

Performance Appraisal of Overseas Fund of Funds Operating in India

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Abstract

Mutual fund industry has given a wide array of investment products to the investors. Overseas fund of funds is one such an investment product which provides greater diversification opportunity to the investors. It is recent innovation by Indian Mutual Fund Industry. There are 23 numbers of overseas mutual fund operating in India, out of which 9 were selected for the study. Criteria for the selection of funds for the study are the fund should be in existence at least for 3 years. Investment performance, risk and stock selection ability of the overseas fund of funds mutual fund managers were analyzed. The empirical results indicated success of many schemes selected. Out of 9 overseas funds selected for the study, 3 funds namely ING Global real estate fund- Institutional, ING Global real estate fund- Retail, ING Latin America equity fund are excellent when compared to market (S&P CNX Nifty). Risk adjusted performance measure based on Sharpe and Treynor shows that ING Global real estate fund- Institutional, ING Global real estate fund- Retail and DWS Global Thematic off-Shore fund are the best performers. Risk analysis based on beta value of overseas fund of funds indicates that all the funds are less risky than the market. The analysis also reveals that ING Global real estate fund- Institutional, ING Global real estate fund- Retail and DWS Global Thematic Off Shore fund reports superior stock selection ability among all other funds. And also none of the funds have reported negative performance when compared to risk-free rate to return. **Keywords:** Overseas fund of funds, Risk adjusted performance measure, Beta, Diversification, Net Asset Value (NAV)

1. INTRODUCTION

Fund of Funds are mutual funds which invests in other mutual funds. Just as a mutual fund invests in a number of different securities, a Fund of Funds holds shares of many different mutual funds. These funds were designed to achieve greater diversification than traditional mutual funds. There are different types of Fund of Funds each investing in a different type of collective investment schemes for eg. Mutual fund Fund of Funds, Hedge Fund of Funds, Private equity fund of funds or investment trust fund of funds. Fund of funds is of recent origin in Indian mutual fund industry and is growing at a slow pace. Its presence is evident since 2008 as show in Table-1 which depicts about the growth of mutual funds schemes across type of portfolio in India. Thus in this article an attempt is made to study about the overseas Fund of Funds operating in India and also about its investment performance.

2. LITERATURE REVIEW

Treynor (1965), Sharpe (1966), and Jensen (1968) have developed the standard indices to measure risk adjusted mutual fund returns. They came out with

the models to evaluate the portfolio's performance. Their models have been used in detail later in the study to evaluate the performance.

Lee (1990) examined the market timing and selectivity performance of a sample of ninety three mutual funds for the period January 77 – March 84. It uses a very simple regression technique to separate stock selection ability from timing ability. The inputs to the model are only the returns earned on the fund and those earned on the market portfolio. The results indicate that at the individual fund level there is some evidence of superior micro forecasting ability on the part of the fund manager.

Ajay Shah and Susan Thomas (1994) studied the performance of eleven mutual fund schemes on the basis of market price data. The weekly returns were computed for these schemes since their commencement on April 1994. Jensen and Sharpe measures were used to evaluate the superior performance of the schemes. They concluded that except UGS 2000 of Unit Trust of India, none of these schemes earned superior returns than the market in general. The risk of these schemes is very high and funds might be inadequately diversified.

Shankunthala mani.P (2001) In the study on performance of mutual funds in India had studied 65 close ended schemes of various categories such as 24 growth schemes, 20 income schemes and 21 income-cum-growth schemes for the period of 4.5 years from July 1992 to December 1996. The study gave the following major findings: There is no significant difference in the returns of selected mutual fund schemes in each of the categories. The returns are not normally distributed. There is independence and random behavior in the mutual fund returns. Hence an investor cannot predict future returns on mutual fund based on the past performance. There is a significant positive association between NAV and market price. There is significant difference between the market return and mutual fund returns. Since there is no significance returns among portfolios in each category and with Bombay Stock Exchange Index, it is not required for mutual fund investor to venture out portfolios out of mutual funds.

Kannan. V (2007) studied on the performance of the selected private mutual fund schemes in India. The period of the study was from April 2002 to December 2006. For his study he took selected debt funds, equity funds, balanced and index fund. Findings of his study revealed following results:

- i. Asset under management of debt fund shows decreasing trend whereas, asset under management of equity funds shows increasing trend.
- ii. Performance analysis of debt scheme reveals that on an average, all the 48 schemes put together in debt fund category has performed better than the bench mark to an extent of around 54%.
- iii. Analysis of behaviour of selected debt fund schemes return vs bench mark return reveals that on an average all the 20 schemes put together in equity fund category has exceeded the benchmark index to an extent of around 57%.

Lenin Kumar. N. and Rama Devi. V., (2010) did risk-return analysis of private and public mutual funds. The sample for the study consists of 261 mutual funds classified into private and public funds which are further categorized on the basis of investment styles. The performance of selected funds was evaluated by using average rate of returns of fund, standard deviation and risk/ returns. The analysis revealed that there is no significant difference between returns of various mutual funds schemes under the private sector category and public sector category.

B. Phanisara Raju and K. Mallikarjuna Rao (2012) did performance evaluation of selected Indian mutual fund schemes. This objective of this paper is to evaluate the performance of selected mutual fund schemes in the framework of risk and return during the period January, 2008 to December, 2010. The performance measure used are Treynor ratio, Sharpe ratio, Jensen measure and Fama's performance measure. The results indicate failure of many selected schemes in Infrastructure

schemes and Index schemes outperforming the market, low average beta, disproportionate unsystematic risk, miss-match of the risk and return relationship in some schemes, failure of some other schemes in generating mandated return and negative net selectivity in more number of schemes. These can be mainly attributed to the lack of professional management skills in security analysis and consequent poor stock selection, inadequate diversification on one hand and highly conservative approach in constructing portfolios when market conditions demand aggressive portfolios on the other hand.

Review of literature reveals the fact that studies pertained to performance evaluation of fund of funds are not conducted much. Hence in this article an attempt is made to evaluate the performance of overseas fund of funds.

3. OBJECTIVES OF THE STUDY

- To evaluate the investment performance of the overseas fund of funds.
- To analyze the risk involved with the various overseas fund of funds.
- To analyze the stock selection ability of overseas fund of funds.

4. RESEARCH METHODOLOGY

Target population: The target population of the study is growth oriented overseas fund of fund schemes operating in India. There are 23 actively operating Fund of Fund schemes as on June 2012. (Source: AMFI Quarterly updates).

Sampling : Judgment sampling technique is used to select the growth oriented overseas fund of funds. Accordingly overseas fund of funds which is in existence and performing for at least for 3 years of period i.e. is from April 2009 to March 2012 has been selected for the study. Thus 9 out of 23 funds were selected for the study.

Data source : The study is based on the secondary data. For evaluating the performance of the sample schemes the monthly NAV data for the period April 2009 to March 2012 have been collected from various web sites like

www.Mutualfundsindia.com, www.Valueresearchonline.com and www.nseindia.com. The data are also taken from the respective websites of the selected mutual funds.

5. FRAME WORK OF ANALYSIS

Performance measures used in the study:

Return: The returns for the various mutual funds selected for the study is computed on the basis of the Net Asset Value (NAV) of the schemes using the formulae (S.Kevin, 2011)

$$R_p = (\text{NAV}_t - \text{NAV}_{t-1}) / \text{NAV}_{t-1}$$

Where R_p = Return on the fund

NAV_t & NAV_{t-1} are the net assets values for the time period t and $t-1$ respectively.

Mean return of mutual fund scheme is calculated as (Khatri, 2008):

$$R_p = \frac{\sum_{t=1}^N R_{pt}}{N}$$

N = total number of time period studied

Market Return of benchmark index is calculated as (Khatri, 2008):

$$R_m = (M_t - M_{t-1}) / M_{t-1}$$

Where R_m = Market return

M_t & M_{t-1} are the market indices values for the time period t and $t-1$ respectively.

Mean Market Return is calculated as (Khatri, 2008):

$$R_m = \frac{\sum_{t=1}^N R_{mt}}{N}$$

N = total number of time period studied

Risk-free rate of return (Rf): In this study, post office time deposit rate of 1 year i.e. is 6.25% per annum is chosen as risk free rate.

Since monthly average rate of return is used to study mutual fund performance the monthly risk-free rate of return is arrived at, which is 0.52 [(30/360)*6.25] (Khatri, 2008).

Sharpe ratio: It is reward to variability ratio given by W.F. Sharpe in 1966. It is expressed as the excess return per unit of risk, where risk is measured by the standard deviation of the rate of return

(Khatri, 2008). Higher the ratio better is the performance of the fund.

$$S_p = (R_p - R_f) / \sigma_p$$

Where

S_p = Sharpe ratio for the fund

R_p = Average return on fund

σ_p = standard deviation of return on fund

R_f = Return on risk free asset.

Treynor’s Ratio:

It is reward to volatility ratio give by Jack Treynor in 1965 and is expressed as a ratio of returns to systematic risk ($\hat{\alpha}$) (Khatri, 2008). Higher the ratios better the performance of the fund.

$$T_p = (R_p - R_f) / \hat{\alpha}_p$$

T_p = Treynor ratio for fund

R_p = Average return on fund

R_f = Risk free rate

$\hat{\alpha}_p$ = beta of portfolio

Jensen’s Measure:

It is a risk adjusted performance measure that represents the average return on a portfolio over and above that predicted by the Capital asset pricing model, given the portfolio’s beta and the average market return. This is the portfolio’s alpha. In fact, the concept is sometimes referred to as Jensen’s alpha. If the alpha value is positive, then the portfolio is earning excess return.

Jensen’s measure is calculated as (S.Kevin, 2011):

$$J_p = R_p - [R_f + \hat{\alpha}_p (R_m - R_f)]$$

Where:

J_p = Jensen performance measure ($\hat{\alpha}_p$)

R_p = Return on portfolio

R_f = Risk-free return

$\hat{\alpha}_p$ = beta of portfolio

R_m = Market return

To rank the funds according to Jensen performance measure the formula $\hat{\alpha}_p / \hat{\alpha}_m$ is used.

The higher the ratio better is the performance.

Risk parameters used for fund evaluation:

Standard Deviation: Standard deviation measures the variation in individual return from average return over a certain period of time. Standard deviation is

calculated by using the following formula

(T.N.Srivastava, 2009):

Co-efficient of variation (C.V.): Co-efficient of variation helps in measuring the relative dispersion of the fund among other funds. It is defined as the ratio of standard deviation to the mean. Higher is the value of C.V. higher is the risk. Co- efficient of variation is calculated by using the following formula

(T.N.Srivastava, 2009):

σ = standard deviation

x = mean

Beta: Beta co-efficient compares the variability of fund’s return to the market as a whole. It is a relative measure. By convention, market will have beta 1.0. If the funds have beta value above the market then it is said to have high risk than the market. If it have beta value less than the market then it is said to have risk less than the market. The beta is calculated by using the formula (S.Kevin, 2011):

$$\text{Beta} = \frac{(\tilde{\alpha}_{im})(\sigma_m)(\sigma_m)}{(\sigma_m)^2}$$

$\tilde{\alpha}_{im}$ = Correlation co-efficient between the returns of the fund and the returns of the market index.

σ_i = Standard deviation of returns of funds

σ_m = Standard deviation of returns of the market index

$(\sigma_m)^2$ = variance of the market returns

6. RESULTS AND DISCUSSION

Investment Performance of Overseas Fund of Funds:

Investment performance analysis is done to check whether a desired level of return has been achieved or not. The following analysis is carried out to analyze about the mutual fund performance: 1. The selected mutual fund schemes return is compared with its benchmark return for the study period. 2. The performance is also analyzed with the help of excess return to risk ratio by using Sharpe and Treynor performance measure. Table – 3 depicts the investment performance analysis of overseas fund of funds. From the average monthly return point of

view out 9 funds selected for the study only 3 funds has performed above the market but other funds have recorded a positive return on par with risk free rate of return. The funds that have performed above the market are ING Global real estate fund- Institutional (Average monthly return = 1.87%), ING Global real estate fund – Retail (Average monthly return = 1.95%), ING Latin America equity fund (Average monthly return = 1.83%). The risk adjusted performance measure based on Sharpe ratio shows that ING global real estate fund –Retail (Sharpe ratio = 0.27) stood first followed by ING Global real estate fund – Institutional (Sharpe ratio = 0.24). The Treynor Performance measure shows that ING Global real estate fund – Institutional (Treynor ratio = 5.47) has been ranked as best followed by ING Global real estate – Retail (Treynor ratio = 4.47).

Risk involved in overseas Fund of Funds:

Returns cannot be generated without undertaking risk. The associated risk should also be analyzed to evaluate the consistency in the performance and also to identify the funds with optimum risk return trade-off. The risk parameters used for the risk and return analysis are standard deviation, co-efficient of variation, and beta. Table-4 depicts the risk associated with overseas fund of funds. The standard deviation figures of all the 9 funds selected for the study reveals that expect DSP Black Rock world gold fund – Regular all the other funds have standard deviation less than the market. The best performing funds in terms of average monthly return namely ING Global real estate fund – Institutional and ING Global real estate fund – Retail has a standard deviation lower than the market. The co-efficient of variation value also reveals that the ING Global real estate fund – Institutional and ING Global real estate fund – Retail are the best. Beta values of the fund selected for the study shows that all the funds are less risky than the market.

Stock selection ability of Overseas Fund of Funds:

Stock selection and market timings are prime activities that contribute widely in the return

generation process. The investment performance of stock selection pertains to successful micro forecasting of company specific events. It refers to the manager's ability to identify under or overvalued securities. Such a performance attribution may be constructed as an indicator of the quality of investment decision-making. Table- 5 depicts the stock selection ability of overseas fund of funds mutual fund managers. From the table- 5 it can be understood that based on Jensen's performance measure all the funds selected for the study shows positive alpha value which ranges from 0.21 to 1.04. This shows that all the funds have earned a return than expected by the portfolio return. To rank the return according to Jensen measure, Jensen's alpha value must be divided by beta value of the fund as show in table- 5. Accordingly, ING global real estate fund –Institutional have been ranked first followed by ING global real estate fund- Retail.

7. CONCLUSION

This paper analyzed the performance of the selected overseas fund of fund mutual fund schemes by using the leading performance measure like Sharpe, Treynor and Jensen measure. The empirical results reported here indicated success of many selected schemes. Out of nine overseas fund of funds selected for the study three funds, namely ING global real estate fund- Institutional, ING global real estate fund- Retail, ING Latin America Equity Fund are excellent when compared to market (S&P CNX Nifty) . But in terms of risk adjusted return as measured by Sharpe and Treynor measure ING global real estate fund – Institutional, ING global real estate fund – Retail, and DWS global thematic off-shore fund are the best performers. This indicates the fact that these three funds give the return to commensurate the risk undertaken. The analysis on the stock selection ability of the funds also indicates that ING global real estate fund – Institutional, ING global real estate fund – Retail, and DWS global thematic off shore fund are the top 3 performers. Thus overseas fund of funds is one of the best categories of mutual fund which the investors can prefer to earn reasonable return.

**Table 1:
Growth of Mutual Fund Schemes Across Types of Portfolio in India**

Year	Income		Equity		Balanced		Liquid /Money		Gilt		ELSS Equity		Gold ETF's		Other ETF's		Overseas FOF		Total		
	No	%*	No	%*	No	%*	No	%	No	%*	No	%*	No	%*	No	%*	No	%*	No	%	
2000	58	25	91	39	27	12	26	11	16	7	16	7	-	-	-	-	-	-	-	-	234
2001	96	32	99	33	32	11	27	9	24	8	19	6	-	-	-	-	-	-	-	-	297
2002	129	33	115	29	36	9	31	8	31	8	52	13	-	-	-	-	-	-	-	-	394
2003	128	33	121	31	37	9	33	8	31	8	43	11	-	-	-	-	-	-	-	-	393
2004	143	33	142	33	38	9	39	9	30	7	37	9	-	-	-	-	-	-	-	-	429
2005	188	37	178	35	36	7	43	8	30	6	34	7	-	-	-	-	-	-	-	-	509
2006	253	42	207	34	36	6	50	8	28	5	35	6	-	-	-	-	-	-	-	-	609
2007	412	49	253	30	38	5	58	7	28	3	39	5	3	0	8	1	-	-	-	-	839
2008	539	53	290	28	35	3	57	6	32	3	44	4	5	0	11	1	10	1	10	1	1023
2009	309	38	304	37	33	4	57	7	35	4	49	6	6	1	12	1	14	2	14	2	819
2010	443	45	324	33	32	3	51	5	36	4	48	5	10	1	16	2	16	2	16	2	976
2011	696	57	306	25	30	2	55	4	39	3	48	4	12	1	21	2	19	2	19	2	1226
CAGR	28.21%		12.89%		1.06%		7.78%		9.32%		11.61%		41.42%		27.29%		23.80%		46.87%		

Source: Compiled from AMFI Quarterly Reports *% indicates percentage share of various types of portfolio

**Table 2:
List of Overseas Fund of Fund Operating in India**

S. No.	Name of the Fund	Date of Launch	Net Assets as on 30.6.2012 (' in Crores)
1	AIG World Gold Fund	June 2008	176.90
2	DWS Global Agribusiness	April 2010	115.78
3	DWS Global Thematic Off-shore fund	August 2007	13.66
4	DSP Black Rock World Agriculture fund	October 2011	40.86
5	DSP Black Rock World Energy Fund- Institutional Plan- Growth	July 2009	160.11
6	DSP Black Rock World Energy Fund- Regular Plan- Growth	July 2009	160.11
7	DSP Black Rock World Gold Fund- Institutional Plan- Growth	August 2007	818.31
8	DSP Black Rock World Gold Fund- Regular Plan- Growth	August 2007	818.31
9	DSP Black Rock World Mining Fund- Institutional Plan- Growth	December 2009	82.77
10	DSP Black Rock World Mining Fund- Regular Plan- Growth	December 2009	82.77
11	Fidelity Global Real Asset Fund	January 2010	79.82
12	FT India Feeder – Franklin U.S. Opportunities fund	January 2012	156.68
13	HSBC Brazil fund	April 2011	281.25
14	HSBC Emerging Markets fund	February 2008	38.47
15	ING Global Real estate fund - Institutional	December 2007	43.48
16	ING Global Real estate fund - Retail	December 2007	43.48
17	ING Latin America Equity Fund	July 2008	14.47
18	JP Morgan EEMEA Equity off-shore fund	October 2010	2.94
19	JP Morgan JF ASEAN equity off shore fund	June 2011	181.77
20	JP Morgan JF Greater China Equity off-shore fund	July 2009	100.44
21	Mirae Assets China Advantage fund	October 2009	48.62
22	Principal Global Opportunities Fund	March 2004	36.05
23	Sundaram Global Advantage Fund	July 2007	55.04

Source: Compiled from AMFI web sites and from web sites of various mutual fund companies.

**Table 3:
Investment Performance of Overseas Fund of Funds**

S. No.	Name of the Scheme	Average monthly Return percent	Sharpe Ratio		Treyner Ratio	
			Value	Rank	Value	Rank
1	AIG World Gold Fund	1.37	0.11	9	2.54	4
2	DSP Black Rock World Gold Fund- Regular Plan- Growth	1.75	0.15	7	2.06	8
3	DWS Global Thematic Off-shore fund	1.23	0.16	6	2.62	3
4	HSBC Emerging Markets fund	1.34	0.12	8	1.69	9
5	ING Global Real estate fund - Institutional	1.87	0.24	2	5.47	1
6	ING Global Real estate fund - Retail	1.95	0.27	1	4.42	2
7	ING Latin America Equity Fund	1.83	0.19	4.5	2.13	7
8	Principal Global Opportunities Fund	1.68	0.21	3	2.36	5
9	Sundaram Global Advantage Fund	1.13	0.19	4.5	2.17	6
	Market Index – S&P CNX Nifty	1.78				

Source: Computec from Monthly NAV of funds

**Table 4:
Risk Associated with Overseas Fund of Funds**

S. No.	Name of the Scheme	Average Return percent	Standard Deviation	Coefficient of Variation	Beta
1	AIG World Gold Fund	1.37	7.84	5.70	0.34
2	DSP Black Rock World Gold Fund- Regular Plan- Growth	1.75	7.92	4.53	0.60
3	DWS Global Thematic Off-shore fund	1.23	4.45	3.63	0.27
4	HSBC Emerging Markets fund	1.34	6.83	5.11	0.48
5	ING Global Real estate fund - Institutional	1.87	5.60	2.99	0.25
6	ING Global Real estate fund - Retail	1.95	5.34	2.75	0.32
7	ING Latin America Equity Fund	1.83	7.01	3.84	0.61
8	Principal Global Opportunities Fund	1.68	5.61	3.35	0.49
9	Sundaram Global Advantage Fund	1.13	3.31	2.92	0.28
	Market Index - S&P CNX Nifty	1.78	7.91		1

Source: Computec from Monthly NAV of funds

Table 5:
Stock Selection Ability of Overseas Fund of Fund Mutual Fund Managers using Jensen Measure

S. No.	Name of the Scheme	Alfa	Alfa /Beta	Rank
1	AIG World Gold Fund	0.43	1.29	4
2	DSP Black Rock World Gold Fund- Regular Plan- Growth	0.37	1.37	3
3	DWS Global Thematic Off-shore fund	0.47	0.78	8
4	HSBC Emerging Markets fund	0.21	0.44	9
5	ING Global Real estate fund - Institutional	1.04	4.21	1
6	ING Global Real estate fund - Retail	1.02	3.17	2
7	ING Latin America Equity Fund	0.54	0.88	7
8	Principal Global Opportunities Fund	0.53	1.08	5
9	Sundaram Global Advantage Fund	0.26	0.91	6

Source: Computec from Monthly NAV of funds

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END NOTES

1. Sharpe and Treynor risk adjusted performance measure is used to analyse the investment performance of the fund.
2. Investment performance of the funds are also compared with the market index namely S&P CNX Nifty inorder to understand about the overseas fund of funds return against Indian Stock market.
3. Standard deviation and beta calculations are done to understand the risk involved in the overseas fund of fund mutual fund schemes.
4. Co-efficient of variation is used to measure the relative dispersion of the overseas fund of fund among other funds.
5. Jensen performance measure is used to understand the stock selection ability of overseas fund of funds mutual fund manager's.