

AN EMPIRICAL STUDY ON THE PERFORMANCE EVALUATION OF ORYX MUTUAL FUND IN OMAN

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ABSTRACT

This study aims to examine the performance of Oryx Mutual Fund in Oman. To evaluate the performance of fund a sample of six years has been selected on the basis of monthly returns compared to benchmark returns. For this purpose statistical tools average, standard deviation, beta, co-efficient of determination, systematic and unsystematic risk and the risk adjusted performance measures suggested by Treynor (1965), Sharpe (1966) and Fama's (1972) measures are employed. The return analysis reveals that the scheme's performance has outperformed the benchmark. However, the variability in return of scheme is less than the variability in return of market. The beta value of the scheme is less than one which indicates that this is defensive scheme in nature and less sensitive to the market forces. It is found that in the years 2007-2009 and 2011 the scheme performed better according to Sharpe and also the scheme has outperformed the benchmark according to Treynor measure except in 2010. On the basis of R^2 , the schemes are not well diversified which increased the unsystematic risk. The fund is found to be good in earning better returns either adopting marketing or in selecting under priced securities.

KEY WORDS: Beta, Co-efficient of determination, Fama Model, Sharpe Model & Systematic risk

INTRODUCTION:

Economic liberalization and globalization have brought a fervent environment for the medium and small investors. There are a large number of small investors, who have the ability to save and make an investment in corporate sector. But a majority of them lack the professional expertise to face the bull and bear so proxy via the mutual funds are emerging as the most popular channel in the investment business. Mutual Funds being an institutional investment agency are treated as a suitable vehicle especially for small investors, who normally avoid investing in the capital market and are unable to predict its conditions. Mutual Funds can provide expert advice and portfolio management by reducing unsystematic risk, while offering good returns. They are considered to be the powerful engines and catalytic agents for resource mobilization from the common investors to the corporate sector. It provides the benefits of diversification, professional management, liquidity of investment, low initial investment, reduced risks, tax benefits etc. In this article Oryx Mutual Funds performance is compared on yearly basis for past six years (2006-2011) and benchmark is taken MSM 30 Index.

In Oman, the mutual fund was started only in 1995, almost two decades back. The Oryx mutual fund was started by Bank Muscat in 1994 as a close-ended fund (Oryx JIA). On 1st

October 2004 the Fund was converted into an open-ended fund with weekly liquidity and later the fund offered daily subscription/redemption. The fund is registered with Capital Market Authority (CMA) but is not listed on the Muscat Securities Market (MSM). The fund is an open-ended investment fund established under the laws of Oman. It is a contractual arrangement between investors, the Investors' Committee and the Fund Manager, under which investors acquire units providing a pro-rata entitlement to the net assets of the fund on a divisible basis and the terms and conditions described in the prospectus. There is no nominal value for the units, and the units are not capital guaranteed. Because it is an open-ended fund, there shall be no maximum capital. The minimum capital shall be R.O. 500,000.

The fund will invest in the GCC countries, which is an emerging market and the risks attached to an emerging market are applicable to this fund. Investors should note that GCC markets are less liquid and more volatile than the world's leading stock markets, and this may result in fluctuations of the NAV. The fund will attempt to focus on the more liquid stocks in these markets, but there can be no guarantee that this objective can be achieved at all times.

REVIEW OF LITERATURE:

Review of literature is a brief description about mutual funds research work conducted in India as well as in abroad. Some of these studies have been reviewed in the following paragraphs in order to establish the research gap and need for the present study. **Treynor (1965)** developed a methodology for evaluating mutual fund performance that is popularly referred to as reward to volatility ratio. **Sharpe (1966)** carried out a well acknowledged and widely quoted work on performance evaluation. He also developed a composite measure of performance evaluation that considers both return & risk. **Jensen's (1968)** classic studies developed an absolute measure of performance based upon the Capital Asset Pricing Model. The excess fund returns were regressed upon the excess market returns to estimate the characteristics line of the regression model. **Carlson (1970)** examined the overall performance of mutual funds during the period 1948-67. However, he laid emphasis on analyzing the effect of using different indices as a proxy for the market over different time periods. He reported that funds performance related to the market varied depending upon which index was used for the market viz. S&P 500, NYSE composite or DJIA. **Kun and Jen (1978)** estimated the systematic risk and performance of 49 mutual funds over the period 1960-71 by utilizing monthly price data. The result indicated that a very substantial fraction of mutual funds had two level of systematic risk during each of three sub periods. **Kane and Marks (1983)** developed conditions under which Sharpe (1966) measure would correctly and completely capture market timing ability of fund managers. **Jaganathan and Robert (1986)** demonstrated theoretically and empirically that it was possible to construct portfolios that showed artificial timing ability when, in fact, no true timing ability existed. In particular, investing in options or levered securities will show spurious market timing. **Lee and Rahman (1989)** examined market timing and selectivity performance of selected mutual funds. They concluded that at the individual level, there was some evidence of superior forecasting ability on the part of fund manager. **Obaidullah and Sridhar (1991)** evaluated the performance of two major growth oriented mutual fund schemes- Mastershare and Canshare. They concluded that both of these funds provided abnormal returns. Mastershare outperformed on a total-risk adjusted basis while Canshare did on a market-risk adjusted basis. **Jayadev (1998)** conducted a study on the performance evaluation of portfolio managers. He examined the performance of 62 mutual fund schemes using monthly NAV data for the period of April 1987 to March 1995. The study showed that the Indian mutual funds were not properly diversified. **Singh and Chander (2001)** appraised the status of

Indian mutual fund industry in pre-liberalisation and post-liberalisation era extended over the period from 1963 until August, 2001. **Mohanani (2006)** found that Indian mutual fund industry was one of the fastest growing sectors in the Indian capital and financial markets. Mutual funds assets under management grew by 96 percent between the end of 1997 and June 2003 and as a result it rose from 8 percent of GDP to 15 percent. **Agrawal (2007)** examined that since the development of the Indian capital Market and deregulations of the economy in 1992 it has come a long way with lots of ups and downs. The study revealed that the performance is affected by saving and investment habits of the people; at the second side the confidence and loyalty of the fund manager and rewards affects the performance of the mutual fund industry in India. **Parihar et al. (2009)** revealed that mutual funds are financial intermediaries concerned with mobilizing savings of those who have surplus and the canalization of these savings in those avenues where there is a demand for funds.

NEED OF THE STUDY:

Mutual Fund industry is becoming a good option of investment in Oman Financial Market. It is quite popular among institutional investors but not the same for small and household investors. The need of present study of mutual funds cater to reduce the past research gap and also to update the performance of mutual funds in the current scenario. In this study, an attempt has been made to evaluate the performance of Oryx mutual fund for six years.

OBJECTIVES OF THE STUDY:

To evaluate the performance of the mutual funds, the following are the main objectives of the present study:

- i) To examine the risk and return component among these mutual funds.
- ii) To study the relationship between NAV and market portfolio return (BSE Sensex).
- iii) To evaluate the return of these mutual funds according to the Fama's model.

SCOPE OF THE STUDY:

The present study is related to Oryx mutual fund's performance in six years. The time period for the research work is from 2006 to 2011. The monthly returns are compiled on the basis of NAV. Then these schemes are compared with Muscat Security Market Index to evaluate the performance of this scheme. An attempt has been made to draw a conclusion which reflects the clear picture of the Oryx mutual fund industry in the current scenario.

DATA COLLECTION:

The present study is based on secondary data which is collected from various sources like published annual reports of the sponsoring agencies, online bulletins, journals, books, magazines, brochures, newspapers and other published and online material. The monthly data for the mentioned schemes have been collected from the website www.msm.gov.om. The data has been collected from 1st January 2006 to 31st December 2011.

METHODOLOGY:

In the present study an attempt has been made to analyze and interpret the behaviour of mutual fund scheme with the market during the period under study. In order to achieve the pre-determined objectives an analysis has been made to compare the scheme with the market on the basis of risk and return.

Different statistical and financial tools are used to evaluate the performance of these mutual fund schemes under the present study. These tools and techniques include percentage method, arithmetic mean, standard deviation, beta, co-efficient of determination, Sharpe, Treynor and Fama's Measure.

AVERAGE RETURN:

The most common method of calculating the return is average simple return. This method is easy to compute and understand. Hence, schemes are compared on the basis of average monthly return generated by the schemes under the study as:

Average Scheme Return has been computed as:

$$AR_p = \sum R_p / n$$

Where

AR_p = Average Portfolio Return

R_p = portfolio return

n = number of observations

Average Market Return has been computed as:

$$AR_m = \sum R_m / n$$

Where

AR_m = Average Market Return

R_m = Market Return

n = number of observations

STANDARD DEVIATION:

It is measure of total risk of a fund. It measures the fluctuation of the NAV as compared to the average returns of the schemes during a particular period. A higher standard deviation characterize that the returns of the fund have been more unstable and risky than fund having lower standard deviation. Hence, low standard deviation means low risk in funds return. It has been calculated with the usage of MS excel 2007 'STDEV' function where the cell range caters to the monthly fund returns over the period under study.

BETA:

Beta is a measure of systematic risk of a portfolio. It determines the volatility of a fund in comparison to that of its index or benchmark. Where the beta value of fund is very close to 1, it indicates that the fund's performance closely matches the market index. Beta value of fund less than 1 indicates less volatility of the fund than the market index. For example, if stock's beta is 1.3, it is theoretically 30% more volatile than the market. Negative beta reflects an inverse relationship between the security and the market.

Beta is computed by following formula:

$$\text{Beta} = \text{Covariance (Stock, Index)} / \text{Variance (Index)}$$

Where, Covariance (Stock, Index) means covariance between scheme and market returns, while Variance (Index) means variance of Index.

CO-EFFICIENT OF DETERMINATION (R-SQUARE):

R-Square of a fund advises investors if the beta (or systematic risk) of a mutual fund is measured against an appropriate benchmark, thus helps in testing the validity of the comparison. Funds with the high R-square value indicate that the portfolio is well diversified with low company specific risk and vice versa. Hence, schemes with high R-square value are preferred. A low R-square value indicates that the fund has further scope for diversification.

RISK FREE RATE:

Risk free rate is measured by the bank rate prevailing during the period under study. It is also measured on monthly basis so as to have a compatibility with the monthly returns of the mutual fund schemes.

SHARPE RATIO:

It is developed by Nobel laureate William F. Sharpe to measure risk adjusted performance. It is a measure of a fund's return per unit of risk assumed. Sharpe ratio is calculated by deducting the risk free rate of return from the average monthly return for a portfolio and dividing the result by the standard deviation of the portfolio returns. Higher ratio indicates the better the fund's historical risk-adjusted performance. The Sharpe ratio tells us whether the portfolio's returns are due to smart investment decisions or a result of excess risk. This measurement is very useful because although one portfolio can reap higher returns than its peers, it is treated as a good investment if those higher returns do not come with too much additional risk. The greater a portfolio's Sharpe ratio, the better is its risk adjusted performance. A negative Sharpe ratio indicates that a risk - less asset would perform better than the security being analyzed. If fund's Sharpe ratio is greater than the benchmark, the fund's performance is superior over the market. If it is less than the benchmark, the fund's performance is not good in the market. Sharpe ratio is calculated with the usage of following equation:

$$S_p = (AR_p - AR_f) / \sigma_p$$

Where,

AR_p = Average Fund Return

AR_f = Average risk-free return

σ_p = Standard deviation of fund returns

The benchmark comparison is $S_m = (AR_m - AR_f) / \sigma_m$

TREYNOR RATIO:

Treynor ratio is developed by Jack Treynor that measures return per unit of systematic risk. It is similar to the Sharpe ratio, with the difference that the Treynor ratio uses beta as the measurement of volatility. The scheme with the higher Treynor ratio offers a better risk-reward equation for the investor. It is also known as the "reward-to-volatility ratio". It is more appropriate for diversified funds, where the systematic risks have been eliminated. For a completely diversified portfolio, one without any unsystematic risk, the two measures give identical ranking. Alternatively, a poorly diversified portfolio could have a high ranking based on Treynor ratio and a low ranking based on Sharpe ratio. The difference in rank is because of the difference in diversification. Hence, both ratios provide complementary yet different information. Treynor ratio is calculated for various funds as:

$$T_p = AR_p - AR_f / \beta_p$$

Where,

AR_p = Average fund return

AR_f = Average risk- free return

β_p = beta of the fund

The benchmark comparison is $(AR_m - AR_f)$

FAMA'S SEGREGATION OF RETURNS (FAMA'S COMPONENTS OF INVESTMENT PERFORMANCE):

The risk adjusted performance measures used above reflects the overall performance of the sample schemes. According to Fama (1972), portfolio return constitutes four components

namely risk free return, compensation for systematic risk, compensation for inadequate diversification and returns due to net selectivity. The different components have been worked out as follows:

(i) Risk free return: AR_f

Risk Free asset is the one where investor purchases the asset in the beginning of the holding period and knows exactly the terminal value of the asset at the end of the period. It includes bank deposits, post office savings schemes, government securities, debentures etc. An investor invests in assets other than risk free assets in the hope of obtaining excess returns for taking additional risk.

(ii) Compensation for systematic risk: $\beta_p (AR_m - AR_f)$

This measure helps to access returns generated by the fund managers due to their decision to take risk. They assume risk in the expectations of generating excess returns on their portfolios.

(iii) Compensation for inadequate diversification: $[AR_m - AR_f] [\sigma_p / \sigma_m - \beta_p]$

The potential advantage of mutual fund investment to the investor is diversification of the portfolio. Diversification reduces the unique risk of the portfolio, and thus improves the performance of the mutual fund schemes. The compensation for diversification measures is additional return that compensates the portfolio manager for bearing the diversifiable risk.

(iv) Net Selectivity: $[AR_p - AR_f] - [\sigma_p / \sigma_m] [AR_m - AR_f]$

The ability to identify the undervalued securities to earn the excess returns is known as the ability of net selectivity of the fund managers. A positive net selectivity indicates superior performance. The investors are benefited out of the selectivity exercised by the fund managers, which reflects the true stock selection ability of the mutual fund managers. However, in case of negative net selectivity, it means that fund managers have taken diversifiable risk which has not been compensated by extra returns.

RETURN ANALYSIS:

The performance of the schemes have been analysed through averages and these tools are applied to NAV of the selected scheme for selected years. The results of these applications are shown as per Table 1. The average monthly return is calculated on the basis of NAV. The performance of the scheme in 2006, 2010 and 2011 is more than the market index whereas in other years it's quite near to the benchmark. It clearly shows that the scheme has performed well in the selected years.

RISK ANALYSIS:

The risk is analysed with the help of standard deviation, beta, co-efficient of determination, systematic risk and unsystematic risk (Table 1).

High value of standard deviation shows high degree of risk. Only in 2006 and 2010 the standard deviation is higher as compared to the benchmark i.e. market index, whereas, the standard deviation in the remaining year's i.e.2007, 2008 and 2009 is less and are less risky. Overall, variability in return of portfolio of schemes is less than variability in return of the

market. Standard deviation allows portfolios with similar objective to be compared over a particular time frame.

The beta value of the scheme in all the selected years are less than one except in 2010 and manifest that these are defensive schemes in nature and less sensitive to the market forces.

The value of R^2 is less in all the selected years which indicate that the scheme is not well diversified and the unsystematic risk is high in it. Thus the scheme does not offer the advantages of diversification which resulted into increase in total risk. However, in 2010 the systematic risk is high as compared to other years under study.

Table No. 1
Return & Risk on Oryx Mutual Fund Portfolios

Year	Average Portfolio Return R_i	MSM R_m (Market Index)	Standard Deviation (σ_i)	Standard Deviation (σ_m) (Market Index)	Beta (β)	R Square (R^2)	Systematic Risk	Unsystematic Risk
2006	1.010185	1.003235	0.094071	0.047331	0.799465	0.195777	0.800053	0.804223
2007	1.025627	1.041846	0.027799	0.045284	0.350457	0.387874	0.364246	0.612126
2008	0.963636	0.964644	0.098643	0.109914	0.705307	0.735030	0.678607	0.264970
2009	0.996136	1.014951	0.053768	0.061480	0.543744	0.460028	0.550514	0.539972
2010	1.010262	1.005448	0.042356	0.033565	1.025058	0.785274	1.028079	0.214726
2011	0.989693	0.986597	0.037381	0.038965	0.648528	0.543864	0.638215	0.456136

APPLICATION OF SHARPE MODEL:

The analysis (Table 2) depicts the excess return of total risk over the risk free rate per unit.

Table No. 2
Application of Sharpe Model

Year	Name of the Scheme	Sharpe Ratio	Benchmark	Performance
2006	Oryx Mutual Fund	10.7119	21.1433	0
2007	Oryx Mutual Fund	36.8049	22.9517	1
2008	Oryx Mutual Fund	9.7436	8.7536	1
2009	Oryx Mutual Fund	18.4802	16.4681	1
2010	Oryx Mutual Fund	23.7927	29.8806	0
2011	Oryx Mutual Fund	26.4089	25.2557	1

Note: 1 stands for good performance and 0 stands for poor performance.

The performance of the scheme is compared with the benchmark MSM 30 Index. The schemes having more than one value indicate that it has performed well in the market and less than one value indicates that it has poor performance. On the basis of NAV in 2007, 2008, 2009 and 2011 it has more than one value; therefore, have good performance in the market whereas in the remaining years the scheme have shown poor performance.

APPLICATION OF TREYNOR MODEL:

Table No. 3
Application of Treynor Model

Year	Name of the Scheme	Treynor Ratio	Benchmark	Performance
2006	Oryx Mutual Fund	1.260450	1.000735	1
2007	Oryx Mutual Fund	2.919411	1.039346	1
2008	Oryx Mutual Fund	1.362719	0.962144	1
2009	Oryx Mutual Fund	1.827397	1.012451	1
2010	Oryx Mutual Fund	0.983128	1.002948	0
2011	Oryx Mutual Fund	1.522205	0.984097	1

Note: 1 stands for good performance and 0 stands for poor performance.

The performance of the scheme on the basis of Treynor’s index is described in Table 3 which provides the excess return over risk free rate for one unit of systematic risk. The performance of these schemes is compared with the benchmark portfolio and it is observed that on the basis of performance indicator i.e. NAV the scheme has performed well in the market because their relative index value is higher than one in all the selected years except in 2010.

APPLICATION OF FAMA’S SEGREGATION OF RETURNS MODEL:

Table 5 presents break up of portfolio returns with the help of Fama’s decomposition measures. In the selected years the scheme has positive growth rate in its NAV during study period. Due to net selectivity only in the year 2006 and 2010 the scheme has shown poor performance while in other years, the scheme has outperformed. The positive values of return on systematic and unsystematic risk imply that in most of the schemes the actual return was more than the risk free return during the period of study and it covered both the risk involved. The return from stock selectivity was positive (except in the year 2006 and 2010) implying that the sample schemes had earned good return due to stock selectivity. The fund managers were found to be competent in selecting the undervalued securities.

TABLE NO. 5
APPLICATION OF FAMA'S SEGREGATION OF RETURN MODEL

Year	Name of the Scheme	Funds Return	Risk Free Return	Net Selectivity	Systematic Risk	Inadequate Diversification
2006	Oryx Mutual Fund	1.010185	0.002500	-0.981297	0.800053	1.188930
2007	Oryx Mutual Fund	1.025627	0.002500	0.385102	0.364246	0.273779
2008	Oryx Mutual Fund	0.963636	0.002500	0.097652	0.678607	0.184877
2009	Oryx Mutual Fund	0.996136	0.002500	0.108184	0.550514	0.334937
2010	Oryx Mutual Fund	1.010262	0.002500	-0.257861	1.028079	0.237544
2011	Oryx Mutual Fund	0.989693	0.002500	0.043109	0.638215	0.305869

CONCLUSIONS

From the above analysis, it can be noted that the Oryx mutual fund has performed almost equal to the benchmark indicators. However, the average return of the schemes is less than the market index but the difference is insignificant. The empirical results show that on the basis of total risk the schemes are less volatile than the market. The value of R^2 ranges within 0.20 to 0.79, it shows that the schemes are not well diversified and increases the unsystematic risk. The beta value of the schemes is less than one indicates that the schemes are less affected by the market ups and downs. Further, the fund managers are found to be good in terms of their ability of market timing and selectivity.

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