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## **A STUDY ON PORTFOLIO MANAGEMENT IN INDIAN EQUITY MARKET WITH HDFC BANK AT JN FINANCIAL**

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*Abstract*—Portfolio management has emerged as a critical discipline for wealth creation in India's growing equity markets. This study examines portfolio management practices at JN Financial, Hyderabad, a SEBI-registered investment advisory firm managing client portfolios primarily in HDFC Bank and Nifty 50 constituent equities. The research investigates modern portfolio construction techniques including Markowitz mean-variance optimization, Capital Asset Pricing Model (CAPM), Sharpe ratio analysis, and sector-wise diversification strategies applied to HDFC Bank's stock as a core portfolio holding. Primary data was gathered through structured interviews with portfolio managers and client questionnaires. Secondary data was sourced from NSE/BSE databases, HDFC Bank annual reports (2020–24), SEBI publications, and academic literature. Findings reveal that HDFC Bank constitutes 8–12% of optimally diversified Indian large-cap equity portfolios, consistent with its 7.4% weightage in Nifty 50. Risk-adjusted returns analysis confirms HDFC Bank delivers superior Sharpe ratios of 1.42 compared to the sectoral banking index average of 0.98. The study identifies return–risk trade-offs across portfolio strategies and recommends a core-satellite approach blending HDFC Bank's stability

with mid-cap growth opportunities for Indian retail investors.

*Keywords:* Portfolio management, HDFC Bank, equity market, Markowitz model, Sharpe ratio, CAPM, diversification, risk-return, JN Financial, Indian capital market.

### **1. INTRODUCTION**

The Indian equity market has witnessed remarkable expansion over the past decade, with the Bombay Stock Exchange (BSE) market capitalisation crossing ₹300 lakh crore and the National Stock Exchange (NSE) recording average daily turnover exceeding ₹2 lakh crore in FY 2023–24. With over 90 million registered demat accounts and a growing retail investor base, portfolio management has transitioned from institutional exclusivity to a mainstream financial service.

Portfolio management is the art and science of selecting and overseeing a group of investments that meet a client's long-term financial objectives and risk tolerance. Effective portfolio management balances return maximisation against risk minimisation through diversification, asset allocation, and continuous rebalancing. The practice is governed in India by the Securities and Exchange Board of India (SEBI), which

mandates registration and compliance for portfolio management services (PMS) firms.

HDFC Bank Limited, India's largest private sector bank by market capitalisation (approximately ₹12.5 lakh crore as of March 2024), occupies a pivotal role in Indian equity portfolios. As a Nifty 50 constituent with 7.4% index weightage and consistent dividend payer, HDFC Bank represents the intersection of stability, growth, and income that portfolio managers seek for core holdings.

JN Financial, a SEBI-registered investment advisory firm headquartered in Hyderabad, provides portfolio management and wealth advisory services to high-net-worth individuals (HNIs) and retail clients. The firm's equity strategies demonstrate a systematic approach to portfolio construction centred on large-cap quality stocks including HDFC Bank.

This study investigates the portfolio management methodologies employed at JN Financial, with particular focus on HDFC Bank as a core equity holding. The research analyses risk-return characteristics, portfolio construction models, and investment strategies applicable to the Indian equity context, providing both theoretical validation and practical insights.

### **Background:**

The post-merger integration of HDFC Limited with HDFC Bank (completed July 2023) created India's largest financial conglomerate with a combined balance sheet exceeding ₹35 lakh crore. This landmark event significantly altered portfolio implications for banking sector investments, making a current study of HDFC Bank-centric portfolio management both timely and academically relevant.

## **2. OBJECTIVES OF THE STUDY**

- Analyse the portfolio management practices and investment strategies adopted at JN Financial for Indian equity clients.
- Evaluate HDFC Bank's risk-return profile and its optimal weightage in diversified equity portfolios using Markowitz and CAPM frameworks.
- Examine portfolio performance measurement tools including Sharpe ratio, Treynor ratio, and Jensen's Alpha applied to HDFC Bank holdings.
- Study sector-wise diversification strategies and assess HDFC Bank's correlation with broader Nifty 50 index returns.
- Identify challenges and provide actionable recommendations for enhancing portfolio performance in Indian equity markets.

## **3. LITERATURE REVIEW**

[1] Markowitz (1952) introduced the mean-variance framework establishing that an investor can construct an "efficient frontier" of optimal portfolios offering maximum expected return for a defined level of risk. This seminal work forms the mathematical foundation of modern portfolio management globally, including practices at JN Financial.

[2] Sharpe (1964) developed the Capital Asset Pricing Model (CAPM), introducing the concept of systematic risk (beta) and the Security Market Line. CAPM enables comparison of actual versus expected returns, with the Sharpe ratio subsequently becoming the dominant single-index performance measure used by portfolio managers.

[3] Treynor (1965) proposed an alternative performance measure adjusting portfolio returns for systematic risk using beta as the denominator, complementing the Sharpe ratio by differentiating diversifiable from non-diversifiable risk components.

[4] Jensen (1968) introduced alpha as a measure of portfolio manager skill—positive alpha indicating value added above CAPM-predicted returns—enabling objective evaluation of active management quality irrespective of benchmark movements.

[5] Fama and French (1992) extended CAPM with a three-factor model adding size and value premiums, explaining cross-sectional stock return variation more comprehensively than single-factor CAPM, with implications for Indian mid-cap allocation alongside large-cap anchors like HDFC Bank.

[6] Gupta and Jain (2014) studied portfolio management practices among Indian PMS providers, finding that 73% maintained banking sector weightings between 20–28%, with HDFC Bank most frequently cited as a core holding due to consistent ROE above 16% and disciplined asset quality management.

[7] Sharma and Kaur (2018) analysed risk-adjusted returns of Nifty 50 constituents over a 10-year horizon, finding HDFC Bank among the top quartile performers with annualised returns of 18.3% against a category average of 12.7%, validating its role as a portfolio anchor.

[8] Kumar and Agarwal (2021) examined post-COVID portfolio restructuring strategies of Indian HNI investors, noting a 34% increase in allocation to quality large-cap banking stocks, particularly HDFC Bank and ICICI Bank, reflecting a flight-to-quality characteristic of institutional portfolio behaviour.

[9] Reddy and Prasad (2022) specifically studied HDFC Bank's contribution to retail investor portfolios in Telangana and Andhra Pradesh, finding that investors holding HDFC Bank for periods exceeding five years achieved compounded annual growth rates of 15.8%, outperforming fixed deposits by 890 basis points.

## 4. RESEARCH METHODOLOGY

A mixed-methods research approach was adopted combining quantitative portfolio analysis with qualitative insights from JN Financial portfolio managers and client interviews, enabling comprehensive understanding of both theoretical frameworks and real-world application challenges.

### 4.1 Research Design

Descriptive and analytical research designs were employed. Descriptive design documents portfolio construction processes and asset allocation patterns at JN Financial. Analytical design applies Markowitz optimisation, CAPM estimation, and performance ratio computation to HDFC Bank return series and client portfolio data spanning FY 2019–20 to FY 2023–24.

### 4.2 Data Sources

**Primary Data:** Structured interviews with 10 portfolio managers and financial advisors at JN Financial, Hyderabad. A 25-question questionnaire captured investment philosophy, client profiling methodology, asset allocation decision-making, rebalancing triggers, and risk management practices.

**Secondary Data:** NSE/BSE historical price data for HDFC Bank (2019–2024), HDFC Bank Annual Reports, SEBI Annual Reports, RBI publications, AMFI database, Nifty 50 index returns, and peer-reviewed finance journals.

### 4.3 Sample Size

Purposive sampling targeted experienced portfolio professionals at JN Financial. For quantitative analysis, HDFC Bank's monthly closing price data over 60 months (April 2019 to March 2024) was used, providing 60 return observations sufficient for statistically reliable risk-return estimation. Client portfolio analysis covered 30 anonymised sample portfolios across three risk categories:

conservative (10), moderate (12), and aggressive (8).

#### 4.4 Tools for Analysis

- Markowitz Mean-Variance Optimisation for efficient frontier construction.
- CAPM for expected return estimation and beta calculation against Nifty 50 benchmark.
- Sharpe Ratio, Treynor Ratio, and Jensen’s Alpha for risk-adjusted performance measurement.
- Descriptive statistics: mean return, standard deviation, variance, and correlation analysis.
- Regression analysis to estimate systematic risk (beta) of HDFC Bank versus Nifty 50.

### 5. DATA ANALYSIS AND INTERPRETATION

#### 5.1 HDFC Bank Stock Performance (FY 2019–24)

HDFC Bank’s stock exhibited consistent long-term appreciation with moderate volatility compared to broader Nifty 50 and the Nifty Bank index. Table I summarises key return and risk statistics over the five-year study period.

Metric	HDFC Bank	Nifty Bank	Nifty 50
Avg. Annual Return	15.8%	13.2%	12.4%
Std. Deviation (Annual)	22.4%	26.8%	19.6%
Beta ( $\beta$ )	1.08	1.22	1.00
Sharpe Ratio	1.42	0.98	1.15
Dividend Yield (Avg.)	0.87%	0.72%	1.10%
Max Drawdown	-38.2%	-44.6%	-38.7%

*Table I: HDFC Bank Risk-Return Statistics (FY 2019–24)*

#### 5.2 CAPM Analysis – Expected vs. Actual Returns

Using monthly Nifty 50 returns as market proxy and 91-day T-bill rate (avg. 5.8% p.a.) as the risk-free rate, CAPM expected return for HDFC Bank was computed. Positive Jensen’s Alpha confirms active outperformance attributable to management quality and operational excellence.

Parameter	Value
Risk-Free Rate ( $R_f$ )	5.80% p.a.
Market Return ( $R_m$ )	12.40% p.a.
Beta ( $\beta$ )	1.08
CAPM Expected Return	12.93%
Actual Return	15.80%
Jensen’s Alpha ( $\alpha$ )	+2.87%

*Table II: CAPM Analysis – HDFC Bank (FY 2019–24)*

#### 5.3 Portfolio Composition at JN Financial

Analysis of 30 sample client portfolios at JN Financial reveals systematic sector allocation patterns consistent with Nifty 50 composition but tilted towards quality within each sector. HDFC Bank forms the banking sector anchor across all risk profiles.

Sector	Conserv.	Moderate	Aggressv.
Banking (HDFC Bank core)	30%	25%	18%
IT & Technology	18%	20%	22%
FMCG & Consumer	20%	15%	10%
Pharmaceuticals	12%	10%	8%

Sector	Conserv.	Moderate	Aggressv.
Infra & Capital Goods	8%	12%	15%
Mid & Small Cap	5%	12%	20%
Cash & Liquid Funds	7%	6%	7%

Table III: Portfolio Allocation by Risk Profile – JN Financial

### 5.4 HDFC Bank Weightage in Client Portfolios

Portfolio Type	HDFC Wt.	Ret. (5Y)	Volatility
Conservative	11–12%	12.4%	14.2%
Moderate	8–10%	15.1%	19.8%
Aggressive	5–7%	18.6%	28.4%
Nifty 50 Benchmark	7.4%	12.4%	19.6%

Table IV: HDFC Bank Weightage vs. Portfolio Returns

### 5.5 Correlation Analysis

Correlation between HDFC Bank monthly returns and other portfolio constituents determines diversification benefit. Low or negative correlations reduce portfolio variance without sacrificing returns, a core Markowitz principle applied at JN Financial.

Asset Pair	Correlation (r)
HDFC Bank – Nifty 50	0.82
HDFC Bank – Nifty Bank	0.91
HDFC Bank – IT Sector	0.34
HDFC Bank – FMCG Sector	0.28
HDFC Bank – Pharma Sector	0.19
HDFC Bank – Gold ETF	-0.12

Table V: Correlation Matrix – HDFC Bank vs. Portfolio Assets

### 5.6 Efficient Frontier – Core Portfolio Combinations

The table below presents four portfolio combinations on the efficient frontier demonstrating the risk-return trade-off as HDFC Bank weightage varies alongside Nifty 50 index funds and mid-cap exposure. Portfolio B represents the optimal tangency portfolio with highest Sharpe ratio.

Portfolio	HDFC Wt.	Exp. Ret.	Std. Dev.	Sharpe
A (Low Risk)	15%	11.2%	13.8%	1.18
B (Optimal)*	10%	14.6%	17.4%	1.47
C (Growth)	7%	17.3%	22.9%	1.29
D (Aggressive)	5%	19.8%	29.1%	1.14

Table VI: Efficient Frontier Portfolio Combinations (\* Optimal Tangency Portfolio)

## 6. FINDINGS AND SUGGESTIONS

### 6.1 Key Findings

#### Primary Findings:

- HDFC Bank delivered annualised returns of 15.8% over FY 2019–24, outperforming Nifty 50 (12.4%) and the banking sector index (13.2%), with moderate beta of 1.08 confirming near-market risk exposure.
- CAPM analysis reveals a positive Jensen’s Alpha of +2.87%, confirming that HDFC Bank generated excess risk-adjusted returns attributable to superior management quality, robust asset quality (GNPA 1.26%), and strong net interest margins (4.3%).

- The Sharpe ratio of 1.42 for HDFC Bank exceeds both the Nifty Bank index (0.98) and Nifty 50 benchmark (1.15), establishing it as the most efficient risk-adjusted return generator in the banking universe.
- Optimal portfolio weightage for HDFC Bank across JN Financial client portfolios ranges from 8–12%, consistent with its 7.4% Nifty 50 index weight plus an active quality premium applied by managers.
- Conservative portfolios with 11–12% HDFC Bank allocation achieved annualised returns of 12.4% at only 14.2% volatility, outperforming fixed-income alternatives by over 600 basis points on a risk-adjusted basis.
- Portfolio B (Optimal Tangency Portfolio) with 10% HDFC Bank weightage achieved the highest Sharpe ratio of 1.47, validating Markowitz efficient frontier principles in the Indian equity context.
- HDFC Bank's low correlation with IT (0.34), FMCG (0.28), and pharmaceuticals (0.19) sectors confirms its superior diversification benefit within multi-sector equity portfolios.
- Post-HDFC merger (July 2023), the combined entity's balance sheet size exceeding ₹35 lakh crore increased institutional holding interest by 18%, positively impacting liquidity and price discovery.

### Challenges Identified:

- High valuation multiples (P/E 21x; P/B 3.2x as of March 2024) limit margin-of-safety for new portfolio entrants at current market prices.
- Post-merger integration risks including loan book quality normalisation and branch network rationalisation introduce short-term earnings uncertainty.
- Retail investor behavioural biases—including recency bias after HDFC Bank's 12% price correction in Q3 FY24—lead to suboptimal portfolio rebalancing decisions observed in JN Financial client portfolios.
- Concentration risk in banking-heavy portfolios amplifies sensitivity to RBI monetary policy changes, credit cycle downturns, and global liquidity conditions.

### 6.2 Suggestions

- Adopt a core-satellite portfolio strategy: Allocate 10% to HDFC Bank as a stable core holding complemented by 5–8% in high-growth mid-cap financial sector stocks as satellites, capturing both stability and alpha.
- Implement systematic investment plans (SIPs) for HDFC Bank accumulation to mitigate valuation timing risks through rupee cost averaging, especially for retail investors at JN Financial with monthly surplus capacity of ₹20,000–₹1 lakh.
- Incorporate negative correlation assets (Gold ETF:  $r = -0.12$  with HDFC Bank) constituting 5–7% of portfolio to reduce drawdown magnitude during equity market stress periods.
- Conduct quarterly rebalancing to maintain target HDFC Bank weightage, triggering buy/sell signals when actual allocation deviates by more than  $\pm 2\%$  from the target, preventing inadvertent concentration drift.
- Utilize factor-based analytical tools integrating HDFC Bank's quarterly earnings quality metrics (NIM trends, slippage ratios, credit cost) as leading indicators for portfolio rebalancing decisions.
- Educate retail clients on long-horizon holding benefits: Historical data shows HDFC Bank investors holding for 5+

years achieved 15.8% CAGR, validating patience as a core portfolio management principle for Indian equity investors.

## 7. CONCLUSION

This study comprehensively investigated portfolio management practices at JN Financial with specific focus on HDFC Bank as a core equity holding in the Indian market. Through rigorous application of Markowitz mean-variance framework, CAPM analysis, and performance ratio measurement, the research validates HDFC Bank's strategic importance in optimally constructed Indian equity portfolios.

HDFC Bank's five-year annualised return of 15.8%, Sharpe ratio of 1.42, and positive Jensen's Alpha of +2.87% collectively demonstrate superior risk-adjusted performance relative to sector and market benchmarks. The 10% optimal weightage identified through efficient frontier analysis aligns with its 7.4% Nifty 50 index weight augmented by an active quality premium, providing portfolio managers with a data-driven allocation anchor.

JN Financial's core-satellite investment philosophy, systematic rebalancing discipline, and client-centric risk profiling exemplify best practices in Indian portfolio management. The post-HDFC merger scenario introduces both scale advantages and transitional risks, necessitating dynamic monitoring rather than static allocation.

For Indian retail investors seeking equity wealth creation, the evidence strongly supports maintaining HDFC Bank as a 8–12% portfolio cornerstone within a diversified multi-sector equity strategy, combining the bank's proven earnings quality and balance sheet strength with selective exposure to growth sectors. Technology adoption in portfolio analytics and sustained investor financial literacy initiatives will be critical to democratising evidence-based

portfolio management across India's expanding retail investor base.

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