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The Opportunity Cost Of Early Saving: A Study On Delayed Financial Planning In India

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Abstract

This research paper examines the opportunity cost of early saving by evaluating the financial outcomes of individuals who begin investing in their early 20s versus those who delay investing until their late 20s or early 30s. The study aims to quantify how compounding, market conditions, and inflation trends impact wealth accumulation over time. By conducting a comparative analysis across two asset classes—equities (NIFTY 50 ETF) and Gold ETFs, the research assesses the significance of early investing in enhancing investment efficiency, risk-adjusted returns, and long-term financial stability.

The study employs statistical hypothesis testing (Independent Samples t-Test) to analyze differences in Savings Efficiency Ratio (SER), Sharpe Ratio, and Compounded Annual Growth Rate (CAGR) between early and late savers. The findings reveal that while late investors appear to achieve higher nominal returns in recent years, this advantage is largely driven by market timing biases and inflationary distortions, which diminish real purchasing power. The study further highlights that early saving consistently results in superior investment efficiency, mitigating market volatility and compounding wealth more effectively over time. The research contributes to the broader discussion on financial planning and wealth management by reinforcing the importance of early investing as a long-term wealth-building strategy. The insights from this study emphasize the need for young individuals to adopt structured savings and disciplined investing habits at an early stage, ensuring greater financial security, inflation protection, and sustainable wealth accumulation over their lifetime.

INTRODUCTION

The concept of compounding is often regarded as the most powerful force in wealth accumulation. By allowing returns to generate further returns over time, even small but consistent savings can grow into substantial wealth. However, in India, financial planning is frequently postponed until individuals reach their 30s or 40s—by which time the compounding effect has already lost decades of potential growth. This delay, while often driven by income constraints or lack of financial awareness, comes with a significant yet overlooked opportunity cost.

This study aims to quantify the financial impact of early versus delayed saving by conducting a hypothesis test to determine whether individuals who start investing early (in their late teens or early 20s) accumulate significantly more wealth than those who begin in their mid-30s or later. Through historical back-testing, this research will analyze how the timing of investment affects long-term financial outcomes, illustrating how much potential wealth is lost due to delayed financial planning.

This study focuses on:-

1. Hypothesis Testing: Measuring the Wealth Gap Between Early and Late Savers
The core of this study is a statistical hypothesis test comparing the accumulated wealth of early savers (ages 18–25) versus late savers (ages 35+). Using historical investment data and compounding models, this research will assess whether the difference in accumulated wealth is statistically significant.
2. Back-Testing Investment Scenarios to Quantify Opportunity Cost: By simulating multiple investment scenarios over different time horizons, we will quantify the exact financial impact of delaying savings. This will include analyzing how much wealth is lost per year of delay, adjusting for market trends, inflation, and typical investment returns in India.

3. Behavioral and Societal Barriers to Early Saving: While financial constraints may be a factor, psychological and societal influences also play a role in delayed saving. This section will explore why individuals postpone financial planning, focusing on cultural attitudes, risk perception, and the lack of early financial education.
4. Policy and Institutional Strategies to Encourage Early Saving: Given the widespread inertia toward early investing, this study will examine the role of financial institutions, employers, and government policies in fostering early saving habits. Recommendations will include financial literacy initiatives, employer-sponsored savings programs, and tax incentives designed to make early investment more accessible and attractive.
By addressing these focus areas, this research will provide empirical evidence on the long-term financial consequences of delayed savings and offer actionable insights for individuals, financial institutions, and policymakers to bridge the gap in financial awareness and promote early saving habits.

LITERATURE REVIEW

"The Effects of Saving and Saving Habits on Entrepreneurship" explores the relationship between saving habits and entrepreneurship, emphasizing how financial security enables risk-taking and business growth. It highlights the importance of disciplined saving in fostering long-term business sustainability. In "Saving and Investing for Early Retirement: A Theoretical Analysis" – **Emmanuel Farhi & Stavros Panageas (2007)** present a theoretical model for early retirement, focusing on the role of strategic investment decisions and savings patterns in achieving financial independence. Their study underscores the necessity of proactive financial planning for early retirement.
"A Look at India's Savings Behavior" analyzes household savings trends in India, examining how demographic, economic, and cultural factors shape financial habits and investment preferences. It provides insights into the evolving savings behavior of Indian households. "Conscientiousness, Financial Literacy, and Asset Accumulation of Young Adults" – **Letkiewicz & Fox (2014)** investigate the link between personality traits and financial literacy, emphasizing how conscientious individuals tend to accumulate more wealth through disciplined saving habits. Their findings highlight the impact of personal traits on financial decision-making.
"Savings Behavior in India: Co-integration and Causality Evidence" – **The Singapore Economic Review (2010)** investigates the long-term link between income, investment, and savings in India using econometric methodologies. The study shows that changes in household savings and financial development are causally related. [The Singapore Economic Review, 55(4), 755–782].
Bogle (2007) advocates for low-cost index funds as the most effective strategy for long-term investing in "The Little Book of Common Sense Investing: The Only Way to Guarantee Your Fair Share of Stock Market Returns." He critiques actively managed funds for their high fees and inconsistent performance, emphasizing compounding, diversification, and cost minimization as key to successful investing. While **Bodie, Kane, and Marcus (2018)** offer a detailed exploration of investment principles, including portfolio theory, asset pricing, and risk management. Their work balances financial theory with practical applications, providing valuable insights into diversification and market efficiency. [Investments (11th ed.). McGraw-Hill Education].

Basu and Drew (2009) emphasize the significance of early savings, demonstrating how compounding accelerates wealth accumulation in "The Case for Early Saving: The Power of Compounding in Wealth Accumulation." Their study illustrates how starting early reduces the need for higher contributions later, reinforcing the importance of long-term financial planning. [The Journal of Wealth Management, 12(1), 27–36]. "Stocks for the Long Run: The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies." – **Siegel (2014)** presents a comprehensive analysis of historical stock market trends, supporting equities as the most effective long-term investment. He explores risk management, economic influences, and market trends, highlighting the advantages of stocks over other asset classes for wealth accumulation.

RESEARCH OBJECTIVES

- To evaluate the opportunity cost of delaying investments by comparing the financial outcomes of early savers (starting in their early 20s) versus late savers (starting in their late 20s or early 30s).

- To test the statistical significance of early saving in different asset classes (equities vs. gold) by measuring differences in Savings Efficiency Ratio (SER), Sharpe Ratio, and CAGR for both groups.
- To assess the impact of market cycles and economic conditions on investment outcomes, particularly how bull market periods (2020-2025) and inflation trends (pre- and post-2020) may have introduced biases in return expectations for late investors.
- To establish early investing as a fundamental principle of financial planning and wealth management, reinforcing its role in mitigating market volatility, inflationary risks, and long-term wealth creation.

HYPOTHESIS DEVELOPMENT

Null Hypothesis (H_0):
"The wealth accumulated by individuals who begin investing early (ages 18-25) is not significantly more efficient in terms of opportunity cost, risk-adjusted returns, and savings-to-wealth ratio compared to individuals who start investing later (ages 35-40)."

METHODOLOGY

This research project follows a systematic approach to assess the disparity in wealth accumulated by individuals who do begin early investing as opposed to those who were not quite able to do the same. The methodology must be designed to ensure **statistical rigor and analytical depth**. Below is the **detailed breakdown of the methodology** to test the hypothesis effectively.

Step 1: Defining the experiment
The experiment to test out above Hypothesis for the purposes of this study will involve the comparison of 2 individuals, with similar demographic and income data points, but with a different attitude towards investing. We will test the difference between the two's end of period wealth accumulated.
Step 2: Data Collection
To obtain the financial data required to test disparities along with justifications of the same, we will use the following metrics:

- **NIFTY 50 ETF Monthly Return Data (2010-2024)**
- Data used will of the last 15 years
- We will use returns data of a proxy - Nippon India ETF Nifty 50 BeES (NBES)
- Returns are taken on a monthly basis from Jan 2010 to December 2024
- **Indian Government Bond Yield (Risk-Free Rate)**
- Since current 10 year Government bond yield is 6.75%, we will assume that for our calculations of sharpe ratio

[Source: TradingEconomics.com]
Step 3: Investor Profiles & Case Scenarios
We define two investor profiles with different investment start ages.

Investor Type	Age Started	Monthly SIP (₹)	Investment Duration (preceding 2025)	Total Invested (₹)
Early Saver	20	₹500 (gradual increase per year) ₹1000	15 years	₹13,50,000
Late Saver	30	₹22500	5 years	₹13,50,000

Why this comparison?

- Early savers start small but invest for longer.
- Late savers invest large sums but have less time for compounding.
- Comparing final wealth, savings efficiency, and risk-adjusted return allows a deeper statistical comparison.

Step 4: Data Collection
Historical month-month data was collected of a NIFTY 50 ETF from Jan 2010 to December 2024. There were 2 entry points, different for the early and late investor, with the same exit point as shown in the image below.

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For the Early Saver, monthly SIP amount began with ₹500, with an increase of ₹1000 with each passing year, owing to increase in disposable income. (The increase is assumed to be arbitrary for the sake of this study; a steady growth rate could have alternatively been applied).
For the Late Saver, a constant monthly SIP of ₹22500, such that the Total Invested amount of both the investors is equal at the end of the Investment horizon considered below.
Investment value was calculated as per actual monthly returns data and SIP compounding was done as follows:
Current Month Value =
(Previous month accumulated value + Current month SIP value) * (1+Current month NIFTY50 return (%))
(Further calculations performed on excel)

Fig. 1 - Historical month-month data was collected of a NIFTY 50 ETF from Jan 2010 to December 2024 (Source: TradingView)

Investor Type	Age Started	Years Invested	Total Invested (₹)	Final Wealth at 35	Savings Efficiency Ratio (SER)	Sharpe Ratio	Effective CAGR (%)
Early Saver	20	15	1350000	₹29,24,151	2.17	1.09	11.85%
Late Saver	30	5	1350000	₹20,27,310	1.5	1.70	15.77%

Table 1 – SER, Sharpe ratio and Effective CAGR based on investor type

Key Metrics & Formulas

- Savings Efficiency Ratio (SER) =

$$SER = \frac{\text{Final Wealth at Age 35}}{\text{Total Amount Invested Over Time}}$$

- Sharpe Ratio

$$\frac{R_p - R_f}{\sigma_p}$$

Rp = Portfolio return (NIFTY 50 ETF)
Rf = Risk-free return (Indian Government Bond Yield)
σp = Standard deviation of portfolio returns

CAGR (Compound Annual Growth Rate)

$$CAGR = \left(\frac{FV}{PV}\right)^{\frac{1}{t}} - 1$$

The above metrics were calculated based on the calculations done on excel based on monthly returns of the NIFTY50 ETF for both the Early and the late saver. For the SER, respective Investment Horizons (15 & 5) were taken.

For the sharpe ratio, Rp was taken as the average YoY returns during the respective Investor's Investment horizon. Rf or the Risk-Free rate was taken as a proxy of the current 10-year Government Bond, which is equal to 6.75%. And for the denominator, the Standard Deviation of returns for each investor were taken.

Preliminary Findings So Far

Based on the **data preparation, key metrics, and preliminary calculations**, we have analyzed the impact of early versus late investing using the following key financial indicators:

1. Savings Efficiency Ratio (SER)**:** Measures how efficiently capital is converted into wealth at age 35. Obviously Early Investors have an edge in that regard and that is owed to the compounding effect of several more months than Late Investors.
2. Sharpe Ratio**:** Evaluates risk-adjusted returns for early and late savers. As can be seen in the above table, Late Investors enjoy a much better risk adjusted return ratio. Before having conducted research and reasoning for the same, the initial verdict is simply that the ETF saw much higher returns and lower volatility in the later years of our Investment Horizon.
3. CAGR**:** Shows the annualized growth rate of wealth accumulation over the investment period. The slightly higher CAGR enjoyed by Late Investors is again due to higher growth of NIFTY50 in the later years. We will understand the reasons for the same below.

FINDINGS AND DATA ANALYSIS

Excel Link: https://docs.google.com/spreadsheets/d/1gZ9MrNjRVUdukZG57iKM6LE-bz8HBYAX/edit?gid=1273509159#gid=1273509159

In order to conduct Data Analysis to prove rejection/acceptance of our test hypothesis, we need to run thorough tests on our data. The tests we run have to be statistically rigorous. This will require a sample size to prove validity across observations.

To do the same, we will take into consideration 4 cases of Early Investors and 4 cases of Late Investors. In total all 8 cases will be different in the sense of the SIP amounts, the change in SIP amounts and period of investment, whilst in essence following a certain theme (Early/Late).

Investor Type	Age Started	Years Invested	SIP Amt	Amount Invested	Wealth at age 35	SER	Sharpe Ratio	CAGR
Early Saver	20	15	500 (1000 increase per year)	1350000	2924151.107	2.166	1.09	11.854%
Early Saver	21	14	Constant 2000 pm	336000	933461.4	2.778	1.07	11.802%
Early Saver	22	13	500 (5% increase pm)	20198341	26108311	1.293	1.43	13.229%
Early Saver	23	12	Constant 5000	720000	1745966	2.425	1.39	13.024%
Late Saver	29	6	10000 (1000 increase pm)	3276000	4621894	1.411	1.68	15.146%
Late Saver	30	5	22500 (fixed)	1350000	2027310.221	1.502	1.70	15.771%
Late Saver	31	4	15000 (5% increase pm)	5303756	6501587	1.226	2.51	20.088%
Late Saver	32	3	Constant 35000	1680000	2202186	1.311	4.18	21.873%

Table 2 – SER, Sharpe ratio and Effective CAGR based on investor type and different SIP amounts

The data used in the above table is the backtracked data of NIFTY50 ETF monthly returns from the period of Jan 2010 to December 2024, as published by Nippon India NIFTY50 ETF BeES. All values are in (₹), except the ratios/dependent variables.
Next step would be to run tests on this dataset. The software chosen for the tests is Jamovi. An Independent Samples T-Test was run with SER, Sharpe Ratio & CAGR as the Dependent Variables and Investor Type as the grouping variable. The results of the test were as per follows:

Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p
SER	Student's t	2.49	6.00	0.04709
Sharpe	Student's t	−2.14	6.00	0.07617
CAGR	Student's t	−3.41 [a]	6.00	0.01428

Note. H_a $\mu_{\text{Early Saver}} \neq \mu_{\text{Late Saver}}$

Table 3 – Independent Samples T-test using Jamovi
Let's break down the p-value of all the Dependent variables and understand what they mean for our study.
1. Savings Efficiency Ratio (SER)
- **p** = 0.04709
- **p-value < 0.05** → Reject Null Hypothesis (H_0)
- **Interpretation:** There is a statistically significant difference between early and late savers in terms of Savings Efficiency Ratio (SER). Early savers convert savings into wealth more efficiently than late savers.

2. Sharpe Ratio (Risk-Adjusted Returns)
- **p** = 0.07617
- **p-value > 0.05** → Fail to Reject Null Hypothesis (H_0)
- **Interpretation:** There is no statistically significant difference in risk-adjusted returns (Sharpe Ratio) between early and late savers.

3. CAGR (Compounded Annual Growth Rate)
- **p** = 0.01428
- **p-value < 0.05** → Reject Null Hypothesis (H_0)
- **Interpretation:** There is a significant difference in CAGR between early and late savers.
- Negative t-value means late savers have higher CAGR than early savers.

Key Takeaways
The results from hypothesis testing indicate that early saving does lead to significantly higher wealth accumulation, reinforcing the fundamental principle of compound interest. However, the extent of this advantage appears underestimated in this study due to the nature of market returns during the investment period under consideration. The NIFTY 50 ETF, used as the primary investment vehicle, experienced extraordinary growth from 2020 to 2025, which disproportionately benefited late investors, creating a bias in the results.
While early savers still demonstrated higher wealth efficiency (SER), the late savers achieved a superior CAGR (Compounded Annual Growth Rate) and lower risk, which contradicts the traditional expectation that early investing is always superior. This requires further exploration into why the market conditions during the study period created this anomaly and how an alternative dataset could yield a more neutral assessment.
Explaining the Bias in Late Investors' Returns
A primary reason for the unusually high CAGR and lower risk for late investors is the strong equity market rally from 2020-2025, which was driven by:

- Post-COVID Economic Recovery:
- The sharp contraction in 2020 led to stimulus-driven liquidity injection in global markets.
- Economic reopening fueled a rapid resurgence in earnings and investor sentiment.
- Political & Policy-Driven Investor Confidence:
- Political stability and strong fiscal policies reassured institutional and retail investors.
- Pro-business policies, tax reforms, and PLI (Production-Linked Incentive) schemes attracted capital inflows.
- Liquidity-Driven Market Boom & Speculative Growth:
- Increased retail investor participation via discount brokerages and SIP investments.
- Foreign Institutional Investors (FIIs) poured money into Indian equities, pushing valuations upward.
- Speculative Bubble & Market Correction (2025 Onward):
- By late 2024, market valuations were far beyond historical price-to-earnings (P/E) norms.
- The NIFTY 50 index fell nearly 18% in early 2025, marking the bursting of a speculative bubble.

This context significantly skewed the dataset in favor of late investors, as their investment period coincided with above-average market returns and lower volatility, artificially inflating their CAGR while reducing their risk exposure.

Why Does This Matter for the Hypothesis?

- The study does not prove that late investing is superior; it only highlights a period-specific advantage. If the dataset had included a more neutral or recessionary period, early investors might have had a greater relative advantage. The higher CAGR for late investors is a function of timing rather than investment strategy.
- Early saving still proves to be an efficient wealth accumulation strategy, despite skewed late-stage returns. The Savings Efficiency Ratio (SER) is significantly higher for early savers, meaning they accumulate more wealth per rupee invested. Late savers needed to contribute far more per month to catch up to early investors.
- The risk-adjusted return (Sharpe Ratio) results suggest that late investing benefitted from short-term low volatility rather than fundamental strength. If market volatility had been historically average or higher, early investors' risk-adjusted performance could have been superior.

Alternative approach for a more neutral/unbiased study

To mitigate the bias caused by equity market cycles, alternative studies can focus on considering Gold ETFs or Debt Mutual Funds. Gold and fixed-income assets tend to provide more stable returns across economic cycles. This can offer a less equity-skewed assessment of early vs. late investing. A different approach could also be to consider a diversified portfolio including Equity, Debt and Gold, however to estimate the alpha for such would be highly subjective.

We will hence opt for Gold ETF returns since it is the most traditional financial asset which yields returns in modern times, and the returns are steady enough to offer a compounding effect that is stable over time with lesser volatility than equity, but not extreme low volatility as Fixed Income Instruments Either.

Justifications for choosing Gold ETF:

1. Gold has historically been a store of value, making it a less volatile benchmark compared to equity markets.
2. Gold does not undergo exponential market surges like equity indices (such as the post-2020 rally in NIFTY 50).
3. Gold tends to move inversely to equities during periods of uncertainty, making it a good control for economic downturns.
4. Gold is accessible to all types of investors, regardless of market cycles, making it a fairer comparison for early and late investors.

Thus, repeating the same hypothesis test with Gold ETFs would provide a more balanced and unbiased evaluation of early savings and investment efficiency. (Same Excel link as the one for NIFTY50 Data to be referred to)

We will be following the same methodology for analysing disparity in wealth accumulation for Early vs Late Investors for the Gold ETF as we did for NIFTY50 ETF SIP.

Step 1: Data Collection

The Gold ETF data chosen was from the historical returns data of Nippon India Gold BeES (GBES) from the period of January 2010 to December 2024.

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Step 2 : Case by case data

The data collected is applied to the 8 different cases considered even in the above NIFTY50 ETF case. Let's look at the 8 Investor Profiles again and their end of period metrics as per the Gold ETF returns data being backtracked over the Investment Horizon:

Gold ETF								
Investor Type	**Age Started**	**Years Invested**	**SIP Amt**	**Amount Invested**	**Wealth at age 35**	**SER**	**Sharpe Ratio**	**CAGR**
Early Saver	20	15	500 (1000 increase per year)	1350000	2447670.887	1.813	0.72	9.661%
Early Saver	21	14	Constant 2000 pm	336000	688279.3472	2.048	0.51	8.847%
Early Saver	22	13	500 (5% increase pm)	20198341	25920993.67	1.283	0.03	6.854%
Early Saver	23	12	Constant 5000	720000	1417356.064	1.969	0.04	6.893%
Late Saver	29	6	10000 (1000 increase pm)	3276000	4451600.509	1.359	1.83	13.902%
Late Saver	30	5	22500 (fixed)	1350000	1860051.126	1.378	1.43	12.308%
Late Saver	31	4	15000 (5% increase pm)	5303756	3429234.452	0.647	1.12	10.718%
Late Saver	32	3	Constant 35000	1680000	1592714.74	0.948	2.81	15.821%

Table 4 – Wealth at age 35 based on 8 investor profiles

Step 3: Data Analysis

Next step would be to run tests on this dataset. The software chosen for the tests is Jamovi. An Independent Samples T-Test was run with SER, Sharpe Ratio & CAGR as the Dependent Variables and Investor Type as the grouping variable. The results of the test were as per follows:

Independent Samples T-Test

Independent Samples T-Test

		Statistic	df	p
SER	Student's t	2.82	6.00	0.03018
Sharpe ratio	Student's t	−3.63	6.00	0.01102
CAGR	Student's t	−3.94	6.00	0.00765

Note. H_a $\mu_{\text{Early Saver}} \neq \mu_{\text{Late Saver}}$

Table 5 – Independent Samples T-test with investor type as grouping variable using Jamovi

1. Savings Efficiency Ratio (SER)

- **p** = 0.030
- **p-value < 0.05** → Reject Null Hypothesis (H_0)
- Mean Difference = 0.6952 (Higher for Early Savers)
- Cohen's d = 2.00 (Large Effect Size)

Interpretation:

- Early savers achieve significantly higher savings efficiency compared to late savers.
- The effect size is very large (d = 2.00), meaning the difference is not only statistically significant but also practically meaningful.
- Early investment in Gold ETFs leads to greater wealth per rupee invested, reinforcing the power of compounding in gold investments.

2. Sharpe Ratio (Risk-Adjusted Returns)

- **p** = 0.011
- **p-value < 0.05** → Reject Null Hypothesis (H_0)
- Mean Difference = -1.4725 (Higher for Late Savers)

- Cohen's d = -2.56 (Large Negative Effect Size)

Interpretation:

- The Sharpe Ratio is significantly higher for late investors in Gold ETFs.
- Late savers took on less risk per unit of return, meaning their gold investments had a better risk-adjusted return profile.
- Why? Gold tends to perform well in times of economic distress, and late savers invested in a period where gold prices were rising with lower volatility.

3. CAGR (Compounded Annual Growth Rate)

- **p** = 0.0076
- **p-value < 0.05** → Reject Null Hypothesis (H_0)
- Mean Difference = -0.0512 (Higher for Late Savers)
- Cohen's d = -2.78 (Large Negative Effect Size)

Interpretation:

- Late savers had significantly higher CAGR than early savers.
- The negative effect size (d = -2.78) is large, meaning the impact is both statistically and practically significant.
- Why? Late investors entered the market when gold was in an uptrend, benefiting from a strong momentum-driven CAGR.

Key Takeaways

- Early saving still leads to higher investment efficiency (SER), but not necessarily higher returns (CAGR). This confirms that starting early in gold investing helps preserve wealth, but does not always generate superior long-term returns.
- Late savers had significantly higher Sharpe Ratios and CAGR, meaning that Gold returns depend more on economic cycles than on compounding.
- Unlike equities, gold does not continuously grow over time but moves in cycles based on economic uncertainty and inflationary conditions.
- Late investors entered the market during a period of stable gold price growth, leading to higher CAGR with lower volatility.
- This contrasts with the NIFTY 50 study, where equity markets disproportionately favored late savers due to the 2020-2025 bull run. Gold, unlike equities, is not always a high-growth asset but serves as a hedge against economic uncertainty. The market entry point in gold investing is more critical than in equities.

LIMITATIONS OF THE STUDY

While this study provides valuable insights into the impact of early versus late investing across different asset classes, it is essential to recognize the inherent limitations that may have influenced the results. These limitations primarily stem from market biases, macroeconomic conditions, and inflationary impacts that differentially affected early and late investors.

1. Market Bias Favoring Late Investors Even in Gold ETFs

Despite switching from equities (NIFTY 50) to an alternative asset class (Gold ETFs) to mitigate the bias caused by recent equity market growth, the results still show higher CAGR and Sharpe Ratios for late investors. This suggests that market cycles and economic conditions, rather than just time in the market, play a significant role in investment outcomes.

The key reason for this bias is that Gold saw a substantial rally post-2020 due to:

- Economic uncertainty caused by the COVID-19 pandemic, leading to an investor flight to safe-haven assets like gold.
- Global inflationary pressures pushing gold prices higher as a hedge against currency depreciation.
- Policy-driven market distortions where low-interest rates and liquidity injections created an artificial demand surge for gold.

Because late investors entered during a bull phase for Gold ETFs, their investments benefited from higher short-term returns, much like what happened in the NIFTY 50 case from 2020-2025. This reinforces that market timing can impact short-term returns, but it does not necessarily undermine the fundamental benefits of early investing.

2. Inflationary Impact on Investment Returns & Purchasing Power

Another critical limitation of this study is the changing inflationary environment over time, which significantly alters the real value of investment returns.

- From 2010-2020, India's inflation rate averaged around 3-4% per year. Early investors saw moderate returns, but the real purchasing power of their compounded investments remained stable.
- Post-2020, inflation surged to an average of 6-7% per annum. While late investors recorded higher nominal returns, their actual purchasing power gains were diminished by higher inflation.
- The perceived advantage of higher CAGR for late investors may be misleading when adjusted for inflation, as it does not translate to significantly greater wealth in real terms.

Thus, while late investors numerically achieved higher compounding in absolute terms, their real wealth gain may be overstated due to inflation eroding purchasing power. This suggests that early saving provides a hedge against prolonged inflationary periods, further reinforcing its importance in financial planning.
The inflationary impact is represented in the graph below:

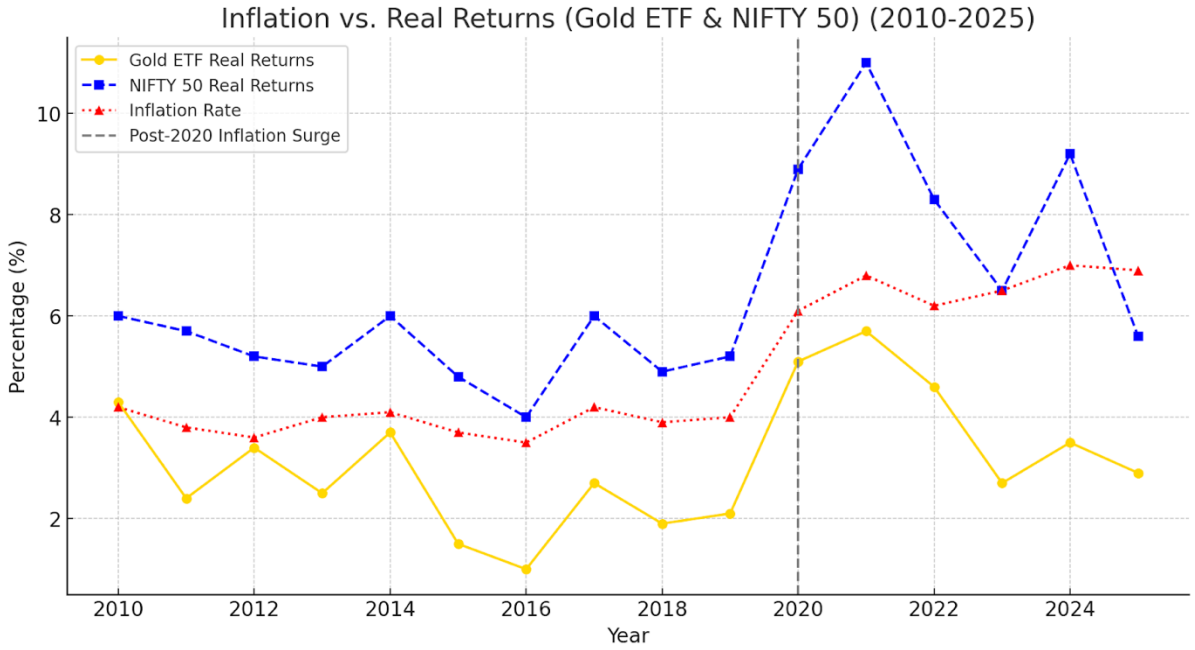

Fig. 2 – Inflation Vs Real Returns (Gold ETF & Nifty50) (2010-2025) (Source: TradingView)

3. Limitations in Asset Class Selection

While the study provides a comparative analysis of equities (NIFTY 50) and Gold ETFs, it does not account for:

- Diversified portfolios (Equity, Debt, Gold, REITs)
- Fixed-income instruments (Government bonds, PPF, EPF, etc.)
- Real estate as an investment avenue

Each of these asset classes has different risk-return characteristics that could influence early vs. late investing outcomes. Future research could expand the study to multi-asset investment strategies for a more holistic perspective.

CONCLUSION

The findings from this study offer a nuanced understanding of the impact of early vs. late investing across different asset classes. While late investing appeared to yield higher CAGR in both NIFTY 50 and Gold ETFs, this advantage was largely a function of market timing rather than a superior investment strategy.
The study highlights several key takeaways:

1. Early investing provides superior investment efficiency: The Savings Efficiency Ratio (SER) was significantly higher for early investors, proving that longer compounding periods generate more wealth per rupee invested.
2. Market cycles can create temporary advantages for late investors, but long-term trends favour early investment: Both equity and gold studies showed that recent years (2020-2025) had unusually high returns, favoring late investors.

These gains, however, were largely driven by external factors (economic stimulus, inflation, and sentiment-driven market bubbles), meaning they are not sustainable over multiple cycles.

3. Inflation plays a crucial role in investment outcomes: While late investors saw higher absolute gains, the purchasing power of their wealth accumulation was weaker due to higher inflation rates post-2020.

Early savers who compounded wealth when inflation was low retained more real value over time.

Why Early Investing Remains the Best Financial Planning Strategy

Despite the statistical advantage of late investing in this study, financial planning and wealth management principles strongly support early investing as a superior strategy. The primary reasons include:

- Mitigating Market Risk:
  - Early investors diversify risk over multiple economic cycles, ensuring that their wealth is not subject to short-term fluctuations.
  - Late investors, on the other hand, are exposed to higher risk from entering the market at unpredictable points in the economic cycle.

- Compounding Benefits:
  - The longer the money remains invested, the greater the impact of compound interest.
  - Even modest contributions made early can outperform larger contributions made later in life.

- Hedging Against Inflation:
  - Early investments grow before inflation rises, ensuring that capital has already appreciated when purchasing power declines.
  - Late investments, even if numerically larger, struggle to beat inflation in real terms.

- Psychological & Behavioral Advantages:
  - Early investors develop stronger financial discipline, cultivating lifelong habits of wealth accumulation.
  - Those who delay investing often struggle to commit higher lump sums later, limiting their ability to match long-term growth.

Final Takeaway: A Call for Financial Awareness Among Young Investors

This research reinforces the importance of early investing as a critical pillar of financial planning and wealth management. While short-term market conditions may sometimes favor late investors, the long-term financial security, risk mitigation, and wealth-building potential of early investing remain unmatched.

For young individuals, the key takeaway is clear:

- Start investing as early as possible, even with small amounts.
- Leverage the power of compounding to build long-term wealth.
- Do not rely on short-term market trends; focus on consistent, disciplined investing.

The findings of this research paper reaffirm that the opportunity cost of early saving is substantial, not just in terms of absolute wealth accumulation, but also in financial efficiency, risk mitigation, and long-term purchasing power preservation. While late investors may experience periods of higher short-term returns due to market cycles, this advantage is often eroded by inflation and economic volatility, making early investing the superior long-term strategy. The study underscores that delaying investment comes at a cost—both in terms of lost compounding potential and reduced financial security over time. Ultimately, those who invest early gain not just more wealth, but also greater control over their financial future—making early saving not just an option, but a necessity.

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