The Effect of Fund Age on the Performance of Equity Mutual Fund Schemes in India

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Mutual fund investors often look for a criterion for selecting a mutual fund scheme. There are various factors that affect the performance of an equity mutual fund scheme. One of these factors is fund age. There is often a controversy of whether older funds perform better as compared to their younger counterparts or is it the younger funds that provide superior returns as compared to older funds. The present study aims at analysing the relation between fund age and performance of equity mutual funds scheme in India. 65 open-ended equity schemes of top 9 fund houses (based on asset under management) were selected, which were launched until 31st December 2010. Researchers collected the data of the scheme returns on a yearly basis for the period 2014-2018. Parametric and Non-Parametric correlation coefficient between the scheme return and age of fund in months on annual basis were found for five years from 2014 to 2018. The results show a negative correlation between the fund age and scheme returns for four years 2014, 2015, 2016 and 2017 and a positive correlation for the year 2018. This shows that out of 5 years, younger funds have performed better as compared to older funds for 4 years. The study will help investors to select schemes from older and younger mutual funds to optimise their portfolio.

Key words: *Mutual funds, fund age, performance, asset under management, open-ended, scheme returns, correlation coefficient.*

Introduction

Mutual funds offer an opportunity for investors to invest their savings in various financial instruments like equities, bonds, and treasury bills. With the growth in the industry size and number of players in the industry, there are now various types of mutual fund schemes available to investors. Based on the investment objectives, these schemes can be categorised as equity schemes, balanced schemes, income schemes and money market schemes. Out of

all these schemes equity schemes are the most risky as they primarily invest in the stock market but they also has an expectation to offer high returns as compared to other types of schemes. A large number of equity schemes are available to investors where they can park their savings. A common problem faced by most of the investors is the selection of a scheme for investment. There are various criteria available for selection of a scheme. Out of these one of the criteria is the fund age. But there is a controversy among the experts regarding the relation between fund age and return. Some experts believe that older funds perform better as compared to new funds, while some others believe that newer funds perform better.

With the increase in age a mutual fund manager gains experience. One of the supportive arguments in favour of older funds to performing better is that they have learnt the market. Also they may have a larger fund size that they have accumulated over the years which will result into economies of scale. They can take advantage of every downfall in the market by utilizing their fund. On the other hand newer funds may be based on new investment objectives in accordance with the trend in stock market. They may have new investment techniques and hence may perform better as compared to their older counterparts.

The present study aims to investigate whether there is a relation between the fund age and its return and if a relation exists then either it is a positive correlation or a negative correlation. A positive correlation indicates that with an increase in the age of fund its return also increases which means that older funds perform better as compared to younger funds. On the other hand a negative correlation indicates that with an increase in age of the fund its return decreases which means that younger funds perform better as compared to older funds.

Review of Literature

Damayanti and Cintyawati (2015) determine the factors that affected the performance of equity mutual funds in Indonesia. The data from 30 equity mutual funds that were active from 2008-2014 was collected by the researchers from January 2008 to December 2014. The results were processed using Sharpe ratio to measure the magnitude of risk premium for each unit of risk taken. From the selected variables Asset Under Management (AUM), fund age, asset allocation, Turn of the Year Effect, exchange rate, and investor behaviour show a significant influence on the performance of equity mutual funds. While other variables such as past performance, Blue Chip and Non-Blue Chip Mutual Funds and insurance and non-insurance companies don't have a significant influence on the performance of equity mutual funds. The authors also recommended an optimal portfolio strategy for the investors through this study.

Ferreira et al. (2006) conducted their research to study the performance of a sample of 10,568 open-end actively managed mutual funds around the world from 19 countries between 1999

and 2005. The author's regressed abnormal performance on fund attributes such as age, size, fees, management structure, and management tenure. They also investigated whether country characteristics such as economic development, financial development, familiarity, and investor protection have additional explanatory power. The results showed that large funds tend to perform better, which suggests the presence of significant economies of scale. While investing abroad, young funds are able to obtain better performance as compared to the older funds. The performance of funds with higher fees was higher and as were those managed by an individual manager with more experience. Countries with stronger legal institutions showed better performance of funds. Domestic funds located in developed countries, in particular with liquid stock markets, performed better. Familiarity and proximity enhances the performance of mutual funds, when investing abroad.

Frumkin and Donald (2008) analysed the performance of hedge fund returns in excess of the S&P 500 to determine the effects of beta, fund size, age and enforced registration in 2006. The author discovered that beta had a positive effect on performance, while the increasing age of a fund caused managers to suffer from 'style drift', thereby reducing the hedge fund's performance. It was also found that registration increased returns by 11.6% by raising the net worth requirement for accredited investors, thereby providing funds with a more knowledgeable investor and increased asset base stability.

Kaur (2018) studied the effect of selected fund characteristics on performance of the mutual funds in India for the period 2004–2013. Data was estimated with the most efficient estimator system-Generalized Method of Moment (sys-GMM). The findings showed that trading strategy of funds was affected by fund characteristics such as size, expense ratio, portfolio turnover ratio, and age.

Lobao and Gomes (2015) conducted their study in the Portuguese market to study the relation between fund performance and fund attributes in a sample that included 124 equity funds, bond funds and money market funds that traded in the 2004-2011 period. The authors firstly compared the return of each category of funds with the appropriate reference markets. The fund performance, measured by the Jensen's alpha, was then used in a multi-factor model with panel data in which the independent variables were the fund attributes. The results of their study showed that in general Portuguese funds were, not able to beat the benchmarks. In the case of funds that invest in Portuguese stocks, the best performance occurs among older and larger funds, funds with higher costs, funds with good past performance and funds whose trading activity is low.

Moore (2016) investigated the relationship between mutual fund age and performance. This relationship has significant implications for the decisions of mutual fund investors. Data from the CRSP mutual fund database was utilized by the authors to quantify the age/performance,

age/risk, and age/risk-adjusted performance relationships for Morningstar's listed U.S. equity funds. The author concluded that in general, older funds are riskier, but this relationship reverses for very young funds, which exhibit more risk. He also found that older funds have slightly lower risk-adjusted returns, but this relationship again reverses for very young funds. The results imply that investors may not want to flock to new funds in the hope of outsized risk-adjusted returns—requiring a track record does not come at a significant cost and may, in fact, help investors avoid undue risk.

Stafylas et al. (2016) surveyed articles on hedge funds' performance persistence and fundamental factors from the mid-1990s. For performance persistence, the authors presented some pioneering studies that contradicted previous findings that hedge funds' performance is a short-term matter. They discuss recent innovative studies that examined the size, age, performance fees and other factors to give a complete view of hedge funds' performance attribution. The results showed that small funds, younger funds and funds with high performance fees all outperform the opposite. Long lockup period funds tend to outperform short lockups and domiciled funds tend to outperform offshore funds.

Research Methodology

Objectives of the Study

The present study has been undertaken with the following objectives:

a. To analyse the performance of the selected equity mutual fund scheme during the period of study.
b. To find out a relation between fund age performance of equity mutual fund schemes.
c. To find out the effect of fund age on the performance of equity mutual fund schemes.
d. To give investors a basis to choose among the old or young equity mutual fund schemes.

Hypothesis

Following hypothesis are formed for the present study:

H_0: There is no relation between the fund age and return of equity mutual fund schemes.

H_1: There is a relation between the fund age and return of equity mutual fund schemes.

Sampling Plan

Universe: Mutual fund industry in India.

Sampling Unit

The top 9 asset management companies hold around 75% of the asset under management of mutual fund industry in India. Based on judgmental sampling these AMC's forms the sampling unit for the present study. These AMC's are Axis Mutual Fund, Birla Mutual Fund, DSP Blackrock Mutual Fund, Franklin Mutual Fund, HDFC Mutual Fund, ICICI Mutual Fund, Kotak Mahindra Mutual Fund, Reliance Mutual Fund, SBI Mutual Fund, and UTI Mutual Fund (Jan and Hung, 2003).

Sample Size: Open-Ended equity based mutual fund schemes of top 9 fund houses launched until 31st December 2010 makes the sample size. 65 such schemes have been identified.

Table 1: Sampling Unit and Sample Size

Sr. No.	AMC	No. of Schemes
1	Birla Mutual Fund	9
2	DSP Blackrock Mutual Fund	7
3	Franklin Mutual Fund	6
4	HDFC Mutual Fund	7
5	ICICI Mutual Fund	8
6	Kotak Mahindra Mutual Fund	5
7	Reliance Mutual Fund	8
8	SBI Mutual Fund	9
9	UTI Mutual Fund	6
Total		**65**

List of Schemes Selected

Sr. No.	Scheme Name	Fund House
1	Aditya Birla Sun Life Frontline Equity Fund	Aditya Birla Sun Life
2	Aditya Birla Sun Life Focused Equity Fund	Aditya Birla Sun Life
3	Aditya Birla Sun Life Equity Fund	Aditya Birla Sun Life
4	Aditya Birla Sun Life Equity Advantage Fund	Aditya Birla Sun Life
5	Aditya Birla Sun Life MNC Fund	Aditya Birla Sun Life
6	Aditya Birla Sun Life Midcap Fund	Aditya Birla Sun Life
7	Aditya Birla Sun Life Small Cap Fund	Aditya Birla Sun Life
8	Aditya Birla Sun Life Pure Value Fund	Aditya Birla Sun Life

9	Aditya Birla Sun Life Dividend Yield Fund	Aditya Birla Sun Life
10	DSP Equity Fund	DSP Blackrock
11	DSP Top 100 Equity Fund	DSP Blackrock
12	DSP Equity Opportunities Fund	DSP Blackrock
13	DSP India T.I.G.E. R. Fund	DSP Blackrock
14	DSP Mid Cap Fund	DSP Blackrock
15	DSP Small Cap Fund	DSP Blackrock
16	DSP Focus Fund	DSP Blackrock
17	Franklin India Bluechip Fund	Franklin Templeton
18	Franklin India Equity Fund	Franklin Templeton
19	Franklin India Focused Equity Fund	Franklin Templeton
20	Franklin Templeton India Value Fund	Franklin Templeton
21	Franklin India Prima Fund	Franklin Templeton
22	Franklin India Smaller Companies Fund	Franklin Templeton
23	HDFC Equity Fund	HDFC
24	HDFC Capital Builder Value Fund	HDFC
25	HDFC Top 100 Fund	HDFC
26	HDFC Mid Cap Opportunities Fund	HDFC
27	HDFC Small Cap Fund	HDFC
28	HDFC Growth Opportunities Fund	HDFC
29	HDFC Focused 30 Fund	HDFC
30	ICICI Prudential Bluechip Fund	ICICI Prudential
31	ICICI Prudential Large & Mid Cap Fund	ICICI Prudential
32	ICICI Prudential Multicap Fund	ICICI Prudential
33	ICICI Prudential Midcap Fund	ICICI Prudential
34	ICICI Prudential Smallcap Fund	ICICI Prudential
35	ICICI Prudential Value Discovery Fund	ICICI Prudential
36	ICICI Prudential Focused Equity Fund	ICICI Prudential
37	ICICI Prudential Exports and Services Fund	ICICI Prudential
38	KOTAK Standard Multicap Fund	KOTAK
39	KOTAK Emerging Equity Scheme	KOTAK
40	KOTAK Equity Opportunity Fund	KOTAK
41	KOTAK Bluechip Fund	KOTAK
42	KOTAK Small Cap Fund	KOTAK
43	Reliance Large Cap Fund	Reliance
44	Reliance Vision Fund	Reliance
45	Reliance Quant Fund	Reliance
46	Reliance Growth Fund	Reliance
47	Reliance Focused Equity Fund	Reliance

48	Reliance Small Cap Fund	Reliance
49	Reliance Value Fund	Reliance
50	Reliance Multi Cap Fund	Reliance
51	SBI Blue Chip Fund	SBI
52	SBI Magnum Equity ESG Fund	SBI
53	SBI Magnum Multicap Fund	SBI
54	SBI Contra Fund	SBI
55	SBI Large and Midcap Fund	SBI
56	SBI Magnum Midcap Fund	SBI
57	SBI Magnum Global Fund	SBI
58	SBI Focused Equity Fund	SBI
59	SBI Small Cap Fund	SBI
60	UTI Core Equity Fund	UTI
61	UTI Equity Fund	UTI
62	UTI Value Opportunity Fund	UTI
63	UTI Mid Cap Fund	UTI
64	UTI Dividend Yield Fund	UTI
65	UTI MNC Fund	UTI

Type of Data

The present study is quantitative in nature and secondary data will be used for the purpose of analysis.

Source of Data

The study is based on secondary data. Sources of secondary data include Fact Sheets of Mutual Fund Companies, Newspapers, SEBI Manuals, AMFI Reports and Websites like valueresearchonline.com, moneycontrol.com, mutualfundsindia.com and websites of mutual fund companies.

Data Analysis

The data collected will be analysed with the help of parametric and non-parametric test like Pearson Correlation, Spearman Correlation and Mann-Kendall Test.

Time Period of Study

The study covers a period from 1st January 2014 to 31st December 2018.

Data Analysis and Interpretation

In the data analysis, the researcher used the Pearson Correlation analysis for parametric analysis while for non-parametric analysis Mann-Kendall and Spearman's Rank Correlation analysis are used.

Correlation Analysis between Fund Age until 31st December 2014 and Annual Return in 2014

Table 2: Parametric Correlations

		AgeMonth2014	Return2014
Age Month 2014	Pearson Correlation	1	-.377**
	Sig. (2-tailed)		.002
	Sum of Squares and Cross-products	281532.848	-28540.922
	Covariance	4398.951	-445.952
	N	65	65
Return 2014	Pearson Correlation	-.377**	1
	Sig. (2-tailed)	.002	
	Sum of Squares and Cross-products	-28540.922	20376.947
	Covariance	-445.952	318.390
	N	65	65
**. Correlation is significant at the 0.01 level (2-tailed).			

Table 3: Nonparametric Correlations

			AgeMonth2014	Return2014
Kendall's tau_b	AgeMonth2014	Correlation Coefficient	1.000	-.207[*]
		Sig. (2-tailed)	.	.015
		N	65	65
	Return2014	Correlation Coefficient	-.207[*]	1.000
		Sig. (2-tailed)	.015	.
		N	65	65
Spearman's rho	AgeMonth2014	Correlation Coefficient	1.000	-.292[*]
		Sig. (2-tailed)	.	.018
		N	65	65
	Return2014	Correlation Coefficient	-.292[*]	1.000
		Sig. (2-tailed)	.018	.
		N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2 and 3 show a parametric and non-parametric correlation analysis respectively between the fund age in months until 31st December 2014 and scheme annualised return from 1st January 2014 to 31st December 2014. In both the parametric and non-parametric analysis, a negative correlation has been found between fund age and scheme returns. This shows that with an increase in fund age the scheme has generated a lesser return. Therefore, younger funds have performed better as compared to older funds (Babalos et al., 2007).

Correlation Analysis between Fund Age until 31st December 2015 and Annual Return in 2015

Table 4: Parametric Correlations

			AgeMonth2015	Return2015
AgeMonth 2015		Pearson Correlation	1	-.206
		Sig. (2-tailed)		.099
		Sum of Squares and Cross-products	281532.848	-5401.751
		Covariance	4398.951	-84.402
		N	65	65
Return 2015		Pearson Correlation	-.206	1
		Sig. (2-tailed)	.099	
		Sum of Squares and Cross-products	-5401.751	2439.267
		Covariance	-84.402	38.114
		N	65	65

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5: Nonparametric Correlations

			AgeMonth2015	Return2015
Kendall's tau_b	AgeMonth2015	Correlation Coefficient	1.000	-.122
		Sig. (2-tailed)	.	.150
		N	65	65
	Return2015	Correlation Coefficient	-.122	1.000
		Sig. (2-tailed)	.150	.
		N	65	65
Spearman's rho	AgeMonth2015	Correlation Coefficient	1.000	-.177
		Sig. (2-tailed)	.	.157
		N	65	65
	Return2015	Correlation Coefficient	-.177	1.000
		Sig. (2-tailed)	.157	.
		N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 and 5 shows a parametric and non-parametric correlation analysis respectively between the fund age in months until 31st December 2015 and scheme annualised return from

1st January 2015 to 31st December 2015. In both the parametric and non-parametric analysis, a negative correlation has been found between fund age and scheme returns. This shows that with an increase in fund age the scheme has generated lesser return. Therefore younger funds have performed better as compared to older funds.

Correlation Analysis between Fund Age until 31st December 2016 and Annual Return in 2016

Table 6: Parametric Correlations

		AgeMonth2016	Return2016
AgeMonth2016	Pearson Correlation	1	-.112
	Sig. (2-tailed)		.374
	Sum of Squares and Cross-products	281532.848	-2015.766
	Covariance	4398.951	-31.496
	N	65	65
Return2016	Pearson Correlation	-.112	1
	Sig. (2-tailed)	.374	
	Sum of Squares and Cross-products	-2015.766	1149.523
	Covariance	-31.496	17.961
	N	65	65

**. Correlation is significant at the 0.01 level (2-tailed).

Table 7: Nonparametric Correlations

			AgeMonth2016	Return2016
Kendall's tau_b	AgeMonth 2016	Correlation Coefficient	1.000	-.138
		Sig. (2-tailed)	.	.104
		N	65	65
	Return 2016	Correlation Coefficient	-.138	1.000
		Sig. (2-tailed)	.104	.
		N	65	65
Spearman's rho	AgeMonth 2016	Correlation Coefficient	1.000	-.204
		Sig. (2-tailed)	.	.104
		N	65	65
	Return 2016	Correlation Coefficient	-.204	1.000
		Sig. (2-tailed)	.104	.
		N	65	65
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 6 and 7 shows a parametric and non-parametric correlation analysis respectively between the fund age in months until 31st December 2016 and scheme annualised return from 1st January 2016 to 31st December 2016. In both the parametric and non-parametric analysis, a negative correlation has been found between fund age and scheme returns. This shows that with an increase in fund age the scheme has generated lesser return. Therefore younger funds have performed better as compared to older funds.

Correlation Analysis between Fund Age until 31st December 2017 and Annual Return in 2017

Table 8: Parametric Correlations

		AgeMonth2017	Return2017
AgeMonth2017	Pearson Correlation	1	-.298*
	Sig. (2-tailed)		.016
	Sum of Squares and Cross-products	281532.848	-12218.284
	Covariance	4398.951	-190.911
	N	65	65
Return2017	Pearson Correlation	-.298*	1
	Sig. (2-tailed)	.016	
	Sum of Squares and Cross-products	-12218.284	5984.411
	Covariance	-190.911	93.506
	N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 9: Nonparametric Correlations

			AgeMonth 2017	Return2017
Kendall's tau_b	AgeMonth2017	Correlation Coefficient	1.000	-.161
		Sig. (2-tailed)	.	.059
		N	65	65
	Return2017	Correlation Coefficient	-.161	1.000
		Sig. (2-tailed)	.059	.
		N	65	65
Spearman's rho	AgeMonth2017	Correlation Coefficient	1.000	-.229
		Sig. (2-tailed)	.	.066
		N	65	65
	Return2017	Correlation Coefficient	-.229	1.000
		Sig. (2-tailed)	.066	.
		N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 8 and 9 shows a parametric and non-parametric correlation analysis respectively between the fund age in months until 31st December 2017 and scheme annualised return from 1st January 2017 to 31st December 2017. In both the parametric and non-parametric analysis, a negative correlation has been found between fund age and scheme returns. This shows that

with an increase in fund age the scheme has generated lesser return. Therefore younger funds have performed better as compared to older funds.

Correlation Analysis between Fund Age until 31st December 2018 and Annual Return in 2018

Table 10: Parametric Correlations

		AgeMonth2018	Return2018
AgeMonth 2018	Pearson Correlation	1	.303*
	Sig. (2-tailed)		.014
	Sum of Squares and Cross-products	281532.848	9116.545
	Covariance	4398.951	142.446
	N	65	65
Return 2018	Pearson Correlation	.303*	1
	Sig. (2-tailed)	.014	
	Sum of Squares and Cross-products	9116.545	3220.740
	Covariance	142.446	50.324
	N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 11: Nonparametric Correlations

			AgeMonth2018	Return2018
Kendall's tau_b	AgeMonth 2018	Correlation Coefficient	1.000	.168*
		Sig. (2-tailed)	.	.048
		N	65	65
	Return 2018	Correlation Coefficient	.168*	1.000
		Sig. (2-tailed)	.048	.
		N	65	65
Spearman's rho	AgeMonth 2018	Correlation Coefficient	1.000	.225
		Sig. (2-tailed)	.	.072
		N	65	65
	Return 2018	Correlation Coefficient	.225	1.000
		Sig. (2-tailed)	.072	.
		N	65	65

*. Correlation is significant at the 0.05 level (2-tailed).

Table 10 and 11 shows a parametric and non-parametric correlation analysis respectively between the fund age in months until 31st December 2018 and scheme annualised return from 1st January 2018 to 31st December 2018. In both the parametric and non-parametric analysis,

a positive correlation has been found between fund age and scheme returns. This shows that with an increase in fund age the scheme has generated more return. Therefore older funds have performed better as compared to younger funds.

Results & Findings

Table 12:

Sr. No.	Year	Hypothesis	Test Applied	Calculated Value	Result
1	2014	There is no relation between the fund age and return of equity mutual fund schemes	Pearson Correlation Analysis	-0.377	Rejected
2	2015	There is no relation between the fund age and return of equity mutual fund schemes	Pearson Correlation Analysis	-0.206	Rejected
3	2016	There is no relation between the fund age and return of equity mutual fund schemes	Pearson Correlation Analysis	-0.112	Rejected
4	2017	There is no relation between the fund age and return of equity mutual fund schemes	Pearson Correlation Analysis	-0.298	Rejected
5	2018	There is no relation between the fund age and return of equity mutual fund schemes	Pearson Correlation Analysis	+0.303	Rejected

Table 13:

Sr. No.	Year	Hypothesis	Test Applied	Calculated Value	Result
1	2014	There is no relation between the fund age and return of equity mutual fund schemes	Mann-Kendall Test	-0.207	Rejected
2	2015	There is no relation between the fund age and return of equity mutual fund schemes	Mann-Kendall Test	-0.122	Rejected
3	2016	There is no relation between the fund age and return of equity mutual fund schemes	Mann-Kendall Test	-0.138	Rejected
4	2017	There is no relation between the fund age and return of equity mutual fund schemes	Mann-Kendall Test	-0.161	Rejected
5	2018	There is no relation between the fund age and return of equity mutual fund schemes	Mann-Kendall Test	+0.168	Rejected

Table 14:

Sr. No.	Year	Hypothesis	Test Applied	Calculated Value	Result
1	2014	There is no relation between the fund age and return of equity mutual fund schemes	Spearman Correlation	-0.292	Rejected
2	2015	There is no relation between the fund age and return of equity mutual fund schemes	Spearman Correlation	-0.177	Rejected
3	2016	There is no relation between the fund age and return of equity mutual fund schemes	Spearman Correlation	-0.204	Rejected
4	2017	There is no relation between the fund age and return of equity mutual fund schemes	Spearman Correlation	-0.229	Rejected
5	2018	There is no relation between the fund age and return of equity mutual fund schemes	Spearman Correlation	+0.225	Rejected

Conclusion

Mutual fund houses may claim superior performance of their schemes, but past performance is not guaranteed in the future. A scheme may have provided good returns in the recent past and as time passes the scheme becomes older and past performance serves as a basis to further sell the schemes to new or existing investors. With a plethora of schemes offered by various fund houses, investors look for criteria to select a mutual fund scheme. The earlier researches have proved a relation between the fund age and its return, but regarding the type of correlation they provide a mixed result. Some of the research claims that older funds

perform better as compared to younger funds while other research has shown that younger funds perform better as compared to old funds.

The present study indicates that largely younger funds perform better compared to older funds. Out of the 5 years of time period covered under the study, younger funds performed better than older funds for 4 years. But an important issue again arises here that for how long a fund will be considered young and after how much time its performance will start lagging behind the funds launched after it. This question again serves as the basis for future scope of research. But the battle between the superiority of performance among old and young funds will always remain an area of study for researchers.

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