A STUDY ON PERFORMANCE EVOLUATION ON EQUITY SCHEME IN SBI MUTUAL FUND IN BENGALURU

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I. ABSTRACT:

This study examines the performance of 20 SBI Mutual Fund equity schemes over a three-year period, using performance ratios like Sharpe Ratio, Treynor Ratio, and Jensen's Ratio, with Nifty 50 returns as a benchmark. The analysis covers a three-year period from 2020-21 to 2022-23, providing insights into the risk-adjusted returns and market performance of these portfolios. The SBI Contra Fund experienced a return of 2.2903% in 2021-22, with a decrease in volatility and a risk-free rate of 0.071%. The SBI Financial & Banking Service Fund showed a return of 3.953% in 2020-21, with moderate sensitivity to market movements and a risk-free rate of 0.071%. The SBI Blue Chip Fund had a return of 3.7531% in 2020-21, with low sensitivity to market movements and a risk free rate of 0.071%. The Jenson's Ratio was 3.2278, indicating excellent performance compared to the market & risk taken. The market return was 0.9053%, and the Jenson's Ratio was 1.2629. The return was 0.4475% in 2022-23, with moderate volatility and a risk free rate of 0.071%.

Keywords: Mutual Fund, Sharpe Ratio, Jenson's Ratio, Treynor Ratio, Risk & return, Investment, SBI Equity Scheme

II. Introduction

A mutual fund is a business that collects money from little investors with comparable financial goals. Professionals gather and manage the money, which is then invested in a variety of financial products, including bonds, money markets, debt, and stock. Mutual fund profits are divided among investors in share to their amount of investment; in this context, investors are referred to as unit holders.

SBI Equity Funds was chosen for its long-term capital appreciation strategy of investing in highly rated corporate stocks and firms that have received extensive analysis. Funds are selected based on consistency in performance and have high return goals. Before making an investment, carefully analyze these high-risk funds.

TYPES

01. Open- ended scheme: Funds with an undetermined maturity date are known as open-ended funds. Investors have the option to purchase & sell units at NAV at any time. Investors can invest in and withdraw from these liquid funds at any moment.

02. Close- ended fund: Closed ended funds are those with a set maturity date. Due to limits on investing & redeeming investments, some funds are non-liquid.

03. Interval Scheme: Open ended & closed-ended funds are united to create interval funds. At predetermined periods, these funds are available for trading on the stock exchange.

04. Growth Scheme: Equity shares account for the majority of investments. Due to price changes on the market, it is actual risky.

05. Debt Scheme: Government securities are the investment type for these funds. Since investments are made in debt securities, there is little risk involved, and earnings are steady and predictable.

06. Balanced Scheme: Balanced Funds are used to buy both debt and equity securities. Profits and modest growth are the two aims of the investing strategy.

07. Money market: Treasury Bills, Commercial papers, and other short-term investments with maturities of less than 91 days are examples. Liquid funds' investing goals include achieving liquidity, capital growth, and a reasonable return on investment.

08. Guilt Funds: These government securities are the safest sort of investments because they don't involve any credit risk.

09. Index Scheme: Index Fund makes equity investments that mimic stock market indices, such as an S&P 500 index fund.

10. Sector Specific Scheme: Money invested in securities of certain businesses and sectors, such as pharmaceuticals, software, FMGC, and oil companies, etc.

III. Literature review

01. Performance analysis of Selected SBI Mutual Funds Schemes

Author: C. Praveen Kumar Reddy, Prof. R. Nageswar Rao

Year: 2021

Journal: **Anveshana's International Journal of Research in Regional Studies, Law, Social Sciences, Journalism & Management Practices.**

Mutual funds provide a way to invest in the stock market without having to understand its intricacies. The greatest choice for investors without any stock market experience is offered by mutual funds. The ideal investment choice for the typical investor since it enables them to make investments in a wide range of well managed assets at competitive prices. Examining the historical performance of a few open-ended and SBI Growth mutual fund schemes is the goal of the current study.

02. A study on performance evaluation of Equity Mutual Funds Schemes in India

Author: Ruchi Arora, T.V Raman

Year: 2020

Journal: International Journal of Financial Engineering

No matter how much money is invested, provide everyone will access professional fund management platform in the Indian money market. It has gained popularity over past few years among the several financial products offered in India. It is certain that as investor knowledge and awareness have increased, shareholders are increasingly accepting mutual funds as a form of investing because so many investors are now profiting from them. Mutual fund investing involves less risk than investing directly in stocks. Returns from the fund management are necessary for the development of a diverse portfolio. They take into account a variety of factors, such as the size of the fund, the nature of plan, returns, risk, etc. The goal of this paper's analysis is to.

03. A Study on Performance Evaluation of Equity Share & Mutual Funds

Author: Deepak Adhana

Year: 2020

Journal: Maharshi Dayanand University - Institute of Management Studies & Research The comparison and analysis of equity fund schemes in terms of pure risk & return form the basis of current work. The report also examines and evaluates the mutual fund schemes with regard to basic

risk & return. The research also examines the typical risk and typical return of certain corporations that issue equity shares & mutual funds. The final section of the study examines the connection between equity shares' risk & return mutual funds'.

04. A Study on Performance Evaluation of Equity Linked Saving Schemes of Mutual Funds

Author: Dr. Ashok Panigrahi, Mohit Mistry, Raghav Shukla Journal:

Nmims journal of economics & public policy volume v

An organisation known as a mutual fund is one that raises money from several investors & invests it in a range of securities, such as stocks, bonds, loans, and so on. Mutual fund is a crucial component of India's capital market and one of its fastest-growing sectors. The equity- linked saving programme, an open-ended stocks diversified fund, gives investors a tax advantage under section 80 C of the Income Tax Act of 1961. Without the surcharge, the tax advantage on Rs. 1.5 lakh of "income" at 30% tax is up to Rs. 45,000. It might be challenging for investors to select the best ELSS funds, nevertheless, due to abundance of options.

05. Evaluation of equity mutual funds performance before and during outbreak of covid 19 pandemic in India

Author: Dr. Sarika Keswani, Parth Sahu

Year: 2020

Global economic growth has been significantly impacted by the Covid-19 Pandemic outbreak. Additionally, a country's economic development is impacted by an industry's success. The importance of transferring funds from household sector to the business sector for the growth of economy and of industries was made clearer by this study. In addition, taking into attention numerous variables including the sharpe ratio, beta, and treynor ratio, this study examined performance of several equity mutual funds from various categories & impact on investors who used their savings or participated in the capital market. Several kinds of mutual funds, including Small Cap, Mid Cap, Large Cap, Flexi Cap, and ElSS, had their performance in the pre- and post-covid eras compared.

Research gap

The above review for the literature reveals that the majority of research focuses on large cap open ended, equity, small and mid-cap funds, as fit as some research on small and mid-cap large cap, Randomly selected mutual fund schemes exist in India. A portion of the study is carried out to identify the most secure investment techniques and to ascertain if public or private funds are doing better. Most studies analyse the performance of equity schemes of two different mutual funds using market returns as a benchmark, however other research examine the performance of equity schemes of three different mutual funds.I've done research on how well SBI mutual fund's equity strategies have performed.

Objectives of the study:

- To study the schemes of SBI Mutual Fund Equity schemes
- To determine the Risk & Return related with the Equity schemes
- To Compare the Performance of SBI Mutual Fund Using sharpe and jensen's measures

Research design:

This study utilized the Simple random technique methodology to collect the data.

Simple random technique

Twenty SBI mutual fund equity plans have been chosen as the sample design. Each of these funds has a rating from the CRISIL. The Nifty 50 annual returns, which serve as the market return as a benchmark, are utilised in the study to compare the returns of the selected schemes to. This is regarded as the risk-free rate of return, or 7.1 percent.

Data collection

To obtain information, sources of secondary data are utilised.

Secondary sources

Majority of the information included in the study came from secondary sources, including books, magazines, websites, research papers, and so on.

Tools for analysis

The data collected is analysed through the following tools:

A. Sharpe Ratio

B. Treynor Ratio

C. Jensen's Ratio

Types of hypothesis

1. Null Hypothesis
2. Alternative Hypothesis

For this study we requires these hypothesis,

HO: There is a significant relationship between risk with return.

H1: There is no significant relationship between risk with return.

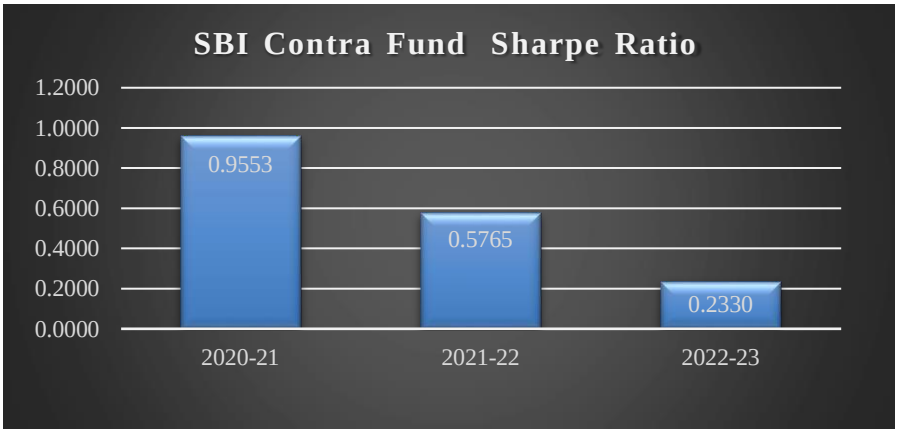
Analysis

Data analysis & interpretation were done using formula

1. Sharpe Ratio

SBI Contra Fund

Year	Rp	STD	RF	Sharpe Ratio
2020-21	5.1723	5.34	0.071	0.9553
2021-22	2.2903	3.8499	0.071	0.5765
2022-23	0.9386	3.7243	0.071	0.2330



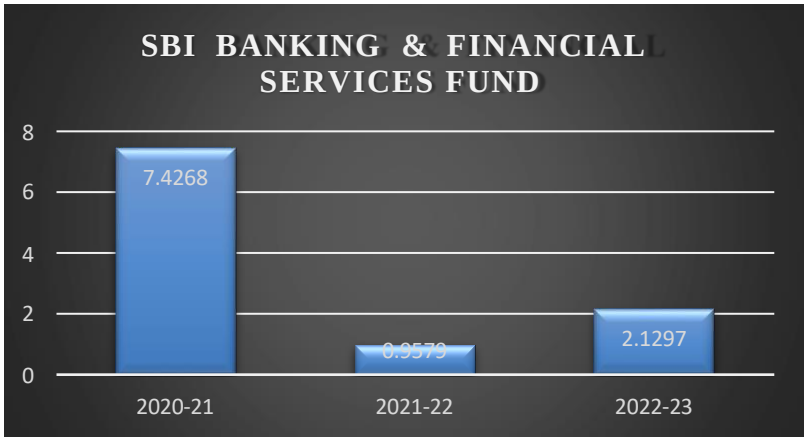
Interpretation:

In 2021-22, the portfolio experienced a return of 2.2903%, a decrease in volatility, and a riskfree rate of 0.071%. In 2022-23, the portfolio showed modest performance, generating positive returns and a favorable risk-adjusted performance. Overall, the portfolio demonstrated a positive risk-adjusted return throughout the three-year period.

2. **Treynor Ratio**

SBI Banking & Financial services fund

Year	RP	Beta	RF	Treynor Ratio
2020-21	3.953	0.5227	0.071	7.4268
2021-22	0.7327	0.6908	0.071	0.9579
2022-23	0.4733	0.1889	0.071	2.1297



INTERPRETATION:

The portfolio's performance was positive in 2021-22, with a positive Treynor Ratio. The manager generated excess return relative to its moderate beta, indicating it outperformed the risk-adjusted market return. In 2022-23, the portfolio's performance was positive, with a positive Treynor Ratio, and excess return relative to its low beta, indicating it outperformed the risk-adjusted market return. The low beta indicates minimal market movement influence.

03. Jenson's Ratio SBI

Blue Chip Fund

Year	Rp	Beta	RF	Rm	Jenson's Ratio
2020-21	3.7531	0.1153	0.071	4.0115	3.2278
2021-22	1.4556	0.1459	0.071	0.9053	1.2629
2022-23	0.4475	0.2135	0.071	0.8710	0.2057

Interpretation:

The portfolio's performance has declined over the years, with a high return of 3.7531 in 2020-21 and decreasing returns in subsequent years. The portfolio's beta increased, indicating increased volatility. Market performance declined from 4.0115 in 2020-21 to 0.8710 in 2022-23, indicating weaker overall performance. Jenson's Ratio, an indicator of a portfolio's performance relative to risk, has declined, indicating that the portfolio's performance is not meeting its risk-adjusted expectations.

Statistical Test

Paired Sample T- test

Paired Samples Correlations					
		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Sharpe Ratio & Treynor Ratio	20	0.481	0.016	0.032
Pair 2	Sharpe Ratio & Jensen's Ratio	20	0.789	<.001	<.001
Pair 3	Treynor Ratio & Jensen's Ratio	20	0.633	0.001	0.003

Paired Samples Test										
		Paired Differences					t	df	Significance	
		Mean	Std	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Sharpe Ratio - Treynor Ratio	-8.8037	6.57674	1.4706	-11.882	-5.7257	-5.986	19	<.001	<.001
Pair 2	Sharpe Ratio - Jensen's Ratio	-0.9627	2.36066	0.52786	-2.0675	0.14212	-1.824	19	0.042	0.084
Pair 3	Treynor Ratio - Jensen's Ratio	7.84103	5.4513	1.21895	5.28974	10.3923	6.433	19	<.001	<.001

Interpretation:

The paired samples correlations indicate significant positive relationships among the performance ratios: Sharpe Ratio and Treynor Ratio ($r = 0.481$, $p = 0.032$), Sharpe Ratio and Jensen's Ratio ($r = 0.789$, $p < 0.001$), and Treynor Ratio and Jensen's Ratio ($r = 0.633$, $p = 0.003$). Additionally, the paired samples test demonstrates that there are significant differences between these ratios. Specifically, the Sharpe Ratio is significantly lower than the Treynor Ratio (mean difference = -8.8037, $p < 0.001$), and the Sharpe Ratio is also lower than Jensen's Ratio (mean difference = -0.9627, $p = 0.084$). Conversely, the Treynor Ratio is significantly higher than Jensen's Ratio (mean difference = 7.84103, $p < 0.001$).

Paired Samples Correlations					
		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Sharpe Ratio & Treynor Ratio	20	0.512	0.011	0.021
Pair 2	Sharpe Ratio & Jensen's Ratio	20	0.815	<.001	<.001
Pair 3	Treynor Ratio & Jensen's Ratio	20	0.661	<.001	0.002

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair-1	Sharpe Ratio - Treynor Ratio	-3.9337	3.06363	0.68505	-5.3675	-2.4999	-5.742	19	<.001	<.001
Pair-2	Sharpe Ratio - Jensen's Ratio	-0.6495	0.55493	0.12409	-0.9092	-0.3897	-5.234	19	<.001	<.001
Pair-3	Treynor Ratio - Jensen'	3.28422	2.74221	0.61318	2.00083	4.56761	5.356	19	<.001	<.001

The analysis indicates that the Sharpe Ratio and Jensen's Ratio have a strong positive correlation ($r = 0.815$, $p < 0.001$), while the Sharpe Ratio and Treynor Ratio also correlate positively ($r = 0.512$, $p = 0.021$), as do the Treynor Ratio and Jensen's Ratio ($r = 0.661$, $p = 0.002$). Paired differences reveal that the Sharpe Ratio is typically lower than both the Treynor Ratio (mean difference = -3.9337, $p < 0.001$) and Jensen's Ratio (mean difference =

-0.6495, $p < 0.001$), whereas the Treynor Ratio tends to be higher than Jensen's Ratio (mean difference = 3.28422, $p < 0.001$).

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Sharpe Ratio & Treynor Ratio	20	0.747	<.001	<.001
Pair 2	Sharpe Ratio & Jensen's Ratio	20	0.903	<.001	<.001
Pair 3	Treynor Ratio & Jensen's Ratio	20	0.803	<.001	<.001

Paired Samples Test

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Sharpe Ratio - Treynor Ratio	-1.8596	3.10644	0.69462	-3.3135	-0.4058	-2.677	19	0.007	0.015
Pair 2	Sharpe Ratio - Jensen's Ratio	0.00287	0.43215	0.09663	-0.1994	0.20512	0.03	19	0.488	0.977
Pair 3	Treynor Ratio - Jensen's Ratio	1.86249	2.78098	0.62185	0.56095	3.16403	2.995	19	0.004	0.007

The analysis of provided figures indicates strong positive correlations among the performance ratios: the SR and TR ($r = 0.747$, $p < 0.001$), the Sharpe Ratio and Jensen's Ratio ($r = 0.903$, $p < 0.001$), and the Treynor Ratio and Jensen's Ratio ($r = 0.803$, $p < 0.001$). The paired differences show that the Sharpe Ratio tends to be lower than the Treynor Ratio (mean difference = -1.8596, $p = 0.015$), while the difference between the Sharpe Ratio and Jensen's Ratio is not significant (mean difference = 0.00287, $p = 0.977$), and the

Treynor Ratio is significantly higher than Jensen's Ratio (mean difference = 1.86249, p = 0.007).

Limitations:

06. The Analysis is based on historical performance in order to expect upcoming performance,
07. The Study is limited to a few SBI mutual fund schemes.
08. The source's durability is restricted to this plan.

Findings

- SBI Contra fund is generating the highest returns among 20 Equity schemes from last 3 years. It generates 1.7647 more then the average market returns.
- SBI Blue chip fund as the lowest beta value, low beta value indicates that the investment's returns are relatively less affected by market fluctuations. The investment tends to have a milder response to market ups and downs.
- SBI Banking & Financial services fund is the one scheme that has low return & high risk
- The SBI Magnum Mid Cap Fund exhibits the highest return in the Jensen ratio, signaling its strong outperformance by generating returns surpassing the expected level.
- SBI Infrastructure Fund has the lowest return in the Jensen ratio this indicates performance is very low

Suggestions:

- For individuals seeking higher returns and willing to embrace risk, schemes like SBI Contra Equity Fund and SBI Magnum Mid Cap Fund present suitable investment options.
- The selection of an effective portfolio is crucial for investment success; the portfolio should contain mutual fund products that offer investors significant returns with little risk.
- Younger customers under 35 will be a crucial new customer segment in the future, thus putting more effort into attracting younger clients who have an interest in investing should pay off.
- Mutual funds offer unique benefits, but many are unaware of their true nature. Advisors should aim to change police perceptions, avoiding targeting new career starters or young investors without experience or time.
- Before deciding where to put their money, investors should look at the detailed information about the plans. This includes how risky they are & how much money they've made before. This way, it's easier to select the right plan to invest in.

CONCLUSION:

This study looks at how well SBI's mutual fund plans are doing. They picked 20 of these plans and used Nifty 50 returns as a measure to compare. They found that out of the 20 plans, 5 are doing really well and making more money than the market. 3 are doing okay, making about the same as the market, and 2 are not doing so well, making less than the market.

The best-performing plan is the SBI Contra Fund. It's making more money than the others, and it's ranked first in terms of how well it does compared to the risks.

On the other hand , the SBI Infrastructure Fund is not doing so great. It's making less money than it should be, and it's riskier. It's ranked last in all the measurements, meaning it's not a good choice right now.

In terms of the Sharpe and Treynor ratios, the SBI Contra Fund is ranked first, meaning it's making extra money compared to the risks.

In the end, this study shows that the SBI Contra Fund is doing well, but the SBI Infrastructure Fund is not doing so well.

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