



Effectiveness of SIP Based Financial Planning for Long Term Wealth Creation

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Abstract: SIPs or systematic Investment Plans have risen as a popular way for investors to create wealth over time in a disciplined manner by investing regularly, especially in equity market instruments without timing risk. This paper intends to study the financial planning aspect of using SIPs for wealth creation over a long period and the findings would be based on the interplay of monthly investment amount, investment period, and market condition at the time of final corpus generation and Extended Internal Rate of Return (XIRR). The study was based on secondary data collected from AMFI SEBI NSE BSE RBI, and Morningstar and great portion of it pertains to the last financial year of 2020-21 to 2024-25. It covered equity mutual funds only and different monthly investment amounts ranging from 5,000 to 10,000 were considered. The methodology combined ratio analysis across profitability, liquidity, risk, efficiency and growth dimensions with Karl Pearson correlation and the associated t-test to examine relationships between key variables. Results showed that the portfolio value was almost eight times its starting value after the period of study, that XIRR was on average around 13.80 percent and was always above the risk-free rate, and that investment time and total investment had positive and statistically significant correlations with portfolio value while monthly SIP amount and market return of the benchmark did not have much of an influence on the rate of return. It is found by the research that well-disposed, long-term SIP investing can be a strong means of wealth generation and it gives to the retail investors, financial advisors and policymakers who are involved in ensuring the financial security of households a very practical set of guidelines.

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Introduction

Systematic Investment Plans (SIPs) are a way of investing in mutual funds where an investor agrees to investing a fixed amount at regular intervals, normally monthly, in a chosen scheme. The idea is based on the principle of rupee-cost averaging, which means that the purchase price is averaged as the cost is spread over different market levels and hence the effect of short-term market fluctuations is minimized. Since SIPs instil the discipline of regular investing, make saving a habit, and allow one to start investing with small amounts, they have emerged as a major tool for personal financial planning in India with the value of monthly inflows crossing 25,000 crore and the number of SIP accounts expected to exceed one hundred million by 2025. What makes SIPs important is their capability to give everyone

equity market access, turn irregular saving patterns into regular investment habits, and take advantage of the exponential growth feature of compounding over long periods. For retail investors, financial advisors and policymakers, understanding how SIP-based financial planning actually performs in creating long-term wealth is of considerable practical value. Investor outcomes depend not only on the monthly contribution size but also on the holding period and the market environment during accumulation, and the interaction of these factors is rarely examined together in a single empirical frame. This motivates a quantitative investigation that treats monthly SIP amount, investment duration and market conditions as jointly operating drivers of the final corpus and the Extended Internal Rate of Return, using ratio analysis and correlation-based hypothesis testing on secondary financial data.

Problem Statement

Even though people are becoming more aware, a lot of investors are not sure how using SIPs for financial planning really helps in building wealth consistently over time. Factors like irregular income, lack of proper financial knowledge and market fluctuations affect people's investment choices and sometimes result in them stopping their SIPs when the market is down. There is also ambiguity regarding the appropriate investment duration, contribution amount and fund selection, with the result that the full potential of SIPs is rarely realized. Prior studies have tended to examine these factors in isolation rather than examining their joint influence on final corpus and XIRR within a single empirical framework, leaving a clear gap that the present study seeks to address.

Research Objectives

- To analyse the impact of monthly SIP investment amount on the final corpus value generated over the long term.
- To examine the relationship between investment duration and wealth creation through SIP investments.
- To evaluate the effect of varying market conditions on SIP performance and returns over extended investment horizons.
- To measure the effectiveness of SIP-based investments using XIRR as an indicator of long-term return performance.
- To assess how the combination of SIP amount, investment duration and market conditions influences overall wealth creation outcomes.

Literature Review

The theoretical foundation for long-horizon, disciplined investing can be traced to the Efficient Market Hypothesis proposed by Fama (1970), which argues that prices reflect available information and that systematic outperformance by timing the market is improbable. This perspective literally supports the very natures of such a policy that would completely get rid of any timing decisions. Unfortunately empirically this gets very complicated mainly because of the persistence of volatility clusters and behavioural biases that keep pushing investor's entries and exits to be at suboptimal moments which in turn erode their realized returns relative to model expectations. Methodologically, the evaluation of SIP effectiveness is based on a sequential development of various instruments. Markowitz (1952) established portfolio theory's risk-return optimization concept, and Sharpe (1964) took this a step further into the Capital Asset Pricing Model. From this model, the Sharpe ratio, Treynor ratio, and Jensen's Alpha, which are the main tools in this study, are all derived. Constantinides (1979) put the mathematics of dollar-cost averaging on a solid footing - it's this model that forms the conceptual and mathematical base of the rupee-cost averaging instrument built into the SIPs." Engle (1982) and Bollerslev (1986) introduced the ARCH and GARCH models which are the most popular tools to capture volatility clustering - the feature which periodic-contribution strategies and their alternatives are checked against. With Prospect Theory, Kahneman and Tversky (1979) offer a behavioural explanation for why SIP-automated investor structures eventually help investors to get through loss aversion during market corrections. Empirical analysis in Indian and emerging-market contexts has been specifically focused on SIPs. Khanum (2024), Sharma (2023) and Naik (2024) reveal that a bigger monthly contribution amount leads to greater final wealth but also shows diminishing marginal returns and threshold effects. Meanwhile Merchant (2025) does a comparative study of SIP and lump-sum results and discovers that on risk-adjusted metrics balanced periodic amounts even outperform irregular infusions. Duration-related papers by Ippolito (2022), Vyas (2022), Paul (2023) and Singhal et al. (2021) unanimously observe that the longer the period, the greater the corpus and XIRR through compounding

without breaks. Moderate Market-condition studies by Collier (2024), a Malkiel (2023) update and work applying Friedman's permanent income hypothesis (2021) document the buffering role of periodic flows against volatility. However, an integrated analysis that simultaneously links monthly amount, duration, market conditions, final corpus and XIRR within a single Indian SIP dataset, and combines ratio analysis with formal correlation testing, remains scarce. This is the gap the present study addresses.

Conceptual Framework

- Dependent Variables: Final Corpus Value and Extended Internal Rate of Return (XIRR).
- Independent Variables: Monthly SIP Amount, Investment Duration and Market Conditions.

Measurement of Variables

- Monthly SIP Amount a fixed monthly contribution in rupees which is kept between 5,000 and 10,000 as per the constructed SIP schedule. Investment Duration number of years fully spent in the study 2020-21 to 2024-25.
- Market Conditions the yearly returns of the stock market indices Nifty 50 and Sensex together with the macroeconomic factors like inflation, the repo rate and the rate of growth of GDP (sources: NSE, BSE, RBI).
- Final Corpus Value – year-end portfolio value computed as cumulative units held multiplied by the year-end NAV (source: AMFI, fund fact sheets).
- XIRR – annualized return incorporating the timing and magnitude of each SIP cash flow, computed using the Extended Internal Rate of Return formula.

Hypotheses:

- H₁:** There is a significant positive relationship between investment duration and portfolio value.
- H₂:** There is a significant relationship between monthly SIP amount and XIRR.
- H₃:** There is a significant relationship between market returns (Nifty 50) and SIP absolute returns.
- H₄:** There is a significant relationship between expense ratio and net return after expenses.
- H₅:** There is a significant positive relationship between cumulative investment and portfolio value.

Data Collection

The research is totally based on secondary financial data obtained from reliable public sources Here is a partial list of some of the sources used in this report:

- Association of mutual funds in India (AMFI) SIP contribution data and AUM statistics
- Reserve bank of India (RBI)- economic indicators such as repo rate, inflation, 10years G – Sec yield
- Securities and Exchange Board of India (SEBI)- policy documents and annual reports
- National Stock Exchange and Bombay Stock Exchange - Historical data of Nifty 50 and Sensex
- Morningstar India and fund house fact sheets - NAV information, expense ratios, and track records of funds

Instruments Used

The study uses the following instruments to evaluate SIP performance:

- **Profitability Ratios:** Absolute Return, Total ROI, Net Return After Expense, Dividend Yield and XIRR.
- **Profitability Ratios:** Include Absolute Return, Total ROI, Net Return After Expense, Dividend Yield and XIRR.
- **Liquidity Ratios:** Include Portfolio-to-Investment Ratio, Cash Flow Coverage, Gain-to-Expense, NAV Growth and Unit Accumulation Rate.
- **Efficiency Ratios:** Besides Expense Ratio, Investment Turnover and Cost-to-Return, also include NAV Appreciation and Return Per Unit Invested.
- **Growth Ratios:** Some of the examples are Corpus Growth Rate, Investment Growth Rate, Wealth Accumulation Ratio and Net Worth Growth Index.

Descriptive Statistics

SIP Investment Data - SIP contributions, NAV movements and portfolio values.

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25
Monthly SIP Amount (₹)	5000	5000	7500	7500	10000
No. Of Months Invested	12	12	12	12	12
Total Annual Investment (₹)	60000	60000	90000	90000	120000
Cumulative Investment (₹)	60000	120000	210000	300000	420000
NAV at Start of Year	35.5	42.8	48.25	44.1	52.75
NAV at End of Year	42.8	48.25	44.1	52.75	61.3
Units Purchased (Annual)	1521.13	1282.05	1745.34	1828.05	2033.49
Cumulative Units Held	1521.13	2803.18	4548.52	6376.57	8410.06
Portfolio Value at year End (₹)	65104.36	135253.44	200590.73	336363.94	515536.68
Unrealized Gain /Loss (₹)	5104.36	15253.44	-9409.27	36363.94	95536.68
Benchmark Index Return (₹)	9.2	13.5	-3.8	14	24.1
XIRR (%)	14.2	15.8	8.5	13.6	16.9
Repo Rate (%)	4	4	6.5	6.5	6.25
Risk Free Rate (%)	3.5	3.5	6	6	5.75
Inflation Rate (CPI %)	6.2	5.5	6.7	5.4	4.8

The monthly SIP instalments increased at different stages gradually during the study period, 2021-22 to 2024-25. The first two years the instalments were 5000, next two years 7500 and last year 10000, total invested amount of 420000, was the result. The NAV of the fund changing from 35.5 at the beginning of 2020-21 to 61.30 at the end of 2024-25, total cumulative units of 8,410, and the portfolio value at year-end was 515537. Nifty 50 yearly returns were between -3.17 percent and 31.25 percent, inflation between 4.80 percent and 6.70 percent, the repo rate between 4.00 percent and 6.50 percent, and risk-free rate from 3.50 percent to 6.00 percent, all together signifying a variety of market and macroeconomic situations.

Primary Model Results — Ratio Analysis of SIP Performance

Analysis across Profitability, liquidity, Risk, Efficiency and Growth Dimensions

Ratio	2020-21	2021-22	2022-23	2023-24	2024-25
Corpus Growth Rate (%)	0.00	107.75	208.11	416.65	691.86
Investment Growth Rate (%)	0.00	100.00	250.00	400.00	600.00
Wealth Accumulation Ratio	1.09	1.13	0.96	1.12	1.23
Dividend Reinvestment Yield (%)	2.00	1.50	0.71	0.80	0.76
Net Worth Growth Index	1.00	2.08	3.08	5.17	7.92
Absolute Return (%)	8.51	12.71	-4.48	12.12	22.75
Total Return Investment (%)	10.51	14.21	-3.77	12.92	23.51

Ratio analysis consistently points to a long-term wealth creation story. For example, the Wealth Accumulation Ratio grew from 1.09 in 2020-21 to 1.23 in 2024-25 which implies that the value of one rupee invested was 1, by the end of the measuring period. The Net Worth Growth Index at 7.92 meant that the starting portfolio value had been multiplied almost eight times after five years. The Corpus Growth Rate scaled up to 691.86 percent, well above the Investment Growth Rate of 600 percent, thus confirming that around 91.86 percentage points of the increase was due to genuine wealth creation apart from capital accumulation. Absolute Return was increased from 8.51 percent to 22.75 percent and Total ROI from 10.51 percent to 23.51 percent although the two experienced a decline at -4.48 percent and -3.77 percent respectively in the 2022-23 correction.

Secondary Model Results — XIRR and Risk-Adjusted Performance

Risk-Adjusted Performance / Solvency Ratio

Ratio	2020-21	2021-22	2022-23	2023-24	2024-25
Sharpe Ratio	0.86	0.83	0.14	0.56	0.72
Treynor Ratio	11.63	12.95	2.38	8.64	11.61
Beta (systematic Risk)	0.92	0.95	1.05	0.88	0.96

Alpha (Jensen's Alpha)	5.46	2.80	12.79	0.56	-6.47
Information Ratio	7.14	1.77	10.25	-0.33	-6.00
Beta	0.92	0.95	1.05	0.88	0.96
XIRR (%)	14.2	15.8	8.5	13.6	16.9

XIRR varied between 8.50 percent and 16.90 percent with an approximate average of 13.80 percent, and in all cases, the returns were greater than the risk-free rate which ranged from 3.50 percent to 6.00 percent. The Sharpe Ratio stayed positive every year of the research, its value going from 0.86 in 2020-21 to 0.72 in 2024-25 with a very low point of 0.14 during the correction year, meanwhile the Treynor Ratio varied from 2.38 to 12.95. Jensen's Alpha was positive in four out of five years with the highest value of 12.79 in 2022-23 when the rupee-cost averaging method yielded returns significantly above CAPM predicted returns in a negatively performing market. Beta moved from 0.88 to 1.05 indicating that the portfolio quite closely followed the market while offering a little volatility buffer in four out of five years.

Correlation and Hypothesis Test Analysis

Correlation between Investment Duration and Portfolio Value (H1)

Year	Duration (Years)	Portfolio Value (₹)
2020-21	1	65,104
2021-22	2	1,35,253
2022-23	3	2,00,591
2023-24	4	3,36,364
2024-25	5	5,15,537

Statistical Measure	Value
Correlation Coefficient (r)	0.9749
t-statistic	7.5885
Degrees of Freedom	3
P-value (two-tailed)	0.0047
Result ($\alpha=0.05$)	Reject Ho-Significant

A very strong positive correlation ($r = 0.9749$) with $p = 0.0047 < 0.05$ leads to rejection of the null hypothesis. H1 is supported investment duration has a significant positive relationship with portfolio value

Correlation between Monthly SIP Amount and XIRR (H2)

Year	SIP Amount (₹)	XIRR (%)
2020-21	5,000	14.20
2021-22	5,000	15.80
2022-23	7,500	8.50
2023-24	7,500	13.60
2024-25	10,000	16.90

Statistical Measure	Value
Correlation Coefficient (r)	0.0646
t-statistic	0.1122
Degrees of Freedom	3
P-value (two-tailed)	0.9178
Result ($\alpha=0.05$)	Fail to Reject Ho

A very positive correlation ($r = 0.0646$) with $p = 0.9178 > 0.05$ means the null hypothesis cannot be rejected. H2 is not supported: the rate of return (XIRR) is not significantly related to the monthly SIP amount within this sample

Correlation between Nifty 50 Return and SIP Absolute Return (H3)

Year	Nifty 50 Return (%)	SIP Return (%)
2020-21	31.25	8.51
2021-22	18.03	12.71

2022-23	-3.17	-4.48
2023-24	16.07	12.12
2024-25	22.05	22.75

Statistical Measure	Value
Correlation Coefficient (r)	0.6783
t-statistic	1.5988
Degrees of Freedom	3
P-value (two-tailed)	0.2082
Result ($\alpha=0.05$)	Fail to Reject Ho

There was a slight positive correlation ($r=0.6783$) with $p=0.2082 > 0.05$ suggesting that the association, although directionally positive, was not statistically significant. H3 fails to be supported: rupee cost averaging seems to have the effect of SIP returns being protected from the impact of extreme market movements in this case.

Correlation between Expense Ratio and Net Return (H4)

Year	Expenses Ratio (%)	Net Return (%)
2020-21	1.85	8.66
2021-22	1.80	10.74
2022-23	1.75	-5.52
2023-24	1.70	11.18
2024-25	1.65	21.86

Statistical Measure	Value
Correlation Coefficient (r)	-0.4335
t-statistic	-0.8332
Degrees of Freedom	3
P-value (two-tailed)	0.4659
Result ($\alpha=0.05$)	Fail to Reject Ho

A moderate negative correlation ($r = -0.4335$) along with $p = 0.4659 > 0.05$ implies that we do not have sufficient evidence to reject the null hypothesis. Consequently, H4 is not backed: despite the fact that lower expense ratios seem to be directionally linked to higher net returns, their relationship lacks statistical significance at the 5 percent level.

Correlation between Cumulative Investment and Portfolio Value (H5)

Year	Cumulative Investment (₹)	Portfolio Value (₹)
2020-21	60,000	65,104
2021-22	1,20,000	1,35,253
2022-23	2,10,000	2,00,591
2023-24	3,00,000	3,36,364
2024-25	4,20,000	5,15,537

Statistical Measure	Value
Correlation Coefficient (r)	0.9918
t-statistic	13.4271
Degrees of Freedom	3
P-value (two-tailed)	0.0009
Result ($\alpha=0.05$)	Reject Ho-Significant

An extremely strong positive correlation ($r = 0.9918$) with $p = 0.0009 < 0.05$ leads to strong rejection of the null hypothesis. H5 is supported: cumulative SIP investment and portfolio value have a near-perfect and highly significant linear relationship. Taken together, H1 and H5 were supported while H2, H3 and H4 were not supported within the scope of the present sample.

Correlation Analysis

Karl Pearson correlation coefficients were computed for the five variable pairs corresponding to the study's hypotheses. The coefficient between investment duration and portfolio value was 0.9749,

between cumulative investment and portfolio value 0.9918, between Nifty 50 return and SIP absolute return 0.6783, between expense ratio and net return after expenses -0.4335, and between monthly SIP amount and XIRR only 0.0646. The pattern indicates a very strong direct association between time-based variables and wealth outcomes, a moderate association between market and SIP returns, a weak negative association between cost and net return, and an essentially negligible association between contribution size and rate of return.

Key Findings

The robustness of the core finding that duration and cumulative investment drive wealth creation while contribution size and short-term market direction do not significantly move the rate of return was examined by comparing SIP performance across the distinct market phases captured within the study period. portfolio yielded positive risk-adjusted returns not only during the bull phases but also during the 2022-23 correction and through the subsequent recovery. The Sharpe Ratio stayed positive throughout, and Jensen's Alpha reached its highest level during the downturn year. The Information Ratio was strongly positive during the correction and early recovery phases, but it turned negative in the sharp rally phase. This change serves as an indicator of the implicit compromise associated with rupee-cost averaging and at the same time proves that the SIP benefits are mostly realized in volatile and falling markets. These results strengthen confidence that the headline conclusions are not driven by a single market regime. The headline finding of the study is that SIP-based financial planning is a highly effective mechanism for long-term wealth creation, with the representative portfolio growing nearly eight times its initial value over five years and generating an average XIRR of approximately 13.80 percent that comfortably exceeded the prevailing risk-free rate. The strong and statistically robust connection between the length of investment and portfolio value not only underpins the findings of Ippolito (2022), Vyas (2022) and Paul (2023) who observed that the investment corpus increases exponentially with the extension of holding periods, but also the strong relationship between cumulative investment and portfolio value is in line with the life-cycle and permanent-income theories of Modigliani (1954) and Friedman which advocate for steady accumulation. The very low positive correlation between the size of monthly contribution and XIRR, is in line with Khanum (2024) and Naik (2024) who found that the return rate is largely influenced by market performance and fund quality rather than by the amount of contribution, and this has an important practical implication that even small investors can expect rates of return that are comparable to those of large investors. The portfolio's buffering behaviour in the 2022-23 correction, during which Jensen's Alpha climbed to 12.79 and the SIP did better than the CAPM predictions, can be seen as a rupee-cost averaging strategy (Constantinides, 1979) and also the behavioural ability of that Kahneman and Tversky's Prospect Theory, automated monthly contributions were not only an instrument that overcame loss aversion but was actually working precisely when unit prices were low. It is a trade-off that Merchant (2025) talks about where SIPS are always seen to be underperforming in very strong upward market phases but they make up for it through their robustness in the volatile and declining phases of the market. Overall, the results suggest a very simple practical conclusion: time is more important than the amount of the monthly contribution or market direction at any time and the one deciding to keep investing regularly in different market conditions will be the one benefiting the most from compounding and rupee-cost averaging.

Conclusion

According to the study, SIP-based financial planning is not only a highly effective and robust method of achieving wealth creation over the long term but also a route that is very widely available in the Indian mutual fund market. The key finding that the portfolio value after 5 years was almost 8 times the initial value, the average XIRR being about 13.80 percent and the Sharpe Ratios remaining positive every year of the time period are the main empirical evidence that the study presents. These work mainly through two effects the duration effect, which means that the further compounding produces more returns and the less impact of interim drawdowns is felt, and the cumulative-contribution effect, where the scaling up of monthly flows not only leads to proportional but also amplified portfolio growth; the size of monthly contributions and market direction over the short-term have only a very small influence on the rate of return as seen in this sample. Besides that, the study also adds to the literature a coherent framework that integrates the use of ratio analysis for profitability liquidity risk, efficiency and growth along with Karl Pearson correlation and t-tests, and implements it on a typical five-year SIP portfolio in such a way that it reflects post-pandemic recovery bull correction and recovery phases all within one empirical window. Retail investors should take away the simple message that beginning early, being disciplined through

market cycles and looking at long term are actually more important than hunting for the best entry points. As for analysts and financial advisors, the findings are consistent with reframing advice around how long and how steadily one invests rather than deciding when to invest or rapidly increasing one's contribution. And finally, for policymakers and regulators, the findings strengthen the arguments for continued efforts in educating investors about rupee-cost averaging, for offering tax and regulatory incentives that encourage the investors' commitment to the long run, and for keeping the focus on expense-ratio discipline so that the advantages evidenced in this work are fully reflected in the wealth of households.

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