

## **A study on analysis of the relationship between Portfolio Turnover, Experience, Expense Ratio, and Tenure of the fund manager with Performance of Thematic Mutual Funds**

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### **ABSTRACT**

This study compares three thematic mutual funds' performance from March 2009 to December 2018. We have taken quarterly data for these years for evaluation and research. The returns of the plan were compared to four factors, including portfolio turnover, expense ratio, fund manager tenure, and experience. Mutual fund returns are the dependent variable, and each of these independent variables has a significant impact on it. We discovered some interesting results after using the Pearson Correlation Coefficient approach on the data we had gathered. According to the study, of the four variables, portfolio turnover and historical fund performance had a positive correlation with returns whereas fund age and tenure of the fund manager had a negative correlation. We believe that this study will be very beneficial in understanding the impact of these variables on fund's return.

### **KEYWORDS**

*Mutual funds, performance evaluation, portfolio turnover, expense ratio, experience, tenure of the fund manager*

### **INTRODUCTION**

Since the Unit Trust of India was founded in 1963, the mutual fund sector in India has experienced remarkable expansion. In ten years, the Assets Under Management (AUM) of the Indian mutual fund sector has tripled. AUM surpasses Rs. 10 million in 2014. The folio count has climbed over the past 72 months in a row. All of this demonstrates how mutual funds have developed as an investment choice and are becoming more popular with Indian regular investors. Reviewing the performance of mutual funds is crucial given this major change in mutual fund preferences. The association between several variables, including portfolio turnover, expense ratio, experience, and fund age, is examined in this study. All of these variables are compared with returns with the purpose to find the correlation among them.

Sources: AMFI (Association of Mutual Funds of India)

## **REVIEW OF LITERATURE**

Irwin, Brown FE (1965) analysed the issue in terms of investment policy, portfolio turnover rate, mutual fund performance and its impact on stock markets. They found that mutual funds had a significant impact on stock price movements. They concluded that there was no lasting relationship between portfolio turnover and fund performance.

Howell, Michel. (2001) found very interesting results in his research. He found that a 10% increase in a manager's age/maturity reduces potential return by 0.4%. This study showed a negative relationship between age and back.

Ippolito (1989) found an insignificant relationship between sales and returns, indicating that frequent portfolio changes produced sufficient additional return to cover higher transaction costs.

Medhanie G. Mekonnen (2017) attempted to find the relationship between investment fund type, portfolio turnover, duration, management turnover and performance. In the end, the result was very interesting, and they found that mutual fund longevity and management turnover explained no significant change in mutual fund risk-adjusted performance.

Vinita Bharat Manek (2016) studied growth-oriented open diversified equity funds. The purpose of the article was to find the effect of portfolio turnover on mutual fund returns. According to the results, portfolio turnover has a significant effect on plan performance. It is weakly positively correlated. Higher portfolio turnover allows the manager to outperform benchmarks and indices.

Sheng-Ching Wu (2014) reviewed the article to investigate the interaction between mutual fund performance and portfolio turnover. The results indicated that funds with a higher portfolio perform worse than funds with a lower portfolio turnover rate. The results supported the hypothesis that active trading affects performance.

## **RESEARCH GAP**

After consulting several studies, we found that there are not very significant studies on thematic funds and their performance. We also have found that some of the important attributes, such as experience or ownership of fund managers, need more attention as they play a very important role in generating returns for mutual funds.

## **RESEARCH METHODOLOGY**

To examine the performance of mutual funds, three thematic schemes of infrastructure mutual funds were selected for at least ten years since their inception. For study purposes, we took the data from 2009 to 2018 (ten years). Data was collected on a quarterly basis for each year. The entire study was based on secondary data published by mutual fund companies. The data was collected from the monthly fund factsheet on the AMFI website ([www.amfiindia.com](http://www.amfiindia.com)). we

applied the statistical technique of Pearson's correlation coefficient to determine how closely the variables are related to each other.

### **OBJECTIVE OF THE RESEARCH**

The present study is concerned with the following objective:

To assess the effectiveness of particular plans based on factors including portfolio turnover, expense ratio, experience, and tenure of the fund manager, and to determine the relationship between these factors and return.

### **SIGNIFICANCE OF STUDY**

This study will help investors understand the different variables and their impact on mutual fund returns. we strongly believe that this knowledge can be further used for the selection of various mutual fund schemes for investments.

### **DATA COLLECTION AND SOURCES**

We have considered Three Thematic Mutual Fund Schemes:

1. Invesco India Financial Services Fund
2. HDFC Infrastructure Fund
3. SBI Infrastructure Fund

Source: <https://www.amfiindia.com/investor-corner/online-center/trackmfinvestment.html>  
(AMFI India website)

### **THEORETICAL FRAMEWORK**

#### ***Portfolio Turnover***

Portfolio turnover is a measure of how quickly a fund's securities are bought or sold by fund managers over a given period. The turnover rate is important for potential investors to consider, as higher yielding funds will also have higher fees to reflect the cost of turnover. High yield funds are generally subject to capital gains tax, which is then distributed to investors who may have to pay tax on those capital gains. Growth funds and all actively managed mutual funds generally have higher turnover rates than passive funds. There are certain scenarios where the higher turnover rate results in a higher total return, mitigating the impact of additional fees.

#### ***Expense ratio***

An expense ratio (ER), also known as a management expense ratio (MER), measures how much of a fund's assets are spent on administrative and other operating expenses. An expense ratio is determined by dividing a fund's operating expenses by the average dollar value of assets under management (AUM). Operating costs reduce fund assets and therefore returns to investors.

### ***Experience of Fund Manager***

The best part about investing in mutual funds is that the funds are professionally managed. This is why fund managers play an important role in the world of investment and finance. A well-trained manager can ensure that their fund outperforms its competitors and benchmarks. In general, expectations are higher, experience leads to higher returns.

### ***Tenure of the Fund Manger***

The management mandate is the duration during which a manager or a team has managed a mutual fund scheme. A management tenure of five to ten years is considered an important indicator of a fund manager's investment capacity. It is important for an investor to select a fund whose management is responsible for the success and remains at the helm of the fund. The management mandate is greater for actively managed funds than for passively managed funds. The longer the discretionary mandate, the stronger the correlation with a fund that is not lagging.

### **HYPOTHESIS**

Ho: There is no significant relation between Portfolio Turnover and Fund Returns.

Ho: There is no significant relation between Expense Ratio and Fund Returns.

Ho: There is no significant relation between Experience of the Fund Manager and Fund Returns.

Ho: There is no significant relation between Tenure of the fund manager and Fund Returns.

### **ANALYSIS AND INTERPRETATION**

We applied Pearson's correlation coefficient technique to establish the relationship between different variables and returns. The value of the correlation coefficient is between -1 and 1. The higher the value of the coefficient, the stronger the relationship between the variable.

Size of Correlation	Interpretation
.90 to 1.00 (-.90 to -1.00)	Very high positive (negative) correlation
.70 to .90 (-.70 to -.90)	High positive (negative) correlation
.50 to .70 (-.50 to -.70)	Moderate positive (negative) correlation
.30 to .50 (-.30 to -.50)	Low positive (negative) correlation
.00 to .30 (.00 to -.30)	negligible correlation

source: towardsdatascience.com

After applying correlation technique, I found following results.

### **Portfolio Turnover and Return**

Sr. No.	Schemes	<i>Portfolio turnover</i>
1	Invesco India Financial Services Fund	0.7833
2	HDFC Infrastructure Fund	0.5652
3	SBI Infrastructure Fund	0.2108

**Expense Ratio and Return**

Sr. No.	Schemes	<i>Expense Ratio</i>
1	Invesco India Financial Services Fund	-0.1250
2	HDFC Infrastructure Fund	-0.0322
3	SBI Infrastructure Fund	-0.7977

**Experience of the Fund Manager and Return**

Sr. No.	Schemes	<i>Experience</i>
1	Invesco India Financial Services Fund	0.8382
2	HDFC Infrastructure Fund	-0.7871
3	SBI Infrastructure Fund	-0.0211

**Tenure of the Fund Manager and Return.**

Sr. No.	Schemes	<i>Tenure of the fund manager</i>
1	Invesco India Financial Services Fund	0.8947
2	HDFC Infrastructure Fund	-0.6358
3	SBI Infrastructure Fund	0.5424

**FINDING AND SUGGESTIONS**

After analysing the data, I found significant relationship between the variables.

*Portfolio Turnover and Return*

We found, positive relationship in two out of three mutual fund schemes. It is as high as 0.7833 in Invesco Fund, in HDFC Infrastructure Fund which is moderately positive where as it is as low as 0.2108 in only one SBI Infrastructure Fund scheme. Overall result shows positive relationship between Portfolio Turnover and Return.

*Expense Ratio and Return*

After analysing the data, we found negative relationship between Expense ratio of the fund and return in all three Schemes. It is as low as -0.7977 in SBI Infrastructure Fund whereas it is -0.03022 in HDFC Infrastructure Fund. Overall, it shows moderately negative relationship between the mentioned variables.

*Experience and Return*

With the Pearson correlation coefficient, we found Moderately Negative relationship between Experience and Return as -0.7871 in HDFC Infrastructure Fund which very significant while it is positive at 0.8382 in SBI Infrastructure Fund. Overall, we found moderately negative relationship between the two variables.

### *Tenure of the Fund Manager and Return*

While analysing Tenure of the fund manager and return we found positive relationship between the variables in SBI Infrastructure Fund at 0.5424 while it is moderately negative in HDFC Infrastructure Scheme at -0.6358. In Invesco India Financial Service Fund, it is strongly positively correlated at 0.8947.

Overall, we can say Return is Positively Correlated with Portfolio Turnover while it is neutral with tenure of the fund manager. When return is compared with Expense ratio and Experience of the fund manager it is moderately negatively correlated.

### **CONCLUSION**

The research conducted yielded significant results, but we believe provided tremendous opportunities to further explore these multi-sample variables. We think there are other variables that could be explored further such as the aging of the fund, the plans managed by the fund manager, etc. and we are sure that will also have a significant relationship with the performance of the fund.

We firmly believe that the result obtained will be very useful for investors in making investment decisions. Since the mutual fund industry offers a variety of funds and schemes, it is very important for the investor to make a decision considering all the aspects involved. This search result will definitely help in making that decision.

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