

Low Volatility factors

February 2025



▶ Introduction

In the 1960s, the Capital Asset Pricing Model (CAPM), pioneered by William Sharpe, John Lintner, and Jack Treynor, introduced the market risk factor, or beta, as a foundational driver of stock returns. In the decades that followed, researchers identified additional factors that could explain anomalies in stock performance. This evolution laid the groundwork for factor-based investing, an increasingly popular strategy that bridges the gap between passive and active investment style. Factor-based investing focuses on measurable attributes, or "factors," historically linked to higher returns, lower risk, or specific objectives. By employing systematic, transparent, and rules-based methods at relatively low costs, this approach enables investors to target specific return drivers beyond market beta.

While single-factor strategies may thrive under certain market conditions, multifactor investing provides a more diversified and resilient approach. Multifactor investing combines multiple factors, such as value, momentum, quality, size, and low volatility, to build a

portfolio with diversified risk exposures and the potential for enhanced returns. This approach reduces the reliance on any single factor, mitigating the impact of periods when certain factors underperform. By balancing riskier factors with more stable ones, multifactor strategies aim to smooth out performance fluctuations and improve consistency over time, offering a disciplined way to enhance portfolio performance and manage risk.

The Nifty500 Multifactor MQVLv 50 index has been developed to create a portfolio of stocks selected based on a combination of the momentum, quality, value and low volatility factors. The momentum factor captures the trend by selecting stocks with recent strong price performance while quality factor seeks to provide stability by focusing on companies with robust financial health and profitability. The value factor helps in identifying the undervalued securities while the low volatility factor targets stocks with lower price fluctuations to reduce portfolio risk.

➤ About Nifty500 Multifactor MQVLv 50 Index

The Nifty500 Multifactor MQVLv 50 index aims to track the performance of stocks which are selected based on a combination of the following factors:

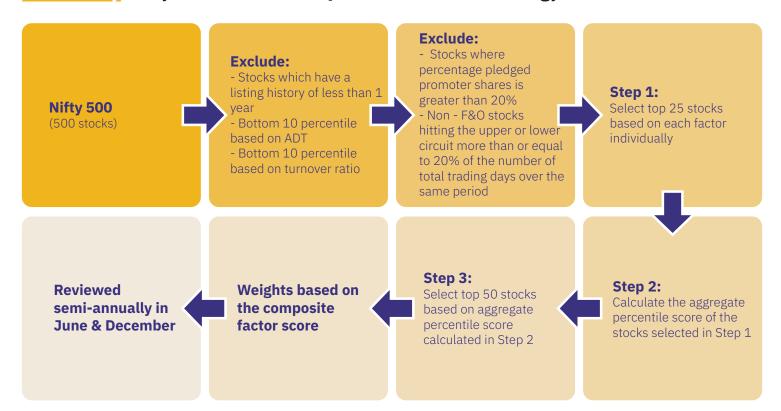
- Momentum
- Quality
- Value
- Low Volatility

Stocks from the Nifty 500 are filtered based on certain eligibility criteria as mentioned in exhibit 1 below. After filtering the stocks based on the initial eligibility criteria,

the first step towards creating an eligible universe involves selecting the top 25 stocks based on each factor individually. The aggregate percentile score [25%*(Momentum Percentile Score) + 25%*(Quality Percentile Score) + 25%*(Value Percentile Score) + 25%*(Low Volatility Percentile Score)] is then calculated for these stocks. The top 50 stocks based on aggregate percentile score are selected to be a part of the index.

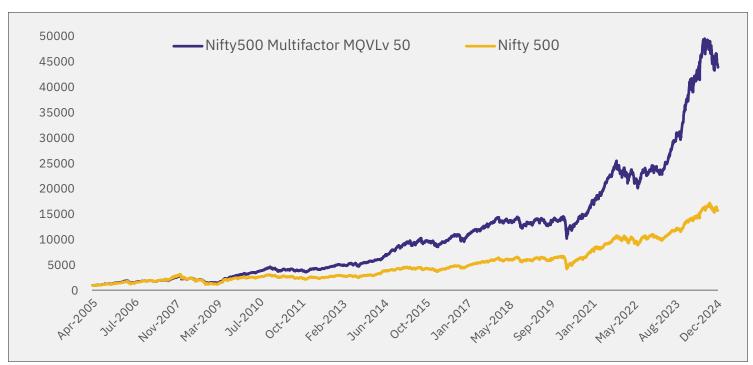


Exhibit 1: / Nifty500 Multifactor MQVLv 50 index methodology



➤ The Nifty500 Multifactor MQVLv 50 Total Return (TR) index has significantly outperformed its parent index over the long-term horizon

Exhibit 2: Performance of the Nifty500 Multifactor MQVLv 50 TR Index vis-à-vis Nifty 500 TR Index since 2005



Source: NSE Indices. Data as on December 31, 2024.



Exhibit 3: Annualized Returns and Volatility Profile of the Nifty500 Multifactor MQVLv 50 TR and Nifty 500 TR index

	CAGR F	Returns	Vola	tility	Return to Risk		
Period	Nifty500 Multifactor MQVLv 50	Nifty 500	Nifty500 Multifactor MQVLv 50	Nifty 500	Nifty500 Multifactor MQVLv 50	Nifty 500	
Since April 01, 2005	21.11%	14.97%	17.42%	20.56%	1.21	0.73	
15 years	19.02%	12.81%	14.46%	16.30%	1.32	0.79	
10 years	17.67%	13.95%	15.28%	16.37%	1.16	0.85	
7 years	17.60%	14.27%	16.05%	17.27%	1.10	0.83	
5 years	25.99%	19.00%	17.18%	18.54%	1.51	1.02	
3 years	23.33%	15.43%	15.72%	14.38%	1.48	1.07	
1 year	18.83%	16.24%	18.97%	14.95%	0.99	1.09	

^{*}Data based on TR index values as on December 31, 2024

Since April 01, 2005, the Nifty500 Multifactor MQVLv 50 TR index has delivered an annualized return of 21.11% outperforming the Nifty 500 TR index which delivered an annualized return of 14.97% in the same period. The Nifty500 Multifactor MQVLv 50 TR index has outperformed its parent, the Nifty 500 TR index across time horizons stated in Exhibit 3 above, highlighting the benefits of factor-based investing in comparison to the traditional market cap weighted investment strategy. In the long-term investment horizons of 5, 7, 10, and 15

years, the Nifty500 Multifactor MQVLv 50 TR index has exhibited lower annualized volatility as compared to the Nifty 500 TR index. The return-to-risk ratio of the Nifty500 Multifactor MQVLv 50 TR index has been greater than that of the Nifty 500 TR index across all the investment horizons stated in Exhibit 3 above except the 1-year horizon. In the 1-year horizon, the Nifty500 Multifactor MQVLv 50 TR index delivered a return of 18.83% with an annualized volatility of 18.97% and a return to risk ratio of 0.99.



➤ The Nifty500 Multifactor MQVLv 50 TR index has outperformed the Nifty 500 TR index in 14 out of 20 calendar years

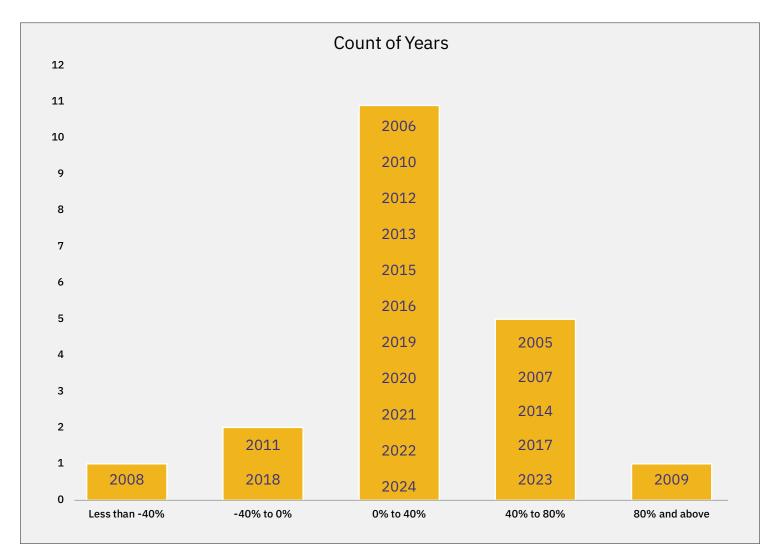
Exhibit 4:/ Calendar year performance of the Nifty500 Multifactor MQVLv 50 index

Calendar Year	Nifty500 Multifactor MQVLv 50	Nifty 500
2005	47.04%	38.46%
2006	27.89%	36.16%
2007	54.67%	64.58%
2008	-46.56%	-56.54%
2009	107.48%	90.96%
2010	36.45%	15.27%
2011	-16.98%	-26.40%
2012	38.71%	33.48%
2013	13.55%	4.82%
2014	50.09%	39.30%
2015	12.60%	0.22%
2016	2.28%	5.12%
2017	42.12%	37.65%
2018 -5.40%		-2.14%
2019	3.57%	8.97%
2020	22.25%	17.89%
2021	38.43%	31.60%
2022	1.82%	4.25%
2023	55.03%	26.91%
2024	2024 18.83%	
Count of outperformance of the Nift	14/20	

Source: NSE Indices. The cells highlighted in green represent outperformance and the cells highlighted in red represent underperformance of the Nifty500 Multifactor MQVLv 50 TR index in comparison to the Nifty 500 TR index.



Exhibit 5:/ Calendar Year Returns Range of the Nifty500 Multifactor MQVLv 50 index



The Nifty500 Multifactor MQVLv 50 TR index has delivered positive returns in 17 out of 20 calendar years. Returns were between 0 to 40% in 11 calendar years, between 40% to 80% in 5 calendar years and

greater than 80% in 1 calendar year. The Nity500 Multifactor MQVLv 50 TR index has delivered negative returns in 3 calendar years. It has outperformed the Nifty 500 TR index in 14 out of 20 calendar years.



▶ Daily Rolling Returns Analysis of the Nifty500 Multifactor MQVLv 50 TR index

Exhibit 6:/ Daily Rolling Returns Analysis of the Nifty500 Multifactor MQVLv 50 TR index

Analysis based on daily rolling returns										
	Percentage of total instances						Return Analysis			
Investment Horizon	Negative returns	Positive returns					Return Attributes			
	<0% CAGR	>=0% CAGR	0-5% CAGR	5-10% CAGR	10-15% CAGR	>15% CAGR	Min CAGR	Max CAGR	Median CAGR	Average CAGR
10 years	0.00%	100%	0.00%	0.00%	8.57%	91.43%	11.63%	25.70%	19.10%	18.99%
7 years	0.00%	100%	0.00%	0.00%	13.93%	86.07%	11.08%	32.19%	18.21%	18.56%
5 years	0.00%	100%	0.63%	5.95%	17.13%	76.29%	1.71%	32.59%	18.58%	18.96%
3 years	2.10%	97.90%	4.63%	8.39%	15.89%	69.00%	-4.55%	43.08%	19.23%	19.09%
2 years	6.25%	93.75%	5.66%	11.73%	18.48%	57.88%	-14.78%	79.06%	18.17%	20.43%
1 year	15.47%	84.53%	9.38%	7.81%	9.14%	58.20%	-48.58%	132.57%	19.19%	24.12%

Source: NSE Indices. Analysis period is from April 01, 2005 to December 31, 2024; Data based on TR index values

The Nifty500 Multifactor MQVLv 50 TR index has delivered positive returns 97.9% of the time in the 3-year horizon based on daily rolling return analysis. As the investment horizon increases to 5,7 and 10 years, the frequency of positive returns is 100%. In the long-term investment horizon of 10 years, the

frequency of returns based on daily rolling returns analysis, greater than 15% p.a., is 91.43%. For the 1-year investment horizon, the index delivered negative returns 15.47% of the time. The returns were in the range of -48.58% to 132.57% for various 1-year horizons with the average return being 24.12%.



➤ Sectoral composition of the Nifty500 Multifactor MQVLv 50 index vis-à-vis the Nifty 500 index

Exhibit 7: Sectoral composition of the Nifty500 Multifactor MQVLv 50 index vis-à-vis the Nifty 500 index

	Sector	Nifty500 Multifactor MQVLv 50	Nifty 500		
2	Financial Services	22.65	29.06		
 ^	Oil, Gas & Consumable Fuels	14.91	7.27		
£(à	Fast Moving Consumer Goods	12.47	6.89		
6	Healthcare	12.12	6.60		
	Automobile and Auto Components	8.64	6.76		
	Information Technology	6.55	10.38		
B	Consumer Durables	6.18	3.07		
Żi	Chemicals	4.87	2.09		
A	Construction Materials	4.13	2.00		
	Textiles	2.40	0.31		
®	Services	1.90	1.72		
	Capital Goods	1.67	5.77		
	Consumer Services	1.50	3.84		
((♦))	Power	-	3.20		
5	Metals & Mining	-	3.18		
H	Construction	-	3.00		
8	Telecommunication	-	3.00		
	Realty	-	1.48		
	Media, Entertainment & Publication	-	0.19		
À	Diversified	-	0.14		
	Forest Materials	-	0.07		

Source: NSE Indices. Data as on December 31, 2024

Exhibit 7 above, showcases the sectoral composition of the Nifty500 Multifactor MQVLv 50 index in comparison to the Nifty 500 index as on December 31, 2024. The Nifty500 Multifactor MQVLv 50 has exposure to 13 sectors. Of these 13 sectors, the Nifty500 Multifactor MQVLv 50 index has the highest exposure to the Financial Services (22.65%) and Oil, Gas & Consumable

Fuels (14.91%) sectors while it has the lowest exposure to Capital Goods (1.67%) and Consumer Services (1.50%) sectors. The top 3 sectors together account for 50.03% of the weight of the Nifty500 Multifactor MQVLv 50 index, while they account for 43.22% of the Nifty 500 index.



➤ Sector wise and Market-cap wise contribution towards the last one year return delivered by Nifty500 Multifactor MQVLv 50 TR index

Exhibit 8:/ Sector wise contribution of the Nifty500 Multifactor MQVLv 50 TR index and Nifty 500 TR index over the last one year (Dec'23 to Dec'24)

		Average Weight in the last one year		Contribution	
Sector	Nifty500 Multifactor MQVLv 50	Nifty 500	of the Nifty500 Multifactor MQVLv 50 over Nifty500	Nifty500 Multifactor MQVLv 50	Nifty 500
Financial Services	15.89%	28.34%	-12.45%	1.64%	3.13%
Oil, Gas & Consumable Fuels	14.70%	8.46%	6.24%	4.82%	0.62%
Capital Goods	12.29%	5.64%	6.65%	0.14%	1.79%
Fast Moving Consumer Goods	11.84%	7.21%	4.63%	0.91%	0.17%
Automobile and Auto Components	9.36%	7.34%	2.02%	1.99%	1.55%
Healthcare	8.91%	5.90%	3.01%	1.56%	2.13%
Information Technology	5.97%	9.63%	-3.66%	3.92%	1.92%
Chemicals	5.70%	2.16%	3.54%	0.64%	0.13%
Services	3.72%	1.69%	2.03%	0.33%	0.32%
Construction Materials	2.31%	2.05%	0.26%	0.26%	0.14%
Metals & Mining	2.20%	3.41%	-1.21%	1.59%	0.41%
Textiles	2.15%	0.28%	1.87%	0.58%	0.04%
Consumer Durables	1.98%	3.19%	-1.20%	-0.20%	0.20%
Consumer Services	1.34%	3.43%	-2.09%	-0.40%	1.54%
Power	0.93%	3.68%	-2.75%	1.04%	0.51%
Forest Materials	0.69%	0.08%	0.61%	0.01%	0.05%
Construction	-	2.97%	-2.97%	-	0.39%
Diversified	-	0.15%	-0.15%	-	0.02%
Media, Entertainment & Publication	-	0.22%	-0.22%	-	-0.12%
Realty	-	1.33%	-1.33%	-	0.40%
Telecommunication	-	2.84%	-2.84%	-	0.90%
Total	100%	100%	-	18.83%	16.24%

^{*}Source: NSE FixedIn Attribution tool; Analysis period is from December 31, 2023, to December 31, 2024.

The cells are highlighted based on their contribution to the return with the lowest contributor being highlighted in red and the highest contributor being highlighted in green.



The exhibit 8 above shows the sector-wise contribution to the returns generated by Nifty500 Multifactor MQVLv 50 TR index and Nifty 500 TR index over the last one year (As on December 31, 2024). The Nifty500 Multifactor MQVLv 50 TR index has delivered an excess return of 2.59% over the Nifty 500 TR index in the last one year. 3.20% of this excess return is attributable to the stock selection effect and -0.61% is attributable to the sectoral allocation effect. The stock selection effect measures the impact of security selection decisions on the active return. The sector allocation effect measures the impact of sector allocation decisions on the active return.

As can be seen from the table above, Oil, Gas & Consumable Fuels (4.82%) and Information

Technology (3.92%) are the sectors with the greatest contribution to the returns delivered by the Nifty500 Multifactor MQVLv 50 TR index while Financial Services (3.13%) and Healthcare (2.13%) contributed the most to the returns generated by the Nifty 500 TR index.

The Nifty500 Multifactor MQVLv 50 index is overweight to the Oil, Gas & Consumable Fuels sector by 6.24% which generated an active return of 4.20%. Consumer Durables and Consumer Services are the two sectors that contributed negatively to the returns delivered by the Nifty500 Multifactor MQVLv 50 TR index, while the Media, Entertainment & Publication sector contributed negatively to the returns deliverd by the Nifty 500 TR index.

Exhibit 9:/ Market-cap wise contribution of the Nifty500 Multifactor MQVLv 50 TR index and Nifty 500 TR index over the last one year (Dec'23 to Dec'24)

	_	eight in the ne year	Active weights of the	Contribution	
Market Capitalization	Nifty500 Multifactor MQVLv 50	Nifty 500	Nifty500 Multifactor MQVLv 50 over Nifty500	Nifty500 Multifactor MQVLv 50	Nifty 500
Large Cap	55.45%	71.23%	-15.78%	7.40%	10.63%
Mid Cap	29.31%	18.27%	11.04%	9.18%	4.25%
Small Cap	15.24%	10.50%	4.74%	2.25%	1.36%
Total	100%	100%	-	18.83%	16.24%

^{*}Source: NSE FixedIn Attribution tool; Analysis period is from December 31, 2023, to December 31, 2024.

The cells are highlighted based on their contribution to the return with the lowest contributor being highlighted in red and the highest contributor being highlighted in green.

The exhibit 9 above shows the market capitalization wise contribution to the returns generated by the Nifty500 Multifactor MQVLv 50 TR index and the Nifty 500 TR index over the last one year (As on December 31, 2024). The mid-cap segment contributed the most

to the returns generated by the Nifty500 Multifactor MQVLv 50 TR index and the large-cap segment contributed the most to the returns generated by the Nifty 500 TR index.



> Signing Off:



The Nifty500 Multifactor MQVLv 50 index aims to track the performance of companies selected based on a combination of momentum, quality, value and low volatility factors



Since its inception on April 01, 2005 till December 31, 2024, the index has delivered an annualized return of 21.11%



The Nifty500 Multifactor MQVLv 50 TR Index has delivered positive returns 100% of the times based on daily rolling return analysis in the 5-year, 7-year and 10-year investment horizons



The index has delivered positive returns in 17 out of 20 calendar years



As on December 31, 2024; the Financial Services sector (22.65%) holds the highest weight in the Nifty500 Multifactor MQVLv 50 index while the Consumer Services sector (1.50%) holds the lowest weight in the index



The Nifty500 Multifactor MQVLv 50 TR index has delivered an excess return of 2.59% over the Nifty 500 TR index in the last one year (As on December 31, 2024)



The mid-cap segment contributed the most to the returns generated by the Nifty500 Multifactor MQVLv 50 TR index and the large-cap segment contributed the most to the returns generated by the Nifty 500 TR index



For more information on the Index methodology and factsheet, please visit us at www.nseindia.com

About NSE Indices Limited:

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For more information, please visit: www.niftyindices.com

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