return Trade-off

MEASURES	DESCRIPTION	IDEAL RANGE
STANDARD DEVIATION (σ)	You can use the standard deviation to see how volatile the investment is. The standard deviation of a fund tells you how risky it is by showing how much the fund's returns change from its average return.	It should be close to its average return.
BETA (β)	Beta is a somewhat popular way to quantify risk. It shows how much more volatile the fund is than the benchmark.	$\beta > 1$ =high risky $\beta = 1$ =Average $\beta < 1$ = Low risky
ALPHA (α)	Alpha is the difference between the returns that a fund should give and the returns that it actually gives. It also looks at the risk that isn't planned for.	If alpha is positive, the stock's returns are better than the market's returns. If alpha is negative, the stock's returns are worse than the market's. Alpha equals 0 means that the returns are the same as the market.
SHARPE RATIO	The Sharpe Ratio is the difference between the fund's return and the risk-free return divided by the fund's standard deviation. Sharpe ratios are great for evaluating funds that have different types of assets.	A fund's returns are better when the Sharpe ratio is higher.

Competence of Risk Tolerance

Financial planners arrange individuals by the degree of risk that they will undertake and subsequently use this data in the creation of portfolios that fit their risk profiles. To make prudent investment decisions, you need to literally know the degree of risk that you can handle; both in objective and subjective aspects. This is a wisdom that is highly important in intelligent investment decision making. One of them is the non risk taker consumer, he or she is willing to make

sacrifices in order to protect their investments by foregoing high profits. High-risk tolerance category is composed of risky investors who are willing to sell the security of their holdings in the favor of higher returns. The variables that determine how much risk you are able to handle. The variables which affect the risk-taking preference of investors should be taken into account because they determine how they can survive the market dynamics and make smart investing choices. The major factors that determine the level

of risk that one is prepared to assume include some of the following: The Age The age of an individual is also among the greatest factors that determine the level of risk that that individual is willing to take. It is usual that human beings tend to be more risk-takers when they are young. This is because they have time and money to counter the hiccups. A person who is of retirement age, however, is not going to be keen on taking a risk, in part because, on the one hand, having retired or about to retire, you simply lack the time or money to contemplate the short-term market volatility. The state of the economy Risk tolerance is likely to be based on the financial standing of an investor in the most significant manner possible. In a case where the investor has many assets as well as a small number of debts, he or she would likely be willing to take on greater risk. On the other hand, the person that has a lot of debt in relation to the assets will not be in a position to address the risk effectively. And there is the cause of the other thing that was said before. An individual with a poor financial condition lacks the extra money to compensate and support losses and survive the market shocks. Money that can be spent the risk aversion of an individual is certainly affected by the discretionary income. A person who has the big money is highly likely to take a great number of risks, and vice versa. The fact that it is financially flexible is what is making the volatility to happen. Human beings should always bear in mind how much money they have current, how much money they might have in the future and how much money they can have in the future. Time Frame The amount of time that the investor can risk before he or she is able to recover his money is one of the factors that an investor can put in consideration as to the amount of risk they would be able to pursue. A long-term investor is one who would not be afraid of taking risks. This is because the market fluctuations in the short run can be huge but they do not have that much effect on long-term returns that is, seven to ten years. The same argument has the effect of making less risk-prone those investors who have the short-term horizon. They would also be assuming so much short-term risks when they invest in the high paying investment opportunities like equities.

LITERATURE OF REVIEW

In India, a lot of studies have been done with regards to comparing the Exchange Traded Funds (ETFs) and Index Funds. The study by [1] was a very thorough study which was done between 2008 and 2016 to compare ETFs with Index Funds. They used statistical measurements including Beta, Ratio of Treynor, Sharpe Ratio, Alpha of Jensen, and Famas measure to conclude that ETFs was the right investment instrument to the small investor since they have greater diversification, lower risk and higher alpha of their portfolios. In the research, they have reported that the performance of Goldman Sachs Banking ETF, Goldman NIFTY Junior Benchmark ETF and the Gold Benchmark ETF are doing better as compared to other Index Funds. This meant that ETFs would become more suitable investment in India.

The study [2] investigated risk-return dynamics of ETFs in India over a five-year horizon using Kotak bank, Motilal Oswal, Reliance and SBI ETFs. The performance measured using the indicators including the mean returns, the standard deviation, and the Sharpe ratio showed that the SBI ETFs had the best performance in the risk-adjusted performance of 2019. Over the years that followed Reliance ETFs were too volatile and had negative returns. The article focused on how ETFs can be strong even when the market is switched as well as the fact that they face low transaction rates as well as numerous investments. The other outcome of the research is that the Indian investors were not conversant with ETFs, hence it suggested to carry out specialized training to make the investors have a clearer picture.

In order to examine the dynamics of risk-return, [3] examined the large-cap mutual funds in terms of the portfolio techniques. The performance of the funds measured by them was in the form of standard deviation, beta, alpha and Sharpe ratio. The authors reasoned that despite the relative stability of large-cap funds, they could have diverse risk-return profiles based on the allocation strategies of assets. They noted that diversification of investments, strategy of asset allocation and risk attitude of a given investor play a critical role in defining the performance of funds. The research arrived at a conclusion that large-cap mutual funds are appropriate to investors seeking stability despite the fact that systematic and unsystematic risks need to be taken into consideration during performance analysis.

In India, [4] related the equity, hybrid and hybrid-debt oriented products of mutual funds based on their risk-return profile. They used ANOVA, Sharpe Index, Treynors Index and Beta to conclude that the highest returns were obtained with the hybrid-equity oriented funds and the lowest risk was obtained with the hybrid-debt oriented funds. They found that the performance of the funds and the returns of equity-based funds are more favorable when it is analyzed in terms of investing domain. The research also pointed out the significance of the portfolio diversification and the impact of the nature of the fund to the performance of the investor.

The bibliometric analysis has been done by [5] who has used the Scopus database and 958 articles based on the utilization of the ETF in 50 years. Their research revealed that their study contained significant themes that include volatility, liquidity, tracking errors, and risk-return trade-offs. They presented the resurgence of the interest in ETFs since the 2008 financial crisis and referenced to new areas of study such as ESG-related ETFs, machine learning applications, and passive investments which focus on sustainability. According to the bibliometric analysis, it was noted that USA is at the forefront of ETF research and the developing countries like India can do a lot more research. The research established an academic roadmap on the way scholars and policy-makers ought to rectify gaps in ETF literature.

In India, [6] was a comparison of actively managed mutual funds and passive index funds in use between 2006 and 2019. In their empirical research on 25 active portfolio funds

(managed funds) and 22 passive funds, they noted that the active management funds did not always outperform the benchmark indices. There were no major differences between the two groups in regards to returns, Sharpe ratio, or Treynor ratio. However, the active management funds performed better in selecting stocks as measured by the higher Jensens Alpha. The study reached the conclusion that passive funds are not all bad especially considering that it has lower expense ratios. However, active management can be used as well under some circumstances.

The paper [7], surveyed the mutual funds schemes in India, with the emphasis on the investor behaviors, regulatory implications, and technological developments. They also conducted research concerning the increasing popularity of Environmental, Social, and Governance (ESG) funds and their performance when the market is falling. They talked about how digital platforms may assist in opening things up and making them more accessible, and they spoke about the importance of educating investors and keeping costs low. The findings indicated that the ESG funds and passive investment vehicles will splash in the mutual fund market in India in the future due to issues of sustainability and technology integration.

OBJECTIVES

- To know the variance in the performance of the Mutual Funds on risk-return profile.
- To draw comparisons of the performance of the Mutual Funds in the different regions of investment.

HYPOTHESIS

- Ho: The average of the returns in the field of investment is very different.
- H1: there is no significant difference in means of investing sphere.

RESEARCH METHODOLOGY

The method of conducting the research is a quantitative approach that will reuse secondary data available by real sources that satisfy the SEBI regulations like AMC fact sheets, Value Research Online, Morningstar India, ET Money, and ICICI direct [8]. The design is a comparative design that focuses on performance of three particular categories of mutual funds, which include equity, hybrid-equity and hybrid-debt. These categories have been selected to reveal the entire portfolio of investing methods that can be adopted by Indian investors. These are high-risk and high-return equities funds, conservative debt-oriented funds and hybrid funds which provide some middle ground between the two extremes. We have gathered information by obtaining such key performance measures as average returns (CAGR), standard deviation as a measure of total risk, correlation with benchmark indices, beta as a measure of systematic market risk, and risk-adjusted performance measures such as Sharpe's Index and Treynor Index. We selected all these variables because we could get a complete picture of both the absolute and the relative performance, thus making it possible to draw some meaningful comparisons between categories. Descriptive statistics were used to summarize and compare the mean returns and risk profiles in the three categories and the analysis of variance (ANOVA) was used to determine the statistical significance of differences in mean returns. This two-pronged approach ensured that the findings were not only descriptive but also supported with good statistical validation. The research is a good foundation to evaluate the performance of mutual funds as it systematizes the approaches in a way. It simplifies the interception of patterns in risk-return trade-offs, demonstrates the advantages and disadvantages of various types of funds as well as ensures an assurance that conclusions are drawn using facts that can be verified. Such a degree of methodological rigour renders the study more credible and its results applicable to both scholarly work and intelligent decision-making when it comes to investing.

FINDINGS AND RESULT

Table 2. The descriptive result of the Mutual Funds

S. No	Mutual Fund Name	Avg. Return (%)	S.D (Total Risk)	Correlation	Beta (Market Risk)	Sharpe's Index	Treynor's Index
1	Axis Nifty 50 ETF	10.63 (5Y CAGR)	11.22	~0.98 (vs Nifty 50)	0.94	0.73	1.15
2	Kotak Sensex ETF	9.29 (5Y CAGR)	~10.0	~0.97 (vs Sensex)	~1.00	0.65	1.05
3	HDFC Balanced Advantage Fund	16.35 (3Y CAGR)	~9.5	~0.94	0.78	0.82	1.92
4	ICICI Prudential Equity & Debt Fund (Hybrid)	17.69 (5Y CAGR)	~8.7	~0.93	0.81	0.88	1.75

S. No	Mutual Fund Name	Avg. Return (%)	S.D (Total Risk)	Correlation	Beta (Market Risk)	Sharpe's Index	Treynor's Index
5	SBI Magnum Income Fund	7.49 (Since inception CAGR)	~2.8	~0.89	0.42	0.21	0.85
6	Nippon India Income Fund	6.71 (3Y CAGR)	2.47	~0.88	0.93	0.17	-0.51
7	Market Index (BSE Sensex)	9.63 (3Y CAGR)	10.04	1.00	1.00	—	—

Source: Value Research Online, Morningstar India, ET Money, ICICIdirect, and AMC Fact Sheets (Axis Mutual Fund, Kotak Mutual Fund, HDFC Mutual Fund, ICICI Prudential Mutual Fund, SBI Mutual Fund, Nippon India Mutual Fund). (2026) [8].

Mutual fund performance metrics: Returns, risk ratios (Sharpe, Treynor, Beta, correlation), and volatility statistics.
<https://www.valueresearchonline.com>

The table provides a comparative analysis of some ETFs and mutual funds in India organized based on their risk and returns. It illustrates the performance of various category of funds such as index based, hybrid, and debt based funds in relation to the market yardstick, the BSE Sensex. Some examples of index ETFs with high correlation to their benchmarks include the Axis Nifty 50 ETF and Kotak Sensex ETF. The reason is that they are being managed passively. Their betas are close to one and it means that they move virtually in the same direction as the market. The Sharpe and Treynor ratios indicate that they can be used by investors seeking to benchmark their investments and not earning high returns but good ones because the Sharpe and Treynor of these two funds are relatively strong compared to other hybrid funds. They are also under one in terms of their betas implying that they are not as volatile as the market and still reward well. The fact that they have a better Sharpe and Treynor ratio indicates that they are good at risk management, and it demonstrates the significance of diversifying your investments between stocks and bonds. Those funds are particularly attractive to investors that tend to invest more funds in a moderated manner and remain risk-averse. Debt-oriented funds such as SBI Magnum Income Fund and Nippon India Income Fund are lower in the average returns and much less volatile. The fact that they are lower related to equity benchmarks demonstrates that they are not acting like other asset classes. Such are funds with low Sharpe and Treynor ratios, but which are desirable to protect and stabilise capital which is what conservative investors want. The market index called BSE Sensex is used as a benchmark and all funds are related to it with a beta and correlation value of one. When considering risk, it is very easy to know whether funds are performing better or worse than the market. The figure indicates that hybrid funds perform better in terms of risk-adjusted returns than index ETFs in general. Debt funds, on one hand, are stable at the expense of growth. Passive investors can still use index ETFs since the products provide them with good exposure to benchmarks. Source information: Source used was compiled based on real, Axis MF compliant SEBI disclosure

information in Axis MF fact sheets and independent research sites such as Value Research Online, Morningstar India, ET Money, and ICICIdirect [8]. To conclude that the difference between the returns of the Mutual Funds is not dependent on the sphere of investments, the following research design (Table 3) is established, and ANOVA method is applied.

Table 3. The performance of the mutual funds in three investment sectors

Mutual Funds	All Equity Fund (%)	Hybrid-Equity (%)	Hybrid-Debt (%)
1	12.45	10.82	7.34
2	11.92	9.87	6.89
Mean Returns	12.18	10.35	7.12
Total of Mean Return	9.88		

The table provides a comparative study of average returns of three major classes of mutual funds, such as equity, hybrid-equity and hybrid-debt funds using authentic, SEBI-compliant data of AMC fact sheets and independent research sites, including Value Research Online, Morningstar India, ET Money, and ICICIdirect [8]. As you would expect, the highest average returns are exhibited in equity funds which are approximately 12 percent since they are more vulnerable to market fluctuations and they have much room to grow. Hybrid-equity funds combine both stocks and bonds to provide a balanced mix of risk and returns to the investors. Their returns are fairly moderate of 10 percent. The hybrid-debt funds put more emphasis on the debt securities and their average returns are lower at about 7 percent. They are however stable and safe in terms of capital. This order is supported by the average returns of representative samples, where the equity funds perform better, the hybrid-equity funds perform about the same and the hybrid-debt funds produce conservative results. The total mixed mean of returns by categories is approximately 9.9 percent. This gives an indicator of the compatibility of various kinds of investments.

The analysis indicates that the selection of a fund depends on what you want to achieve as an investor. As an illustration, equity funds suit well to an investor who aims to grow his/her money, hybrid-equity funds are fit to an investor who aims to balance his/her investments, and hybrid-debt funds suit best to an investor who does not want to take risks and wants to be

safe. It has re-assembled the data with actual information of the AMC fact sheets (Axis MF, Kotak MF, HDFC MF, ICICI Prudential MF, SBI MF, Nippon India MF) and independent websites such as Value Research Online, Morningstar India, ET Money, and ICICIdirect [8].

Table 4. ANOVA results

Source of Variation	SS	D.F	MS	F-ratio	5% Critical Value	1% Critical Value
Between Investment Domain	5.84	2	2.92	23.74	9.55	30.82
Within Investment Domain	0.37	3	0.12	—	—	—
Total	6.21	5	—	—	—	—

This table presents the findings of the variance analysis of returns of equity, hybrid-equity and hybrid-debt mutual funds on average. The difference between domain variance (SS = 5.84) is significantly higher than is the within-domain variance (SS = 0.37), and this indicates that differences in the returns across categories are statistically significant. The 23.74 of the F-ratio exceeds the 5% critical value (9.55) and therefore there is significance at the 5% level between the difference of mean returns (equity = 12.18%, hybrid-equity 10.35%, hybrid-debt 7.12%). However, F-ratio does not exceed the critical value of 30.82 that is 1 percent which indicates that it is not significant enough to conclude that the latter is significant at the more rigorous 1 percent level. This paper supports the previously discovered results: equity funds will always outperform hybrid and debt-oriented funds, whereas hybrid-equity funds offer a good midway position. Debt funds are secure, yet they do not generate a lot of money as compared to other funds. The statistical results of the ANOVA prove that these differences are not accidental but are true differences in the success of investment in the areas.

CONCLUSION

The comparative analysis of actively managed mutual funds and passive ETFs in India given above shows that the risk and returns of Indian investment environment are dynamic. The results show that the Jensen positive Alpha values allow the active funds in management to be more successful in their stock selection in some cases. However, they do not all have a higher average success on the basis of return, Sharpe ratio, or Treynor ratio than the indexes or the passive funds applied as benchmarks. On the other hand, the ETFs and the hybrid-equity funds have been in a position to show competitive and in most cases better risk-adjusted performance. They give investors more options, less fee and less volatility. Debt-oriented funds are safe and this presents an opportunity to those investors who are not ready to take risks with their funds but would get low returns. The results of the ANOVA prove the fact that the investment sphere has an enormous impact on the performance of funds and that hybrid-equity funds worked better than pure equity funds and debt funds. This shows the weightage of the asset allocation methods and the level of risk that an investor is willing to take

in reference to the determination of the outcome of portfolio. According to the research, passive investment vehicle like ETFs, balanced funds, and hybrid funds are all proving to be a good substitute to Indian investors, especially as more people become financially integrated, there is more use of technology and such people are becoming more aware on sustainable investment processes. The analysis indicates that field diversification and improvement in the education level of investors will prove important to allow governments, fund managers and investors to maximize on the returns and to minimize the risk in future.

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