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Analysing Performance of Hybrid and ELSS Mutual Funds: A Comparative Analysis of Key Indicators

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Abstract:
In an effort to gain a greater understanding of how different risk criteria affect the performance metrics of Hybrid and ELSS funds, this research paper focusses on annualised returns, Sharpe's Ratio, Treynor's Ratio, and Jensen's Alpha. Through an examination of risk characteristics such correlation, annualised daily variance, downside standard deviation, systematic risk, and unsystematic risk, the study offers a comparative evaluation of the impact these parameters have on fund performance. Results indicate that downside risk significantly impacts annualized returns and Jensen's Alpha for both fund types, with Hybrid funds showing a more comprehensive impact due to systematic risk. Sharpe's Ratio analysis reveals that downside risk is crucial for both fund types, though its effect is more pronounced in ELSS funds. Treynor's Ratio analysis highlights the importance of downside risk and variance, with ELSS funds demonstrating a stronger explanatory power. The findings suggest that investors should consider these risk parameters carefully when evaluating fund performance, as their effects vary significantly across different performance metrics and fund types.
Keywords: Risk Parameters, Fund Performance Metrics, Hybrid Funds, ELSS Funds, Jensen's Alpha

1. Introduction

Asset Management Companies (AMCs), publicly as well as privately, served an instrumental role in the tremendous growth within the mutual- fund operations in India. Among of the absolute most appreciated alternatives for investing amongst all types of mutual funds are Hybrid Mutual Funds & Equity Linked Savings Schemes (Verma & Nema, 2023). A harmonious proportion of both debt and equity investments can be obtained by hybrid mutual funds, nevertheless Section 80C of the Income Tax Act enables tax advantages on ELSS funds, that emphasise investing in equity (Singh et al., 2024). The performance of hybrid and ELSS funds at public and private AMCs is compared in this study utilising important risk and return thresholds. With regard to choosing between funds managed by public and private sector AMCs, investors can use the findings to get insight into fund performance and guidance.

The purposes, managerial principles, & attraction to investors for private and public AMCs fluctuate. According to Kaur & Chaudhary (2021) there is a perception that private AMCs employ more inventive and aggressive investment techniques, whilst public AMCs are

generally considered safe and cautious. This distinction is important because it affects the mutual funds they manage in terms of both performance and risk. This distinction is crucial, as it influences the performance and risk profiles of the mutual funds they manage. While Hybrid Mutual Funds managed by public AMCs aim for a stable balance of equity and debt, private AMCs may take on more risk to achieve higher returns. ELSS Funds, irrespective of the AMC type, expose investors to the volatility of the equity market but with varying levels of risk based on the fund manager's strategy (Singal & Manrai, 2018).

Analysing risk and return together is necessary for a thorough assessment of mutual fund performance. According to Murphy (2015) , return metrics like Treynor's Ratio, Jensen's Alpha, and Sharpe's Ratio offer information on risk-adjusted returns and the effectiveness of fund management. That being said, a performance review would be incomplete if it did not take into account risk factors including beta, correlation, and systematic and unsystematic risk (Arora et al., 2019).

By contrasting the performance of ELSS Funds and Hybrid Mutual Funds across public and private AMCs, this study aims to close the gap in the existing literature. This research attempts to give investors actionable insights by providing a detailed examination of these funds' performance under different market conditions by looking at a wide range of performance variables. The results will help determine which AMCs public or private are best suited to provide higher risk-adjusted returns in the hybrid and ELSS fund categories.

2. Review of Literature

Patel et al. (2024) stated that the opportunity for capital expansion & tax savings have contributed to the growing acceptance of equity linked savings schemes (ELSS) in India. This study compared five ELSS funds to the benchmark NIFTY 50 Index, considering advantages related to taxes, expense ratios, portfolio diversity, historical performance, & risk indicators. Key findings reveal that while all five funds provide competitive tax benefits, their performance in terms of returns and risk management varies significantly. Some funds demonstrated higher returns but with greater volatility, while others offered more stable growth with lower risk. The importance of portfolio diversity was further supported by the fact that funds with a more balanced sectoral allocation performed better when adjusted for risk. The study revealed that overall returns were influenced by expense ratios, whereby funds with lower fees performed better than those with greater costs. By taking into account their risk tolerance and financial objectives, investors can select ELSS funds with greater ease using this information.

Subramaniam (2024) stated in his study that the Indian stock market has evolved significantly since its establishment way back in 1875. Since then, it has been offering more investment options to the public. By offering opportunities for capital growth, tax advantages, and stable finances, mutual funds were first introduced in 1964 with the establishment of Unit Trust of India (UTI), a company overseen by the Reserve Bank of India. This development increased investor confidence. In this research, standard deviation, beta, Sharpe ratio, Treynor ratio, and other measures are used to analyse the risk and returns of eleven tax-saving mutual funds during a 90-month period (2016–2023). According to these indicators, the research ranks Quant Tax Direct Plan (Growth Option) as a top performer, providing information that can assist investors in making wise choices regarding returns, savings, and risk management.

Das (2023) explained that Equity Linked Savings Schemes (ELSS) are invested in equity that make investment in various kinds of market capitalisations & industries with an objective of generating assets throughout an extended period of time. The change in the legislation governing taxes with enactment of long-term capital gain tax would likely discourage investments irrespective of Section 80C of the Income Tax Act grants tax benefits to investors. In this research, indicators such as CAGR, Sharpe Ratio, Jensen's Alpha, & beta

were employed to assess the performance of three ELSS funds: Aditya Birla Sun Life Tax Relief 96 (ABSLTR), Axis Long Term Equity (ALTE), & Nippon India Tax Saver (NITS) during 2009 - 2019. While NITS selected for an even more ambitious strategy for investing, ALTE consistently exceeded the benchmark on risk-adjusted returns, showcasing excellent stock-picking & diversification strategies.

Based on daily returns over the last three years, **Somaiya (2022)** assesses the performance of ELSS mutual funds using statistical parameters like Standard Deviation, Beta, Sharpe Ratio, Jensen's Alpha, and Treynor Ratio. The implications of the COVID-19 pandemic on investment return have been demonstrated through the use of NAV statistics extending from 2017–18 to 2021–22. Fund returns were either negative or low in 2018–19 and 2019–20; however, 2020–21 saw a notable turnaround with returns above 55%. The study emphasises how crucial it is to take risk ratios into account when making an investment. Every fund had positive Sharpe Ratios, which show returns over the risk-free rate. The performance was also rather excellent according to other ratios.

Equity Linked Savings Schemes (ELSS) in India are reviewed extensively by **Naveen & Mallikarjunappa (2021)**, who appraise the schemes' performance compared with the NIFTY 50 benchmark. It examines 39 open-ended ELSS funds that were launched between 2010 and 2020 & investigates the way various fund parameters like age, type of fund, turnover, & liquidity impact profitability. Performance persistence in ELSS funds is important, and the research underscores how these features impact risk-adjusted returns using pooled time-series and cross-sectional regression analysis. To help fund managers and investors make better investment decisions, the findings provide insightful information.

Puranik & Dave (2021) addresses the challenge investors face when selecting ELSS (Equity Linked Savings Scheme) funds for tax-saving purposes. With numerous funds available, investors often rely on ratings without understanding the underlying fund characteristics. The analysis assessed 35 open-ended ELSS funds up to July 18, 2021, employing a trio of parameters designed to assist investors make adequately informed decisions: risk factors (beta, alpha, standard deviation), past performance (including lump sum and SIP returns), and risk-reward ratios (Sharpe, Treynor, Sortino, Information, and capture ratios). Quant Tax Plan, Canara Robeco Equity Tax Saver, and Mirae Tax Saver are the best-performing funds, according to the data, whereas Indiabulls Tax Saving Fund, HDFC Tax Saver, Nippon India Tax Saver Fund, and Sundaram Diversified Equity Fund are less appropriate for ELSS investments.

Chaudhari (2020) focussed over 10 funds that have been categorised either aggressive or traditional while evaluating the returns of hybrid mutual funds in the Indian capital market. The study assesses fund performance over a three-year period from July 17, 2017, to 2019 using financial ratio analysis, which includes NAV, Sharpe ratio, standard deviation, BETA, and Jensen's alpha. Comparing aggressive hybrid mutual funds to their conservative counterparts, the results indicate that the former are more susceptible to market emotion.

According to **Gupta (2017)**, risk-adjusted performance indicators like R-squared, Treynor Ratio, and Sharpe Ratio, along with standard deviation and beta to gauge risk and volatility, are used to compare the performance of ELSS (Equity Linked Savings Scheme) mutual funds in India to benchmark returns. Certain ELSS funds outperform benchmarks in multiple categories and yield double-digit returns, according to the analysis. In light of India's 20-year average inflation rate of 7.25%, the paper finds that ELSS funds are a desirable investment option because they not only provide possible tax benefits under Section 80C but also successfully fight inflation.

According to **S. K. Patel & Verma (2016)**, investors have been searching for hybrid schemes offering high returns, entire safety, tax-deductible expenses, & no lock-in time in today's business environment. All of these requirements have been met by Equity Linked

Savings Schemes (ELSS), offering potential for development & tax incentives. Indicators like return, beta, R-squared, standard deviation, sharpe ratio, risk-adjusted CAGR, and expense ratio are used in this study to assess the growth patterns and performance of ELSS funds from particular institutions. According to the research, ELSS mutual funds are becoming more and more popular since they offer better returns than alternative tax-saving strategies.

3. Objectives

- To determine the performance of Equity Linked Saving Plans (ELSS) & Hybrid Mutual Funds among Asset Management Companies (AMCs) in the public & private sectors.
- To compare the risks linked to hybrid mutual funds & ELSS funds, both systematic & unsystematic.

4. Methods and Analysis

This study employs key return and risk parameters to compare the performance of Hybrid and ELSS Mutual Funds managed by public and private Asset Management Companies (AMCs). The study compares Hybrid and ELSS funds from public and private sector Asset Management Companies (AMCs), listing their allotment dates and benchmark indices. Hybrid funds typically follow either the Crisil Hybrid 85+15 Conservative Index or the Nifty 50 Hybrid Composite Debt 15:85 Index, indicating a conservative asset allocation between debt and equity. Some funds, like ICICI and Nippon India, use the Crisil Hybrid 50+50 Moderate Index, representing a more balanced approach. ELSS funds, focused on tax-saving, generally track broad market indices like the Nifty 500 or BSE 500 TRI, providing equity performance benchmarks for evaluating these funds' returns. The mix of funds offers insight into conservative and balanced investment strategies across sectors. A fund's ability to create returns and manage risk can be understood by parameters of return such as Treynor's Ratio, Sharpe's Ratio, Annualised Daily Return, & Jensen's Alpha. Additional measures including information, appraisal, and sortino ratios are used to complement these situations. Risk parameters, including Beta, Correlation, and Annualized Daily Variance, assess a fund's volatility and sensitivity to market movements. Systematic and unsystematic risks are also evaluated to understand how public AMCs, often conservative, compare with private AMCs, which may embrace higher risks for greater returns (Kumar & Singh, 2018; Verma, 2020; Ross, 2015). This comprehensive approach provides a detailed analysis of fund performance, offering valuable insights for investors.

Return based performance of Hybrid V/S ELSS

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Annualized Daily Return (Fund)	Equal variances assumed	68.355	0.000	-2.535	194.000	0.012	-0.078
	Equal variances not assumed			-2.516	124.639	0.013	-0.078
Jensen's Alpha	Equal variances assumed	11.785	0.001	-1.299	194.000	0.195	-0.013
	Equal variances not assumed			-1.294	165.248	0.197	-0.013
Sharpe's Ratio	Equal variances assumed	0.015	0.904	0.520	194.000	0.603	0.129
	Equal variances not assumed			0.520	193.735	0.603	0.129
Treynor's Ratio	Equal variances assumed	0.450	0.503	0.834	194.000	0.405	0.116

	Equal variances not assumed			0.842	108.237	0.402	0.116
Appraisal Ratio	Equal variances assumed	20.884	0.000	-1.719	194.000	0.087	-2.226
	Equal variances not assumed			-1.711	156.295	0.089	-2.226
Information Ratio	Equal variances assumed	2.920	0.089	-3.863	194.000	0.000	-0.705
	Equal variances not assumed			-3.855	185.297	0.000	-0.705
Sortino Ratio	Equal variances assumed	2.576	0.110	1.357	194.000	0.176	0.713
	Equal variances not assumed			1.363	166.985	0.175	0.713
Capture Ratio	Equal variances assumed	2.337	0.128	-0.144	194.000	0.886	-0.004
	Equal variances not assumed			-0.144	184.970	0.886	-0.004
Modigilani - Modigilani	Equal variances assumed	30.945	0.000	-1.307	194.000	0.193	-0.043
	Equal variances not assumed			-1.299	146.872	0.196	-0.043

Above is a comparison of Hybrid funds and Equity Linked Savings Schemes (ELSS) using various performance metrics. Hybrid funds show a significantly lower annualized daily return compared to ELSS, with a mean difference of -0.078 (p = 0.012). Also, their performance is more devastating than the industry standard, demonstrated by their significantly smaller Information Ratio (mean difference of -0.705; p = 0.000). Jensen's Alpha (mean difference -0.013, p = 0.195), Sharpe's Ratio (mean difference 0.129, p = 0.603), Treynor's Ratio (mean difference 0.116, p = 0.405), Sortino Ratio (mean difference 0.713, p = 0.176), Capture Ratio (mean difference -0.004, p = 0.886), along with the Modigliani-Modigliani assess (mean difference -0.043, p = 0.193) however fail to demonstrate any statistically significant differences. Hybrid funds, subsequently, excel over ELSS in nearly all other risk-adjusted performance indicators, however they trail in terms of yields along with benchmark-relative results.

Comparision of RISK parameters of Hybrid V/S ELSS

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Annualized Daily Variance (Fund)	Equal variances assumed	33.287	.000	-10.909	194.000	0.000	**-0.021**
	Equal variances not assumed			-10.846	144.804	0.000	**-0.021**
Annualized Daily Downside S.D. (Fund)	Equal variances assumed	22.708	.000	-13.587	194.000	0.000	**-0.070**
	Equal variances not assumed			-13.510	146.431	0.000	**-0.070**
Correlation	Equal variances assumed	17.183	.000	-5.215	194.000	0.000	**-0.105**
	Equal variances not assumed			-5.241	159.446	0.000	**-0.105**
Beta (Fund)	Equal variances assumed	19.587	.000	-10.525	194.000	0.000	**-0.375**
	Equal variances not assumed			-10.589	146.123	0.000	**-0.375**
Systematic Risk	Equal variances assumed	17.756	.000	-16.953	193.000	0.000	**-0.099**

	Equal variances not assumed			-16.843	160.644	0.000	**-0.099**
Unsystematic Risk	Equal variances assumed	6.920	.009	1.462	194.000	0.145	0.004
	Equal variances not assumed			1.477	101.932	0.143	0.004

The comparison of risk parameters between Hybrid funds and Equity Linked Savings Schemes (ELSS) reveals several key insights. When comparing hybrid funds to ELSS, the annualised daily variance (mean difference -0.021, p = 0.000) & annualised daily downside standard deviation (mean difference -0.070, p = 0.000) are considerably lower, reflecting decreased both overall and downside risk proportionately. Also, hybrid funds revealed an inferior correlation (mean difference -0.105, p = 0.000) compared to their benchmark, reflecting a less synchronised portfolio with changes in the market. According to their lower beta (mean difference -0.375, p = 0.000), they are less vulnerable to systematic risk (mean difference -0.099, p = 0.000) and market fluctuations. The lack of variance in unsystematic risk, however, is apparent (mean difference 0.004, p = 0.145), suggesting that the fund-specific hazards of the two types of funds are equally different. Overall, Hybrid funds generally present lower overall, downside, and systematic risk compared to ELSS, while exhibiting similar levels of unsystematic risk.

Impact of Risk Parameters on Annualized Return

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.463[a]	.215	.194	.1962523526

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.		
		B	Std. Error	Beta			F	Sig.
1	(Constant)	.174	.189		.924	.357	10.338	.000[b]
	Annualized Daily Variance (Fund)	9.655	3.341	.754	2.890	.004		
	Annualized Daily Downside S.D. (Fund)	-8.532	1.410	-1.951	-6.051	.000		
	Correlation	.067	.208	.042	.324	.746		
	Systematic Risk	3.861	.837	1.136	4.614	.000		
	Unsystematic Risk	-.606	1.546	-.056	-.392	.696		

a. Dependent Variable: Annualized Daily Return (Fund)

b. Predictors: (Constant), Unsystematic Risk, Annualized Daily Downside S.D. (Fund), Correlation, Systematic Risk, Annualized Daily Variance (Fund)

It is revealed that annualized daily return is positively influenced by annualized daily variance and systematic risk, indicating that funds with higher volatility and market sensitivity tend to offer higher returns. Conversely, a higher annualized daily downside standard deviation is associated with lower returns, reflecting the adverse impact of downside risk. Correlation with the benchmark and unsystematic risk do not significantly affect returns. Overall, while more volatile and market-sensitive funds may provide higher returns, those with greater downside risk tend to yield lower returns.

Comparision of Impact of Risk Parameters on Annualized Return

Model Summary

Name of Scheme	R	R Square	Adjusted R Square	Std. Error of the Estimate	

Hybrid	1	.715[a]	.511	.485	.080		
ELSS	1	.734[b]	.539	.513	.199		

ANOVA[a]

Name of Scheme			Sum of Squares	df	Mean Square	F	Sig.
Hybrid	1	Regression	.630	5	.126	19.435	.000
		Residual	.603	93	.006		
		Total	1.232	98			
ELSS	1	Regression	4.165	5	.833	21.053	.000
		Residual	3.561	90	.040		
		Total	7.726	95			

Coefficients[a]

Name of Scheme			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Hybrid	1	(Constant)	.281	.100		2.812	.006
		Annualized Daily Variance (Fund)	-9.567	4.519	-.759	-2.117	.037
		Annualized Daily Downside S.D. (Fund)	-9.738	1.145	-2.095	-8.503	.000
		Correlation	-.296	.113	-.451	-2.626	.010
		Systematic Risk	9.211	1.409	2.564	6.537	.000
		Unsystematic Risk	3.155	1.369	.792	2.305	.023
ELSS	1	(Constant)	3.112	3.133		.993	.323
		Annualized Daily Variance (Fund)	48.600	6.485	2.859	7.495	.000
		Annualized Daily Downside S.D. (Fund)	-21.679	2.556	-3.336	-8.483	.000
		Correlation	-2.005	3.216	-.197	-.624	.535
		Systematic Risk	1.041	1.246	.178	.835	.406
		Unsystematic Risk	-21.964	21.798	-.301	-1.008	.316

a. Dependent Variable: Annualized Daily Return (Fund)

The comparison of risk parameters' impact on annualized returns between Hybrid funds and ELSS shows notable differences. For Hybrid funds, the model explains 51.1% of the variance in returns ($R^2 = 0.511$), with a significant F-statistic ($F = 19.435$, $p = 0.000$). Annualized daily variance and downside standard deviation negatively impact returns, while systematic risk positively affects them. Specifically, higher annualized daily variance and downside risk correlate with lower returns, whereas higher systematic risk correlates with higher returns. Unsystematic risk also positively affects returns in Hybrid funds.

In contrast, the ELSS model accounts for 53.9% of the variance in returns ($R^2 = 0.539$), with an even higher F-statistic ($F = 21.053$, $p = 0.000$). Here, annualized daily variance positively impacts returns, while downside standard deviation still negatively affects returns. Systematic risk and unsystematic risk do not significantly impact returns in ELSS. Overall, while both fund types show the importance of downside risk, Hybrid funds place more emphasis on systematic risk, whereas ELSS benefits more from higher volatility.

Comparision of Impact of Risk Parameters on Sharpe's Ratio

Model Summary

Name of Scheme	R	R Square	Adjusted R Square	Std. Error of the Estimate	

Hybrid	1	.450[a]	.203	.160	1.5734521	
ELSS	1	.709[b]	.503	.475	1.2680578	

ANOVA[a]

Name of Scheme			Sum of Squares	df	Mean Square	F	Sig.
Hybrid	1	Regression	58.489	5	11.698	4.725	.001[b]
		Residual	230.245	93	2.476		
		Total	288.734	98			
ELSS	1	Regression	146.490	5	29.298	18.221	.000[c]
		Residual	144.717	90	1.608		
		Total	291.208	95			

a. Dependent Variable: Sharpe's Ratio

b. Predictors: (Constant), Unsystematic Risk, Annualized Daily Downside S.D. (Fund), Correlation, Annualized Daily Variance (Fund), Systematic Risk

c. Predictors: (Constant), Unsystematic Risk, Systematic Risk, Annualized Daily Variance (Fund), Correlation, Annualized Daily Downside S.D. (Fund)

Coefficients[a]

Name of Scheme			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Hybrid	1	(Constant)	4.546	1.952		2.329	.022
		Annualized Daily Variance (Fund)	-5.285	88.339	-.027	-.060	.952
		Annualized Daily Downside S.D. (Fund)	-91.524	22.385	-1.286	-4.089	.000
		Correlation	-3.611	2.205	-.359	-1.638	.105
		Systematic Risk	62.776	27.544	1.141	2.279	.025
		Unsystematic Risk	-10.270	26.755	-.168	-.384	.702
ELSS	1	(Constant)	43.454	19.974		2.175	.032
		Annualized Daily Variance (Fund)	292.756	41.340	2.805	7.082	.000
		Annualized Daily Downside S.D. (Fund)	-127.998	16.293	-3.208	-7.856	.000
		Correlation	-37.601	20.502	-.603	-1.834	.070
		Systematic Risk	8.708	7.944	.243	1.096	.276
		Unsystematic Risk	-301.367	138.959	-.673	-2.169	.033

a. Dependent Variable: Sharpe's Ratio

The ELSS model ($R^2 = 0.503$, $F = 18.221$, $p = 0.000$) outperforms the combination of models ($R^2 = 0.203$, $F = 4.725$, $p = 0.001$) in terms of explaining variation in Sharpe's Ratio when an impact of risk factors on the ratio is examined. Sharpe's Ratio in the current ELSS instance has been negatively impacted by downside standard deviation ($\beta = -127.998$, $p = 0.000$) & positively influenced by annualised daily variance ($\beta = 292.756$, $p = 0.000$). In Hybrid funds, downside standard deviation significantly lowers the Sharpe's Ratio ($\beta = -91.524$, $p = 0.000$), and systematic risk positively influences it ($\beta = 62.776$, $p = 0.025$). Annualized daily variance, correlation, and unsystematic risk do not significantly affect the Sharpe's Ratio in Hybrid funds. In Hybrid funds, downside standard deviation significantly lowers the Sharpe's Ratio ($\beta = -91.524$, $p = 0.000$), and systematic risk positively influences it ($\beta = 62.776$, $p = 0.025$). Annualized daily variance, correlation, and unsystematic risk do not significantly affect the Sharpe's Ratio in Hybrid funds.

Comparison of Impact of Risk Parameters on Treynor's Ratio

Model Summary

Name of Scheme		R	R Square	Adjusted R Square	Std. Error of the Estimate	
Hybrid	1	.733[a]	.538	.513	.9309916	
ELSS	1	.753[b]	.567	.543	.2051246	

ANOVA[a]

Name of Scheme			Sum of Squares	df	Mean Square	F	Sig.
Hybrid	1	Regression	93.768	5	18.754	21.637	.000[b]
		Residual	80.607	93	.867		
		Total	174.376	98			
ELSS	1	Regression	4.965	5	.993	23.598	.000[c]
		Residual	3.787	90	.042		
		Total	8.752	95			

a. Dependent Variable: Treynor's Ratio

b. Predictors: (Constant), Unsystematic Risk, Annualized Daily Downside S.D. (Fund), Correlation, Annualized Daily Variance (Fund), Systematic Risk

c. Predictors: (Constant), Unsystematic Risk, Systematic Risk, Annualized Daily Variance (Fund), Correlation, Annualized Daily Downside S.D. (Fund)

Coefficients[a]

Name of Scheme			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Hybrid	1	(Constant)	.670	1.155		.580	.564
		Annualized Daily Variance (Fund)	-127.187	52.269	-.849	-2.433	.017
		Annualized Daily Downside S.D. (Fund)	63.749	13.245	1.153	4.813	.000
		Correlation	-1.375	1.304	-.176	-1.054	.294
		Systematic Risk	-26.148	16.298	-.612	-1.604	.112
		Unsystematic Risk	36.601	15.830	.772	2.312	.023
ELSS	1	(Constant)	5.004	3.231		1.549	.125
		Annualized Daily Variance (Fund)	47.139	6.687	2.605	7.049	.000
		Annualized Daily Downside S.D. (Fund)	-24.542	2.636	-3.549	-9.312	.000
		Correlation	-4.166	3.316	-.385	-1.256	.212
		Systematic Risk	4.734	1.285	.762	3.684	.000
		Unsystematic Risk	-35.125	22.478	-.452	-1.563	.122

a. Dependent Variable: Treynor's Ratio

The comparison of risk parameters' impact on Treynor's Ratio shows that both Hybrid funds and ELSS models explain significant portions of the variance, but with different risk factor impacts. Regarding the Treynor's Ratio variation in performance, 52.8% is likely to be predicted by the Hybrid model ($R^2 = 0.538$, $F = 21.637$, $p = 0.000$) & 56.7% using the ELSS model ($R^2 = 0.567$, $F = 23.598$, $p = 0.000$). Considering Treynor's Ratio under ELSS, the annualised daily variance has an encouraging impact ($\beta = 47.139$, $p = 0.000$), while the downward standard deviation has an adverse effect ($\beta = -24.542$, $p = 0.000$). Treynor's Ratio ($\beta = 4.734$, $p = 0.000$) is positively impacted by systematic risk as well. For Hybrid funds,

downside standard deviation positively impacts the Treynor's Ratio (β = 63.749, p = 0.000), while annualized daily variance has a significant negative impact (β = -127.187, p = 0.017). Unsystematic risk also positively affects the Treynor's Ratio in Hybrid funds (β = 36.601, p = 0.023). Correlation and systematic risk are not significant in either model. Overall, both models highlight the significance of downside risk and annualized daily variance, though their impacts differ between fund types.

Comparison of Impact of Risk Parameters on Jensen's Alpha

Model Summary

Name of Scheme		R	R Square	Adjusted R Square	Std. Error of the Estimate	
Hybrid	1	.762[a]	.580	.558	.0358622	
ELSS	1	.279[b]	.078	.026	.0814557	

ANOVA[a]

Name of Scheme			Sum of Squares	df	Mean Square	F	Sig.
Hybrid	1	Regression	.165	5	.033	25.706	.000[b]
		Residual	.120	93	.001		
		Total	.285	98			
ELSS	1	Regression	.050	5	.010	1.517	.192[c]
		Residual	.597	90	.007		
		Total	.647	95			

a. Dependent Variable: Jensen's Alpha

b. Predictors: (Constant), Unsystematic Risk, Annualized Daily Downside S.D. (Fund), Correlation, Annualized Daily Variance (Fund), Systematic Risk

c. Predictors: (Constant), Unsystematic Risk, Systematic Risk, Annualized Daily Variance (Fund), Correlation, Annualized Daily Downside S.D. (Fund)

Coefficients[a]

Name of Scheme			Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Hybrid	1	(Constant)	.018	.044		.406	.686
		Annualized Daily Variance (Fund)	1.354	2.013	.224	.673	.503
		Annualized Daily Downside S.D. (Fund)	-2.748	.510	-1.229	-5.386	.000
		Correlation	-.002	.050	-.007	-.047	.963
		Systematic Risk	1.712	.628	.991	2.727	.008
		Unsystematic Risk	.958	.610	.500	1.572	.119
ELSS	1	(Constant)	1.477	1.283		1.151	.253
		Annualized Daily Variance (Fund)	4.093	2.656	.832	1.541	.127
		Annualized Daily Downside S.D. (Fund)	-2.127	1.047	-1.131	-2.032	.045
		Correlation	-1.437	1.317	-.488	-1.091	.278
		Systematic Risk	.639	.510	.378	1.252	.214
		Unsystematic Risk	-7.774	8.926	-.368	-.871	.386

a. Dependent Variable: Jensen's Alpha

The impact of risk criteria on Jensen's Alpha demonstrates the clear distinctions between ELSS

and hybrid funds. The model accounts for 58.0% of the variation in Jensen's Alpha for hybrid funds (R^2 = 0.580, F = 25.706, p = 0.000). Important results show that Jensen's Alpha is considerably lowered by higher annualised daily downside standard deviation (β = -2.748, p = 0.000), suggesting that lower alpha is correlated with increased downside risk. Furthermore, Jensen's Alpha is positively influenced by systematic risk (β = 1.712, p = 0.008), indicating that higher alpha is correlated with increased market sensitivity. In contrast, the ELSS model accounts for only 7.8% of the variance in Jensen's Alpha (R^2 = 0.078, F = 1.517, p = 0.192), showing a weaker fit. For ELSS, annualized daily downside standard deviation similarly negatively impacts Jensen's Alpha (β = -2.127, p = 0.045). However, annualized daily variance, systematic risk, and unsystematic risk do not significantly affect Jensen's Alpha in this model. Overall, while downside risk consistently negatively impacts Jensen's Alpha in both fund types, the Hybrid model provides a more robust explanation, with additional significant effects from systematic risk.

AMC		Annualized Daily Return (Fund)	RANK	Jensen's Alpha	RANK	Sharpe's Ratio	RANK	Treynor's Ratio	RANK	Appraisal Ratio	RANK	Information Ratio	RANK	Sortino Ratio	RANK	Capture Ratio	RANK
Baroda BNP Paribas	Hybrid	13.72%	3	5.01%	1	1.005	10	.238	3	1.223	10	-.294	6	5.157	1	1.167	1
Canara Robeco	Hybrid	10.05%	10	1.04%	8	1.041	9	.093	10	2.971	7	-.524	10	1.821	11	.928	11
SBI	Hybrid	10.90%	7	2.30%	5	1.419	1	.137	4	3.581	4	-.326	8	2.475	3	1.005	5
UTI	Hybrid	10.16%	9	0.50%	11	1.287	4	1.457	1	4.517	3	-.440	9	2.382	6	.955	8
Bank of India	Hybrid	9.57%	11	1.02%	9	.833	11	.097	9	.251	11	-.610	11	2.216	8	.960	7
Aditya Birla Sun Life	Hybrid	11.44%	6	2.43%	3	1.234	5	.120	6	1.235	9	-.260	5	2.351	7	.954	9
HDFC	Hybrid	10.87%	8	1.38%	7	1.183	7	.098	8	3.288	5	-.306	7	2.103	9	.951	10
ICICI Prudential	Hybrid	14.36%	2	2.31%	4	1.346	3	.100	7	8.148	1	.431	1	2.460	4	1.046	3
Kotak Mahindra	Hybrid	11.88%	4	2.68%	2	1.411	2	.129	5	5.090	2	-.166	3	2.419	5	.982	6
Nip	Hy	14.6	1	0.5	10	1.0	8	.078	11	1.92	8	.346	2	1.8	10	1.1	2

pon India	brid	3%		7%		61				6				53		28	
Total	Hybrid	11.74%	5	1.89%	6	1.184	6	.255	2	3.243	6	-.214	4	2.497	2	1.006	4

AMC		Annualized Daily Return (Fund)	RANK	Jensen's Alpha	RANK	Sharpe's Ratio	RANK	Treynor's Ratio	RANK	Appraisal Ratio	RANK	Information Ratio	RANK	Sortino Ratio	RANK	Capture Ratio	RANK
Baroda BNP Paribas	ELSS	10.30%	11	-1.66%	11	.314	11	-.051	11	-1.886	11	-.174	11	.581	11	.688	11
Canara Robeco	ELSS	20.08%	5	3.43%	5	1.077	6	.151	5	6.794	4	.581	4	1.804	6	1.009	7
SBI	ELSS	21.31%	3	4.62%	3	1.240	2	.165	3	7.397	3	.775	3	2.087	2	1.045	4
UTI	ELSS	17.95%	9	1.47%	10	.946	10	.132	10	4.290	8	.138	10	1.586	10	.985	9
Bank of India	ELSS	23.30%	1	6.12%	1	1.220	3	.180	1	7.767	2	.961	2	1.989	3	1.080	2
Aditya Birla Sun Life	ELSS	17.76%	10	2.32%	9	1.033	8	.140	7	2.284	10	.192	9	1.785	7	.956	10
HDFC	ELSS	19.63%	7	2.47%	7	1.094	5	.144	6	4.426	7	.398	7	1.908	5	1.072	3
ICICI Prudential	ELSS	19.86%	6	3.53%	4	1.141	4	.156	4	6.174	5	.422	6	1.940	4	.994	8
Kotak Mahindra	ELSS	22.26%	2	5.67%	2	1.245	1	.176	2	11.546	1	1.060	1	2.090	1	1.024	5
Nippon India	ELSS	20.16%	4	2.39%	8	1.019	9	.139	9	3.699	9	.357	8	1.713	9	1.154	1
Total	ELSS	19.54%	8	3.18%	6	1.055	7	.139	8	5.470	6	.491	5	1.784	8	1.010	6

hen comparing Hybrid and ELSS funds, the ELSS category generally exhibits stronger performance. ELSS funds like

Bank of India and Kotak Mahindra lead with impressive Annualized Daily Returns, Jensen's Alpha, and Capture Ratios, highlighting their ability to outperform benchmarks and manage risk effectively. Bank of India excels in returns and overall performance metrics, while Kotak Mahindra excels in Sharpe's and Treynor Ratios. In contrast, Hybrid funds such as Baroda BNP Paribas and Nippon India show strong performance in specific metrics like Capture Ratio and Appraisal Ratio, but with mixed results in risk-adjusted measures. While Baroda BNP Paribas leads in capturing market movements, its overall risk-adjusted returns are less consistent. In summary, ELSS funds generally provide better overall returns and risk management compared to their Hybrid counterparts.

AMC		Annualized Variance (Total Risk)	**RANK**	Annualized Daily Downside S.D.	**RANK**	Correlation with Index	**RANK**	Beta (Fund)	**RANK**	Systematic Risk	**RANK**	Unsystematic Risk	**RANK**
Baroda BNP Paribas	Hybrid	.009	2	.022	11	.640	11	.332	11	.027	11	.036	1
Canara Robeco	Hybrid	.002	10	.026	9	.901	3	.443	7	.037	7	.004	10
SBI	Hybrid	.002	11	.024	10	.808	8	.371	10	.032	9	.007	6
UTI	Hybrid	.002	9	.027	8	.785	9	.381	9	.030	10	.013	3
Bank of India	Hybrid	.005	4	.028	7	.761	10	.401	8	.033	8	.022	2
Aditya Birla Sun Life	Hybrid	.003	7	.031	4	.855	6	.503	5	.042	5	.007	5
HDFC	Hybrid	.003	6	.030	5	.863	4	.510	4	.043	4	.007	7
ICICI Prudential	Hybrid	.009	3	.054	2	.949	2	.880	2	.079	2	.004	11
Kotak Mahindra	Hybrid	.002	8	.028	6	.857	5	.468	6	.039	6	.006	8
Nippon India	Hybrid	.013	1	.069	1	.953	1	1.217	1	.101	1	.005	9

		Annualized Variance (Total Risk)	**RANK**	Annualized Daily Downside S.D.	**RANK**	Correlation with Index	**RANK**	Beta (Fund)	**RANK**	Systematic Risk	**RANK**	Unsystematic Risk	**RANK**
AMC	ELSS	.026	3	.103	5	.821	11	.697	11	.129	11	.005	9
Baroda BNP Paribas	ELSS	.025	6	.103	7	.966	3	.939	5	.146	5	.005	8
Canara Robeco	ELSS	.025	7	.103	6	.964	4	.951	4	.146	4	.005	7

SBI	ELSS	.024	8	.102	8	.969	1	.930	7	.145	7	.004	11
UTI	ELSS	.026	4	.108	2	.930	10	.980	3	.148	3	.010	2
Bank of India	ELSS	.022	11	.095	11	.945	7	.854	10	.134	10	.007	4
Aditya Birla Sun Life	ELSS	.028	2	.107	3	.949	6	.982	2	.153	2	.007	3
HDFC	ELSS	.024	10	.098	10	.949	5	.884	9	.139	9	.007	6
ICICI Prudential	ELSS	.024	9	.102	9	.968	2	.935	6	.145	8	.004	10
Kotak Mahindra	ELSS	.033	1	.117	1	.939	9	1.061	1	.165	1	.011	1
Nippon India	ELSS	.026	5	.104	4	.944	8	.928	8	.146	6	.007	5

When comparing Hybrid and ELSS funds based on risk metrics, ELSS funds generally exhibit higher total risk but manage downside volatility better than Hybrid funds. ELSS funds, such as those with the highest Annualized Variance and Downside Standard Deviation, tend to have higher Beta values and Systematic Risk, indicating they are more sensitive to market movements and exhibit higher overall volatility. For instance, the ELSS funds with the highest Annualized Variance also show the highest Beta and Systematic Risk, reflecting greater exposure to market fluctuations. In contrast, Hybrid funds typically display lower total risk and downside volatility, with lower Beta values and Systematic Risk, indicating a more conservative risk profile. Hybrid funds also show lower Unsystematic Risk, suggesting better diversification and less reliance on individual securities. Overall, while ELSS funds may offer higher potential returns due to their greater exposure to market risk, Hybrid funds generally provide a more stable risk profile with lower downside risk.

Conclusion

In conclusion, the analyses of various risk parameters across Hybrid and ELSS funds reveal distinct differences in how these factors influence key performance metrics. For annualized returns, Hybrid funds generally show more sensitivity to downside risk, while ELSS funds demonstrate greater responsiveness to annualized daily variance. When assessing Sharpe's Ratio, both fund types indicate that downside risk is crucial, though its impact varies significantly. For Treynor's Ratio, downside risk and annualized daily variance are important factors, with ELSS funds showing a stronger explanatory power for variance in this ratio compared to Hybrid funds. Lastly, Jensen's Alpha analysis highlights the importance of downside risk for both fund types, with Hybrid funds demonstrating a more comprehensive explanation due to the significant role of systematic risk. ELSS funds generally outperform Hybrid funds in terms of returns, with higher Annualized Daily Returns and superior performance in metrics like Jensen's Alpha and Capture Ratio. However, they also exhibit higher total and downside risk, reflected in greater Beta and Systematic Risk. Hybrid funds offer a more stable risk profile with lower downside volatility and Unsystematic Risk, making them a more conservative choice. Ultimately, ELSS funds are suitable for investors seeking higher returns and can tolerate higher risk, while Hybrid funds appeal to those preferring a more balanced approach with lower overall risk. Overall, these findings underscore the varying

impacts of risk parameters on different performance metrics, suggesting that investors should carefully consider these factors when evaluating fund performance.

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