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AN EVALUATION OF MUTUAL FUND IN INDIA BASED ON DIFFERENT RISK ANALYSIS METHODS

Management

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ABSTRACT

A mutual fund is an investment fund that combines the money from a group of individuals with similar financial goals. The funds raised are subsequently invested in capital market instruments such as stocks, bonds, and other assets. The primary goal of this research was to evaluate the risk analysis of a diversified equity growth schemes using risk analysis performance measuring methods such as Sharpe's measure, Treynor's measure, Jensen's alpha, and Rank conflict. For the period of 2017 to 2021, the analysis was based on the monthly NAV of 43 firms. Some of the numerous performance tools are present in the Mutual fund's performance. In this research, I discovered that all of the firms provided the same rank, with the exception of those that were subjected to Rank Conflict Analysis. Sharpe's and Treynor's measurements provide the same result, however Jensen's Alpha measures produce a different result.

KEYWORDS

Mutual fund, Sharpe's measure, Treynor's measure and Jensen's alpha.

INTRODUCTION

In India, mutual funds are becoming much more popular, and this has an impact on the Indian economy. In the previous six years, there has been a 100 percent increase. Many international asset management companies, such as Fidelity Investments, located in the United States, with over $1 trillion in assets under management globally, are lining up to join the Indian market. Our saving rate is the highest in the world, at over 23%. It is just necessary to put these savings into the mutual fund market. India have just 42 mutual funds, compared to more than 800 in the United States. There is a lot of room for growth. Cities in the 'B' and 'C' categories are quickly expanding. The majority of mutual funds are now focused on 'A' class cities. They will soon find work in the expanding cities. With basic and restricted products, mutual funds may reach rural markets, much like the Indian insurance business. SEBI has given mutual funds the green light to create commodities mutual funds. In the next decade, the existing mutual fund business saw a new horizon. The industry's total AUM was Rs. 470.04 billion at the end of 1993. Fund families began to be penetrated by private sector funds. In the same year, the first Mutual Fund Regulations were enacted, requiring all mutual funds save UTI to be re-registered. In 1996, the rules were amended once again.

LITERATURE REVIEW

C. Cao, E. Chang & Y. Wang (2008) found about relationship between Mutual Fund Flow and Market Return Volatility. This paper empirically examines the dynamic relation between aggregate mutual fund flow and market-wide volatility. There are many arguments for and against the linkage between flow and market volatility, however, most of them are heuristic and judgmental. This paper is the first that provides direct evidence of the relation between flow and market volatility.

E. Fama and K. French were found that average the dollar invested in funds under performs three-factor and four-factor benchmarks by about the amount of fees and expenses. Sorting funds on three-factor (or four-factor) t (α) estimates, however, produces some results consistent with information effects. These persistence results from sorts on t(α) are stronger for smaller funds, and they pretty much disappear after 1992. The simulation tests for net returns say that even in the extreme right tails of the cross-sections of three-factor and four-factor t(α) estimates there is no evidence of funds with information sufficient to cover costs. And even larger fractions of the simulation runs produce stronger results than those observed in the right tail of the cross-section of t (α) estimates for actual fund returns. In the end, despite hints to the contrary, the simulation tests for 1984-2006 do not identify information effects in fund returns.

J. Berk & R. Green were carried out study on "Mutual Fund flows and performance in rational markets" and found that a number of empirical predictions of a rational model for active portfolio management when managerial talent is a scarce resource and is dissipated as the scale of operations increases. Many of these predictions reproduce empirical regularities that often have been taken as evidence of investor irrationality or agency costs between managers and investors. We argue that not only is the rational model consistent with much of the29 empirical evidence, but it is also consistent with a surprisingly high level of skill amongst active managers.

J. Davis (2002) was concluded that certain funds that consistently outperform (or underperform) other mutual funds. Although the evidence is mixed, the general conclusion from these articles is that a few fund managers do tend to regularly appear near the top of the annual return rankings. There is stronger evidence that some managers consistently appear near the bottom of the rankings. For investors, the main implication of these studies is the small likelihood of consistently earning abnormal returns by selecting individual fund managers.

M. Detzler found that the performance of mutual funds that have received rankings from Barron's, Business Week, and Forbes between (1993-1995). An investment strategy based on these publications' rankings did not provide abnormal returns during the sample period. The ranked funds have higher excess returns relative to mutual funds with the same investment objectives during the pre-ranking period but have similar excess returns as their peers after the rankings were published. These results do not support the short-term performance persistence hypothesis. The ranked funds, except the funds on Forbes' Honor Roll, have higher risk than their peers in both the pre-ranking and post-ranking periods, suggesting that funds that receive rankings may also be risk-takers.

W. Sharpe (1992) analyzed on asset allocation: Management Style and Performance Measurement" and found that an asset class factor model can help make order out of the chaos that often attends the investment process. It can provide a consistent view of investment decisions investors make to economize on information flows and exploit comparative advantages. The style analysis procedure described in this article allows such a model to be implemented economically. At the very least it can serve as a valuable supplement to other methods designed to help investors achieve their goals in cost-effective ways.

RESEARCH METHODOLOGY

The type of research was Exploratory Research. The objective of this study is to analyze and compare the performance of various mutual fund Schemes (Diversified Equity Growth) with the help of various performance measurement tools like; Sharpe's measure, Treynor's measure, Jensen's alpha, Rank conflict Analysis. Limitation of this study is that it covers only one scheme of Mutual Fund.

DATA ANALYSIS & INTERPRETATION

Table 1: Sharpe's Measure of different scheme by rank wise

Portfolio	Sharpe 's Measure	Rank	Portfolio	Sharpe 's Measure	Rank
HSBC Equity(G)	2.66	1	Tata Life Science & Tech(G)	1.22	23

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Reliance Growth-Ret(G)	2.6	2	Sundaram BNPP Growth(G)	1.16	24
HDFC Top 200(G)	2.33	3	Franklin India Prima(G)	1.15	25
Tata Pure Equity(G)	2.23	4	Franklin India Opportunities(G)	1.05	26
Franklin India Prima Plus(G)	2.21	5	Tata Select Equity(G)	1	27
Sahara Growth(G)	2.2	6	Taurus Star Share(G)	0.94	28
HDFC Growth(G)	1.98	7	Escorts Growth(G)	0.93	29
DSPBR Opportunities(G)	1.94	8	Birla SL Adv(G)	0.91	30
Reliance Vision-Ret(G)	1.93	9	Tata Growth(G)	0.78	31
ICICI Pru Dynamic(G)	1.93	10	Principal Growth(G)	0.7	32
HDFC Equity(G)	1.93	11	Baroda Pioneer Diversified	0.64	33
Franklin India Bluechip(G)	1.93	12	ING Core Equity(G)	0.64	34
Birla SL Frontline Equity(G)	1.84	13	Morgan Stanley Growth(G)	0.49	35
Sundaram BNPP Select Midcap(G)	1.82	14	JM Equity(G)	0.38	36
Birla SL Equity(G)	1.82	15	LICMF Equity(G)	0.22	37
Birla SL Buy India(G)	1.79	16	DBS Chola Opportunities(G)	0.11	38
Sundaram BNPP Select Focus(G)	1.78	17	Taurus Bonanza(G)	-0.01	39
HDFC Capital Builder(G)	1.7	18	Birla SL India Opportunities(G)	-0.17	40
ICICI Pru Growth(G)	1.63	19	Taurus Discovery(G)	-0.44	41
Tata Equity Opportunities(G)	1.53	20	DBS Chola Growth(G)	-1.02	42
Birla SL Midcap(G)	1.48	21	JM Basic(G)	-2.14	43
Principal Resurgent India Equity(G)	1.33	22			

Table 2: Treynor's measure of different scheme by rank wise.

Portfolio	Treynor's Measure	Rank	Portfolio	Treynor's Measure	Rank
Reliance Growth-Ret(G)	0.25	1	Tata Life Science & Tech(G)	0.12	23
HSBC Equity(G)	0.24	2	Franklin India Prima(G)	0.12	24
HDFC Top 200(G)	0.21	3	Sundaram BNPP Growth(G)	0.11	25
Tata Pure Equity(G)	0.2	4	Franklin India Opportunities(G)	0.1	26
Franklin India Prima Plus(G)	0.2	5	Taurus Star Share(G)	0.09	27
Sahara Growth(G)	0.2	6	Tata Select Equity(G)	0.09	28
Sundaram BNPP Select Midcap(G)	0.18	7	Escorts Growth(G)	0.09	29
Birla SL Buy India(G)	0.18	8	Birla SL Adv(G)	0.08	30
HDFC Growth(G)	0.18	9	Tata Growth(G)	0.07	31
ICICI Pru Dynamic(G)	0.18	10	Principal Growth(G)	0.06	32
Reliance Vision-Ret(G)	0.18	11	Baroda Pioneer Diversified	0.06	33
DSPBR Opportunities(G)	0.18	12	ING Core Equity(G)	0.06	34
HDFC Equity(G)	0.17	13	Morgan Stanley Growth(G)	0.04	35
Franklin India Bluechip(G)	0.17	14	JM Equity(G)	0.04	36
Birla SL Equity(G)	0.17	15	LICMF Equity(G)	0.02	37
Birla SL Frontline Equity(G)	0.17	16	DBS Chola Opportunities(G)	0.01	38
Sundaram BNPP Select Focus(G)	0.16	17	Taurus Bonanza(G)	0	39
HDFC Capital Builder(G)	0.16	18	Birla SL India Opportunities(G)	-0.02	40
Birla SL Midcap(G)	0.15	19	Taurus Discovery(G)	-0.05	41
ICICI Pru Growth(G)	0.15	20	DBS Chola Growth(G)	-0.12	42
Tata Equity Opportunities(G)	0.14	21	JM Basic(G)	-0.22	43
Principal Resurgent India Equity(G)	0.12	22			

Table 3: Jensen's alpha of different scheme by rank wise

Portfolio	Jensen's alpha	Rank	Portfolio	Jensen's alpha	Rank
Reliance Growth-Ret(G)	0.18	1	Tata Life Science & Tech(G)	0.05	23
HSBC Equity(G)	0.16	2	Franklin India Prima(G)	0.05	24
HDFC Top 200(G)	0.13	3	Sundaram BNPP Growth(G)	0.04	25
Tata Pure Equity(G)	0.13	4	Franklin India Opportunities(G)	0.03	26
Franklin India Prima Plus(G)	0.12	5	Taurus Star Share(G)	0.03	27
Sahara Growth(G)	0.11	6	Tata Select Equity(G)	0.03	28
Sundaram BNPP Select Midcap(G)	0.11	7	Escorts Growth(G)	0.02	29
Reliance Vision-Ret(G)	0.11	8	Birla SL Adv(G)	0.02	30
DSPBR Opportunities(G)	0.11	9	Tata Growth(G)	0.01	31
ICICI Pru Dynamic(G)	0.1	10	Principal Growth(G)	0	32
HDFC Growth(G)	0.1	11	ING Core Equity(G)	-0.01	33
HDFC Equity(G)	0.1	12	Baroda Pioneer Diversified	-0.01	34
Birla SL Equity(G)	0.1	13	Morgan Stanley Growth(G)	-0.02	35
Birla SL Buy India(G)	0.1	14	JM Equity(G)	-0.03	36

Franklin India Bluechip(G)	0.1	15	LICMF Equity(G)	-0.05	37
Sundaram BNPP Select Focus(G)	0.09	16	DBS Chola Opportunities(G)	-0.06	38
HDFC Capital Builder(G)	0.09	17	Birla SL India Opportunities(G)	-0.07	39
Birla SL Frontline Equity(G)	0.09	18	Taurus Bonanza(G)	-0.07	40
Tata Equity Opportunities(G)	0.08	19	Taurus Discovery(G)	-0.14	41
Birla SL Midcap(G)	0.07	20	DBS Chola Growth(G)	-0.2	42
ICICI Pru Growth(G)	0.07	21	JM Basic(G)	-0.36	43
Principal Resurgent India Equity(G)	0.05	22			

Table 4: Comparative analysis of Sharpe measures, Treynor's measures and Jenson's Measures

Portfolio	Sharpe 's Measure	Treynor 's Measure	Jenson's Alpha
Baroda Pioneer Diversified	0.64	0.06	-0.01
Birla SL Adv(G)	0.91	0.08	0.02
Birla SL Buy India(G)	1.79	0.18	0.10
Birla SL Equity(G)	1.82	0.17	0.10
Birla SL Frontline Equity(G)	1.84	0.17	0.09
Birla SL India Opportunities(G)	-0.17	-0.02	-0.07
Birla SL Midcap(G)	1.48	0.15	0.07
DBS Chola Growth(G)	-1.02	-0.12	-0.20
DBS Chola Opportunities(G)	0.11	0.01	-0.06
DSPBR Opportunities(G)	1.94	0.18	0.11
Escorts Growth(G)	0.93	0.09	0.02
Franklin India Bluechip(G)	1.93	0.17	0.10
Franklin India Opportunities(G)	1.05	0.10	0.03
Franklin India Prima Plus(G)	2.21	0.20	0.12
Franklin India Prima(G)	1.15	0.12	0.05
HDFC Capital Builder(G)	1.70	0.16	0.09
HDFC Equity(G)	1.93	0.17	0.10
HDFC Growth(G)	1.98	0.18	0.10
HDFC Top 200(G)	2.33	0.21	0.13
HSBC Equity(G)	2.66	0.24	0.16
ICICI Pru Dynamic(G)	1.93	0.18	0.10
ICICI Pru Growth(G)	1.63	0.15	0.07
ING Core Equity(G)	0.64	0.06	-0.01
JM Basic(G)	-2.14	-0.22	-0.36
JM Equity(G)	0.38	0.04	-0.03
LICMF Equity(G)	0.22	0.02	-0.05
Morgan Stanley Growth(G)	0.49	0.04	-0.02
Principal Growth(G)	0.70	0.06	0.00
Principal Resurgent India Equity(G)	1.33	0.12	0.05
Reliance Growth-Ret(G)	2.60	0.25	0.18
Reliance Vision-Ret(G)	1.93	0.18	0.11
Sahara Growth(G)	2.20	0.20	0.11
Sundaram BNPP Growth(G)	1.16	0.11	0.04
Sundaram BNPP Select Focus(G)	1.78	0.16	0.09
Sundaram BNPP Select Midcap(G)	1.82	0.18	0.11
Tata Equity Opportunities(G)	1.53	0.14	0.08
Tata Growth(G)	0.78	0.07	0.01
Tata Life Science & Tech(G)	1.22	0.12	0.05
Tata Pure Equity(G)	2.23	0.20	0.13
Tata Select Equity(G)	1.00	0.09	0.03
Taurus Bonanza(G)	-0.01	0.00	-0.07
Taurus Discovery(G)	-0.44	-0.05	-0.14
Taurus Star Share(G)	0.94	0.09	0.03

Table 5: Rank conflict Analysis:

Scheme Name	Sharpe's Measure Rank	Treynor's Measure Rank
Birla SL Buy India(G)	16	8
DSPBR Opportunities(G)	8	12
Sundaram BNPP Select Midcap(G)	14	7

The possible reasons in rank conflicts for the above mentioned portfolios may be under diversification of portfolios. Because total risk exceeds systematic risk by a value equal to unsystematic risk for any under diversified portfolio.

CONCLUSION:

All the companies gave same rank expect those shown to Rank conflict analysis. Sharpe's & Treynor's Measures give the same result but in case of Jensen's Alpha measures it's gave different performance. High Return & High Risk includes only 4 schemes. High Return & Low Risk includes 14 schemes. Low Return & High Risk includes 18 schemes. Low Return & Low Risk includes 7 schemes. On these bases I conclude that in Equity Diversified Growth schemes, there are only two possible ways for investors and i.e. High Return & Low Risk and Low Return & High Risk.

REFERENCES:

1. Brown, Stephen J., William Goetzmann, Roger G. Ibbottson, and Stephen A. Ross. “Survivorship Bias in Performance Studies." Review of Financial studies 5, no 4 (December 1992)
2. Cao, Charles, Chang, Eric C. and Wang, Ying, An Empirical Analysis of the Dynamic Relationship between Mutual Fund Flow and Market Return Volatility. Journal of Banking and Finance, Vol. 32, No. 10, pp. 2111-2123, 2008.
3. Carhart, Mark M. 1997. “On Persistence in Mutual Funds Performance.” J. Finance 52 (March): 57–82.
4. Carhart, Mark M., Jennifer N. Carpenter, AnthonyW. Lynch, and David K. Musto. 2002. “Mutual Fund Survivorship.” Rev. Financial Studies 15 (Winter): pp. 1439–63.
5. Chevalier, Judith, and Glenn Ellison. 1997. “Risk Taking by Mutual Funds as a Response to Incentives.” J.P.E. 105 (December): pp. 1167–1200.
6. Daniel, Kent, Mark Grinblatt, Sheridan Titman, and Russ Wermers. 1997. “Measuring Mutual Fund Performance with Characteristic-Based Benchmarks.” J. Finance 52 (July): pp. 1035–58.
7. Davis, James L., Eugene F. Fama, and Kenneth R. French. “Characteristics, Co-variances, and Average Returns: 1929-1997.” Journal of Finance, vol. 55, no. 1 (February 2000): 389-406.
8. Elton, Edwin J., Martin J. Gruber, Sanjiv Das, and Christopher R. Blake. “The Persistence of Risk-adjusted Mutual Fund Performance.” Journal of Business, vol. 69, no. 2 (April 1996): 133-157.
9. Eugene F. Fama and Kenneth R. French, “Luck Versus Skill in the Cross-Section of Mutual Fund Returns”, The Journal of Finance, 2010, 65(5), pp. 1915-47.
10. Fama, Eugene F., and Kenneth R. French. “Common Risk Factors in the Returns on Bonds and Stocks.” Journal of Financial Economics, vol. 33, no. 1 (February 1993): 3-56.
11. Goetzmann, William N., and Roger G. Ibbotson. “Do Winners Repeat? Patterns in Mutual Fund Performance.” Journal of Portfolio Management, vol. 20, no. 2 (Winter 1994): 9-18.
12. Gruber, Martin J. “Another Puzzle: The Growth in Actively Managed Mutual Funds.” Journal of Finance, vol. 51, no. 3 (July 1996): 783-810.
13. James l. Davis, “mutual fund performance and manager style” Dimensional Fund Advisors, MAY 2000. pp. 1-13.
14. Jensen, Michael C. “Risk, the Pricing of Capital Assets, and Evaluation of Investment Portfolios.” Journal of Business, vol. 42, no. 2 (April 1969): 167-247.
15. Jonathan B. Berk & Richard C. Green, “Mutual Fund flows and performance in rational markets” Journal of political economy, pp. 1269-1294.
16. Miranda Lam Detzler, The Value of Mutual Fund Rankings to the Individual Investor, http://ssrn.com/abstract=170851
17. Sharpe, William F. “Asset Allocation: Style and Performance Measurement." Journal of portfolio Management 18, no.2 (winter 1992),pp. 7-19.