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Creating Portfolios Using Momentum Factor With a Trend Following Overlay

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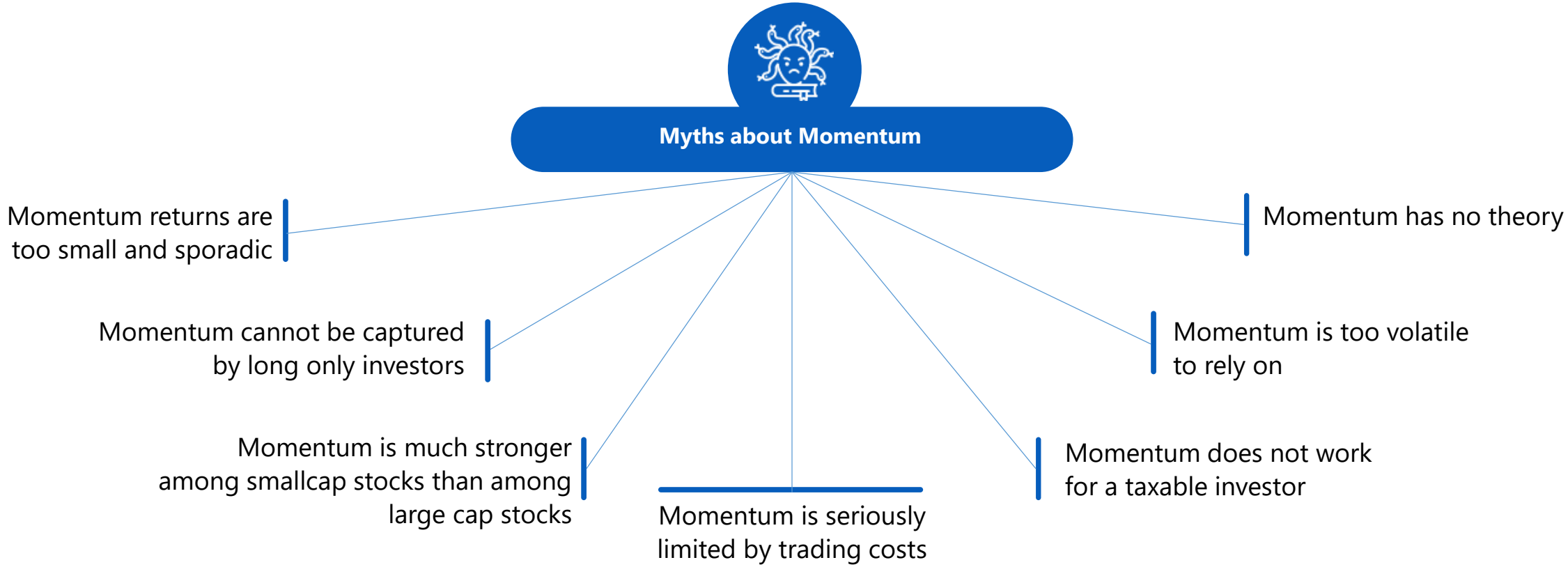
December 20, 2022
91-9831657426

What is Momentum?

In the stock market Momentum denotes **the rate of change in the price of a stock**.

A stock that is in trend demonstrates price persistence and tendency to continue to move in its present direction. Momentum investing seeks to exploit this phenomenon in the markets.



Academic Validation

Jagdeesh and Titman 1993 paper called Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency

This paper documents that strategies which buy stocks that have performed well in the past and sell stocks that have performed poorly in the past generate significant positive returns. The profitability of these strategies are not due to their systematic risk or to delayed stock price reactions to common factors.

Eugene Fama and Kenneth French 2008 called “Dissecting Anomalies”

The anomalous returns associated with net stock issues, accruals, and momentum are pervasive; they show up in all size groups (micro, small, and big) in cross-section regressions, and they are also strong in sorts, at least in the extremes.

Tobias West 2022 called Momentum: What do we know 30 years after Jagdeesh and Titman’s seminal paper

For over 30 years, extensive research has found corroborating evidence that past winners continue to yield higher returns than past losers. This momentum effect is robust across various asset classes and across the globe and presents perhaps the most pervasive contradiction of the efficient market hypothesi

Factor Returns

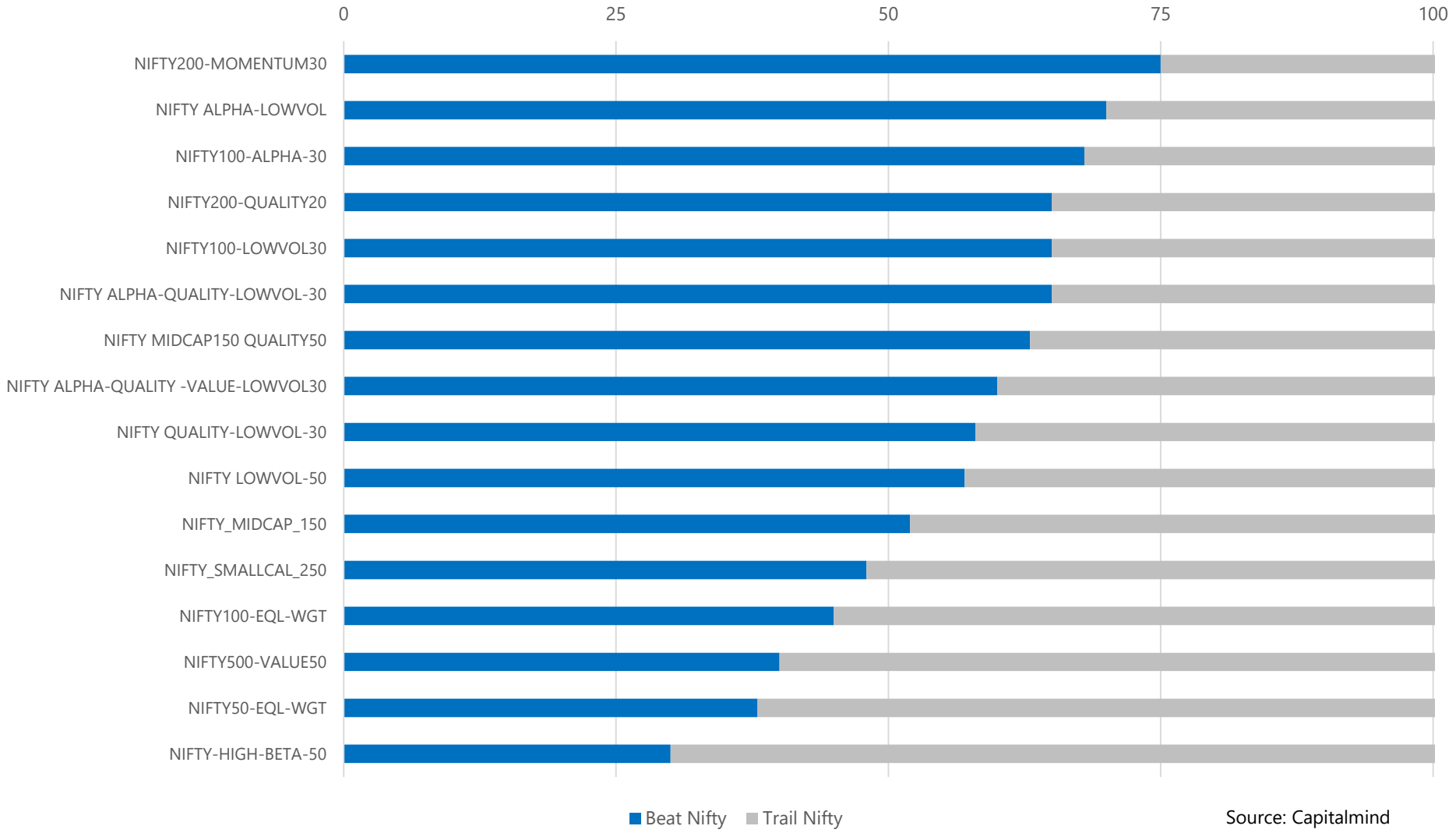
Factor returns emanates from factor investing.

Factor investing is an approach that focuses on specific drivers of returns across asset classes. The more popular among factor investing involves focusing on investment style.

Numerous factors have been discovered, but only a handful of them have won general approval from the academic community and show robust empirical results through time :

1. **Size** - Excess returns of smaller counterparts relative to their larger peers
2. **Value** - Excess returns of stocks that have low prices relative to their fundamental value
3. **Quality**- Excess returns from stocks that have quality metrics like low debt, stable earnings growth
4. **Low Volatility**- Excess returns from stocks with lower than average volatility/beta
5. **Momentum** - Excess returns of stocks with stronger past performance.

Factor Returns - Factor Indices v Nifty 50 (3 year trailing return)



Source: Capitalmind

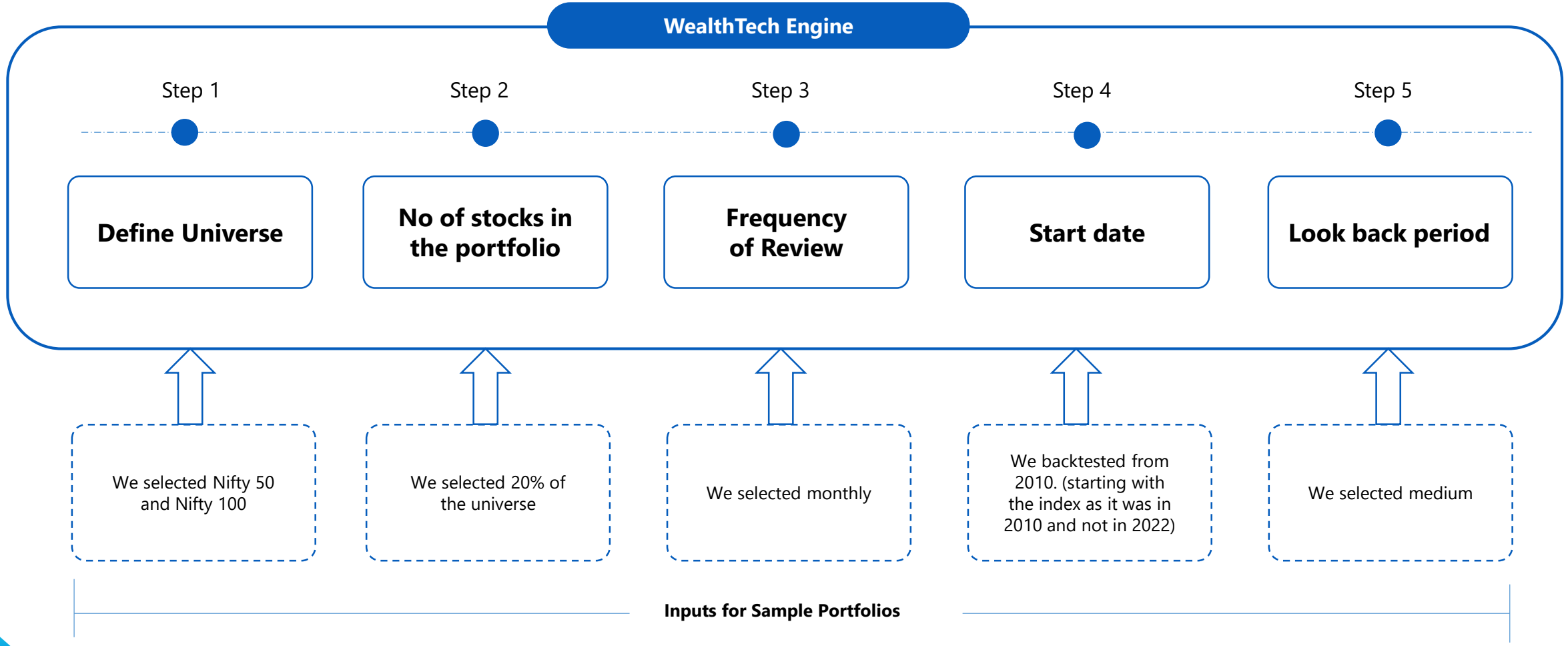
Momentum features on the top of the ladder among factor returns.

Factor Returns - Factor Indices v Nifty 50 (3 year trailing return)

Index Name	Total Returns (Annualized)	Std Deviation	Beta (Nifty50)
NIFTY Alpha 50	28.5	21.1	0.90
NIFTY 200 Momentum 30	23.1	19.5	0.94
NIFTY 50 Value 20	22.1	16.9	0.79
NIFTY 100 Alpha 30	21.5	18.8	0.89
NIFTY Midcap 150 Quality 50	19.6	16.4	0.74
NIFTY Alpha Quality Value Low Vol 30	17.5	15.2	0.73
NIFTY Alpha Low Volatility 30	17.3	16.1	0.79
NIFTY 200 Quality 30	17.2	15.7	0.75
NIFTY 100 Low Volatility 30	16.9	15.2	0.77
NIFTY Low Volatility 50	16.3	14.6	0.72
NIFTY Alpha Quality Low Volatility 30	16.3	15.7	0.76
NIFTY Dividend Opportunities 50	15.4	16.2	0.79
NIFTY Quality Low Volatility 30	14.9	15.3	0.74
NIFTY 100 Quality 30	14.7	16.2	0.81
NIFTY 500 Value 50	10.2	24.4	1.04
NIFTY High Beta 50	6.5	28.6	1.26

Momentum features amongst the top of the ladder among factor returns.

Creating portfolios using Smartvalues WealthTech engine

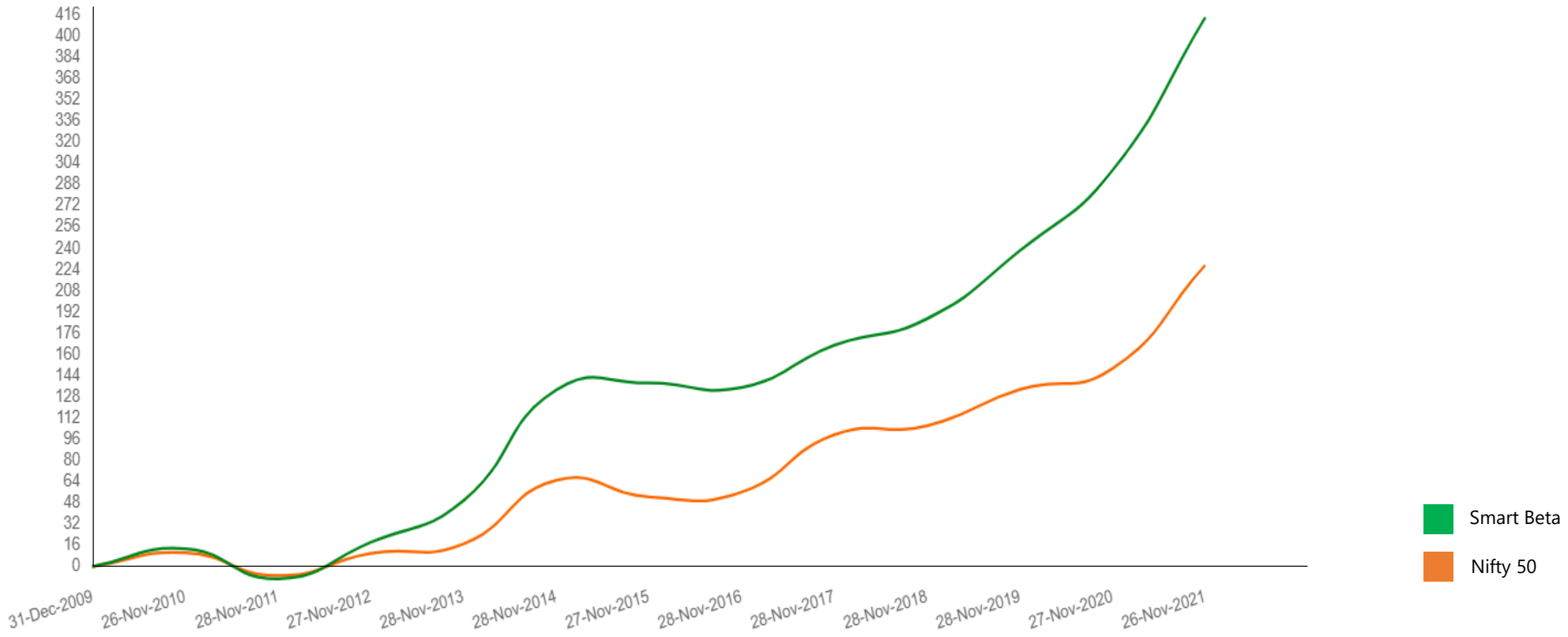


Our Sample Portfolio - Nifty 50 Smart Beta

Period	CAGR Return		Annualised Volatility		Return Risk Ratio	
	NIFTY 50 Smart Beta	Nifty 50	NIFTY 50 Smart Beta	Nifty 50	NIFTY 50 Smart Beta	Nifty 50
Twelve Years 2010 - 2021	15.19%	10.56%	19.51%	17.33%	0.78	0.61
Ten Years 2012 - 2021	18.49%	14.13%	18.57%	17.02%	1.00	0.83
Seven Years 2015 - 2021	13.39%	11.14%	18.81%	17.61%	0.71	0.63
Five Years 2017 - 2021	18.29%	16.21%	19.25%	18.30%	0.95	0.89
Three Years 2019 - 2021	23.38%	16.89%	22.44%	21.79%	1.04	0.78
One Year 2021	23.43%	24.12%	16.41%	15.72%	1.43	1.53
Six months May - Oct 2022	1.69%	10.55%	19.20%	16.49%	0.09	0.64
Three months Aug - Oct 2022	11.85%	19.75%	15.23%	14.57%	0.78	1.36

Though Nifty 50 Smart Beta has a higher volatility it has maintained a higher risk adjusted ratio.

Nifty 50 Smart Beta

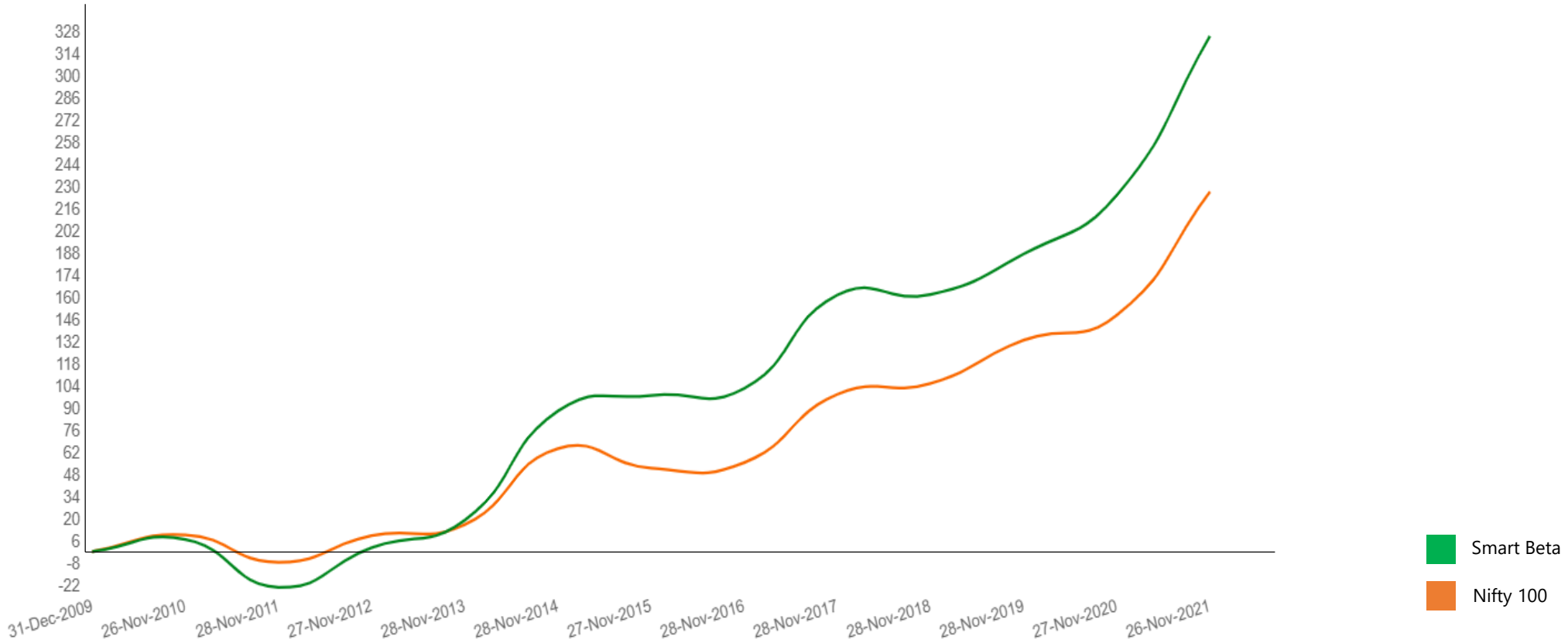


Our Sample Portfolio - Nifty 100 Smart Beta

Period	CAGR Return		Annualised Volatility		Return Risk Ratio	
	NIFTY 100 Smart Beta	Nifty 100	NIFTY 100 Smart Beta	Nifty 100	NIFTY 100 Smart Beta	Nifty 100
Twelve Years 2010 - 2021	13.40%	10.84%	18.78%	17.11%	0.71	0.63
Ten Years 2012 - 2021	16.29%	11.65%	18.17%	16.84%	0.90	0.69
Seven Years 2015 - 2021	13.39%	11.36%	18.03%	17.39%	0.74	0.65
Five Years 2017 - 2021	17.21%	16.01%	17.72%	17.99%	0.97	0.89
Three Years 2019 - 2021	15.94%	16.60%	20.15%	21.29%	0.79	0.78
One Year 2021	26.13%	25.04%	15.27%	15.40%	1.71	1.63
Six months May - Oct 2022	7.27%	8.93%	17.81%	16.53%	0.41	0.54
Three months Aug - Oct 2022	17.82%	19.21%	14.23%	14.59%	1.25	1.32

Volatility of Nifty 100 Smart Beta is marginally higher but it has maintained a higher risk adjusted ratio.

Nifty 100 Smart Beta



Conclusion

- Factors have been identified as key constituents of risk and returns
- Momentum is a factor that usually features among the top of the ladder
- Smartvalues is a convenient way of creating Smartbeta and other portfolios using the momentum factor.
- Generates superior risk adjusted returns