Siddhant

23_DMBA_126_MRP.docx

Delhi Technological University

Document Details

Submission ID
trn:oid:::27535:96517343

Submission Date
May 18, 2025, 7:07 PM GMT+5:30

Download Date
May 18, 2025, 7:09 PM GMT+5:30

File Name
23_DMBA_126_MRP.docx

File Size
370.6 KB

60 Pages

13,358 Words

72,879 Characters

9% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text
- Cited Text
- Small Matches (less than 10 words)

Match Groups

89 Not Cited or Quoted 9%
Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

7% Internet sources
1% Publications
7% Submitted works (Student Papers)

Integrity Flags

0 Integrity Flags for Review

No suspicious text manipulations found.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Match Groups

- **89** Not Cited or Quoted 9%
  Matches with neither in-text citation nor quotation marks
- **0** Missing Quotations 0%
  Matches that are still very similar to source material
- **0** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

- 7% Internet sources
- 1% Publications
- 7% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	dspace.dtu.ac.in:8080 1%
2	Internet	fastercapital.com <1%
3	Submitted works	Gujarat Technological University on 2025-04-21 <1%
4	Internet	www.coursehero.com <1%
5	Submitted works	Liverpool John Moores University on 2024-01-29 <1%
6	Submitted works	St. Xavier's College on 2024-10-08 <1%
7	Internet	documents.mx <1%
8	Submitted works	aimsr on 2025-04-07 <1%
9	Submitted works	Pacific University on 2017-05-20 <1%
10	Internet	www.fastercapital.com <1%

11 Submitted works
Rahul Education on 2025-02-22 <1%

12 Internet
loancalculatorcanada.ca <1%

13 Internet
www.360mn.org <1%

14 Submitted works
St. Xavier's College on 2024-10-09 <1%

15 Internet
web.realinfo.tv <1%

16 Submitted works
Gujarat Technological University on 2025-05-08 <1%

17 Internet
mobt3ath.com <1%

18 Publication
Mafruza Sultana, Pooja Gupta, Asit K. Barma, Swarnalakshmi Umamaheswaran, P... <1%

19 Submitted works
Thapar University, Patiala on 2018-07-29 <1%

20 Submitted works
University of Keele on 2025-03-10 <1%

21 Submitted works
University of Hertfordshire on 2025-04-28 <1%

22 Submitted works
European University on 2020-08-23 <1%

23 Internet
persona-tomsk.ru <1%

24 Internet
www.researchgate.net <1%

25 Submitted works
Symbiosis International University on 2015-11-16 <1%

26 Submitted works
University of Pune on 2014-10-29 <1%

27 Internet
en.ppt-online.org <1%

28 Internet
www.annualreports.co.uk <1%

29 Submitted works
University of Greenwich on 2022-11-09 <1%

30 Internet
eprajournals.com <1%

31 Submitted works
NIIT University on 2024-02-10 <1%

32 Submitted works
University of Sheffield on 2024-05-29 <1%

33 Submitted works
University of West London on 2025-01-03 <1%

34 Internet
margcompusoft.com <1%

35 Submitted works
Centre for Distance and Online Education Galgotias University on 2024-12-07 <1%

36 Submitted works
City University on 2009-09-15 <1%

37 Submitted works
University of Mumbai on 2024-12-18 <1%

38 Submitted works
Utkal University on 2019-09-19 <1%

39 Internet

docslib.org <1%

40 Internet

migration.nism.ac.in <1%

41 Internet

timesofindia.indiatimes.com <1%

42 Internet

www.hotbot.com <1%

43 Internet

www.sbsfinserv.in <1%

44 Submitted works

Institute of Management Technology on 2015-10-15 <1%

45 Submitted works

JISCPAS on 2009-07-13 <1%

46 Submitted works

Marwadi University on 2024-04-16 <1%

47 Submitted works

Tamil Nadu National Law University on 2025-02-26 <1%

48 Submitted works

University of Edinburgh on 2009-03-03 <1%

49 Internet

btwimf.com <1%

50 Internet

dspace.bracu.ac.bd <1%

51 Internet

livewell.com <1%

52 Internet

news.cleartax.in <1%

53 Internet

project.obiaks.com <1%

54 Internet

quizzes.studymoose.com <1%

Major Research Project

On

A Comparative Study of Mutual Funds vs. Index Funds in India (Using Financial Metrics)

Submitted By:

Siddhant Aggarwal

2K23/DMBA/126

Under the guidance of

Dr Deep Shree
Assistant Professor, DTU

DELHI SCHOOL OF MANAGEMENT

Delhi Technological University

Bawana Road Delhi 110042

CERTIFICATE

This is to certify that **Siddhant Aggarwal**, **2K23/DMBA/126** has submitted the Major Research project titled **"A Comparative Study of Mutual Funds vs. Index Funds in India (Using Financial Metrics)."** in partial fulfillment of the requirements for the award of the degree of Master of Business Administration (MBA) from Delhi School of Management, Delhi Technological University, New Delhi during the academic year 2024-2025.

Dr Deep Shree	Dr Saurabh Agrawal
Assistant Professor	Head of the Department

DECLARATION

I, **Siddhant Aggarwal**, declare that the Presented Report entitled "**A Comparative Study of Mutual Funds vs. Index Funds in India (Using Financial Metrics)**" submitted to Delhi Technological University is a record of my original work done under the guidance of **Dr. Deep Shree, Assistant Professor, Delhi School of Management, Delhi Technological University**. This project report is submitted in partial fulfillment of the requirements for the award of the degree of MBA in Finance and Operations.

I also declare that this project report has not been submitted to any other university or institute for the award of any degree or diploma.

Siddhant Aggarwal

2K23/DMBA/126

Date – 17/04/2025

ACKNOWLEDGEMENT

I, Siddhant Aggarwal, would like to express my sincere gratitude to the Head of Department (HOD), **Dr. Saurabh Aggarwal**, Delhi School of Management, Delhi Technological University, for emphasizing the importance of the Project Dissertation as a part of the MBA curriculum and for providing a valuable platform for academic and professional growth.

I am also grateful to my university supervisor, **Dr Deep Shree, Assistant Professor at Delhi School of Management, Delhi Technological University, for her guidance and support throughout the Report preparation. Her valuable feedback on my project report helped me** improve it significantly.

I would also like to thank my family and friends for their support and encouragement throughout my research.

Lastly, I wish to thank all those who directly or indirectly contributed to the successful completion of this project. Your help and encouragement are greatly appreciated.

Siddhant Aggarwal

2K23/DMBA/126

Date – 17/04/2025

Executive Summary

This research project explores and compares the performance of mutual funds and index funds in India, focusing on the period from recent years. The primary objective of the study is to help investors, academicians, and financial professionals understand which category of funds — active (mutual funds) or passive (index funds) — offers better returns, risk-adjusted performance, and overall efficiency when measured through critical financial metrics.

Mutual funds are actively managed portfolios where fund managers make investment decisions aiming to outperform the market. Index funds, on the other hand, follow a passive strategy by mirroring a benchmark index such as the Nifty 50 or Sensex.

The study employs a variety of financial parameters to conduct a detailed comparison, including:

- Compound Annual Growth Rate (CAGR)
- Mean returns
- Standard deviation (risk)
- Beta (market risk)
- Sharpe ratio, Treynor ratio, Sortino ratio (risk-adjusted return metrics)
- Expense ratios

Based on the analysis, mutual funds showed slightly higher CAGR on average compared to index funds, reflecting better raw returns in some cases. However, index funds significantly outperformed mutual funds in terms of risk-adjusted returns, as indicated by higher average Sharpe, Sortino, and Treynor ratios. This suggests that while mutual funds can occasionally outperform, index funds provide more consistent and efficient performance relative to the risk taken. One of the most striking findings of the study is the lower standard deviation (volatility) and expense ratio of index funds. With an average expense ratio significantly lower than that of mutual funds, index funds provide a cost-effective alternative, especially for long-term investors. Additionally, the lower volatility makes them more stable during uncertain market conditions.

From a behavioural perspective, investors with lower risk tolerance, a preference for predictable performance, and long-term investment horizons may benefit more from index funds. Conversely, mutual funds may appeal to investors seeking alpha and who are comfortable with manager-led strategies and slightly higher risk.

TABLE OF CONTENTS

CHAPTER – 1

INTRODUCTION

1.1 Introduction

In the modern era of economic liberalization, globalization, and financial inclusion, the Indian financial market has undergone a dramatic shift in investment patterns. Since traditional avenues of investment, such as fixed deposits, gold, and real estate, provide relatively limited or uncertain returns, people and institutions have been increasingly looking for market-linked avenues of investment. Mutual funds and index funds, in this context, have turned out to be two major tools that collect money from investors and invest it in diversified financial instruments such as equities, bonds, and money market instruments.

Whereas mutual funds have been around for decades and are generally accepted as effective investment tools for long-term wealth generation, index funds are a more recent and rapidly growing passive investing phenomenon. Mutual funds are managed actively by fund managers who take dynamic decisions in response to changing market conditions with the goal of beating benchmarks. On the other hand, index funds are used to track the performance of a given market index (like Nifty 50 or Sensex), and therefore are passively managed.

Active vs. passive investment strategies are perhaps the most contentious topic in the investment management world. Active fund managers believe that skilled fund managers can spot mispriced securities and generate higher returns. In contrast, supporters of index funds believe that markets are mostly efficient, and it is hard for any active manager to beat benchmarks consistently after deducting costs, fees, and taxes.

This dissertation seeks to contribute to this debate by carrying out a comparative analysis of mutual funds and index funds in the Indian context based on performance measures like Net Asset Values (NAVs), Compound Annual Growth Rate (CAGR), risk-return ratios, and expense ratios. This study seeks to enable investors to make more informed choices and determine whether actively managed mutual funds actually have edge over passively managed index funds.

MUTUAL FUND

A mutual fund is an investment product professionally managed that aggregates funds from several investors and invests in a portfolio of securities like stocks, bonds, money market instruments, or other securities. Mutual funds are tailored to address a range of investment objectives, risks, and time horizons with the guidance of Asset Management Companies (AMCs). All investors in a mutual fund own units that correspond to a share of the fund holdings.

Mutual funds have gained increased popularity over the years due to their convenience, diversification benefits, professional management, and the ease of meeting entry costs. Indian mutual funds have the Securities and Exchange Board of India (SEBI) at the reins that monitors transparency, along with investor protection. The Indian mutual fund sector witnessed a speedy spread over the two decades, supported by increasing investor awareness, reform efforts by the regulators, technology advancement, and a demographics-friendly environment.

Mutual funds come in diverse forms, differentiating based on structure, asset class, investment objective, and risk profile. Based on structure, funds are either open-ended or closed-ended. With open-ended funds, investors can come in and out of the scheme at their wish, while in the case of closed-ended funds, there is a fixed maturity. Based on the asset-class view, mutual funds encompass equity funds, debt funds, hybrid funds, and solution-based funds. There is a predominant equity investment with equity funds, making them most suited for long-term capital growth, while debt funds invest in fixed income instruments and are best suited for conservative investors. Hybrid funds comprise a combination of equity and debt securities with a balancing between risk and return.

Diversification is the biggest benefit of mutual funds. Mutual funds minimize the effect of the poor performance of a single individual security on the portfolio by investing in a diversified portfolio of securities. This is a boon to retail investors who don't have the funds or expertise to create a diversified portfolio on their own. In addition, mutual funds are handled by expert fund managers who take investment decisions after carrying out market research, studying the economy, and financial modeling.

Performance of a mutual fund is typically gauged by the Net Asset Value (NAV), the per-unit market value of the total assets of the fund after removing liabilities and expenses. NAVs are released at the close of each trading day, and with them, investors are able to estimate the worth

of their investments. Some other measuring tools of performance are Compound Annual Growth Rate (CAGR), Sharpe Ratio, Alpha, Beta, and standard deviation, which are used to determine risk-adjusted returns.

Mutual funds also incur an expense ratio or management fee for fund management, administration fees, and distribution fees. Active mutual funds have a higher expense ratio owing to research and the costs of high-frequency trading involved, while passive mutual funds, such as index funds, have a lower expense ratio.

Indian mutual fund popularity has also been complemented by Systematic Investment Plans or SIPs, where investors can invest a constant but small sum at periodic intervals. SIPs encourage disciplined investing and allow rupee cost averaging, thereby reducing the effect of market volatility.

Regulation-wise, Indian mutual funds operate under SEBI's Mutual Fund Regulations, 1996. SEBI expects all AMCs to get themselves registered and adhere to SEBI's disclosure and risk management rules. Credit rating agencies like CRISIL also provide mutual fund ratings on a scale of performance, consistency, risk, and asset quality that assist investors in making the right decision.

Although mutual funds are useful, they are not risk-free. Among the usual risks to which the investors are exposed, market risk, interest rate risk, credit risk, and liquidity risk are the most common ones. Thus, there is a need to set fund selection according to the investment horizon, risk tolerance, and financial objective. Briefly, mutual funds are an easy vehicle for building wealth, particularly for retail investors who want professional management and diversification at reasonable cost. Mutual funds are well-placed to play an even more central role in India's financial system in the coming years through regulation, innovation, and education.

Components of Mutual Funds

1. **Sponsor**: Acts as the promoter of the firm. The sponsor forms the mutual fund and appoints the trustees. It should have a good past performance and financial reliability.

2 **. Trust and Trustees**: A mutual fund is formed as a trust. Trustees act as custodians of the interests of the unitholders and oversee the activities of the Asset Management Company (AMC). Trustees take care of the mutual fund so that it is in accordance with all the regulations and safeguards investors' interests.

3 **Asset Management Company (AMC):** AMC is the fund manager of the mutual fund and is entrusted with the management of the fund's assets. AMC does the research, chooses the securities, and handles the portfolio. AMC is appointed by the trustees with the approval of SEBI.

4 **Custodian**: A SEBI-registered institution that holds the securities in custody. It holds assets in safekeeping, settles trades, and keeps records of investments.

5 **Registrar and Transfer Agent (RTA):** RTAs offer investor-related services such as processing applications, record-keeping, issuing of account statements, and facilitating transactions.

Advantages of Mutual Funds

- **Diversification:** By investing in a mix of securities, mutual funds diversify risk among numerous different industries and assets, reducing the risk exposure to any one investment.

- **Professional Management:** Fund managers who are qualified and experienced oversee funds and invest through intense research and analysis.

- **Liquidity:** The open-ended mutual funds are extremely liquid, as the investors can surrender units at the current NAV on any working day.

- **Affordability**: They can begin investing with little amounts of money, even with just ₹500 via SIPs, which makes mutual funds attractive to the masses.

- **Transparency**: SEBI rules require periodic disclosure of the portfolio holdings, NAV, performance of the fund, and other important information.

- **Tax Benefits:** Investment in certain mutual funds, such as ELSS (Equity Linked Savings Scheme), is tax-exempt under Section 80C of the Income Tax Act.

- **Systematic Investment Option:** SIPs allow for systematic investment over the long term, allowing for long-term wealth building with the benefit of rupee cost averaging.

Disadvantages of Mutual Funds

- **Market Risk:** Mutual funds are subject to market fluctuations. Losses may result from adverse movement in the prices of underlying assets.

- **Fees and Charges:** Actively managed products may charge higher expense ratios. These charges can erode investor returns over the long term.

- **No Returns Ensured:** Contrary to fixed deposits or bonds, mutual funds do not ensure any returns, and capital is not guaranteed.

- **Lack of Control:** Investors have no control over personal investment decisions since the decisions are made by the fund managers.

- **Over-diversification:** Some funds will have excessive securities, and this will dilute returns and increase the cost of administration.

- **Exit Load and Lock-in:** Some funds charge exit loads on premature withdrawals, and tax-saving funds (like ELSS) have a three-year lock-in.

Present Challenges Confronting Mutual Funds in India

- **Low Investor Awareness:** Despite all that has been done, a very high percentage of the population has no knowledge about mutual funds and considers them complex or risky.

- **Unsettled Market Conditions:** Global economic uncertainty, instability in interest rates, and political tensions can influence fund performance and investor attitudes.

- **Regulatory Reforms:** SEBI's regular regulatory reforms in expense ratios, commission, and disclosures impose a compliance burden on AMCs and affect their revenue model.

- **Heavy Urban Concentration:** Penetration by mutual funds in rural and semi-urban regions is poor, hampering industry growth.

- **Fee Compression:** SEBI-driven reduction in overall expense ratio (TER) has squeezed the profitability of AMCs, particularly for the smaller players.

- **Digital Adoption and Digital Divide:** Even with the ease of investing through digital means, the majority of potential investors are deprived of digital means or financial knowledge.

- **Mis-selling and Trust Problems:** Dealers mis-sell inappropriate products in some instances to gain commissions, creating trust problems between new investors.

- **Competition from Passive Index Funds and ETFs:** With increasing popularity coming to low-cost passive funds, active mutual funds are under pressure to maintain their premium prices.

INDEX FUND

An index fund is a mutual fund or exchange-traded fund (ETF) that is designed to replicate the performance of a chosen market index, such as the Nifty 50, Sensex, or Nifty Next 50. Rather than trying to beat the market by actively selecting stocks or timing the market, index funds follow a passive investment strategy and try to replicate the composition and return of the chosen index.

In an index fund, the fund manager creates a portfolio that mirrors the index in the securities in which it invests and their weightages. A Nifty 50 index fund, for example, will invest in all 50 shares of the Nifty 50 index in the same proportion as in the index. The performance of the fund is thus directly correlated with the performance of the index that it mirrors.

One of the greatest benefits of index funds is their cost structure. Since the fund manager does not need to research or actively manage the portfolio, the expense ratio of index funds is lower than actively managed mutual funds. Cost-effectiveness is in the best interest of long-term investors, especially in a compounding environment.

Index funds also provide predictability and transparency. Because the components of an index are known and not typically altered, investors can easily observe where their funds are being invested. There is no reliance on the skill or tactics of the fund manager. There is no risk of fund manager bias or underperformance. Index funds are becoming popular in India in the recent past due to rising awareness regarding passive investing, heightened volatility in actively managed funds, and the gradual shift of investors towards low-cost wealth creation tools over the period of time. Index funds are especially suitable for conservative investors who wish to have market-linked returns without the additional risk involved in actively managed equity funds.

Index funds have their disadvantages, though. Because they seek to replicate the market, they can never beat the index, whereas actively managed funds try to produce alpha (returns relative to the benchmark). Second, index funds are also subject to market risk, and their returns are based on the market index. If the market index performs badly, the index fund will also return lower or negative returns.

Despite these limitations, index funds are a low-cost, effective, and simple investment product, especially for retail investors and long-term investors.

Advantages of Index Funds

- **Low Expense Ratio**: As index funds adopt a passive investment approach and do not involve active research or trading, their management costs are extremely low.

- **Diversification**: By tracking a broad market index, index funds provide built-in diversification across industries and sectors.

- **Transparency**: The composition of the fund is similar to a public index, hence, investors always know where their funds are invested.

- **Simplicity**: Index funds are simple to comprehend and perfect for new investors or those who like a "buy and hold" approach.

- **Market Matching Returns**: Though they don't try to outperform the market, they consistently match the average returns of the market.

- **No Fund Manager Bias**: Avoids human judgment or error by fund managers that might adversely impact performance.

Disadvantages of Index Funds

- **No Outperformance (Alpha):** No outperformance, or alpha, is built into index funds. They track it. They could underperform during bull markets as compared to active funds.

- **Tracking Error**: They attempt to mimic the index but may have minor variations in the form of tracking errors because of fund costs, delay in rebalancing, and holding cash.

- **Lack of Flexibility**: Index funds are committed to following the index and therefore cannot leave behind weakly performing shares until the index shifts.

- **Market Risk**: Similar to any equity instrument, index funds are exposed to market risks. When the index decreases, the value of the fund also diminishes.

- **Limited Customization**: Investors cannot match their portfolio to a particular theme or preference, as compared to thematic or actively managed funds.

Current Challenges Confronting Index Funds in India

- **Low Investor Awareness**: In spite of their advantages, most retail investors remain unaware of the operation of index funds or their long-run potential.

- **Overwhelming Presence of Active Funds**: Actively managed mutual funds predominate in the Indian marketplace, and cultural affinity for "outperformance" causes many investors to shun passive approaches.

- **Tracking Error Management**: Owing to liquidity, cash balances, or rebalancing delay, Indian index funds may suffer from tracking errors, which affect returns.

- **Few Choices**: Although the market for passive investing is expanding, India has fewer index fund choices available than developed nations such as the U.S.

- **Benchmark Composition Risk**: If a benchmark index is extremely concentrated in only a handful of stocks (such as in the Nifty 50), the fund is more sensitive to the performance of those stocks.

- **Expense Ratios**: Though lower than actively managed funds, some Indian index funds still feature relatively high expense ratios relative to international standards (particularly compared with U.S. ETFs).

- **Rare Index Rebalancing**: Indian indices Nifty and Sensex rebalance every quarter or half a year, so it is possible that low-performing stocks can lag behind in being delisted from the index.

Mutual Fund VS Index Fund

Aspect	Mutual Funds (Actively Managed)	Index Funds (Passively Managed)
Investment Strategy	Active stock picking and timing by fund managers	Passive strategy replicating a benchmark index
Objective	Aim to **outperform** the benchmark index	Aim to **match** the performance of a benchmark index
Fund Manager Involvement	High–fund managers analyze and choose stocks	– low-fund manager simply replicates the index
Expense Ratio	Higher (1%–2.5%)	Lower (0.1%–1%)
Returns Potential	Potential to generate **alpha** (excess returns)	Generates **market returns** only
Risk Level	Higher due to active decision-making	Lower – mirrors market risk
Tracking Error	Not applicable	Present – minor deviation from index performance
Transparency	Moderate – portfolio disclosed periodically	High matches public index components
Diversification	Depends on the fund's strategy and style	Broad diversification across index constituents
Customization	Can be sector/thematic/focused based on strategy	Limited to what the index includes
Fund Manager Skill Dependency	Critical – performance depends on the manager's ability	Not critical – performance tied to index only
Market Conditions Performance	May outperform in bull markets and underperform in bear markets	Performs as per the index in all market conditions
Rebalancing Frequency	As per the manager's discretion	As per index reconstitution (quarterly/half-yearly)
Popularity in India	Widely adopted by retail and institutional investors	Gaining momentum recently
Suitability	For investors seeking higher returns with higher risk tolerance	For long-term investors seeking low-cost, stable returns
Examples	HDFC Equity Fund, SBI Bluechip Fund, Axis Midcap Fund	UTI Nifty Index Fund, ICICI Prudential Sensex Index Fund

About MUTUAL & INDEX Funds Selected for Study

1. **HDFC Top 100 Fund**:
    - **Category**: Large Cap Equity Fund
    - **Investment Focus**: This fund primarily invests in the top 100 companies by market capitalization, focusing on blue-chip stocks with strong fundamentals. It aims to offer capital appreciation over the long term.
    - **Investment Strategy**: It follows a growth-based strategy, selecting stocks that have high growth potential.
    - **Launch Date:** 1996
    - **Fund Manager:** Mr. Prashant Jain

2. **SBI Bluechip Fund**:
    - **Category**: Large Cap Equity Fund
    - **Investment Focus**: This fund invests in large-cap stocks, particularly those of companies with established histories and significant market presence. It aims to offer capital appreciation over time.
    - **Investment Strategy**: It adopts a bottom-up approach, selecting stocks based on fundamental analysis and long-term growth prospects.
    - **Launch Date:** February 14, 2006
    - **Fund Manager:** Mr. Raviprakash Sharma

3. **ICICI Prudential Bluechip Fund**:
    - **Category**: Large Cap Equity Fund
    - **Investment Focus**: Focuses on investing in large-cap companies that are leaders in their respective sectors. The fund aims for capital appreciation by investing in high-quality, well-established stocks.

47

- **Investment Strategy**: The fund invests in a diversified portfolio of the top 100 companies in India.
- **Launch Date:** 2007
- **Fund Manager:** Mr. Sankaran Naren

4. **Axis Bluechip Fund**:
   - **Category**: Large Cap Equity Fund
   - **Investment Focus**: Invests in large-cap stocks with high growth potential. The fund aims to deliver steady capital growth by choosing companies that exhibit strong fundamentals and long-term growth prospects.
   - **Investment Strategy**: Axis Bluechip Fund primarily follows a blend of growth and value investing, with a focus on high-quality companies.
   - **Launch Date:** 2009
   - **Fund Manager:** Mr. Shreyash Devalkar

5. **UTI Flexi Cap Fund**:
   - **Category**: Multi-Cap Fund (Flexi Cap)
   - **Investment Focus**: This fund invests across all market caps—large, mid, and small-cap stocks. It offers a diversified portfolio and aims for long-term capital appreciation by investing in a combination of growth and value stocks.
   - **Investment Strategy**: The fund provides flexibility by investing across market capitalizations, making it suitable for investors seeking a balanced approach to risk and return.
   - **Launch Date:** 1994
   - **Fund Manager:** Mr. Ajay Tyagi

6. **HDFC Nifty 50 Index Fund**:
    - **Category**: Index Fund (Passive)
    - **Investment Focus**: This fund aims to replicate the performance of the Nifty 50 Index, which represents the 50 largest and most liquid stocks on the National Stock Exchange (NSE).
    - **Investment Strategy**: As a passive fund, it simply tracks the Nifty 50 Index without attempting to beat the market, providing a low-cost way for investors to gain broad exposure to Indian equities.
    - **Launch Date:** 2002
    - **Fund Manager:** Mr. Kaushik Basu

7. **ICICI Prudential Next 50 Index Fund**:
    - **Category**: Index Fund (Passive)
    - **Investment Focus**: This fund seeks to replicate the performance of the Nifty Next 50 Index, which includes the next 50 large companies after the Nifty 50.
    - **Investment Strategy**: A passive investment strategy, it aims to track the Nifty Next 50 Index, offering a diversified exposure to the next tier of large-cap companies in India.
    - **Launch Date:** 2002
    - **Fund Manager:** Sankaran Naren

8. **UTI Nifty Index Fund**:
    - **Category**: Index Fund (Passive)
    - **Investment Focus**: The fund aims to track the performance of the Nifty 50 Index by investing in the same 50 stocks that make up the index.
    - **Investment Strategy**: Passive investment strategy aimed at matching the performance of the Nifty 50 Index with low tracking error.

- **Launch Date:** 2002
- **Fund Manager:** Mr. Kaushik Basu

9. **Nippon India Nifty 50 Index Fund**:
    - **Category**: Index Fund (Passive)
    - **Investment Focus**: This fund aims to track the performance of the Nifty 50 Index, investing in the same stocks in the same proportion.
    - **Investment Strategy**: The fund follows a passive strategy, aiming to replicate the Nifty 50 Index's performance as closely as possible.
    - **Launch Date:** 2002
    - **Fund Manager:** Ms. Payal Kaipunjal

10. **SBI Nifty Index Fund**:
    - **Category:** Index Fund (Passive)
    - **Investment Focus:** The fund aims to provide returns that closely correspond to the total return of the Nifty 50 Index by investing in the same 50 stocks in the same proportion.
    - **Investment Strategy:** Passive investment strategy designed to replicate the Nifty 50 Index.
    - **Launch Date**: 1987
    - **Fund Manager:** Mr. Raviprakash Sharma

1.2 Background Of Study

The Indian mutual fund sector has witnessed unprecedented growth in the last two decades, emerging as one of the most sought-after investment products among retail investors. The growth is primarily due to rising financial awareness, the proliferation of digital platforms, and the emergence of Systematic Investment Plans (SIPs), which have facilitated access to mutual funds for a wider population. SIPs, especially, have become a game-changer in the investment world, enabling investors to begin with small sums and grow their portfolios over a period of time. This democratization of investment has resulted in an increase in the number of retail investors investing in mutual funds, thereby increasing the industry's overall assets under management (AUM).

At the same time, there has been a dramatic increase in the popularity of index funds, which were previously a niche product in the investment universe. Index funds, with their passive management approach, have become increasingly attractive to investors because of their low-cost nature, transparency, and simplicity. By following a particular market index, index funds provide a low-key, uncomplicated investment strategy that enables investors to achieve broad exposure to the market without the necessity of active stock selection. This passive investment strategy has become very popular, particularly among cost-sensitive investors who want to steer clear of the high costs of actively managed mutual funds.

1.3 Need for the Study

There are several reasons why this study is both relevant and necessary:

1. **Rapid Growth in Investment Products**: With the proliferation of mutual fund schemes and the recent surge in passive fund launches, investors are overwhelmed with choices. This study helps to distill performance differences between the two types of funds.
2. **Increasing Retail Participation**: As more retail investors enter the markets via SIPs and mutual funds, there is a need for research that helps them understand where to allocate their money effectively.

3. **Low Financial Literacy**: Despite growth, many investors still lack clarity on the distinction between active and passive funds. This research provides that clarity with data-backed insights.
4. **Empirical Gap**: Although there are studies on mutual fund performance in India, very few comprehensively compare mutual funds with index funds using ratings like CRISIL and real NAV performance over a multi-year period.
5. **Investment Strategy Decision-Making**: The outcomes of this study could help institutional investors, fund managers, and policymakers in designing more effective investment strategies.

1.4 Objectives of the Study

The primary objectives of the research are:

- To evaluate and compare the performance of actively managed mutual funds and passively managed index funds in India over a 5-year period.
- To analyze and compare NAV growth, CAGR, Sharpe Ratio, Beta, Alpha, and expense ratios of both categories.
- To understand the impact of market volatility on both mutual funds and index funds.
- To determine which category provides better risk-adjusted returns to investors.
- To offer suggestions for retail investors based on the comparative study.

1.5 Scope of the Study

The study is largely focused on the Indian mutual fund industry, with special emphasis on a comparison of the performance of actively managed equity mutual funds and passively managed index funds over a stipulated time period. The research scope can be described in the following manner:

- Geographical Scope: The research is limited to the Indian financial market.
- Time Horizon: The study spans five years of financial years, i.e., January 2019 to December 2024.

- Data Points: The research centers around the main performance measures that are important in assessing the performance of index funds and mutual funds. These include:
  - Net Asset Value (NAV)
  - Compound Annual Growth Rate (CAGR)
  - Risk-Return Measures
  - Expense Ratios
  - Assets Under Management (AUM)

- Fund Types Examined: The study examines two main fund types:
  - Actively Managed Equity Mutual Funds
  - Passively Managed Index Fund

- Tools Used for Analysis: The research uses a combination of analytical techniques to measure and compare the performance of mutual funds and index funds. These are:
  - CAGR Calculation
  - Standard Deviation
  - Sharpe Ratio
  - Beta

1.6 Research Questions

The study attempts to answer the following key questions:

1. Do actively managed mutual funds outperform index funds in terms of CAGR and NAV appreciation?
2. Which category of funds provides better risk-adjusted returns?
3. What is the impact of market volatility on mutual funds vs. index funds?
4. Are investors better off choosing passive funds due to lower expense ratios?

17

1.7 Limitations of the Study

No study is without limitations. The major limitations of this research include:

- The analysis is based on historical data; past performance may not indicate future results.
- The study focuses only on equity mutual funds and excludes debt funds, hybrid funds, and ETFs.
- The performance of funds is impacted by various macroeconomic and microeconomic factors not fully considered here.
- The study is limited to the top 5 funds in each category due to practical constraints in data collection.

CHAPTER – 2

LITERATURE REVIEW

The pooled investment mutual funds are funds where many people invest their money in a portfolio of pooled assets, including stocks, bonds, and other money market instruments. Patel (2017) states that mutual funds are meant to provide the retail investor professional management and broad-based diversification into various asset classes without involving the individual in the hassle of portfolio management. Mutual funds are active investments in which the fund manager will decide what securities to buy, hold, or sell.

The structure of mutual funds is governed by regulations formulated under the aegis of the Securities and Exchange Board of India (SEBI), which in turn guard transparency, investor protection, and safeguards regarding proper operation of the industry. One of India's credibly emerging benchmarks for assessing the performance of mutual funds is the ratings assigned by CRISIL Fund Ratings. Such a rating gives an idea to the investors regarding a clearer picture of the sorts of return the mutual funds have the potential ability to generate considering relative factors such as risk-adjusted returns, consistency, and quality of underlying assets.

A few studies cited in literature have dealt with the performance appraisal of mutual funds in India: Chandani (2019) examines risk and return performance of Indian equity mutual funds over a time period of 10 years, which revealed that large-cap funds generate high returns compared to mid-cap funds but with volatility. Singh (2021) argues that mutual funds usually outperform fixed deposits because of their potential for higher capital appreciation, but they carry other risks. As per findings established by Purohit and Kothari (2018), mutual funds offer a better risk-adjusted return over individual stock investments, especially with a sectoral fund or thematic fund invested.

It is also to be noted that performance of actively managed funds is also dependent on the aptitude and skill of the manager. As Krishnan and Nair (2020) point out, managerial decisions can greatly affect performance of a mutual fund, but higher expense ratios usually devour the possibility of greater returns.

An index fund is a more passive investment vehicle than an actively managed mutual fund, where the portfolio would basically replicate the performance of any set market index such as the Nifty 50 or Sensex. Index funds, unlike other mutual funds, aim to correlate closely with the performance of a fixed underlying index rather than try to outperform it.

Mishra (2020) describes how index funds come with a plethora of benefits such as lower expense ratios, greater transparency, and predictable returns, taking into consideration that such funds try to replicate the performance of the broader market. **According to Sharma (2018), index funds are more tax-efficient as compared to actively managed mutual funds because the turnover rate is usually low, leading to fewer taxable events.**

In a number of studies, it has been shown that the performance of an index fund is almost on par with an actively managed one, meanwhile incurring much lower costs. **Soni and Sharma (2019)** have found that over a period of 10 years, the large-cap index funds in India outperformed actively-managed funds with respect to total returns after accounting for the high fees associated with active management. Furthermore, index funds win in terms of their simplicity and ease of use, as investors do not have to study individual stocks or hire a fund manager.

Despite the advantages of index funds, they are not free of disadvantages. According to Nair (2021), index funds cannot beat the market because they operate solely along with the performance of the benchmark index they follow. At the same time, index funds are subject to various market risks, from recessions in the economy to sectoral downturns, as they replica the entire market.

Comparing the performance of mutual funds and index funds in India, Garg and Joshi (2017) set forth a research study that focused on both equity and debt funds. During bull markets, the researchers found that actively managed equity mutual funds tended to perform better than the index funds. However, much of the lackluster performance during bear markets may lead to significant losses in the future. On the contrary, index funds would bring in consistent returns with much lower volatility, making them an appealing choice for investors who prefer a conservative stance.

The active funds can be judged using the available metrics like alpha, beta and Sharpe ratio as given by Desai and Mehta (2019). On the other hand, these claim to earn higher returns in certain market conditions yet do not guarantee a consistent alpha over a particular period. For that matter, one can also compare active management with all passively managed strategies like indexing, which has superior efficiency yielding constant returns without any active management sourcing.

Cost structuring is one of the significant differences between mutual funds and index funds. **As Kumar (2020) states, index funds further generally maintain a lower expense ratio without incurring any costs into active management.** It will be so much relevant in the long run for lower costs give way for higher returns for the investors. In contrast, actively managing mutual fund investments incurs heavy fees due to the research and security selection involved in this process.

Moreover, index funds provide greater diversification than actively managed funds. **As seen from Singh and Patel's (2018) observations, index funds typically give exposure to a much larger array of companies, sectors, and industries.** This minimizes both the individual investment risk and the actual combined risk associated with those. On the other hand, such mutual funds have flagship funds, especially sectoral ones, focusing on a captive set of investments. Thus they open their investors to a specific risk.

2 The Net Asset Value (NAV) indeed represents the important value indicator of mutual funds or index funds. **According to Suri (2020), the NAV is defined by the per-unit price of a mutual fund calculated by dividing total assets of the fund minus the fund's liabilities into the number of outstanding units**. The NAV was then used by investors to evaluate the value of their investment over time and the performance exhibited by the fund.

51 Among the factors influencing NAV is the performance of the securities in the fund's portfolio and income accrued from dividends. **Changes in market value of the underlying assets affect NAV hence, according to Ghosh (2017),** it is fluctuated on a day-to-day basis; even today investors would need to keep a close watch on the fluctuations within the fund to get an idea of its growth and to make better investment decisions.

NAV is simply an index for index funds to track the relative performance of the overall index followed. **According to said authors Nair and Joshi (20) the NAV of an index fund grows in direct relation with the index underlying it.** Thus, index funds offer a simple and clear investing option for investors who wish to replicate the performance of the broader market.

The evolution of the Indian financial market has mainly occurred in the field of collective investment schemes, namely mutual funds and index funds. Mutual funds are characterized by their active portfolios that seek to outperform some benchmarks through possession of selectively chosen assets that offer investors diversified exposure to equities, bonds, and other financial instruments. Index funds, however, are meant to replicate the performance of some given market such as the Nifty 50 or Sensex; it additionally provides passive investment strategy and is generally associated with lower expense ratios. Both types of funds are regulated by SEBI so as to ensure investor protection and standardized practices. Another source that increases their attractiveness and growth is rising popularity of systematic investment plans (SIPs), **clearly demonstrating that investor behavior keeps changing toward more rigorous and disciplined investing methods that have value for both novice and experienced investors (Rathore S et al.).**

Investment scenario of India has changed quite substantially, therefore, setting most of the indicators for potential investors concerning mutual funds and index funds. The thorough analysis depicts that mutual funds themselves, especially those types such as large-cap, mid-cap, and small-cap based on equity, have different performance results based on the volatility and risk-return relationship of the markets. One really critical aspect that investors are urged to consider as they make decisions on which fund to select is the CSIR as well as the NAVs. Moreover, r**esearch finds that 10 out of 15 equity funds have done quite well during all these times of crisis in the market, thereby suggesting the necessity to evaluate some funds using criteria such as Jensen's alpha and Sharpe ratio (Verma JH). Thus, investment is all about being strategic as understanding the fine performance parameters of mutual funds would make significant strides towards long-term monetary success for the investor (Rathod YR).**

Understanding the comparison of mutual funds with the index funds in India with CRISIL ratings and NAVs has thrown considerable light for investors negotiating a convoluted financial terrain. Through performance studies and changing trends of investing, the study highlights the need to make an informed choice considering different risk appetites and investment objectives. The competitive environment within the mutual fund fraternity is seen from various lenses, such as investors' awareness and participation in decision-making, attainability, and investability of both mutual funds and index funds worthy of accumulating wealth through time. Investors will learn through the study that another vantage point is how performance places implications on their wider financial landscape, which they can exploit to realign their portfolios. **This research is therefore a resource for further investor education and demonstrates strategic investment decision-making in an increasingly fast-paced environment (Rathod YR).**

CHAPTER – 3

RESEARCH METHODOLOGY

3.1 Research Design

The research design for this study is descriptive and analytical, focusing on secondary data analysis. Descriptive research is utilized to describe the characteristics of mutual funds and index funds, and their performance in the Indian market. The analytical aspect of the study aims to compare these two types of investment vehicles using statistical techniques, performance measures, and financial metrics, including CRISIL ratings and NAVs.

The study employs quantitative analysis, as it involves the collection of numerical data, which is then used to evaluate the risk and return profiles of mutual funds and index funds, alongside other factors such as NAV growth and Risk ratings. Statistical tools are used to analyze the data and identify trends, patterns, and correlations.

3.2 Data Collection Method

For this research, secondary data has been collected from a variety of reputable sources, including:

- CRISIL – For performance reports, and other financial metrics.
- Morningstar India and Value Research Online – For NAV data, historical performance, expense ratios, and other fund details.
- SEBI (Securities and Exchange Board of India) – Regulatory reports and guidelines on mutual funds and index funds in India.
- Fund Fact Sheets and Annual Reports – Provided by the asset management companies (AMCs) of mutual funds and index funds for detailed performance data.
- NSE (National Stock Exchange) and BSE (Bombay Stock Exchange) – For index performance and historical data of index funds.

The data is collected for a time period of 6 years (from 2019 to 2024), which ensures that the analysis covers both bull and bear market conditions, offering a comprehensive view of the performance of mutual funds and index funds across various market cycles.

3.3 Sampling Technique

Given the wide variety of mutual funds and index funds available in India, a **purposive sampling technique** is adopted to select the relevant funds for the study. This technique ensures that only those funds that meet specific criteria are included in the analysis.

Selection Criteria for Mutual Funds:

- Funds with a **minimum of 6 years of track record**.
- A mix of **large-cap, mid-cap, and hybrid equity funds** to represent different risk-return profiles.

Selection Criteria for Index Funds:

- Funds that track major indices such as **Nifty 50**, **Sensex**, and **Nifty Next 50**.
- Funds with a **minimum of 6 years of track record**.
- **Expense ratios** within the industry's average (to ensure a fair comparison).

3.4 Research Variables

1. ROI:
    - Annualized Return: The CAGR of mutual funds and index funds for the last five years.
    - Total Returns: Total returns accruable to the funds, including capital gains and dividends.

2. Risk measures:
    - Standard Deviation: This measures the volatility of the returns, or the dispersion of the returns from the average.
    - Beta: The sensitivity of a fund's return vis-a-vis the overall market returns. A beta less than 1 renders the fund safer than the market.

- Sharpe Ratio: The measure of return after adjusting for risk, that is how much return gets created for each unit of risk undertaken.

3. NAV:

- Daily NAV growth would be tracked in order to study growth in the mutual fund and index fund over the selected period.

3.5 Data Analysis Techniques

The data analysis process follows a **quantitative approach**, utilizing statistical tools and techniques to analyze the data. The specific steps involved are:

1. Descriptive Statistics:

- **Mean**: The average return of mutual funds and index funds over the 5-year period.
- **Standard Deviation**: Measurement of the risk (volatility) for each fund.
- **Coefficient of Variation**: To assess the risk-return ratio for each fund.

2. Comparative Analysis

3. Correlation Analysis

4. Regression Analysis

5. Risk-adjusted Return Measures:

3.6 Limitations of the Study

Despite the comprehensive nature of this study, there are a few limitations to be considered:

- **Data Limitations**: The study relies on **secondary data**, which may not always be complete or fully accurate. For instance, some funds may have limited historical data or may have changed their investment strategies over time.

- **Market Conditions**: The study only considers data from 2018 to 2023, which may not fully capture long-term trends. Future studies could extend the time horizon to include more market cycles.
- **Exclusion of Other Factors**: Factors such as tax implications, investor behavior, and macroeconomic variables are not directly considered in this analysis but could influence the performance of mutual funds and index funds.

3.7 Research Design

Descriptive Research Design

The descriptive approach is used to describe the current state of mutual funds and index funds in the Indian market, detailing their structures, performance metrics, risk levels, and other critical characteristics. The study does not manipulate variables but instead examines existing data to understand the investment landscape.

Analytical Research Design

The analytical design goes a step further by assessing and comparing the risk-return profiles of mutual funds and index funds. Statistical tools are used to evaluate the relationship between various factors, such as CRISIL ratings, NAVs, and fund returns. By applying **quantitative analysis**, this study identifies trends, patterns, and insights that help draw conclusions on the relative performance of these funds.

CHAPTER – 4

DATA ANALYSIS AND INTERPRETATION

4.1 Performance Comparison: Mutual Funds vs. Index Funds

4.1.1 Annualized Returns (CAGR)

The Compound Annual Growth Rate (CAGR) is used to assess the growth of an investment over time. The formula is:

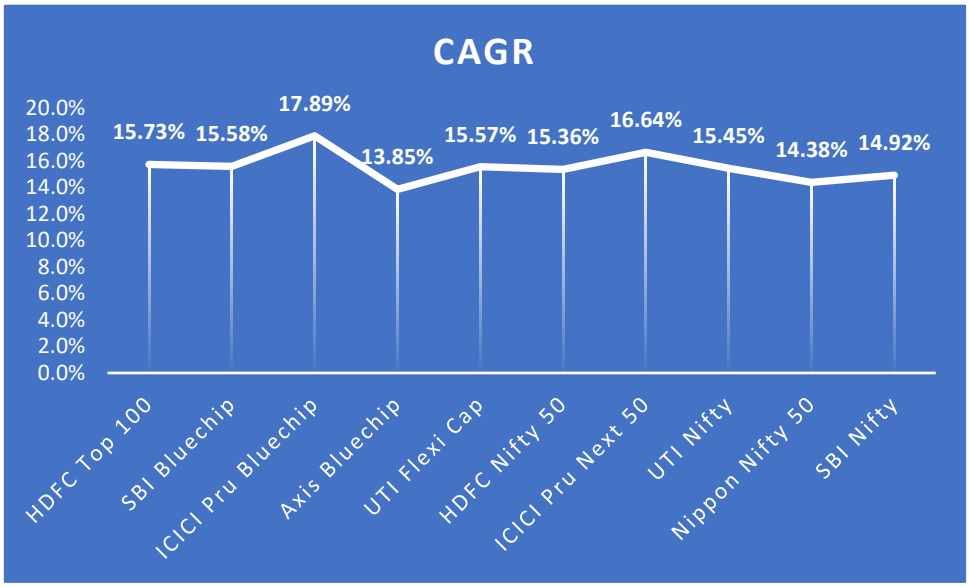
$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{\frac{1}{n}} - 1$$

Where:

- Ending Value = Final NAV (for Mutual Funds and Index Funds).
- Beginning Value = Initial NAV (for Mutual Funds and Index Funds).
- n = Number of years.

CAGR (Compound Annual Growth Rate) Analysis

NAME	Value at 2019 (Initial Value)	Value at 2024 (Ending Value)	No. Of Years	CAGR
HDFC Top 100	₹ 464.2	₹ 1,115.2	6	15.73%
SBI Bluechip	₹ 37.2	₹ 88.8	6	15.58%
ICICI Pru Bluechip	₹ 42.9	₹ 115.2	6	17.89%
Axis Bluechip	₹ 26.8	₹ 58.3	6	13.85%
UTI Flexi Cap	₹ 136.1	₹ 324.2	6	15.57%
HDFC Nifty 50	₹ 98.8	₹ 232.7	6	15.36%
ICICI Pru Next 50	₹ 25.3	₹ 63.8	6	16.64%
UTI Nifty	₹ 70.6	₹ 167.2	6	15.45%
Nippon Nifty 50	₹ 18.2	₹ 40.8	6	14.38%
SBI Nifty	₹ 92.2	₹ 212.4	6	14.92%
Nifty 50	₹ 10,910.0	₹ 24,004.0	6	14.05%



Interpretation

The table compares the performance between various mutual fund schemes and index funds spread over a 6-year analysis between 2019 and 2024.

Key Observations:

1. **Top Performing Funds (CAGR-wise):** ICICI Pru Blue-chip, with a CAGR of 17.89%, was way above the average, and so was the highest of the lot in terms of CAGR. Its closest competitor on the podium was ICICI Pru Next 50 with 16.64% CAGR, capturing good performance in the mid-cap segment as well. The rest on the podium, that is, HDFC Top 100 (15.73%), SBI Bluechip (15.58%), and UTI Flexi Cap (15.57%), also delivered good returns.

2. **Index Fund Performance**: The Nifty 50 index stocks had an average CAGR of 14.05%, which is reflective of growth across the wider market. Nifty 50 Fund pros were HDFC Nifty 50 (15.36%), UTI Nifty (15.45%), Nippon Nifty 50 (14.38%), and SBI Nifty (14.92%), which managed to somewhat surpass the real index CAGR, indicating either efficient fund management or tracking prowess.

3. **Axis Bluechip Was Behind:** At 13.85%, this was the least growing scheme among selected large-cap mutual funds, taking its place below the Nifty 50 index.

4.1.2 Growth Over Selected Time Period

Growth Over Years			
NAME	Value in 2019 (Initial Value)	Value in 2024 (Ending Value)	Growth Over 6 years
HDFC Top 100	₹ 464.2	₹ 1,115.2	140.2%
SBI Bluechip	₹ 37.2	₹ 88.8	138.5%
ICICI Pru Bluechip	₹ 42.9	₹ 115.2	168.5%
Axis Bluechip	₹ 26.8	₹ 58.3	117.8%
UTI Flexi Cap	₹ 136.1	₹ 324.2	138.2%
HDFC Nifty 50	₹ 98.8	₹ 232.7	135.6%
ICICI Pru Next 50	₹ 25.3	₹ 63.8	151.9%
UTI Nifty	₹ 70.6	₹ 167.2	136.8%
Nippon Nifty 50	₹ 18.2	₹ 40.8	124.0%
SBI Nifty	₹ 92.2	₹ 212.4	130.3%

Interpretation

The absolute percentage growth of different mutual funds as well as index funds is depicted in this table for a period of 6 years during the time span 2019 to 2024.

Key Insights:

1. Funds with Highest Growth Rates (Absolute Returns): ICICI Pru Bluechip tops the chart, with a total growth of 168.5%, with its value almost tripling during the 6-year period. Next comes ICICI Pru Next 50 having a fast 151.9% growth and having done remarkably well in the Next 50 sector. HDFC Top 100 (140.2%) and SBI Bluechip (138.5%) showed excellent absolute gains in large-cap-oriented funds.

2. Index Funds Have Steadily Grown Well: HDFC Nifty 50 (135.6%), UTI Nifty (136.8%), and SBI Nifty (130.3%) went up by more than 130%, reaffirming the consistency of passive investing methods. Hence, index funds have comfortably doubled capital over 6 years while carrying little active management risks.

3. Lower Spectrum: Axis Bluechip saw the least growth at 117.8%, which is considered a decent return, but unlike the competitors, has been low.Nippon Nifty 50 also stood at the lower spectrum with 124.0% growth but still doubled the investment value.

4.2 Risk Analysis

4.2.1 Standard Deviation

Standard deviation (σ) measures how much the returns of a fund deviate from the average return. It indicates volatility—higher the standard deviation, higher the risk.

Formula:

$$\sigma = \sqrt{\frac{\sum(R_i - \bar{R})^2}{n-1}}$$

- Ri= Return in the i-th year
- $\bar{R}$ = Mean return
- N = Number of periods

Standard Deviation

NAME	Returns							
	2019	2020	2021	2022	2023	2024	MEAN	STD. DEVIATION
HDFC Top 100	7.70%	5.90%	28.50%	10.60%	30.00%	11.60%	15.72%	10.69%
SBI Bluechip	11.60%	16.30%	23.10%	4.40%	22.60%	12.50%	15.08%	7.14%
ICICI Pru Bluechip	9.80%	13.50%	29.20%	6.90%	27.40%	16.90%	17.28%	9.19%
Axis Bluechip	18.60%	19.70%	20.60%	-5.70%	17.40%	13.70%	14.05%	9.97%
UTI Flexi Cap	2.50%	13.20%	30.50%	5.60%	25.50%	19.70%	16.17%	11.07%
HDFC Nifty 50	13.20%	14.99%	23.58%	5.19%	20.37%	9.55%	14.48%	6.78%
ICICI Pru Next 50	1.90%	14.63%	27.13%	0.15%	25.23%	28.89%	16.32%	12.86%
UTI Nifty	13.64%	15.43%	23.90%	5.44%	20.62%	10.24%	14.88%	6.73%
Nippon Nifty 50	12.25%	15.33%	23.80%	5.39%	20.58%	12.07%	14.90%	6.59%
SBI Nifty	13.33%	14.94%	23.69%	5.43%	21.04%	9.75%	14.70%	6.83%

Interpretation

These data present annual returns, means and standard deviation for a set of mutual and index funds over the period of six years. Standard deviation is a very important statistical measure which is utilized in measuring volatility or risk with respect to returns; it means that the greater the variation, the more inconsistent, even volatile, the performance.

Key Insights:

1. High Mean Return + High Volatility: ICICI Pru Bluechip: Highest mean return of 17.28%, but also a relatively high standard deviation of 9.19%. This shows strong returns, albeit with risk. UTI Flexi Cap: Mean return of 16.17% with a standard deviation of 11.07%, reflecting excellent performance but higher volatility. ICICI Pru Next 50: The mean return stands at 16.32%, but the highest volatility among all at 12.86%, shows high potential hits in returns but with more pronounced fluctuations on declines.

2. Good-Risk Balanced Return: SBI Bluechip: Reasonable average return of 15.08% touted with a mild standard deviation of 7.14% indicating steadiness in its performance. HDFC Top 100: An average return of 15.72% on a mean with variable returns alluding towards fairly high volatility (10.69%).

3. Lower Risk, Consistent Performers (Index Funds): UTI Nifty, HDFC Nifty 50, Nippon Nifty 50, and SBI Nifty have: Mean returns do fall in the range of 14.48%-14.90%.

The standard deviation is very low (around 6.5%-6.8%), implying that it is very consistent and low risk. These are generally suited for risk-averse investors who choose passive strategy.

4. Very Volatile Performer:

Axis Bluechip: However, the average return is 14.05 percent, but the standard deviation of 9.97 indicates more irregularity in the performance-over a negative return in 2022 (-5.70).

Key Takeaways:

This would imply that the greater the standard deviation, the higher the risk and potential return-the case of ICICI Pru Next 50 and UTI Flexi Cap. They are stable offerings for long-term passive investments, having low standard deviation coupled with decent returns. SBI Bluechip and HDFC Top 100 provide optimal on optimum moderation as actively managed funds while giving high returns.

4.2.2 BETA

Beta (β) tells you how much a fund is expected to move in response to market movements.

Why Is Beta Important?

- Risk Measurement: Helps assess market risk (also called systematic risk).
- Portfolio Diversification: Helps in building a portfolio with an appropriate risk level.
- Performance Evaluation: Useful in calculating Treynor Ratio (Risk-adjusted return based on Beta).

Calculation Of Beta

Beta = $$\frac{\text{Covariance (Fund Return, Market Return)}}{\text{Variance (Market Return)}}$$

Interpretation of Beta:

Beta = 1.0: Fund moves in line with the market.

Beta > 1.0: Fund is **more volatile** than the market (aggressive).

Beta < 1.0: Fund is **less volatile** than the market (defensive).

BETA

NAME	Returns						BETA
	2019	2020	2021	2022	2023	2024	
HDFC Top 100	0.077	0.059	0.285	0.106	0.3	0.116	1.11
SBI Bluechip	0.116	0.163	0.231	0.044	0.226	0.125	0.96
ICICI Pru Bluechip	0.098	0.135	0.292	0.069	0.274	0.169	1.12
Axis Bluechip	0.186	0.197	0.206	-0.057	0.174	0.137	1.06
UTI Flexi Cap	0.025	0.132	0.305	0.056	0.255	0.197	1.18
HDFC Nifty 50	0.132	0.1499	0.2358	0.0519	0.2037	0.0955	0.94
ICICI Pru Next 50	0.019	0.1463	0.2713	0.0015	0.2523	0.2889	1.07
UTI Nifty	0.1364	0.1543	0.239	0.0544	0.2062	0.1024	0.94
Nippon Nifty 50	0.1225	0.1533	0.238	0.0539	0.2058	0.1207	0.91
SBI Nifty	0.1333	0.1494	0.2369	0.0543	0.2104	0.0975	0.95
Market Return	0.1202	0.149	0.2412	0.0432	0.1942	0.0875	

Interpretation

1. High Beta Funds (>1.0):

More aggressive, with relatively higher risks and rewards towards the market movement.

- **UTI Flexi Cap (1.18**): Highest beta among all the funds, probably the most aggressive. It outperforms in bull phases but falls much more during bears.
- **ICICI Pru Bluechip (1.12):** Highly market-sensitive and a great return. Suitable for those with an appetite for risk.
- **HDFC Top 100 (1.11):** Quite aggressive.
- **ICICI Pru Next50 (1.07) and Axis Bluechip (1.06):** involve above-average volatility but can perform well.

2. Moderately or fairly marketable beta (≈1.0):

- **SBI Bluechip (0.96):** Below market beta, hence suggesting a somewhat defensive nature.
- **SBI Nifty (0.95) and HDFC Nifty 50 (0.94):** Very close to the performance of the market, suitable for replication strategies.

3. Low Beta Funds (<1.0):

These funds take a defensive approach, are less volatile than the market, and are advised for conservative investors.

- **UTI Nifty (0.94) and Nippon Nifty 50 (0.91):** Low-risk index fund options with a stable performance.
- **SBI Nifty (0.95):** Shows a conservative index tracking behaviour.

Aggressive investors seeking higher returns during bull markets can consider high beta funds like UTI Flexi Cap, ICICI Pru Bluechip, and HDFC Top 100.

Moderate-risk investors may prefer funds with a beta close to 1, like SBI Bluechip or HDFC Nifty 50.

Risk-averse investors should look at low beta options like Nippon Nifty 50 or SBI Nifty, which offer relatively stable performance.

4.3 Risk Adjusted-Return Analysis

4.3.1 Sharpe Ratio

The Sharpe Ratio measures the risk-adjusted return of an investment. It tells you how much excess return you're receiving for the extra volatility (risk) you're taking compared to a risk-free investment (like government bonds).

Sharpe Ratio Formula

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

Where:

- Rp= Average return of the fund
- R_f= Risk-free rate (e.g., 6% per annum or 0.5% per month)
- σ = Standard deviation of the fund returns (volatility)

Interpretation of Beta:

- > 1.0 is considered good,
- > 2.0 is considered excellent,
- < 1.0 indicates underperformance relative to risk taken.

SHARPE RATIO

NAME	Returns								
	2019	2020	2021	2022	2023	2024	Average	STD. DEVIATION	Sharpe Ratio
HDFC Top 100	7.70%	5.90%	28.50%	10.60%	30.00%	11.60%	15.72%	10.69%	0.863
SBI Bluechip	11.60%	16.30%	23.10%	4.40%	22.60%	12.50%	15.08%	7.14%	2.111
ICICI Pru Bluechip	9.80%	13.50%	29.20%	6.90%	27.40%	16.90%	17.28%	9.19%	1.880
Axis Bluechip	18.60%	19.70%	20.60%	-5.70%	17.40%	13.70%	14.05%	9.97%	1.409
UTI Flexi Cap	2.50%	13.20%	30.50%	5.60%	25.50%	19.70%	16.17%	11.07%	1.461
HDFC Nifty 50	13.20%	14.99%	23.58%	5.19%	20.37%	9.55%	14.48%	6.78%	2.135
ICICI Pru Next 50	1.90%	14.63%	27.13%	0.15%	25.23%	28.89%	16.32%	12.86%	1.269
UTI Nifty	13.64%	15.43%	23.90%	5.44%	20.62%	10.24%	14.88%	6.73%	2.209
Nippon Nifty 50	12.25%	15.33%	23.80%	5.39%	20.58%	12.07%	14.90%	6.59%	2.262
SBI Nifty	13.33%	14.94%	23.69%	5.43%	21.04%	9.75%	14.70%	6.83%	2.151

Risk Free Rate	6.493%

Interpretation

- **Top Performers (Sharpe Ratio > 2.0)**
  - Nippon Nifty 50 has the highest overall performance based on its ability to provide the most return with the lowest risk. It is truly the most efficient fund in the whole group.
  - UTI Nifty's risk-adjusted returns did quite well while following the Nifty index.
  - HDFC Nifty 50, SBI Nifty, and SBI Bluechip do have great efficiency with reasonable consistency, providing decent returns for their market risk.

- **Good Performer: Sharpe Ratio between 1.0 and 2.0**

This means that good returns have been earned on that risk.

- ICICI Pru Bluechip has given high-average returns at moderately high risk (1.880).
- UTI Flexi Cap and AXIS Bluechip both fall within the range of 1.46 to 1.41 for a reasonable return-risk trade-off, suited to a moderately aggressive investor.
- ICICI Pru Next 50 has a slightly higher volatility but good Sharpe performance (1.269).

- **Low Performer: Sharpe Ratio < 1.0.**
  - HDFC Top 100: It had almost acceptable returns, but very high standard deviation (10.69%) reduced its efficiency. It has been the worst performer in terms of risk-adjusted return.

Key Takeaways:

- Index funds like Nippon Nifty 50, UTI Nifty, and SBI Nifty deliver the best risk-adjusted performance — great for long-term, low-risk portfolios.
- Slightly less aggressive would be ICICI Pru Next 50, which does require investors to accept a very high level of volatility.
- In its current pay-off profile, HDFC Top 100 requires a strategy review or something closer to the current window.

4.3.2 Treynor Ratio

The Treynor Ratio is a performance metric that evaluates how much excess return a fund generates for each unit of systematic risk (beta) taken. It uses the beta of the fund rather than total volatility (standard deviation), making it ideal for well-diversified portfolios.

Treynor Ratio Formula:

$$\text{Treynor Ratio} = \frac{\text{Average Return} - \text{Risk-Free Rate}}{\beta}$$

- **Higher Treynor Ratio = Better compensation for systematic risk**
- It answers: *"Is the fund delivering adequate return for the market risk it takes?"*

Calculation

TREYNOR RATIO									
NAME	Returns								
	2019	2020	2021	2022	2023	2024	Average	Beta	Treynor Ratio
HDFC Top 100	0.0770	0.0590	0.2850	0.1060	0.3000	0.1160	0.1572	1.106	0.083
SBI Bluechip	0.1160	0.1630	0.2310	0.0440	0.2260	0.1250	0.1508	0.958	0.090
ICICI Pru Bluechip	0.0980	0.1350	0.2920	0.0690	0.2740	0.1690	0.1728	1.123	0.096
Axis Bluechip	0.1860	0.1970	0.2060	-0.0570	0.1740	0.1370	0.1405	1.061	0.071
UTI Flexi Cap	0.0250	0.1320	0.3050	0.0560	0.2550	0.1970	0.1617	1.179	0.082
HDFC Nifty 50	0.1320	0.1499	0.2358	0.0519	0.2037	0.0955	0.1448	0.942	0.085
ICICI Pru Next 50	0.0190	0.1463	0.2713	0.0015	0.2523	0.2889	0.1632	1.068	0.092
UTI Nifty	0.1364	0.1543	0.2390	0.0544	0.2062	0.1024	0.1488	0.935	0.090
Nippon Nifty 50	0.1225	0.1533	0.2380	0.0539	0.2058	0.1207	0.1490	0.906	0.093
SBI Nifty	0.1333	0.1494	0.2369	0.0543	0.2104	0.0975	0.1470	0.947	0.087
Risk Free Rate	0.06493								

Interpretation

- **Top Performer**
  - **ICICI Pru Bluechip (0.096):** It has the best Treynor ratio, indicating the highest reward per unit of beta. A great proposition for investors who would like to see market risk put to efficient use.

- **ICICI Pru Next 50 (0.092):** An average return is high with a good payoff on market sensitivity.
- **Nippon Nifty 50 (0.093):** Really efficient for passive ones — gives pretty good market-synchronized returns with low beta.
- **Both SBI Bluechip (0.090) and UTI Nifty (0.090)** provide the merits of a balanced approach, giving it lower beta values to their consistent returns.

➢ **Intermediate Performers:**

- **HDFC Nifty 50 (0.085) and SBI Nifty (0.087):** They are a bit below the top players but still efficient for the risk-averse index fund investors.
- **HDFC Top 100 (0.083) and UTI Flexi Cap (0.082):** These funds would have significantly higher betas and generally provide good returns but lesser excess returns against the given risk.

➢ **Poor Performer:**

- **Axis Bluechip (0.071):** Having the least Treynor ratio in this list, it becomes less than efficient application of market risk. Good returns notwithstanding, beta (1.061) fails to justify commensurate reward, presumably on account of underperformance in phases of market turbulence.

Learnings:

- ICICI Pru Bluechip and Nippon Nifty 50 are the top performers in efficacious returns against systematic risk.
- Funds such as UTI Nifty, SBI Nifty, and HDFC Nifty 50 show consistently good Treynor ratios — ideal for passive investors looking at long-term growth with market-level risk.
- Funds with high beta, such as HDFC Top 100 and UTI Flexi Cap, provide relatively more returns but get less in return, adjusting for beta.
- Due to its low reward-to-beta performance, Axis Bluechip warrants a systematic review.

4.3.3 Sortina Ratio

The **Sortino Ratio** is a variation of the Sharpe Ratio, but it only considers **downside risk** instead of total volatility. It gives a better risk-adjusted performance measure when you're only concerned about **negative returns**.

Sortino Ratio Formula

$$\text{Sortino Ratio} = \frac{R_p - R_f}{\sigma_d}$$

- R_p = Average return of the fund
- R_f = Risk-free rate (e.g., 0.5% monthly = 0.005)
- σ_d = Downside deviation (standard deviation of **only negative excess returns**)

Calculation Of Excess Return

NAME	Excess Returns					
	2019	2020	2021	2022	2023	2024
HDFC Top 100	0.0121	**-0.0059**	0.2201	0.0411	0.2351	0.0511
SBI Bluechip	0.0511	0.0981	0.1661	**-0.0209**	0.1611	0.0601
ICICI Pru Bluechip	0.0331	0.0701	0.2271	0.0041	0.2091	0.1041
Axis Bluechip	0.1211	0.1321	0.1411	**-0.1219**	0.1091	0.0721
UTI Flexi Cap	**-0.0399**	0.0671	0.2401	**-0.0089**	0.1901	0.1321
HDFC Nifty 50	0.0671	0.0850	0.1709	**-0.0130**	0.1388	0.0306
ICICI Pru Next 50	**-0.0459**	0.0814	0.2064	**-0.0634**	0.1874	0.2240
UTI Nifty	0.0715	0.0894	0.1741	**-0.0105**	0.1413	0.0375
Nippon Nifty 50	0.0576	0.0884	0.1731	**-0.0110**	0.1409	0.0558
SBI Nifty	0.0684	0.0845	0.1720	**-0.0106**	0.1455	0.0326

Excess Return = Fund Return – Risk-Free Rate

(It measures how much return a fund generated over and above the risk-free rate, reflecting its true reward for risk.)

SORTINO RATIO

NAME	Returns								
	2019	2020	2021	2022	2023	2024	Average	STD. DEVIATION	Sortino Ratio
HDFC Top 100	-	-0.0059	-	-	-	-	0.1572	0.004	2.434
SBI Bluechip	-	-	-	-0.0209	-	-	0.1508	0.015	0.662
ICICI Pru Bluechip	-	-	-	-	-	-	0.1728	-	-
Axis Bluechip	-	-	-	-0.1219	-	-	0.1405	0.086	0.106
UTI Flexi Cap	-0.0399	-	-	-0.0089	-	-	0.1617	0.022	0.479
HDFC Nifty 50	-	-	-	-0.0130	-	-	0.1448	0.009	1.020
ICICI Pru Next 50	-0.0459	-	-	-0.0634	-	-	0.1632	0.033	0.323
UTI Nifty	-	-	-	-0.0105	-	-	0.1488	0.007	1.297
Nippon Nifty 50	-	-	-	-0.0110	-	-	0.1490	0.008	1.241
SBI Nifty	-	-	-	-0.0106	-	-	0.1470	0.008	1.270
Risk Free Rate	0.06493								

Interpretation

- **Top Performers:**
  - ICICI Pru Bluechip (0.096): Best in the Treynor ratio, that is, providing the most reward per unit of beta — top choice for an investor seeking a fund that efficiently uses market risk.
  - ICICI Pru Next 50 (0.092): High returns on average & good payoff for the risk.
  - Nippon Nifty 50 (0.093): Passive good for the fund generates decent returns aligned with the market, but a low beta.
  - Both SBI Bluechip (0.090) and UTI Nifty (0.090) are balanced funds that generate good short-term return payoffs with lower beta risk.

- **Moderate Performers:**
  - HDFC Nifty 50 (0.085) & SBI Nifty (0.087): Slightly below the above-mentioned funds, yet well-rewarding for index funds with an eye on risk.
  - HDFC Top 100 (0.083) & UTI Flexi Cap (0.082): These funds have beta, though good, the excess returns are less in comparison per unit of risk.

➢ **Low Performer**

- Axis Bluechip (0.071): This fund had the lowest Treynor Ratio on the list, indicating that it makes a very inefficient use of market risk. It generated decent returns but beta(1.061) numbers didn't translate into the reward levels, perhaps because of its performance during volatile times.

Conclusion:

- ICICI Pru Bluechip and Nippon Nifty 50 are the most efficient funds in terms of returns against systematic risk.
- Index funds such as UTI Nifty, SBI Nifty, and HDFC Nifty 50 exhibit consistently good Treynor ratios- they are perfectly suited to passive investors desiring long-term growth with market-related risk.
- Funds with high betas, HDFC Top 100 and UTI Flexi Cap offer high absolute returns but much less when adjusted for beta.
- Axis Bluechip may require a strategic rethink due to its low reward/beta performance.

4.3.4 Expense Ratio

The **Expense Ratio** is the annual fee that a fund charges its investors, expressed as a percentage of the **average assets under management (AUM)**.

Expense Ratio Formula

$$\text{Expense Ratio} = \left(\frac{\text{Total Fund Expenses}}{\text{Average AUM}}\right) \times 100$$

Interpreting Expense Ratio

Expense Ratio	Meaning
< 1%	Very cost-efficient (index funds usually)
1–2.5%	Common for active mutual funds
> 2.5%	Considered expensive

EXPENSE RATIO

NAME	Total Expense	AUM	Expense Ratio
HDFC Top 100	585.40	36587.24	1.60%
SBI Bluechip	745.85	49394.17	1.51%
ICICI Pru Bluechip	915.97	64962.15	1.41%
Axis Bluechip	511.12	32349.42	1.58%
UTI Flexi Cap	390.84	23403.53	1.67%
HDFC Nifty 50	60.95	19046.58	0.32%
ICICI Pru Next 50	44.62	6760.19	0.66%
UTI Nifty	53.39	21356.51	0.25%
Nippon Nifty 50	9.70	2309.1	0.42%
SBI Nifty	40.45	9192.42	0.44%

Interpretation

- **Index Funds = Low Expense Ratios**
  - The spend ratio is very low as it stands UTI Nifty (0.25%), HDFC Nifty 50 (0.32%), and others, which should be followed by passive funds replicating their indices.
  - The passive management fees are very less for cost-sensitive investors who want market returns.

- **Actively managed funds = higher expense ratios**
  - UTI Flexi Cap (1.67%), HDFC Top 100 (1.60%) have recorded the highest expense ratios because they are actively managed and involve higher fund management and research costs.
  - In order to outperform the market, these costs eat into high fees and that too only if the performance doesn't compensate for it.

- **AUM does not promise low costs.**
  - ICICI Pru Bluechip, despite its status as the largest AUM, still has a competitive expense ratio (1.41 percent) and that indicates very cost-efficient management.
  - In contrast, UTI Flexi Cap has a lower AUM, but the cost is very high, indicating a higher inefficiency to costs.

Learnings:

- Index funds such as UTI Nifty and HDFC Nifty 50 are good picks if you look for cost-efficiency.
- ICICI Pru Bluechip provides a good balance between AUM scale and competitive costs if you prefer to go with active management.
- Weigh the expense ratio against returns and risk-adjusted performance (like Treynor/Sortino) to make informed investment choices.

4.4 Benchmark Comparison

BENCHMARK COMPARISON		
Nifty 50 CAGR	14.05%	
NAME	**CAGR**	**Beat Benchmark**
HDFC Top 100	15.73%	Yes
SBI Bluechip	15.58%	Yes
ICICI Pru Bluechip	17.89%	Yes
Axis Bluechip	13.85%	No
UTI Flexi Cap	15.57%	Yes
HDFC Nifty 50	15.36%	Yes
ICICI Pru Next 50	16.64%	Yes
UTI Nifty	15.45%	Yes
Nippon Nifty 50	14.38%	Yes
SBI Nifty	14.92%	Yes

Interpretation

➢ 9 Out of 10 Funds Outperformed the Nifty 50

- Apart from Axis Bluechip, every other fund surpassed the benchmark CAGR of 14.05% with their compounds.

➢ The Top Performers

- ICICI Pru Bluechip (17.89%) comes out way ahead because it has outperformed all the massively benchmarked ones. Others that make the cut include ICICI Pru Next 50 (16.64%) and HDFC Top 100 (15.73%).

➢ The Underperformer

- Axis Bluechip (13.85%) is the only fund that has not beaten the benchmark. However, though it is actively managed, it has underperformed, indicating that it couldn't justify a higher expense ratio of 1.58%.

➢ Index Funds Also Beat the Benchmark

- Interestingly, even index funds like HDFC Nifty 50 (15.36%) and UTI Nifty (15.45%) outperformed the Nifty 50. It may be attributed to tracking efficiencies, low expense ratios, and the compound effect of almost minimal fees over time.

29

4.5 Comparative Performance of Mutual Funds and Index Funds

Comparative Performance of Mutual Funds and Index Funds									
NAME	CAGR	Growth Overall	MEAN	STD. DEVIATION	Beta	Sharpe Ratio	Treynor Ratio	Sortino Ratio	Expense Ratio
Mutual Funds									
HDFC Top 100	15.73%	140.2%	15.72%	10.69%	1.11	0.863	0.083	2.434	1.60%
SBI Bluechip	15.58%	138.5%	15.08%	7.14%	0.96	2.111	0.090	0.662	1.51%
ICICI Pru Bluechip	17.89%	168.5%	17.28%	9.19%	1.12	1.880	0.096	-	1.41%
Axis Bluechip	13.85%	117.8%	14.05%	9.97%	1.06	1.409	0.071	0.106	1.58%
UTI Flexi Cap	15.57%	138.2%	16.17%	11.07%	1.18	1.461	0.082	0.479	1.67%
Average	**15.73%**	**140.64%**	**15.66%**	**9.61%**	**1.085**	**1.545**	**0.085**	**0.920**	**1.55%**
Index Funds									
HDFC Nifty 50	15.36%	135.6%	14.48%	6.78%	0.94	2.135	0.085	1.020	0.32%
ICICI Pru Next 50	16.64%	151.9%	16.32%	12.86%	1.07	1.269	0.092	0.323	0.66%
UTI Nifty	15.45%	136.8%	14.88%	6.73%	0.94	2.209	0.090	1.297	0.25%
Nippon Nifty 50	14.38%	124.0%	14.90%	6.59%	0.91	2.262	0.093	1.241	0.42%
SBI Nifty	14.92%	130.3%	14.70%	6.83%	0.95	2.151	0.087	1.270	0.44%
Average	15.35%	135.71%	15.06%	7.96%	0.959	2.005	0.089	1.030	0.42%

Interpretation

➢ CAGR & Growth Overall

- On average, mutual funds have carried a CAGR of 15.73% as against a slightly lower 15.35% for index funds.
- Among the different funds, ICICI Pru Bluechip (17.89%) and ICICI Pru Next 50 (16.64%) have performed better.
- Overall, index funds have generated slightly lower returns at 135.71%, against 140.64% for mutual funds.
- **Inference:** On average, mutual fund investments gave slightly better returns, but not by much.

➢ Risk Analysis (Standard Deviation & Beta)

- Since funds have a greater standard deviation (9.61%), they are therefore more volatile than index funds (7.96%).
- Beta value is also higher for mutual funds (1.085) compared to index funds (0.959) suggesting mutual funds are more mobile with market actions.
- **Inference**: Mutual funds are riskier and more market-sensitive, while index funds enjoy relative safety.

➢ Risk-Adjusted Returns (Sharpe, Treynor & Sortino Ratios)

- The Sharpe Ratio (higher is better) for mutual funds is 1.545, while that for index funds is 2.005, signifying better risk-adjusted returns for index funds.
- Returns related to beta, represented by the Treynor Ratio, have reported similar readings for both the mutual funds (0.085) and index funds (0.089).
- In regards to the Sortino Ratio, which focuses exclusively on downside risk, index funds score better (1.030) than mutual funds (0.920). This indicates that index funds are better at protecting against downside volatility.
- **Inference**: Index funds are favored for low-risk investors, since they yield better risk-adjusted returns.

➢ Expense Ratio

- The expense ratio, on average, for mutual funds stands higher at 1.55%, while that of index funds is much lower at 0.42%.
- The UTI Flexi Cap has reported the highest expense ratio at 1.67% followed by the lowest, UTI Nifty, at 0.25%.
- Inference: Index funds emerge much cheaper than mutual funds with lower management fees and become an attractive option for long-term investing.

Mutual Funds vs. Index Funds - Which is Better?

Criteria	Mutual Funds	Index Funds	Better Option
CAGR & Returns	15.73%	15.35%	**Mutual Funds** (slightly better)
Risk (Volatility)	**High (9.61%)**	**Low (7.96%)**	**Index Funds** (less risky)
Risk-Adjusted Return (Sharpe)	1.545	**2.005**	**Index Funds**
Downside Risk (Sortino)	0.920	**1.030**	**Index Funds**
Expense Ratio	**High (1.55%)**	**Low (0.42%)**	**Index Funds**

Final Verdict

- Mutual funds are decidedly the way to achieve high returns, even if they entail a high risk (especially ICICI Pru Bluechip).
- On the other hand, index funds are the choice for those after stability, low costs, and better risk-adjusted return.

    - For the aggressive: Mutual Funds
    - For the passive and cost-conscious: Index Funds

CHAPTER – 5

CONCLUSION AND FINDINGS

5.1 Findings

The analysis in the present study aimed at comparing the performances of Mutual Funds and Index Funds in India through selected key financial parameters such as Compound Annual Growth Rate (CAGR), standard deviation, Sharpe ratio, Treynor ratio, Sortino ratio, beta, and expense ratio for the period of 2019 to 2024. The major findings drawn from the analysed data include the following:

1. **Performance in Terms of CAGR (Returns):**
   - Mutual fund has been able to deliver slightly higher CAGR of 15.73% as compared to 15.35% achieved by index funds, on an average.
   - Among all analyzed funds, ICICI Prudential Bluechip Mutual Fund (17.89%) reported the maximum long-term CAGR, showing its strong long-term return-generating capability among active funds.
   - The index fund part demonstrated ICICI Prudential Next 50 Fund, who also realized an outstanding performance at a CAGR of 16.64%, to surpass the average and prove that some passively managed funds can compete and even outperform actively managed ones on a gross return basis.

2. **Volatility and Risk (Standard Deviation and Beta):**
   - The average standard deviations recorded for mutual funds stood at 9.61% while that of index funds was lower at 7.96%, which implies that returns are subject to wider fluctuations for mutual funds.
   - Mutual funds had an average beta of 1.085 while index funds had a relatively more conservative average beta of 0.959, whereby an increase in this value indicated high market sensitivity difference with mutual funds being more susceptible to fluctuations than index funds.

3. **Risk-Adjusted Returns:**
   - All three metrics concerning risk-adjusted returns revealed that index funds outperformed the mutual funds:

     Sharpe Ratio: Index funds (2.005) > Mutual funds (1.545)
     Treynor Ratio: Index funds (0.089) > Mutual funds (0.085)
     Sortino Ratio: Index funds (1.030) > Mutual funds (0.920)

   - Thus, even if raw returns are slightly higher with mutual funds, index funds are more rewarding for the risk taken, particularly in terms of downside risk (Sortino ratio).

4. **Expense Ratios:**
   - There was a substantial difference as far as the expense ratios were concerned, being 1.55% against 0.42% on average for mutual funds versus index funds.
   - This is a testimony to the cost-efficiency of index funds, which would matter extremely during the long haul, since high expense ratios cut net gains dramatically over time.

5. **Cumulative Excess Returns (2019-2024):**
   - Mutual funds manifested variability in excess returns on different years some surpassed in excess returns by a huge margin in one year and the opposite was true the other year.
   - Index funds rely on comparing their benchmarks to come through every month with consistent but modest excess returns over the Nifty 50, which gives an impression of routine performance.
   - Consistent and predictable returns from index funds make them very appealing to passive investors who are simply looking to return what the market has with as few surprises along the way as possible.

turnitin Page 62 of 67 - Integrity Submission Submission ID trn:oid:::27535:96517343

5.2 Recommendations

1. **The foolproof patient investors (low risk appetite):**
   - Index funds are generally highly recommended when it comes to investing for long period because of their low volatility, low expense ratios, and strong risk-adjusted return.
   - Index funds such as UTI Nifty, Nippon Nifty 50, and ICICI Pru Next 50 are extremely beneficial for investors, who want their investments to generate market-related returns but without enormous costs or active portfolio management.

2. **For Active Growth Investors (Increased Risk Appetite):**
   - Mutual funds may be the investment product for most of these investors, particularly those backed by performance like ICICI Pru Bluechip and HDFC Top 100, which have consistently outperformed benchmarks and provided higher return absolute returns.
   - These features, however, demand the acceptance of elevated costs along with a volatility risk as they scavenge the fattest meat.

3. **Comparative Expense Ratio Analysis:**
   - Expense ratios affect returns received directly by investors, so it becomes important for investors to evaluate cost-return efficiency before choosing the fund.
   - Mutual fund investors must ensure that the mutual fund makes up for their greater costs through superior adjusted performance; liberties are taken by exempting index fund investors from load structures and higher expense ratios with a passive structure, thus benefiting from lower fees.

4. **Diversified Investment Approach.**
   - Thus, a combined strategy using mutual funds and index funds will provide the best of all worlds-growth with the active management and efficiency of cost with passive investing.
   - This diversified portfolio reduces concentration risk and also allows it to cater to a varied set of return expectations as well as market cycles.

5. **Focus On Risk-Adjusted Metrics Over Absolute Returns:**
   - Investors and analysts should give more importance to Sharpe, Treynor, and Sortino ratios, rather than concentrating on returns such as CAGR or point-to-point growth.
   - These metrics indicate how well the fund is compensating for the risk-taking.

6. **Policy Recommendations and Investor Education:**
   - Financial institutions and regulators should carry on efforts to raise awareness on expense ratios, volatility, and risk-adjusted returns among investors, especially in a burgeoning investment space like India in retail.
   - Transparency in fund reporting and the uncomplicatedness of risk metrics will enable investors to make enlightened decisions.

5.3 Conclusion

The study sought to analyze the effects of foreign institutional investors (FIIs) on the Indian stock market, focusing on the period between 2018 and 2024 despite using key parameters like FII inflows/outflows, market indices (Nifty and Sensex), and the macro-economy variables. The analysis based on secondary data and statistical tools draws a number of quite important conclusions.

Firstly, the FII activity now has a greater say in the working of the Indian stock market. While the data clearly suggest that considerable FII inflows in a particular period coincided with bullish behavior in the markets, there were situations when major FII outflows have almost always spelled corrections or market turbulence. This notion is sustained by the fact that the FIIs very much drive large chunks of short- to medium-term sentiment across the Indian markets. Thus, if 2020 and 2021 saw major net positive inflows, the market indices surged during those years; with major FII participation waning during years of geopolitical worries or macroeconomic stress, such as 2022, the result was market instability.

Secondly, the statistical correlation shown between FII net buy and sell positions and stock market indices indicates a high degree of positive association. This infers that FIIs are not just passive investors; they actively influence price movements and liquidity in the Indian markets. The sheer volume of capital that FIIs bring with them makes their behavior very

pivotal to market direction, particularly in sectors such as banking, IT, and large-cap stocks that tend to receive a considerably big conglomerate of institutional funds.

Third, the Indian stock market is highly susceptible to the changes being brought about by FIIs. Nonetheless, the behavior of FIIs is largely subdued by foreign economic fundamentals, for instance, U.S. interest rates, oil prices, and other geopolitical nuances, while domestic policies and fiscal health largely drive them. The reference period has captured several significant economic events including the COVID-19 pandemic, global inflationary concerns, cycles of interest rates, and domestic reforms like change of tax and investment in infrastructure-all impacting FII sentiment.

The study finds evidence that while FIIs can accentuate market trends, sudden withdrawal can unleash volatility risk which raises concerns about the overreliance on foreign capital for market stability. The study's results call for greater engagement of domestic institutional investors (DIIs), retail investors, and long-term pension and insurance funds in order to counterbalance the capital flight risks.

To conclude, FIIs are yet very powerful in the Indian stock market. With such power comes opportunity as well as threats. The environment in which FIIs operate should be stabilized and made transparent to ensure the confidence of FIIs whilst fostering a strong domestic participatory base that will act as a cushion against external shocks.

REFERENCES

- CRISIL. (2024). *CRISIL Mutual Fund Rankings*. https://www.crisil.com/en/home/our-businesses/investment-and-risk-advisory/fund-ranking.html
- Money control. (2024). *Mutual Fund Performance, NAV, and Returns*. https://www.moneycontrol.com/mutual-funds/
- Value Research Online. (2024). *Mutual Fund Reports and Analysis* https://www.valueresearchonline.com/
- AMFI. (2024). *Association of Mutual Funds in India – Data & Reports*. https://www.amfiindia.com/
- NSE India. (2024). *Historical Index Data – Nifty 50 & Nifty Next 50* https://www.nseindia.com/
- Business Standard. (2024). *Fund News and Investment Trends*. https://www.business-standard.com/
- SEBI. (2023). *Mutual Fund Regulations and Guidelines*. Securities and Exchange Board of India. https://www.sebi.gov.in/
- Morningstar India. (2024). *Mutual Fund Ratings and Returns*. Retrieved April 17, 2025, from https://www.morningstar.in/
- Bansal, N., & Gupta, S. (2019). *A comparative study of performance of index funds and actively managed mutual funds in India*. **International Journal of Research in Finance and Marketing (IJRFM)**, 9(4), 56–67. http://euroasiapub.org
- Sharma, R., & Mehta, D. (2020). *Performance Evaluation of Mutual Funds in India Using Sharpe, Treynor and Jensen's Measures*. **Journal of Economics and Finance (IOSR-JEF)**, 11(3), 27–34.https://doi.org/10.9790/5933-1103022734
- Patel, M., & Patel, D. (2022). *An Empirical Study on Performance of Index Funds in India*. **Journal of Management Research and Analysis**, 9(1), 12–18 https://jmraonline.com
- Tripathi, V., & Kumar, A. (2020). *Risk-adjusted performance of equity mutual funds in India*. **Journal of Financial Management and Analysis**, 33(2), 44–58. Retrieved from https://indianjournals.com

Annexure

Excel file link in which all the analysis are done

https://docs.google.com/spreadsheets/d/1V24bCF1Jw3YzFTkhYzOzWEh-uvw1hJKv/edit?usp=sharing&ouid=108854450146750208063&rtpof=true&sd=true