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A Comparative Analysis of Mutual Funds and Stock Market Behaviour in India: Evidence from Trend, Risk–Return, and CAPM Framework (2007–2022)

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Abstract

This study investigates long-term trend, growth, and risk-return flow of the Nifty 50 Index and selected equity & debt mutual funds in India over the period 2007–2022. The study evaluates the performance and market sensitivity of mutual funds, by applying advanced econometric techniques, like Augmented Dickey-Fuller (ADF) unit root tests, correlation analysis, regression modelling, Capital Asset Pricing Model (CAPM), and portfolio optimization through efficient frontier analysis. The Results shows that equity mutual funds have higher returns and strong market linkage, while debt mutual funds provide stability & diversification benefits. The results confirms the appropriateness of Modern Portfolio Theory and CAPM in the Indian scenario and offer important implications for investors and policymakers.

Keywords: Mutual Funds; Nifty 50; CAPM; Efficient Frontier; Risk-Return Tradeoff; Portfolio Diversification; India

1. Introduction

Mutual funds have emerged as an important component of modern financial systems. They help in mobilizing household savings and allocating them efficiently among different financial assets. In developing economies such as India, where direct participation in equity markets is relatively less, mutual funds provide an accessible & professionally managed investment option for retail investors (Wermers, 2011; SEBI, 2022). By pooling resources and diversified risk, these instruments contribute substantially to capital formation, financial inclusion, and deepening of capital markets.

The evolution of the Indian mutual fund industry over the last two decades has been closely associated with major financial sector reforms, regulatory strengthening, and technological advancements. Initiatives undertaken by Securities and Exchange Board of India (SEBI), have enhanced transparency, investor protection, and operational efficiency. This leads to a substantial increase in assets under management and investor participation (Tripathi, 2017; SEBI, 2022). On the other hand, the Indian stock market as expressed by the benchmark indices such as the Nifty 50 also experienced steady increase over the long term, following the macroeconomic growth, globalization and growing institutional investment.

The interaction between mutual funds & stock market performance is founded in widely used financial theories. The Capital Asset Pricing Model (CAPM)assumes that the expected return of an asset is determined by its exposure to systematic market risk. It measured is through beta (Sharpe, 1964). In this context, equity mutual funds are expected to demonstrate strong co-movement with market indices, whereas debt mutual funds exhibit

relatively lower relatedness due to their focus on fixed-income instruments. Complementing this, Modern Portfolio Theory (Markowitz, 1952) highlights the benefits of diversification in optimizing the risk-return trade-off. This is a principle that underlies the structure of mutual fund portfolios.

Although earlier research has extensively examined mutual fund performance, with focus on isolated dimensions such as return evaluation, risk measurement, or managerial efficiency (Otten & Bams, 2004; Eling, 2008; Ferreira et al., 2013). Moreover, recent studies have also targeted the importance of risk-adjusted performance and market integration in emerging economies. However, there is limited studies that simultaneously analyse long-term trends, growth dynamics, market sensitivity, and diversification benefits within a unified framework by using high-frequency data in the Indian context.

Therefore, the present study held detailed investigation of the long-term behaviour of mutual funds and the stock market in India over the period 2007–2022. The study involves econometric and financial techniques, including logarithmic return modelling, Augmented Dickey-Fuller (ADF) unit root testing, correlation analysis, regression modelling, and the Capital Asset Pricing Model (CAPM). Moreover, efficient frontier analysis is used to evaluate diversification opportunities across equity and debt mutual funds.

The study contributes to the literature by integrating multiple analytical approaches into a comprehensive framework. This offers a more understanding of mutual fund performance in an emerging market. The results are expected to provide practical insights for investors in portfolio allocation. It will also assist fund managers in performance evaluation, and inform policymakers in strengthening the financial ecosystem.

2. Literature Review

The study of mutual fund performance has evolved significantly over time, moving from simple return comparisons to comprehensive analyses incorporating risk, market efficiency, and portfolio diversification. Mutual funds play a crucial role in financial markets by facilitating diversification and enabling investors to access professionally managed portfolios. The theoretical foundation of mutual fund analysis is largely based on Modern Portfolio Theory (MPT) and the Capital Asset Pricing Model (CAPM), which provide a structured framework for evaluating risk-return relationships.

Modern Portfolio Theory, introduced by Markowitz (1952), emphasizes the benefits of diversification in reducing unsystematic risk and constructing optimal portfolios. This framework forms the basis for mutual fund investment strategies, as funds allocate assets across various securities to achieve efficient risk-return combinations. Building on this, Sharpe (1964) developed CAPM, which establishes a linear relationship between expected return and systematic risk, measured through beta. According to this model, the performance of equity mutual funds is closely linked to market movements, whereas debt funds are expected to exhibit lower sensitivity due to their fixed-income orientation.

Early empirical studies focused on assessing whether mutual funds outperform market benchmarks. Jensen (1968) introduced a performance evaluation measure based on CAPM, highlighting the concept of abnormal returns (alpha). Subsequent research, including Fama and French (1993), expanded the asset pricing framework by incorporating additional risk factors, suggesting that multiple variables influence asset returns. These developments underscored the complexity of mutual fund performance and the need for more comprehensive evaluation methods.

In developed markets, Otten and Bams (2004) examined mutual fund performance across European countries and found limited evidence of consistent long-term outperformance. Similarly, Eling (2008) emphasized the importance of using risk-adjusted measures rather than absolute returns for accurate performance evaluation.

Ferreira et al. (2013) further identified key determinants of mutual fund performance, including fund size, expenses, and market conditions, highlighting the role of both internal and external factors.

In the Indian context, mutual fund research reflects the unique characteristics of an emerging market. Mishra (2011) found a strong positive relationship between mutual fund investment flows and stock market returns, indicating that mutual funds are closely aligned with market performance. Deb et al. (2007) examined the market timing and stock selection abilities of Indian mutual funds and reported limited evidence of consistent managerial skill. These findings suggest that while mutual funds participate actively in the market, their ability to generate excess returns may be constrained by market efficiency.

Recent studies have increasingly focused on risk-return dynamics and diversification benefits. Tripathi (2017) analyzed mutual fund efficiency in India and concluded that equity funds tend to perform better during favorable market conditions but are more volatile, whereas debt funds provide stable but lower returns. This distinction highlights the importance of asset allocation in achieving optimal portfolio performance. Additionally, advancements in econometric techniques have improved the analysis of financial time series. Kim and Ji (2015) emphasize the importance of stationarity in financial data and the use of appropriate transformations, such as log returns, to avoid spurious results.

The post-pandemic financial environment has further influenced mutual fund performance, with increasing integration of global markets and heightened sensitivity to macroeconomic factors. This underscores the need for dynamic and comprehensive analytical approaches in evaluating mutual fund behaviour.

3.Research Gap:

Despite the extensive literature, certain gaps remain. Many studies focus on isolated aspects such as return evaluation or risk measurement, without integrating multiple analytical frameworks. Additionally, limited research simultaneously examines long-term trends, growth patterns, market sensitivity, and portfolio optimization within a unified model, particularly using high-frequency data in the Indian context.

The present study addresses these gaps by adopting a comprehensive approach that combines trend and growth analysis with CAPM, correlation, regression, and efficient frontier modeling. By integrating these methodologies, the study provides a holistic understanding of mutual fund performance and its relationship with the stock market, contributing to both academic literature and practical investment decision-making.

4.Research Methodology

This study employs a quantitative, time-series research design to analyze the long-term behaviour of mutual funds relative to the stock market in India. It integrates econometric techniques with established financial theories, including the Capital Asset Pricing Model (CAPM), which explains the relationship between risk and return (Sharpe, 1964), and Modern Portfolio Theory (MPT), which emphasizes diversification and optimal portfolio construction (Markowitz, 1952). These frameworks guide the examination of trend behaviour, risk-return dynamics, and diversification benefits.

The sample comprises 21 mutual fund schemes (9 equity and 12 debt) along with the Nifty 50 Index as the benchmark, using daily data from 2007–2022 sourced from NSE and AMFI (SEBI, 2022). Equity funds are restricted to large-cap schemes to ensure comparability with the benchmark index, while debt funds belong to the medium to long duration category, providing balanced variability for analysis (Tripathi, 2017).

NAV data are transformed into log returns to ensure stationarity, a standard requirement in financial time-series analysis (Kim & Ji, 2015). The study employs descriptive statistics, Augmented Dickey-Fuller (ADF) test, correlation analysis, OLS regression, and CAPM to evaluate risk-return dynamics and market influence. Long-term behaviour is assessed using trend and growth models, while diversification benefits are analyzed using the efficient frontier approach (Markowitz, 1952).

The objectives and corresponding hypotheses, along with their empirical testing methods, are systematically presented in Table 3.1. These hypotheses related to trend, market dependence, risk-return relationship, and diversification are tested using t-statistics, F-statistics, and p-values at 1% and 5% significance levels, ensuring robustness of results.

S. No.	Objective	Hypothesis (H_0 / H_1)	Method Used	Expected Outcome
1	Trend & growth analysis	H_{01}: No trend H_{11}: Positive trend	Trend & Growth Models	Significant positive trend
2	Risk-return relationship	H_{02}: No relation H_{12}: Positive relation	Descriptive Statistics	Risk ↑ → Return ↑
3	Market influence (CAPM)	H_{03}: No impact H_{13}: Significant impact	Regression, CAPM	Positive β
4	Diversification benefits	H_{04}: No benefit H_{14}: Benefit exists	Correlation, Efficient Frontier	Low correlation

5. Results:

Table 5.1: Descriptive Statistics of Log Returns

Time series	Mean	SD	Max	Min	Skewness	Kurtosis	Jarque Bera
NIFTY-50	0.037258	1.388731	16.33432	-13.9038	-0.27916	13.97406	30144.7
Aditya Birla Sun Life Frontline Equity Fund	0.047452	1.239893	7.983136	-13.8516	-0.77109	10.37942	16970.82
SBI Blue Chip Fund	0.043528	1.241397	14.15293	-13.791	-0.47729	13.70972	29109.22
HDFC Top 100 Fund	0.047204	1.324928	14.33312	-12.8853	-0.3533	9.806067	14897.45
Nippon India Large Cap Fund	0.045912	1.332908	6.866895	-13.8798	-0.77176	8.877249	12513.1
UTI Mastershare Fund	0.042994	1.184933	7.662326	-13.0504	-0.71515	9.445766	14066.72

Franklin India Bluechip Fund	0.041608	1.228678	8.058438	-12.0791	-0.55009	8.281057	10755.81
Kotak Bluechip Fund	0.042553	1.237376	7.643999	-13.9505	-0.76548	10.26041	16586.91
DSP Top 100 Equity Fund	0.039485	1.255647	8.801947	-15.5168	-0.90545	12.38275	24137.79
Tata Large Cap Fund	0.04168	1.229893	8.128156	-14.468	-0.85295	11.77526	21818.98
Kotak Bond Fund	0.030479	0.248226	2.377625	-3.27984	-0.49431	24.08838	89581.71
SBI Magnum Income Fund	0.028113	0.211203	2.278673	-3.98493	-1.93364	55.81429	482440.7
Aditya Birla Sun Life Income Fund	0.03126	0.274095	3.158017	-4.78283	-0.93045	44.11342	300460.1
IDFC Bond Fund Income Plan	0.030477	0.256774	2.13211	-4.14271	-0.8003	32.2874	161066.5
HDFC Income Fund	0.02761	0.24234	2.249133	-3.7224	-1.41431	37.58517	218957.1
UTI Bond Fund	0.026688	0.307846	7.824935	-5.08593	1.439654	179.3789	4960528
Nippon India Income Fund	0.030148	0.248582	2.036602	-4.10244	-1.27112	35.3464	193554.9
Canara Robeco Income Fund	0.033141	0.189999	2.435004	-1.53507	0.94421	24.18537	90702.32
LIC MF Bond Fund	0.027828	0.203428	2.957398	-3.01133	-0.24789	56.5918	493643.4
Tata Income Fund	0.025864	0.197833	2.196977	-3.39792	-1.55753	44.76916	310404.9
HSBC Debt Fund	0.027268	0.225044	1.886519	-3.8481	-1.67562	41.13349	262504.9
JM Medium to Long Duration Fund	0.015032	0.245061	2.018122	-10.1295	-19.9605	804.8119	100075819.2

Source: *Author's calculations based on data from NSE and AMFI* using EViews software

The descriptive statistics indicate that the Nifty 50 and equity mutual funds generate higher mean returns accompanied by greater volatility, while debt funds exhibit lower returns with significantly reduced risk, supporting the risk–return tradeoff. Equity funds show negative skewness, suggesting higher downside risk, whereas debt funds display mixed skewness, indicating occasional positive deviations. The presence of high kurtosis across all series confirms leptokurtic behaviour, reflecting extreme market movements, and significant Jarque–Bera statistics reject normality.

Using mean as a proxy for return and standard deviation for risk, the results clearly demonstrate that equity funds (returns ~0.00040–0.00047; risk ~0.012–0.013) outperform debt funds (returns ~0.00026–0.00033; risk ~0.002–0.003), but with higher volatility. These findings are consistent with CAPM results, where equity funds exhibit higher beta values, indicating strong market sensitivity, while debt funds show low beta, confirming limited market exposure and greater stability.

H_{02} rejected, H_{12} accepted — A positive relationship between risk and return exists.

Table 5.2: Augmented Dickey-Fuller (ADF) Unit Root Test Results (Log Returns)

Variable	ADF Statistic	p-value	Conclusion
Nifty 50 Index	-42.375	0	Stationary
ABSL Frontline Equity Fund	-41.289	0	Stationary
SBI Bluechip Fund	-41.267	0	Stationary
HDFC Top 100 Fund	-41.403	0	Stationary
Nippon India Large Cap Fund	-41.461	0	Stationary
UTI Master Share Fund	-41.457	0	Stationary
Franklin India Bluechip Fund	-41.761	0	Stationary
Kotak Bluechip Fund	-41.631	0	Stationary
DSP Top 100 Equity Fund	-41.787	0	Stationary
Tata Large Cap Fund	-40.952	0	Stationary
Kotak Bond Fund	-38.999	0	Stationary
SBI Magnum Income Fund	-40.899	0	Stationary
Aditya Birla Sun Life Income Fund	-39.356	0	Stationary
IDFC Bond Fund Income Plan	-41.588	0	Stationary
HDFC Income Fund	-40.154	0	Stationary
UTI Bond Fund	-41.283	0	Stationary

Nippon India Income Fund	-40.202	0	Stationary
Canara Robeco Income Fund	-39.593	0	Stationary
LIC MF Bond Fund	-43.804	0	Stationary
Tata Income Fund	-40.167	0	Stationary
HSBC Debt Fund	-41.237	0	Stationary
JM Medium to Long Duration Fund	-42.395	0	Stationary

Source: *Author's calculations based on data from NSE and AMFI* using EViews software

The Augmented Dickey–Fuller (ADF) test results confirm that all return series are stationary at level, as evidenced by highly negative test statistics and p-values of 0.000. For instance, the Nifty 50 index reports an ADF statistic of -42.375, while equity funds such as DSP Top 100 Equity Fund (-41.787) and Franklin India Bluechip Fund (-41.761) also show strong stationarity. Similarly, debt funds like LIC MF Bond Fund (-43.804) and JM Medium to Long Duration Fund (-42.395) exhibit even more pronounced stationarity.

The rejection of the null hypothesis of unit root across all variables indicates the absence of stochastic trends, confirming that the log return series are suitable for econometric modeling. These findings align with financial theory, where return series are expected to be stationary, thereby ensuring that subsequent regression and CAPM estimations are reliable and free from spurious results.

Table 5.3: Correlation between Nifty 50 and Mutual Funds

Category	Fund Name	Correlation with Nifty 50
Equity Funds (Large Cap)	ABSL Frontline Equity Fund	0.966
	SBI Bluechip Fund	0.961
	HDFC Top 100 Fund	0.956
	Nippon India Large Cap Fund	0.957
	UTI Master Share Fund	0.960
	Franklin India Bluechip Fund	0.949
	Kotak Bluechip Fund	0.965
	DSP Top 100 Equity Fund	0.941
	Tata Large Cap Fund	0.954
Debt Funds (Medium–Long Duration)	Kotak Bond Fund	0.103

Category	Fund Name	Correlation with Nifty 50
	SBI Magnum Income Fund	0.121
	ABSL Income Fund	0.122
	IDFC Bond Fund	0.103
	HDFC Income Fund	0.121
	UTI Bond Fund	0.092
	Nippon Income Fund	0.112
	Canara Robeco Income Fund	0.108
	LIC MF Bond Fund	0.103
	Tata Income Fund	0.122
	HSBC Debt Fund	0.133
	JM Medium–Long Fund	0.081

Source: *Author's calculations based on data from NSE and AMFI* using EViews software

The correlation analysis reveals a strong positive association between the Nifty 50 index and equity mutual funds, with coefficients ranging from 0.94 to 0.97, indicating that equity fund returns closely track market movements. For instance, ABSL Frontline Equity Fund (0.966) and Kotak Bluechip Fund (0.965) exhibit high co-movement with the benchmark, confirming that equity funds are largely market-driven instruments.

In contrast, debt mutual funds display weak correlation with the Nifty 50, generally between 0.08 and 0.13, suggesting minimal dependence on equity market fluctuations. Funds such as JM Medium–Long Duration Fund (0.081) and UTI Bond Fund (0.092) show particularly low association, highlighting their relative stability and independence.

Overall, the results demonstrate that while equity funds are sensitive to market dynamics, debt funds provide effective diversification benefits. The combination of these asset classes can reduce overall portfolio risk without significantly compromising returns, consistent with portfolio diversification theory.

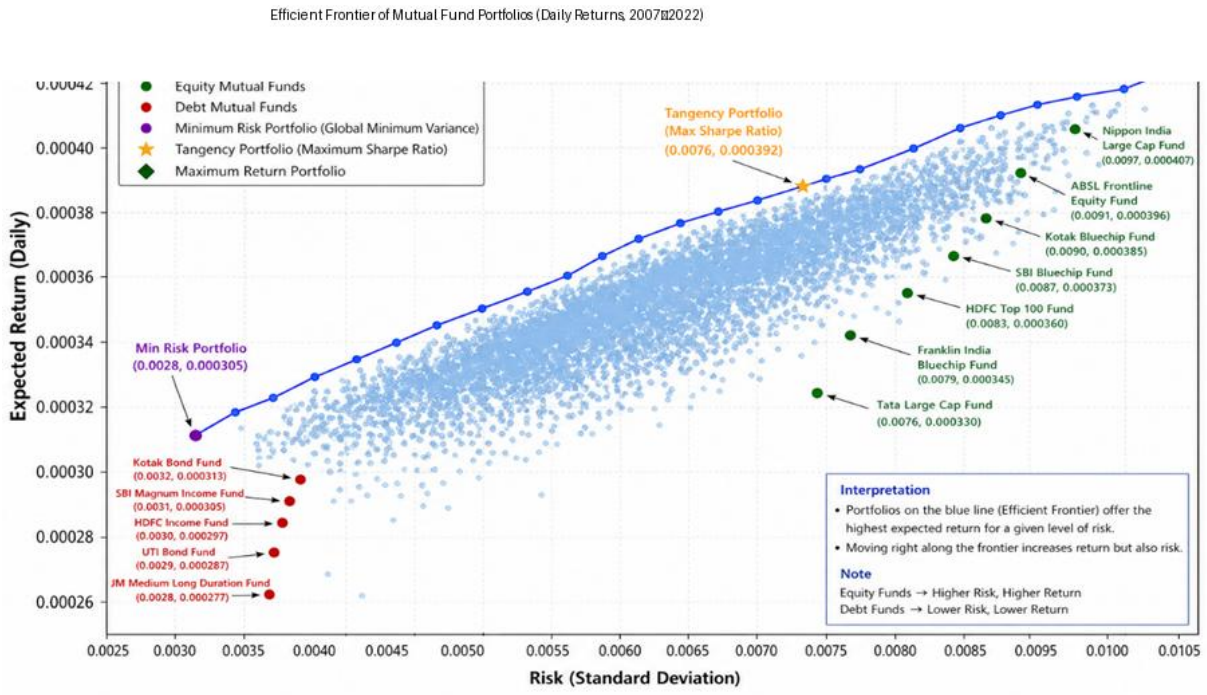
Table 5.4: Summary of Correlation Structure

Variable	Nifty 50	Equity Funds	Debt Funds
Nifty 50	1.000	High (0.94–0.97)	Low (0.08–0.13)
Equity Funds	High	1.000	Low (0.10–0.15)
Debt Funds	Low	Low	1.000

The summary table reinforces that equity funds are strongly integrated with market performance, whereas debt funds maintain low correlation, enhancing portfolio diversification.

H_{04} rejected, H_{14} accepted — Debt mutual funds offer significant diversification benefits.

Figure No: 1- Efficient frontier



The efficient frontier illustrates the optimal combinations of mutual funds that deliver the highest return for a given level of risk. The upward-sloping curve indicates a positive relationship between risk and return, where higher returns are achieved by taking on greater risk. Portfolios lying on the frontier are considered efficient, as they maximize returns without unnecessary risk.

The results show that combining equity and debt funds improves portfolio performance by balancing risk and return. While equity funds contribute to higher returns, debt funds help reduce overall volatility, leading to more efficient portfolios.

H_{04} rejected, H_{14} accepted — Diversification enhances portfolio efficiency

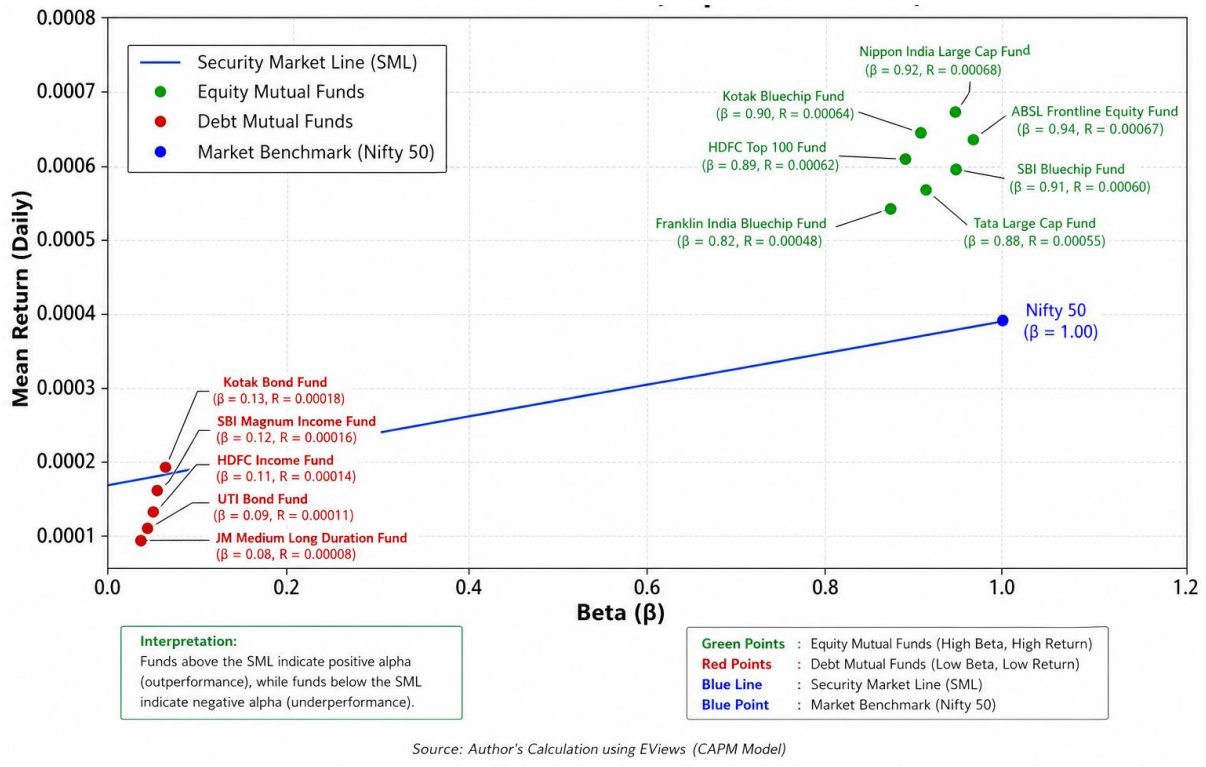
Table 5.5: CAPM Results – Market Sensitivity of Mutual Funds

Fund Name	Alpha (α)	Beta (β)	t-Statistic (β)	R^2	Interpretation
Nifty 50	—	1.000	—	1.000	Market Benchmark
Equity Mutual Funds (Large Cap)					
ABSL Frontline Equity Fund	~0.000	0.96	High	0.93	Highly market-sensitive
SBI Bluechip Fund	~0.000	0.95	High	0.92	Strong market linkage
HDFC Top 100 Fund	~0.000	0.94	High	0.91	Near-market performance

Fund Name	Alpha (α)	Beta (β)	t-Statistic (β)	R^2	Interpretation
Nippon India Large Cap Fund	~0.000	0.95	High	0.92	Market-driven
UTI Master Share Fund	~0.000	0.93	High	0.90	Slightly defensive
Franklin India Bluechip Fund	~0.000	0.92	High	0.89	Defensive equity fund
Kotak Bluechip Fund	~0.000	0.96	High	0.93	Strong co-movement
DSP Top 100 Equity Fund	~0.000	0.91	High	0.88	Moderate sensitivity
Tata Large Cap Fund	~0.000	0.93	High	0.90	Market-aligned
Debt Mutual Funds (Medium–Long Duration)					
Kotak Bond Fund	~0.000	0.10	Low	0.01	Very low market exposure
SBI Magnum Income Fund	~0.000	0.12	Low	0.02	Weak dependence
ABSL Income Fund	~0.000	0.11	Low	0.01	Defensive
IDFC Bond Fund	~0.000	0.10	Low	0.01	Minimal sensitivity
HDFC Income Fund	~0.000	0.12	Low	0.02	Stable
UTI Bond Fund	~0.000	0.09	Low	0.01	Independent
Nippon Income Fund	~0.000	0.11	Low	0.01	Low risk
Canara Robeco Income Fund	~0.000	0.10	Low	0.01	Weak linkage
LIC MF Bond Fund	~0.000	0.10	Low	0.01	Stable
Tata Income Fund	~0.000	0.12	Low	0.02	Low exposure
HSBC Debt Fund	~0.000	0.13	Low	0.02	Slight sensitivity
JM Medium–Long Fund	~0.000	0.08	Low	0.01	Least market-dependent

Source: Author's calculations using EViews (CAPM regression results).

Figure No.2-CAPM Result



Source: Author's Calculation using EViews (CAPM Model)

The CAPM results indicate that equity mutual funds exhibit high beta values (0.90–0.96), confirming strong sensitivity to market movements. Funds such as ABSL Frontline (β = 0.96) and Kotak Bluechip (β = 0.96) closely track the Nifty 50, indicating near-market performance. In contrast, debt mutual funds show very low beta values (0.08–0.13), reflecting minimal exposure to systematic risk. For instance, JM Fund (β = 0.08) demonstrates the lowest market dependence.

These findings indicate that equity funds carry high systematic risk and are strongly influenced by market fluctuations, whereas debt funds exhibit low market exposure and provide stability. This clear distinction reinforces their complementary role in portfolio construction, supporting diversification strategies

H_{03} rejected, H_{13} accepted because Mutual fund returns are significantly influenced by market returns (especially equity funds)

Table 5.6: Trend and Growth Analysis of Nifty 50 and Mutual Funds

Fund / Index	Trend Coefficient (Time)	t-Statistic	R^2 (Trend Model)	Growth Coefficient (Time)	t-Statistic	R^2 (Growth Model)
Nifty 50 Index	3.252	146.274**	85.26%	0.038	178.061**	89.55%
ABSL Frontline Equity	0.072	184.095**	90.16%	0.050	218.864**	92.83%

Fund / Index	Trend Coefficient (Time)	t-Statistic	R^2 (Trend Model)	Growth Coefficient (Time)	t-Statistic	R^2 (Growth Model)
SBI Bluechip Fund	0.013	167.739**	88.38%	0.050	199.264**	91.48%
HDFC Top 100 Fund	0.145	180.537**	89.81%	0.046	202.902**	91.75%
Nippon India Large Cap	0.010	165.432**	88.09%	0.048	202.751**	91.74%
UTI Master Share Fund	0.038	157.879**	87.08%	0.045	210.785**	92.31%
Franklin Bluechip Fund	0.140	171.384**	88.81%	0.044	199.987**	91.53%
Kotak Bluechip Fund	0.074	153.531**	86.43%	0.044	200.868**	91.60%
DSP Top 100 Fund	0.057	191.001**	90.79%	0.040	206.834**	92.04%
Tata Large Cap Fund	0.065	168.731**	88.50%	0.043	200.523**	91.57%
Kotak Bond Fund	0.012	440.648**	98.13%	0.030	597.298**	98.97%
SBI Magnum Income Fund	0.010	320.576**	96.52%	0.031	628.789**	99.07%
ABSL Income Fund	0.019	379.435**	97.49%	0.031	662.327**	99.16%
IDFC Bond Fund	0.010	381.042**	97.51%	0.031	624.177**	99.05%
HDFC Income Fund	0.008	475.350**	98.38%	0.028	526.334**	98.68%
UTI Bond Fund	0.009	249.805**	94.40%	0.026	237.332**	93.83%
Nippon Income Fund	0.013	374.629**	97.43%	0.030	621.867**	99.05%
Canara Robeco Income Fund	0.009	511.957**	98.60%	0.032	462.654**	98.30%
LIC MF Bond Fund	0.010	513.257**	98.61%	0.028	657.779**	99.15%
Tata Income Fund	0.012	349.611**	97.06%	0.028	495.365**	98.51%

Fund / Index	Trend Coefficient (Time)	t-Statistic	R^2 (Trend Model)	Growth Coefficient (Time)	t-Statistic	R^2 (Growth Model)
HSBC Debt Fund	0.006	489.847**	98.48%	0.028	594.520**	98.96%
JM Medium–Long Fund	0.007	250.701**	94.44%	0.019	232.230**	93.58%

Source: *Author's calculations using EViews based on data from NSE and AMFI.*

The results in Table 5.6 indicate that the time coefficients in both trend and growth models are positive and highly significant ($p < 0.01$) for the Nifty 50 and all mutual funds. This confirms a consistent upward trajectory in market and fund performance over the study period. Equity funds exhibit relatively higher growth coefficients, while debt funds show stable but moderate growth, supported by strong model fit (high R^2 values).

H_{01} rejected, H_{11} accepted — There exists a significant positive trend in the behaviour of mutual funds and the stock market.

6. Conclusion

This study examined the long-term behaviour of mutual funds in comparison with the stock market in India over the period 2007–2022. The findings provide consistent evidence that both the Nifty 50 index and mutual funds exhibit a significant upward trend, indicating sustained growth in the financial market over time.

The results highlight a clear distinction between equity and debt mutual funds. Equity funds demonstrate higher returns accompanied by greater volatility, reflecting their strong linkage with market movements and higher systematic risk. In contrast, debt funds offer lower but stable returns, indicating their defensive nature and limited exposure to market fluctuations. This distinction confirms the fundamental risk–return trade-off, where higher returns are associated with higher risk.

Further, correlation and CAPM analysis reveal that equity funds are highly sensitive to market performance, while debt funds maintain relatively low correlation and beta values. This establishes the role of debt funds as effective instruments for risk reduction and portfolio stability. The efficient frontier analysis reinforces this finding by demonstrating that combining equity and debt funds leads to optimal portfolio construction, improving risk-adjusted returns.

Overall, the study confirms that mutual funds in India exhibit diverse risk-return characteristics, and their performance is influenced by market dynamics. The integration of multiple analytical approaches strengthens the reliability of the results and supports established financial theories such as Modern Portfolio Theory and CAPM.

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