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Comparative Performance of Infrastructure Fund Schemes of Public and Private Sector Banks in India

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Abstract

Sector and Thematic Funds are generally referred to as single category funds and the funds cannot take exposure to multiple sectors or themes. Some of the Sector funds available in India include Banking, Pharmacy, IT, Technology, Infrastructure, FMCG etc. In this paper, an attempt has been made to evaluate the performance of six thematic infrastructure mutual fund schemes (three from public sector banks and three from private sector banks in India) by analyzing their returns, total risk, systematic risk, funds actual and expected performance and correlation between benchmark return and funds return to meet the expectation of investors by providing return in recent times. It may be concluded from the study that the comparative performance of thematic-infrastructure mutual fund schemes of private sector banks are better than their counterpart.

Keywords: Correlation, Sector fund,Total risk, Systematic risk.

Introduction

Infrastructure is the basic physical systems of a business or nation. Transportation, communication, sewage, water and electric systems are all examples of infrastructure. These systems tend to be high-cost investments; however, they are vital to a country's economic development and prosperity. Infrastructure projects may be funded publicly, privately or public private partnership. An extension of a Sector Fund is a Thematic Fund that invests in stocks based on a particular theme. Sector and Thematic Funds are generally referred to as a single category fund which means they cannot take exposure to multiple sectors or themes. Some of the Sector funds available in India include Banking, Pharmacy, IT, Technology, Infrastructure, FMCG etc. These funds are usually launched on the belief that a particular sector will outperform the broader index and will generate higher returns than the broader benchmark. Sector Funds fall in the high risk and high return category of funds. If the particular sector does well, then one can expect higher than market returns but if the sectors perform poorly then the returns are far less than the market.

Review of Literature

Several scholarly studies were conducted over the years on different

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dimensions of mutual funds by academicians, researchers and committees. Performance evaluation of mutual funds is an area of research in the western countries for more than six decades. Research on evaluation of performance of mutual funds contributed a lot to the wealth of knowledge with the help of the tools developed by Markowitz, Sharpe, Jensen, Treynor and others. Sharpe, William F (1966) developed a composite measure of return and risk. He evaluated 34 open-end mutual funds for the period 1944-63.Treynor (1965) and Sharpe (1966) have provided the conceptual framework of relative measure of performance of equity mutual funds while Treynor used systematic risk. Treynor measures the performance portfolio in relative measure that ranks the funds in terms of risk and return. The index is also termed as reward to volatility ratio. Jensen (1968) developed a composite portfolio evaluation technique concerning risk-adjusted returns. He evaluated the ability of 115 fund managers in selecting securities during the period 1945-66. Mishra (2001) evaluated performance over a period April 1992 to December 1996. The sample size was 24 public sector sponsored mutual funds. The performance was evaluated in terms of rate of return, Treynor, Sharpe and Jensen's measure of performance. The study also addressed betas instability issues. The study concluded dismal performance of PSU mutual fund in India, in general, during the period 1992-96. Alekhya (2012) evaluated performance of public & private sector mutual funds in India. Alekhya had evaluated the performance of 3 public (HDFC, UTI, SBI) and 1 private sector (JM Financial) Indian Mutual fund equity scheme of 3 years past data from 2009 to 2011 to examine the funds sensitivity to the market fluctuations in terms of beta. To appraise investment performance of mutual funds with risk adjustment the theoretical parameters as suggested by Sharpe, Treynor and Jensen to rank the funds according to Sharpes, Treynors and Jensons performance measure. Jain and Gangopadhyay (2012) analyzed the performance of equity based mutual funds. A total of 45 schemes offered by 2 private sector companies and 2 public sector companies, have been studied over the period April 1997 to April 2012 (15 years). The analysis has been made using the risk-return relationship and Capital Asset Pricing Model (CAPM).The overall analysis finds that HDFC and ICICI have been the best performers, UTI an average performer and LIC the worst performer which gave below- expected returns on the risk-return relationship.

Objectives of the Study

- To study the concept of Infrastructure fund schemes of mutual funds.

- To measure the return given by the selected six infrastructure mutual fund schemes (three from public sector banks and three from private sector banks in India) and measure the total risk and systematic risk associated with the return given by the funds.

Research Methodology

Data Collection:

This study is based on secondary data. The relevant sources of secondary data are books, journals, magazines, newspapers, brochures and websites of selected mutual Funds. All the relevant data is being collected from moneycontrol.com, mutualfundsindia.com for year 2011 to year 2015. The present study measures and compares the performance of six infrastructure fund schemes of public and private sector banks in India : three from public sector banks viz., SBI Infrastructure Fund-series I (G), Baroda Pioneer Infrastructure Fund (G), CanaraRobeco Infrastructure Fund (G) and three from private sector banks viz., HDFC Infrastructure Fund (G), ICICI Prudential Infrastructure Fund- Retail Plan (G) and Kotak Infrastructure and Economic Reform Fund-Standard Plan (G).

Tools and techniques:

In this study, statistical tools such as the arithmetic mean and measure of dispersion such as Standard deviation, beta, alpha and RSQ have been applied. For calculating beta and alpha and RSQ, the researcher has used the return given by the NSE CNX NIFTY 50 treated as the common benchmark.

Limitations of the study:

The study has some limitations, they are:

- The study is based on only six infrastructure mutual fund schemes (three from public sector banks and three from private sector banks in India) due to the availability of the data.
- The study is limited to period of five years due to the availability of the data.

Results and Discussion

Table- 1

Absolute return (%) of the select Infrastructure funds of public sector banks and private sector banks in India from year 2011 to year 2015

Name of the Fund	2011	2012	2013	2014	2015	Average
SBI Infrastructure Fund-series I (G)	-40.9	11.9	-15	42.7	0.2	-0.22
Baroda Pioneer Infrastructure Fund(G)	-41	14.9	-7.1	47.1	-5.5	1.68
CanaraRobeco Infrastructure Fund(G)	-21.9	20	-10.4	57.4	3.6	9.74
HDFC Infrastructure Fund (G)	-41.3	32.3	-14.7	61.3	-6	6.32
ICICI Prudential Infrastructure Fund-Retail Plan (G)	-34.5	22.2	-6.5	48.6	-6.7	4.62
Kotak Infrastructure and Economic Reform Fund-Standard Plan (G)	-22.2	17.2	-8.8	64.2	-2.9	9.5

Source: moneycontrol.com

Inference: Table 1 exhibits the yearly and five years' average absolute return (%) of the Infrastructure funds of public sector and private sector banks in India from year 2011 to year 2015. In 2011 and 2013 all the infra funds of public sector banks under consideration have given a negative return. In 2012, CanaraRobeco Infrastructure Fund (G) has given the highest return of 20% and SBI Infrastructure Fund-series I (G) has given the lowest return (11.9%) among all the infra funds of public sector banks under consideration. In 2014 and 2015, CanaraRobeco Infrastructure Fund (G) has given the highest return of 57.4% and 3.6% respectively and Baroda Pioneer Infrastructure Fund (G) has given the lowest return (-5.5%). CanaraRobeco Infrastructure Fund (G) has given the highest five years' average return (9.74%) and SBI Infrastructure Fund-series I (G) has given the lowest five years' average return (-0.22%) among all the infra funds of public sector banks under consideration.

In years 2011, 2013 and 2015 all the infra funds of private sector banks under consideration have given a negative return. In 2012, HDFC Infrastructure Fund (G) has given the highest return of 32.3% and Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) has given the lowest return (17.2%) among all the infra funds of private sector banks under consideration. In 2014, Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) has given the highest return of 64.20% and ICICI Prudential Infrastructure Fund- Retail Plan (G) has given the lowest return (48%). Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) has given the highest five years' average return (9.5%) and ICICI Prudential Infrastructure Fund- Retail Plan (G) has given the lowest five years' average return (4.62%) among all the infra funds of private sector banks under consideration.

Table-2

Standard deviation of the select Infrastructure funds of public sector and private sector banks in India from year 2011 to year 2015

Name of the Fund	2011	2012	2013	2014	2015	Average
SBI Infrastructure Fund-series I (G)	3.54	6.64	12.9	16.91	6.71	9.34
Baroda Pioneer Infrastructure Fund(G)	3.53	7.01	9.31	15.32	6.06	8.25
CanaraRobeco Infrastructure Fund(G)	3.51	8.25	7.81	11.82	5.87	7.45
HDFC Infrastructure Fund (G)	5.41	11.99	16.51	15.76	5.09	10.95
ICICI Prudential Infrastructure Fund- Retail Plan (G)	3.38	5.73	10.23	13.62	3.3	7.25
Kotak Infrastructure and Economic Reform fund-Standard Plan (G)	4.87	9.01	10.08	9.16	2.98	7.22

Source: Calculated data

Inference: Table 2 is showing the yearly and five years average standard deviation of the Infrastructure funds of public sector and private sector banks in India from year 2011 to year 2015. Standard deviation is the risk of fluctuation of actual expected return from average return. In years 2011, 2013, 2014 and 2015, the standard deviation of return of SBI Infrastructure Fund-series I (G) was the highest and the standard deviation of return of CanaraRobeco Infrastructure Fund (G) was the lowest among all the infra funds of public sector banks under consideration. In 2012, the standard deviation of return of CanaraRobeco Infrastructure Fund (G) was the highest and the standard deviation of SBI Infrastructure Fund-series I (G) was the lowest. Five years' average standard deviation of SBI Infrastructure fund-series I (G) was the highest and it was opposite for CanaraRobeco Infrastructure Fund (G). The risk of fluctuation of actual expected return from average return is the highest in case of SBI Infrastructure Fund-series I (G) and the lowest in case of CanaraRobeco Infrastructure Fund (G) among all the infra funds of public sector banks under consideration.

In years 2011, 2012, 2013, 2014 and 2015, the standard deviation of return of HDFC Infrastructure Fund (G) were highest and the standard deviation of return of ICICI Prudential Infrastructure Fund-Retail Plan (G) for 2011, 2012 and Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) for 2013, 2014 and 2015 were lowest among all the infra funds of private sector banks under consideration. Five years' average standard deviation of HDFC Infrastructure Fund (G) was the highest and it was opposite for Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) among all the infra funds of private sector banks under consideration. In other words, the risk of fluctuation of actual expected return from average return is the highest in case of HDFC Infrastructure Fund-series I (G) and lowest in case of Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) among all the infra funds of private sector banks under consideration.

Table- 3

Beta(β) of the Infrastructure funds of public sector and private sector banks in India from year 2011 to year 2015

Name of the Fund	2011	2012	2013	2014	2015	Average
SBI Infrastructure Fund-series I (G)	0.28	1.02	2.1	3.55	1.89	1.77
Baroda Pioneer Infrastructure Fund(G)	0.91	1.26	1.74	3.68	2.15	1.95
CanaraRobeco Infrastructure Fund(G)	0.33	1.48	1.44	3.08	2.03	1.67
HDFC Infrastructure Fund (G)	1.06	2.11	2.95	3.94	1.27	2.27
ICICI Prudential Infrastructure fund- Retail Plan (G)	0.87	1.02	1.86	3.22	1.16	1.63
Kotak Infrastructure and Economic Reform Fund-Standard Plan (G)	0.48	1.63	1.89	2.39	1	1.48

Source: Calculated data

Inference:Table 3 is exhibiting the yearly and five years average beta of the Infrastructure funds of public sector banks and private sector banks in India from year 2011 to year 2015. Beta is the sensitivity of the portfolio return with the benchmark return. In case of infrastructure funds of public sector banks, the beta value of return of Baroda Pioneer Infrastructure Fund (G) was the highest in the year 2011, 2014 and 2015, while in 2012 the beta value of return of CanaraRobeco Infrastructure Fund (G) and the beta value of return of 2013 SBI Infrastructure Fund-series I (G). Five years' average beta value of return of Baroda Pioneer Infrastructure Fund (G) was the highest and beta value of return of the CanaraRobeco Infrastructure Fund (G) was the lowest.

In case of infrastructure funds of private sector banks,the beta value of return of HDFC Infrastructure Fund (G) was the highest in years 2011 to 2015, and five years' average the beta value of return of HDFC Infrastructure Fund (G) was the highest and average beta value of return of the Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) was found to be the lowest.

Table - 4

Alpha(α)of the Infrastructure funds of public sector banks and private sector banks in India from year 2011 to year 2015

Name of the Fund	2011	2012	2013	2014	2015	Average
SBI Infrastructure Fund-series I (G)	-8.33	-3.6	-7.47	-14.62	1.92	-6.42
Baroda Pioneer Infrastructure Fund(G)	-4.02	-4.44	-4.86	-14.48	0.76	-5.41
CanaraRobeco Infrastructure Fund(G)	-3.25	-4.54	-5.15	-7.63	2.91	-3.53
HDFC Infrastructure Fund (G)	-3.08	-5.57	-8.89	-12.78	-0.24	-6.11
ICICI Prudential Infrastructure Fund-Retail Plan (G)	-2.69	-1.07	-4.91	-10.79	-0.53	-4
Kotak Infrastructure and Economic Reform fund-Standard Plan (G)	-2.24	-6.21	-5.55	-0.95	0.26	-2.94

Source: Calculated data

Inference: Table 4 presents the yearly and five years average alpha of the Infrastructure Funds of public sector banks in India from year 2011 to year 2015. In case of infrastructure funds of public sector banks, the value of alpha of all the funds are negative. This means that the funds had underperformed in the years 2011 to 2014 and in the year 2015 the positive value of all the funds depicts that all funds performed better than its beta. The five years' average negative value (-3.53) of alpha was the lowest for CanaraRobeco Infrastructure Fund (G) and highest (-6.42) for SBI Infrastructure Fund-seriesI (G).

During the period 2011 to 2015, the value of alpha of all the funds are negative, this means that the funds had underperformed to its beta value in case of infrastructure funds of private sector banks.The five years' average negative value (-2.94) of alpha was the lowest for Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) and highest (-6.11) for HDFC Infrastructure Fund (G).

Table- 5

R-Squared (RSQ)of the Infrastructure funds of public sector banks and private sector banks in India from year 2011 to year 2015

Name of the Fund	2011	2012	2013	2014	2015	Average
SBI Infrastructure Fund-series I (G)	0.1	0.95	0.99	0.85	0.78	0.73
Baroda Pioneer Infrastructure Fund(G)	0.79	0.99	0.98	0.83	0.93	0.9
CanaraRobeco Infrastructure Fund(G)	0.1	0.97	0.95	0.98	0.88	0.78
HDFC Infrastructure Fund (G)	0.46	0.94	0.89	0.9	0.46	0.73
ICICI Prudential Infrastructure Fund-Retail Plan (G)	0.79	0.97	0.92	0.8	0.9	0.88
Kotak Infrastructure and Economic Reform Fund-Standard Plan (G)	0.12	0.99	0.98	0.98	0.82	0.78

Source: Calculated data

Inference: Table 5 displays the yearly and five years average RSQ of the Infrastructure funds of public sector banks in India from year 2011 to year 2015. RSQ measures the correlation between benchmark return and portfolio return. As the values of RSQ from year 2012 to 2015 are nearly 1, it can be said that there is high correlation between benchmark return and portfolio return. The average value of the five years' RSQ of the Baroda Pioneer Infrastructure Fund (G) is the highest (0.90) and SBI Infrastructure Fund-series I (G) is the lowest (0.73).

As the values of RSQ from year 2012 to 2015 are nearly 1, it can be said that there is high correlation between benchmark return and portfolio return. The average value of the five years' RSQ of the ICICI Prudential Infrastructure Fund- Retail Plan (G) is the highest (0.88) and HDFC Infrastructure Fund (G) is the lowest (0.73).

Conclusions

It can be concluded from the above analysis that CanaraRobeco Infrastructure Fund(G) has given the highest five years' average return (9.74%) and SBI Infrastructure Fund-series I (G) has given lowest five years' average return (-0.22%). Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) have given highest five years' average return (9.5%) and ICICI Prudential Infrastructure Fund- Retail Plan (G) has given the lowest five years' average return (4.62%). The risk of fluctuation of actual expected return from average return is the highest in case of SBI Infrastructure Fund-series

I (G) and lowest in case of CanaraRobeco Infrastructure Fund (G). Among the infrastructure funds of private banks the risk of fluctuation of actual expected return from average return is highest in case of HDFC Infrastructure Fund-series I (G) and lowest in case of Kotak Infrastructure and Economic Reform Fund-Standard Plan (G). Five years' average the beta value of return of Baroda Pioneer Infrastructure Fund (G) was highest and beta value of return of the CanaraRobeco Infrastructure Fund (G) was lowest and five years' average the beta value of return of HDFC Infrastructure Fund (G) was highest and beta value of return of the Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) was lowest. Five years' average the beta value of return of Baroda Pioneer Infrastructure Fund (G) was highest and beta value of return of the CanaraRobeco Infrastructure fund (G) was lowest. For public sector banks five years' average negative value (-3.53) of alpha was lowest for CanaraRobeco Infrastructure fund (G) and highest (-6.42) for SBI Infrastructure Fund-series I (G) and for private sector banks five years average negative value (-3.53) of alpha was lowest for CanaraRobeco Infrastructure Fund (G) and highest (-6.42) for SBI Infrastructure Fund-series I (G)**.** The average value of the five years RSQ of the Baroda Pioneer Infrastructure Fund (G) is the highest (0.90) and SBI Infrastructure Fund-series I (G) is the lowest (0.73) and the average value of the five years RSQ of the ICICI Prudential Infrastructure Fund-Retail Plan (G) is the highest (0.88) and HDFC Infrastructure Fund (G) is the lowest (0.73). So it can be finally said that performance of infrastructure Fund of private sector banks in India are better than its counterpart. Kotak Infrastructure and Economic Reform Fund-Standard Plan (G) have performed best among the six infrastructure Funds which have been taken into consideration.

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