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Research Article

Momentum Index vs. Traditional Index Investing: A Comparative Study in the Indian Market

Dr. Bhavnik Tokariya[1], Dr. Bhumit Vyas[2], Dr. Hiral Shukla[3], Dr. Hima Trivedi[4] and Dr. Margie Acharya[5]

[1]Assistant Professor, Shri Jaysukhlal Vadhar Institute of Management, Gujarat Technological University Jamnagar

[2]Assistant Professor, Faculty of Law, GLS University, Ahmedabad, Gujarat

[3]Assistant Professor, Faculty of Law GLS University, Ahmedabad, Gujarat

[4]Assistant Professor, Faculty of Law, GLS University, Ahmedabad, Gujarat

[5]Assistant Professor, Faculty of Law GLS University, Ahmedabad, Gujarat

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***Corresponding author: Dr Bhavnik Tokariya**

Abstract: Index investing has long been popular in developed markets and is now gaining significant traction in developing economies like India, as investors seek cost-effective, diversified investment options. While traditional index funds provide broad market exposure, momentum investing gives an added edge by capitalizing on market trends, offering the potential for enhanced returns. Though momentum strategies are not ideal for risk-averse investors or those with short-term financial needs, they can serve as a high-growth component in a well-diversified portfolio for those comfortable with periodic rebalancing. This study examines the performance of momentum investing compared to traditional market indices, highlighting how momentum indices like Nifty 200 Momentum 30 and Nifty Midcap 150 Momentum 50 consistently outperform benchmarks such as Nifty 50, Nifty Midcap 150, and Nifty 200 over three-year and five-year rolling periods. While momentum investing offers higher returns, it comes with increased volatility, making it more suitable for investors with a long-term horizon and a higher risk appetite. A t-test assuming unequal variances confirms that the superior performance of momentum indices is statistically significant, indicating that the excess returns are not due to chance. Additionally, over a five-year period, momentum indices never recorded negative rolling CAGR, unlike broader indices, reinforcing the importance of staying invested for the long term.

Keywords: Momentum Index, Nifty 200 Momentum 30, Nifty Midcap 150 Momentum 50, Passive investing.

INTRODUCTION

Investing in financial markets has always been a mix of science and psychology. While some investors rely on fundamental analysis, others trust technical indicators to make decisions. Among the many strategies employed, momentum investing has gained significant traction in recent years. At its core, momentum investing follows a simple yet compelling idea—stocks that have been performing well in the recent past are likely to continue their upward trajectory, while underperforming stocks may continue to struggle.

Imagine picking a team for a sports tournament. You'd likely choose players who are in top form, scoring well, and maintaining their fitness. The same logic applies to momentum index funds, where stocks with strong recent performance are included in the fund, with the hope that their winning streak continues. But just as athletes experience highs and lows, markets are unpredictable, making momentum investing both an exciting opportunity and a challenging endeavour.

Momentum index funds are built using a systematic approach to selecting stocks that have demonstrated strong recent performance. The methodology involves:

1. **Selection of Eligible Stocks:** Only stocks that are part of the Nifty 200 or Nifty 150 Midcap index and have been listed for at least a year are considered.
2. **Calculation of Momentum Score:** Stocks are ranked based on their past performance using a mathematical formula called the Normalized Momentum Score, which adjusts for market fluctuations.
3. **Top Stock Selection:** The 30 stocks with the highest momentum scores from the Nifty 200 and the 50 stocks from the Nifty 150 Midcap are chosen for inclusion in their respective indices.
4. **Weighting and Capping:** Each stock's weight in the index is determined by its market capitalization and momentum score, with a cap of 5% to prevent excessive concentration in a few stocks.
5. **Regular Rebalancing:** The index is reviewed and adjusted semi-annually to ensure it remains aligned with market trends.

This research paper delves into the performance of momentum index funds, with a particular focus on the Nifty 200 Momentum 30 Index and the Nifty 150 Midcap 50 Index. Over the past decade, this strategy has delivered impressive returns, outpacing broader market indices like the Nifty 200. However, despite its strong historical performance, momentum investing comes with inherent risks—higher volatility, sectoral concentration, and

susceptibility to rapid market sentiment shifts.

Ultimately, investing is a journey filled with ups and downs. Momentum funds promise an exhilarating ride, but they demand careful navigation. This research will shed light on whether this strategy is a sustainable approach for investors looking to capitalize on market trends or if it remains a high-risk, high-reward play in the investing arena.

Research Problem

The objective of this study is to analyze the effectiveness of momentum investing in different market conditions, its advantages over traditional index investing, and the associated risks. By examining historical data and key performance indicators, this paper aims to provide a comprehensive understanding of whether momentum index funds can serve as a reliable investment strategy for long-term wealth creation.

LITERATURE REVIEW

Momentum investing, a strategy that capitalizes on the continuation of existing market trends, has been extensively studied and validated across various markets and time periods. This review delves into key research contributions that have shaped the understanding of momentum investing, with a particular focus on its application in the Indian financial markets.

1. **Jegadeesh and Titman (1993):** In their seminal paper, Jegadeesh and Titman analyzed U.S. stock returns from 1965 to 1989 and discovered that strategies involving the purchase of stocks with high past returns and the sale of those with poor past returns yielded significant positive returns over 3- to 12-month holding periods. They concluded that these momentum profits were not attributable to systematic risk or delayed reactions to common factors, suggesting that investors could exploit these patterns for gain.
2. **Carhart (1997):** Building upon previous research, Carhart introduced a four-factor asset pricing model that incorporated market risk, size, value, and momentum factors. His analysis of mutual fund performance from 1962 to 1993 revealed that momentum was a significant factor in explaining returns, and that funds employing momentum strategies tended to outperform those that did not. This study reinforced the importance of momentum as a distinct and influential factor in asset pricing.
3. **Rouwenhorst (1998):** Extending the investigation to international markets, Rouwenhorst examined 12 European countries from 1978 to 1995. He found that momentum strategies were effective across these diverse markets, with past winners outperforming past losers. The study concluded that momentum profits were not confined to U.S. markets but were a pervasive phenomenon globally.
4. **Asness, Moskowitz, and Pedersen (2013):** This comprehensive study analyzed the relationship between value and momentum strategies across various asset classes, including equities, commodities, and currencies. The authors found that momentum strategies consistently delivered positive returns across these diverse asset classes. They also observed that while value and momentum strategies often exhibited negative correlation, combining them could enhance portfolio performance and reduce risk.
5. **Narayan, Sharma, and Thuraisamy (2015):** Focusing on emerging markets, including India, this study assessed the performance of momentum strategies during different market conditions. The authors found that momentum strategies tended to outperform during bullish markets but underperformed during bearish phases. They emphasized the importance of market timing and risk management when implementing momentum strategies in emerging economies.

Collectively, these studies affirm the robustness of momentum investing as a strategy capable of delivering superior returns across various markets and asset classes. However, they also underscore the necessity for investors to be cognizant of associated risks, including increased volatility and the potential for underperformance during certain market conditions. Prudent risk management and a thorough understanding of market dynamics are essential for the successful implementation of momentum-based investment strategies.

Objectives of the Research

1. To evaluate the historical performance of the Nifty 200 Momentum 30 and Nifty 150 Midcap 50 index funds over study period
2. To analyze the annual and rolling CAGR returns (1-year, 3-year, and 5-year) of momentum indices in comparison to benchmarks.
3. To compare the performance of momentum index funds with their respective benchmarks, Nifty 200 and Nifty Midcap 150.

RESEARCH METHODOLOGY

This study adopts a quantitative research approach to analyze the performance of the Nifty 200 Momentum 30 and Nifty 150 Midcap 50 index funds over a period from January 1, 2011, to December 31, 2024. The methodology includes data collection, performance comparison, statistical analysis, and interpretation of results. Historical price data and return series for Nifty 200 Momentum 30, Nifty 150 Midcap 50, Nifty 200, and Nifty Midcap 150 are collected from reliable financial sources such as NSE and other financial databases. Yearly return calculations for all indices for the study period, along with rolling return analysis for 1-year, 3-year, and 5-year time horizons, will be conducted to assess the consistency of momentum strategy performance.

The returns of momentum indices are compared against their respective benchmarks (Nifty 200 and Nifty Midcap 150) to determine excess return generation. Standard deviation is used as a risk measure to analyse the volatility of momentum indices

relative to the benchmarks. A t-test will be conducted to determine whether there is a significant difference between the average returns of momentum index funds and their respective benchmarks, while the F-test will be used to compare the variance in returns of the momentum indices against their benchmarks, assessing differences in risk levels.

Data Analysis & Findings

Yearly Return of Momentum index and their parent index along with Nifty 50

Table 1: Yearly returns of different indices along with parent index.

Year	NIFTY 50	NIFTY MIDCAP 150	NIFTY MIDCAP150 MOMENTUM 50	Nifty 200	NIFTY200 MOMENTUM 30
2015	-4.0759	7.9828	16.2385	-2.0194	9.6325
2016	3.0133	5.4064	4.9749	3.7008	8.5062
2017	28.6459	54.3446	72.8581	33.4335	54.4722
2018	3.1513	-13.3284	-17.5492	-1.0105	-2.4462
2019	12.0220	-0.2792	4.8929	8.6806	9.7375
2020	14.9017	24.3815	25.8192	15.6172	18.8314
2021	24.1193	46.8103	77.1299	27.4696	52.1432
2022	4.3290	2.9644	-0.4062	3.6460	-6.4008
2023	20.0278	43.6767	51.4680	23.4891	40.6674
2024	8.8048	23.7989	31.5796	13.6307	20.0064
Mean	11.4939	19.5758	26.7006	12.6638	20.5150
Standard Error	3.3012	7.1960	10.0341	3.8838	6.8257
Median	10.4134	15.8909	21.0289	11.1557	14.2844
SD	10.4393	22.7557	31.7306	12.2816	21.5848
Kurtosis	-0.8685	-1.2366	-0.8475	-1.0517	-0.9746
Skewness	0.2890	0.2826	0.4937	0.4694	0.5952
Range	32.7219	67.6730	94.6790	35.4529	60.8730
Minimum	-4.0759	-13.3284	-17.5492	-2.0194	-6.4008
Maximum	28.6459	54.3446	77.1299	33.4335	54.4722

Momentum investing has clearly outperformed traditional benchmarks, but it comes with a trade-off—higher returns at the cost of greater volatility. Both nifty midcap150 momentum 50 and nifty200 momentum 30 show significantly higher average returns than their respective benchmarks. nifty midcap150 momentum 50, in particular, stands out with the highest mean return of 26.70, far exceeding nifty midcap 150 at 19.58. Similarly, nifty200 momentum 30 delivers a stronger performance (20.51) compared to nifty 200 (12.66) and even nifty 50 (11.49). The median returns follow a similar pattern, reinforcing the idea that momentum strategies tend to generate consistent outperformance.

However, higher returns come with higher risk. Momentum indices display greater volatility, as seen in their higher standard deviation and broader range of returns. For example, nifty midcap150 momentum 50 swings between extreme values with a massive range of 94.67, compared to 67.67 for nifty midcap 150. Similarly, nifty200 momentum 30 fluctuates more than its benchmark, meaning these indices can deliver strong gains but also experience steep declines. This is further reflected in their higher standard error, suggesting that returns are more spread out and less predictable than traditional indices like nifty 50.
Looking at return distribution, all indices show negative kurtosis, indicating that extreme highs and lows are less frequent than in a normal distribution. Meanwhile, positive skewness in momentum indices, especially nifty200 momentum 30 (0.5952) and nifty midcap150 momentum 50 (0.4937), suggests they experience more frequent small losses but occasional large gains—a classic trait of momentum investing.

While momentum indices outperform their benchmarks, they are not for the faint-hearted. Investors willing to embrace higher risk for higher reward may find them attractive, but those seeking stability might prefer traditional indices like nifty 50 or nifty 200. If you can handle the ride, momentum investing has the potential to deliver strong long-term gains.

One year rolling Return of Momentum index and their parent index along with Nifty 50

Table 2: Yearly rolling returns of different indices along with parent index & Nifty 50.

Date	NIFTY 50	NIFTY MIDCAP 150	NIFTY MIDCAP150 MOMENTUM 50	Nifty 200	NIFTY200 MOMENTUM 30
Average	13.45	21.22	27.12	14.60	22.52
SD	16.67	26.47	30.64	18.39	24.56
CV	123.91	124.75	112.96	125.98	109.09
Highest return	93.74	112.61	112.26	94.65	83.89
Lowest	-34.01	-34.69	-25.53	-34.53	-27.02
Negative (%)	17.50	22.84	19.43	21.67	22.84
Positive (%)	82.50	77.16	80.57	78.33	77.16

Momentum indices continue to outperform their benchmarks, offering higher average returns but at the cost of greater volatility. nifty midcap150 momentum 50 leads with an average return of 27.12, well above nifty midcap 150 (21.22), while nifty200 momentum 30 (22.52) also surpasses nifty 200 (14.60) and nifty 50 (13.45). This confirms that momentum investing tends to capture strong trends and deliver better returns.

However, with higher returns comes higher risk. Momentum indices show greater volatility, with nifty midcap150 momentum 50 having the highest standard deviation (30.64). Despite this, their losses are generally smaller compared to broader indices, suggesting they recover faster after downturns. The coefficient of variation (CV) indicates that momentum indices, while volatile, provide a better balance between risk and return than their benchmarks.

When looking at return distribution, momentum indices experience positive returns more often. nifty midcap150 momentum 50 had 80.57% positive periods, outperforming nifty midcap 150 (77.16%), while nifty200 momentum 30 shows a similar trend. This suggests that momentum strategies offer a higher probability of gains, making them a strong choice for long-term investors who can handle short-term market swings.

Three years rolling CAGR of Momentum index and their parent index along with Nifty 50

Table 3: 3-Yearly rolling CAGR of different indices along with parent index & Nifty 50.

Date	NIFTY 50	NIFTY MIDCAP 150	NIFTY MIDCAP150 MOMENTUM 50	Nifty 200	NIFTY200 MOMENTUM 30
Average	12.65	17.08	22.31	12.94	18.63
SD	5.23	10.27	11.67	5.87	6.13
CV	41.37	60.17	52.29	45.35	32.92
Highest return	30.98	39.69	44.16	31.20	30.99
Lowest	-5.86	-9.24	-4.05	-7.07	-0.88
Negative(%)	3.00	8.25	2.48	3.86	0.12
Positive(%)	97.00	91.75	97.52	96.14	99.88

Momentum indices continue to stand out, delivering higher average returns compared to their benchmarks. nifty midcap150 momentum 50 leads with 22.31%, followed by nifty200 momentum 30 at 18.63%, both outperforming their broader indices nifty midcap 150 (17.08%) and nifty 200 (12.94%). Even nifty 50, the most stable index, trails behind at 12.65%. This confirms that momentum investing has been a winning strategy over the long term.

Despite higher returns, volatility remains controlled. The coefficient of variation (CV), which measures risk per unit of return, is lowest for nifty200 momentum 30 (32.92%), showing it provides the best risk-adjusted returns. Momentum indices also show smaller drawdowns, with nifty200 momentum 30 having the lowest loss at just -0.88%, making it incredibly resilient even in downturns.

Perhaps the most impressive insight is the consistency of positive returns. nifty200 momentum 30 has an astounding 99.88% positive rolling CAGR periods, while nifty midcap150 momentum 50 follows closely at 97.52%. Even nifty 50 maintains 97% positivity, reinforcing the fact that over a three-year horizon, momentum strategies rarely deliver negative returns.

Five years rolling CAGR of Momentum index and their parent index along with Nifty 50

Table 4: 5-Yearly rolling CAGR of different indices along with parent index & Nifty 50.

Date	NIFTY 50	NIFTY MIDCAP 150	NIFTY MIDCAP150 MOMENTUM 50	Nifty 200	NIFTY200 MOMENTUM 30

Average	12.05	15.83	21.24	12.20	17.93
SD	3.80	6.97	8.24	4.28	5.30
CV	31.54	44.02	38.79	35.08	29.54
Highest return	18.47	31.37	39.20	20.76	29.59
Lowest	-2.26	-0.53	3.82	-2.23	5.00
Negative (%)	1.53	0.88	0.00	1.61	0.00
Positive (%)	98.47	99.12	100.00	98.39	100.00

Momentum strategies continue to shine over the long term, delivering higher and more consistent returns than their benchmarks. nifty midcap150 momentum 50 leads with an impressive 21.24% average CAGR, while nifty200 momentum 30 follows at 17.93%, both significantly outperforming nifty midcap 150 (15.83%), nifty 200 (12.20%), and nifty 50 (12.05%). This reinforces that momentum investing has generated superior long-term growth.

Risk remains well-managed, with standard deviation (SD) lower than in shorter timeframes, making returns more predictable. nifty200 momentum 30 has the lowest risk per unit of return (CV: 29.54%), showing it offers the best risk-adjusted performance. Even nifty midcap150 momentum 50, despite its high returns, maintains a relatively stable CV (38.79%).

The most striking insight is the near absence of negative returns. nifty midcap150 momentum 50 and nifty200 momentum 30 never recorded a single negative five-year CAGR, meaning investors who stayed invested never lost money. Even nifty midcap 150 had only 0.88% negative periods, while nifty 50 and nifty 200 saw minimal downside.

Comparison of return of momentum index with parent index.

t-Test: Two-Sample Assuming Unequal Variances				
	NIFTY MIDCAP 150	*NIFTY MIDCAP150 MOMENTUM 50*	*Nifty 200*	*NIFTY200 MOMENTUM 30*
Mean	15.8326	21.2381	12.2012	17.9336
Variance	48.5826	67.8568	18.3209	28.0572
t Stat	-17.6614		-29.6769	
P(T<=t) one-tail	0.0000*		0.0000*	

The t-test results highlight a statistically significant difference at 5% significance level between the returns of momentum indices and their broader benchmarks over a five-year rolling period. For nifty midcap 150 vs. nifty midcap150 momentum 50, the t-statistic of -17.66 and a p-value of 0.0000 confirm that the momentum strategy significantly outperforms its broader midcap index. Similarly, for nifty 200 vs. nifty200 momentum 30, the t-statistic of -29.68 and p-value of 0.0000 further solidify that the momentum index delivers a much stronger five-year CAGR than its benchmark. The lower variance in nifty 200 also suggests it is a more stable index, but the trade-off is lower returns compared to the momentum strategy.

Suggestions for Investors in Passive Momentum Index

Momentum index funds are well-suited for investors with a high risk appetite and a long-term horizon of at least five years, as they offer strong growth potential but come with higher volatility. These funds are ideal for those who understand market trends, can tolerate short-term fluctuations, and are comfortable with periodic rebalancing. However, investors with low risk tolerance, short-term financial goals, or a preference for stability should approach them with caution. Conservative investors focused on capital preservation may find traditional index funds a better fit. In India, investors have access to several index funds and ETFs that track momentum strategies, allowing them to diversify their portfolios while benefiting from systematic investing. Understanding the risks and rewards of momentum investing is crucial in determining whether it aligns with an individual's financial goals and investment strategy.

CONCLUSION

Momentum investing has proven to be a strong long-term strategy, consistently outperforming broader market indices over five-year periods. The data shows that momentum indices like nifty midcap150 momentum 50 and nifty200 momentum 30 deliver significantly higher returns, making them a great option for investors seeking long-term wealth creation. However, with higher returns comes higher volatility, meaning investors must be prepared for short-term fluctuations. Those with a higher risk appetite and patience can benefit the most from these strategies.

One of the key takeaways is that momentum indices never had a negative five-year CAGR, meaning investors who stayed invested for at least five years never experienced losses. This highlights the importance of long-term commitment and avoiding panic-driven decisions during market downturns. While momentum investing offers

strong growth potential, a balanced approach can be beneficial. Combining momentum indices with traditional market indices can provide both high returns and stability, helping investors navigate different market conditions.

Since market trends evolve, it is crucial to regularly review and rebalance investments to stay aligned with financial goals. Momentum investing is not about quick wins but about capitalizing on long-term trends. For investors willing to embrace some volatility and stay invested over time, momentum strategies can be a powerful tool for wealth creation.

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