

Smart beta investing

A more efficient way of investing passively

Smart beta investing is a more disciplined way of investing viz-a-viz the traditional market cap based investing as it involves creating portfolio based on factors which can be both technical and fundamental in nature, such as quality, value, low volatility, momentum and alpha. This increases the scope for better risk-adjusted performance as the portfolio construct is based on time tested approaches. The factors are based on certain set parameters as set out below.

	Value	Momentum	Quality	Low Volatility	Alpha
Methodology	P/E, P/B, P/S and div yield	Price return adjusted for volatility	ROE, D/E and EPS growth	Std deviation	Jensen's alpha

Why is smart beta better¹?

a. vs Traditional Passive Funds

- i. **Rules based** - Time tested technical and fundamental factors have outperformed against market cap based index funds as seen across various market cycles and phases
- ii. **Exposure limits** - 5% per stock against no cap in Nifty50 which can be prone to disproportionate impact (e.g., top 5 stocks in Nifty50 have combined ~40% weightage)
- iii. **Inclusion criteria** - Minimum listing history, F&O inclusion etc. not there in broader indices. These act as basic hygiene checks for portfolio creation to avoid undue stock specific risk and volatility
- iv. **Multi-factor** funds are market agnostic. For e.g., by combining momentum with quality, one creates a portfolio which is balanced and performs well during various market cycles (e.g., momentum performs well during a bull cycle and quality minimizes drawdowns in case of bear market)

b. vs Active Funds

- i. **No fund selection risk** - 2 of 3 large cap funds have underperformed benchmark in the last 10 years. Underperformance rate is even higher at ~80% for mid-small cap funds². In US as well, S&P500 has done better than ~90% active large cap schemes in last 10 years³
- ii. **Lower cost** - Being passive, the expense ratio in smart beta is much lower than regular active funds by as much as 1.5%
- iii. **No fund manager selection bias** or risk of fund manager change as the schemes are to replicate a pre-defined index with rules based stock picking (for instance - HDFC Bank has given almost 0% CAGR from 2021-24, but is a holding in almost all active largecap funds)
- iv. **Transparent strategies** with clearly defined methodology as against proprietary models of each fund manager which can change anytime and can lead to years of underperformance

Benchmarks vs smart beta vs active funds

The performance⁴ of factor based smart beta strategies have been compared with their benchmarks and active funds within the similar universe. Indices with available schemes / ETFs and data since 1 April 2006 have been considered.

	Index/scheme	CAGR	Monthly SIP IRR	Std deviation	Times drawdown >20%	Avg days to recovery	% months of -ve returns
▲	Nifty 50	12%	13%	22%	5	584	43%
▲	Nifty 100	13%	14%	21%	5	579	41%
●	Nifty 100 Low Volatility 30	15%	16%	17%	3	338	37%
■	HDFC Top 100	14%	15%	20%	5	606	43%
■	Kotak Bluechip (Largecap)	13%	14%	19%	3	868	41%
▲	Nifty 200	12%	14%	21%	4	809	42%
●	Nifty 200 Alpha 30	16%	20%	25%	5	758	38%
●	Nifty 200 Momentum 30	18%	20%	23%	5	703	38%
●	Nifty 200 Quality 30	16%	17%	18%	3	346	36%
▲	Nifty Large Midcap 250	14%	16%	21%	3	921	42%
●	Nifty Alpha Low Volatility 30	17%	19%	18%	3	469	34%
■	Kotak Equity Opportunities (Large-midcap)	15%	17%	20%	3	941	38%
■	Nippon Vision (Large-Midcap)	12%	14%	20%	5	816	40%
▲	Nifty Midcap 150	15%	18%	21%	4	987	38%
●	Nifty Midcap 150 Momentum 50	21%	25%	21%	4	838	33%
●	Nifty Midcap 150 Quality 50	16%	18%	18%	5	570	41%
■	Nippon Growth (Midcap)	16%	18%	20%	6	638	39%
■	Quant Midcap	13%	17%	14%	3	991	33%
▲	Nifty Smallcap 250	14%	16%	22%	5	927	42%
●	Nifty Smallcap 250 Quality 50	18%	21%	20%	4	875	38%
●	Nifty Smallcap 250 Momentum Quality 100	20%	22%	22%	7	587	39%
■	Kotak Smallcap	15%	19%	19%	3	1205	39%
▲	Nifty 500	13%	14%	21%	4	814	43%
●	Nifty Alpha 50	17%	21%	25%	6	768	37%
●	Nifty 500 Value 50	16%	18%	26%	6	730	47%
■	HDFC Flexicap	15%	17%	20%	5	632	42%
■	Quant Active (Multicap)	15%	19%	20%	4	764	39%

Key observations:

- All smart beta strategies have outperformed Nifty50 and even their relative benchmark indices by 3-4% on avg. The performance is better than most actively managed funds as well
- Alpha Low Volatility 30 seems the best outperformer from a risk perspective
- By adding 200 Quality 30 in a portfolio of Midcap 150 Momentum 50 and Alpha Low Volatility 30, the drawdown recovery period of the new portfolio is almost halved, without much effect on returns and volatility

A combination of Midcap150 Momentum 50, Alpha Low Volatility 30 and 200 Quality 30 becomes market agnostic, is driven by fundamental and technical factors and delivers superior risk-adjusted returns

▲ indicates broad market indices, ● indicates smart beta indices and ■ indicates actively managed funds

4. A detailed analysis of smart beta funds was carried out covering returns and risk based on 1, 3 and 5yr rolling, 3yr and 5yr buckets, calendar year and yearly cumulative periods. Information ratio (i.e., risk adjusted alpha over Nifty50), max drawdown and drawdowns more than 20%.
Note: Top rank in each parameter for smart beta indices has been highlighted dark green, 2nd and 3rd ranks are light green

Nifty Alpha Low Volatility 30

A multi-factor index constructed with an equal weighted combination of Alpha and Low Volatility strategies. Top 30 stocks with the highest alpha as well as lowest standard deviation are considered here

Universe: Nifty 100 + Midcap 50

Stock capping: 5%

Re-constitution: Semi-annual in Jun and Dec

Benchmark: Nifty200

No. of stocks: 30

Stance: Balanced

Comparison of the index with benchmarks and few active schemes:

Parameter	Alpha Low Volatility 30	Nifty50	Nifty200	Kotak Equity Opportunities	HDFC Top 100	ICICI Large & midcap
Monthly SIP IRR - (2020-24)	27%	19%	22%	26%	25%	30%
Monthly SIP IRR - (2014-24)	19%	15%	16%	19%	16%	19%
Monthly SIP IRR - (2006-24)	19%	13%	14%	17%	15%	16%
Monthly SIP IRR - (2006-19)	18%	11%	11%	14%	13%	12%
CAGR (2006-24)	17%	12%	12%	15%	14%	14%
1yr rolling return	19%	14%	15%	18%	17%	16%
3yr rolling return	17%	12%	12%	15%	14%	14%
5yr rolling return	17%	11%	12%	14%	13%	13%
Std deviation - (2020-24)	17%	20%	19%	17%	19%	18%
Std deviation - (2014-24)	14%	16%	16%	15%	17%	16%
Std deviation - (2006-24)	18%	21%	21%	20%	20%	20%
Std deviation - (2006-19)	18%	22%	22%	21%	21%	20%
1yr rolling std deviation	16%	19%	19%	18%	19%	18%
3yr rolling std deviation	16%	20%	20%	18%	20%	18%
5yr rolling std deviation	15%	19%	19%	18%	19%	18%
Max drawdown	-57%	-59%	-64%	-65%	-55%	-56%
Days to recovery	998	997	2,254	2,287	644	981
Times drawdowns > 20%	3	5	4	3	5	4
Avg days to recovery	469	584	808	941	606	557
% months with -ve returns	34%	43%	42%	38%	43%	41%
Information ratio	53%	-	6%	29%	25%	25%
Sharpe ratio	62%	27%	28%	43%	39%	39%

Key observations:

- Alpha Low Volatility 30 has outperformed Nifty50 by 5-6% with 2-3% lower volatility
- Further, it has lowest no. of drawdowns more than 20% and fastest recovery periods

Not only is Alpha Low Volatility 30 better than Nifty 50, 100 and 200, but also better than active schemes within similar universe

...Nifty Alpha Low Volatility 30 (contd.)

CAGR and std deviation were also observed over 5yr and 3yr buckets

5yr buckets - returns	Alpha Low Volatility 30	Nifty50	Nifty200	Kotak Equity Opportunities	HDFC Top 100	ICICI Large & midcap
2006-10	15%	14%	13%	14%	19%	12%
2011-15	19%	7%	7%	11%	8%	11%
2016-20	15%	13%	13%	14%	11%	11%
2021-24	23%	17%	19%	24%	23%	29%
Average	18%	13%	13%	16%	15%	16%

5yr buckets - Std deviation	Alpha Low Volatility 30	Nifty50	Nifty200	Kotak Equity Opportunities	HDFC Top 100	ICICI Large & midcap
2006-10	25%	31%	31%	29%	27%	28%
2011-15	12%	17%	16%	15%	18%	15%
2016-20	16%	18%	18%	16%	19%	17%
2021-24	13%	14%	14%	13%	14%	14%
Average	17%	20%	20%	18%	19%	19%

3yr buckets - returns	Alpha Low Volatility 30	Nifty50	Nifty200	Kotak Equity Opportunities	HDFC Top 100	ICICI Large & midcap
2006-08	-4%	-4%	-7%	-4%	-2%	-6%
2009-11	23%	16%	16%	17%	22%	17%
2012-14	33%	23%	25%	27%	27%	28%
2015-17	22%	10%	12%	17%	11%	14%
2018-20	8%	12%	9%	9%	5%	5%
2021-24	23%	17%	19%	24%	23%	29%
Average	18%	12%	12%	15%	14%	14%

3yr buckets - std deviation	Alpha Low Volatility 30	Nifty50	Nifty200	Kotak Equity Opportunities	HDFC Top 100	ICICI Large & midcap
2006-08	30%	34%	34%	32%	29%	32%
2009-11	16%	25%	24%	22%	22%	22%
2012-14	11%	15%	15%	14%	17%	14%
2015-17	13%	14%	14%	14%	16%	13%
2018-20	18%	21%	20%	18%	21%	20%
2021-24	13%	14%	14%	13%	14%	14%
Average	17%	21%	20%	19%	20%	19%

Key observations:

- Alpha Low Volatility 30 has outperformed its benchmark Nifty200 on all counts

Note: Top rank in each parameter has been highlighted dark green, second rank is highlighted as light green

Refer below for available schemes in Alpha Low Volatility 30

Nifty Midcap 150 Momentum 50

A single-factor index constructed using Momentum as a strategy. Top 50 stocks with the highest momentum score (price returns over last 6 months and 12 months adjusted for volatility) have been considered

Universe: Nifty Midcap 150

Stock capping: 5%

Re-constitution: Semi-annual in Jun and Dec

Benchmark: Nifty Midcap 150

No. of stocks: 50

Stance: Aggressive

Comparison of the index with benchmarks and few active schemes:

Parameter	Midcap 150 Momentum 50	Nifty 50	Midcap 150 Index	ICICI Midcap	Nippon Growth	Quant Midcap
Monthly SIP - XIRR (2020 - 24)	39%	19%	32%	30%	33%	41%
Monthly SIP - XIRR (2014 - 24)	27%	15%	21%	19%	21%	25%
Monthly SIP - XIRR (2006 - 24)	25%	13%	18%	17%	18%	17%
Monthly SIP - XIRR (2006 - 19)	19%	11%	13%	13%	13%	7%
CAGR (2006-24)	21%	12%	15%	14%	16%	13%
1yr rolling return	27%	14%	21%	20%	20%	14%
3yr rolling return	22%	12%	16%	15%	16%	13%
5yr rolling return	22%	11%	15%	14%	14%	11%
Std deviation (2020 - 24)	20%	20%	19%	19%	18%	20%
Std deviation (2014 - 24)	18%	16%	17%	17%	17%	15%
Std deviation (2006 - 24)	21%	21%	21%	20%	20%	14%
Std deviation (2006 - 19)	22%	22%	22%	20%	20%	12%
1yr rolling std deviation	19%	19%	20%	18%	18%	12%
3yr rolling std deviation	19%	20%	20%	18%	19%	13%
5yr rolling std deviation	19%	19%	19%	18%	18%	12%
Max drawdown	-73%	-59%	-73%	-75%	-63%	-39%
Days to recovery	1786	997	2,321	2,328	976	2368
Times drawdown > 20%	4	5	4	4	6	3
Avg days to recovery	839	584	987	1002	638	991
% months with -ve returns	33%	43%	38%	40%	39%	33%
Information ratio	66%	-	24%	13%	35%	5%
Sharpe ratio	68%	27%	40%	38%	50%	46%

Key observations:

- Momentum 50 Index has outperformed its benchmark Midcap 150 index on all counts
- Quant midcap significantly underperformed till 2020 and seemed to have changed its strategy from there onwards

Since Momentum considers volatility adjusted returns, it seems a prudent aggressive strategy that accounts for risk

...Nifty Midcap 150 Momentum 50 (contd.)

CAGR and std deviation were also observed over 5yr and 3yr buckets

5yr buckets - returns	Midcap 150 Momentum 50	Nifty 50	Midcap 150	ICICI Midcap	Nippon Growth	Quant Midcap
2006-10	12%	14%	11%	7%	17%	2%
2011-15	24%	7%	12%	15%	10%	10%
2016-20	15%	13%	13%	11%	12%	12%
2021-24	39%	17%	29%	27%	30%	38%
Average	23%	13%	16%	15%	18%	16%

5yr buckets - Std deviation	Midcap 150 Momentum 50	Nifty 50	Midcap 150	ICICI Midcap	Nippon Growth	Quant Midcap
2006-10	30%	31%	30%	27%	26%	13%
2011-15	15%	17%	17%	15%	16%	10%
2016-20	18%	18%	18%	18%	17%	16%
2021-24	18%	14%	16%	15%	15%	18%
Average	20%	20%	20%	19%	19%	14%

3yr buckets - returns	Midcap 150 Momentum 50	Nifty 50	Midcap 150	ICICI Midcap	Nippon Growth	Quant Midcap
2006-08	-13%	-4%	-15%	-18%	-3%	-2%
2009-11	26%	16%	20%	17%	18%	2%
2012-14	45%	23%	33%	42%	28%	18%
2015-17	29%	10%	22%	17%	17%	11%
2018-20	4%	12%	3%	3%	6%	12%
2021-24	39%	17%	29%	27%	30%	38%
Average	22%	12%	15%	15%	16%	13%

3yr buckets - std deviation	Midcap 150 Momentum 50	Nifty 50	Midcap 150	ICICI Midcap	Nippon Growth	Quant Midcap
2006-08	34%	34%	33%	30%	29%	16%
2009-11	21%	25%	23%	20%	21%	12%
2012-14	13%	15%	16%	15%	16%	5%
2015-17	16%	14%	16%	15%	15%	10%
2018-20	20%	21%	20%	20%	19%	19%
2021-24	18%	14%	16%	15%	15%	18%
Average	20%	21%	21%	19%	19%	13%

Key observations:

- Momentum Index avg outperformance of 7% over Midcap 150 index with similar volatility
- Quant Midcap was delivering returns even poorer than Nifty50 until 2020

Note: Top rank in each parameter has been highlighted dark green, second rank is highlighted as light green

Refer below for available schemes in Midcap 150 Momentum 50

Nifty 200 Quality 30

A single-factor index constructed using Quality as a strategy. Top 30 stocks with the highest quality score comprising of Return on Equity, Debt-Equity ratio and EPS growth are considered

Universe: Nifty 200

Stock capping: 5%

Re-constitution: Semi-annual in Jun and Dec

Benchmark: Nifty200

No. of stocks: 30

Stance: Conservative

Comparison of the index with benchmarks and few active schemes:

Parameters	200 Quality 30	Nifty 50	Nifty 200	Kotak Equity Opportunities	ICICI Large & midcap	Nippon Vision (Large Midcap)
Monthly SIP - XIRR (2020 - 24)	19%	19%	22%	26%	30%	26%
Monthly SIP - XIRR (2014 - 24)	15%	15%	16%	19%	19%	16%
Monthly SIP - XIRR (2006 - 24)	17%	13%	14%	17%	16%	14%
Monthly SIP - XIRR (2006 - 19)	16%	11%	11%	14%	12%	10%
CAGR (2006-24)	16%	12%	12%	15%	14%	12%
1yr rolling return	19%	14%	15%	18%	16%	15%
3yr rolling return	17%	12%	12%	15%	14%	12%
5yr rolling return	17%	11%	12%	14%	13%	11%
Std deviation (2020 - 24)	17%	20%	19%	17%	18%	19%
Std deviation (2014 - 24)	14%	16%	16%	15%	16%	17%
Std deviation (2006 - 24)	18%	21%	21%	20%	20%	20%
Std deviation (2006 - 19)	19%	22%	22%	21%	20%	21%
1yr rolling std deviation	16%	19%	19%	18%	18%	19%
3yr rolling std deviation	17%	20%	20%	18%	18%	19%
5yr rolling std deviation	16%	19%	19%	18%	18%	19%
Max drawdown	-56%	-59%	-64%	-65%	-56%	-61%
Days to recovery	644	997	2254	2,287	981	994
Times drawdown > 20%	3	5	4	3	4	5
Avg days to recovery	346	584	809	941	557	816
% months with -ve returns	36%	43%	42%	38%	41%	40%
Information ratio	44%	-	6%	29%	25%	0%
Sharpe ratio	53%	27%	28%	43%	39%	28%

Key observations:

- 200 Quality 30 has performed best in terms of drawdowns - falling least and recovering earliest
- 3-4% extra returns over Nifty 50 index with 2-3% lower volatility

200 Quality 30 has displayed best quality of performance, while delivering alpha over others

...Nifty 200 Quality 30 (contd.)

CAGR and std deviation were also observed over 5yr and 3yr buckets

5yr buckets - returns	200 Quality 30	Nifty 50	Nifty 200	Kotak Equity Opportunities	ICICI Large & midcap	Nippon Vision (Large Midcap)
2006-10	20%	14%	13%	14%	12%	13%
2011-15	15%	7%	7%	11%	11%	8%
2016-20	14%	13%	13%	14%	11%	8%
2021-24	16%	17%	19%	24%	29%	23%
Average	16%	13%	13%	16%	16%	13%

5yr buckets - Std deviation	200 Quality 30	Nifty 50	Nifty 200	Kotak Equity Opportunities	ICICI Large & midcap	Nippon Vision (Large Midcap)
2006-10	27%	31%	31%	29%	28%	27%
2011-15	13%	17%	16%	15%	15%	17%
2016-20	16%	18%	18%	16%	17%	19%
2021-24	13%	14%	14%	13%	14%	14%
Average	17%	20%	20%	18%	19%	19%

3yr buckets - returns	200 Quality 30	Nifty 50	Nifty 200	Kotak Equity Opportunities	ICICI Large & midcap	Nippon Vision (Large Midcap)
2006-08	-8%	-4%	-7%	-4%	-6%	-5%
2009-11	38%	16%	16%	17%	17%	14%
2012-14	30%	23%	25%	27%	28%	28%
2015-17	10%	10%	12%	17%	14%	13%
2018-20	13%	12%	9%	9%	5%	1%
2021-24	16%	17%	19%	24%	29%	23%
Average	17%	12%	12%	15%	14%	12%

3yr buckets - std deviation	200 Quality 30	Nifty 50	Nifty 200	Kotak Equity Opportunities	ICICI Large & midcap	Nippon Vision (Large Midcap)
2006-08	30%	34%	34%	32%	32%	30%
2009-11	19%	25%	24%	22%	22%	22%
2012-14	12%	15%	15%	14%	14%	16%
2015-17	12%	14%	14%	14%	13%	16%
2018-20	18%	21%	20%	18%	20%	22%
2021-24	13%	14%	14%	13%	14%	14%
Average	18%	21%	20%	19%	19%	20%

Key observations:

- 3-4% extra returns over Nifty200 index with 3-4% lower volatility

Note: Top rank in each parameter has been highlighted dark green, second rank is highlighted as light green

Refer below for available schemes in 200 Quality 30

Schemes and ETFs¹

List of schemes and their details for our chosen 3 smart beta indices

ISIN	Scheme Name	Inception Date	AUM (Rs. Cr)	Expense	Exit Load
INF109KC17V7	ICICI Prudential Nifty Alpha Low Volatility 30 ETF	11-Aug-20	900	0.42%	-
INF109KC1R55	ICICI Prudential Nifty Alpha Low Volatility 30 ETF FOF	21-Sep-21	350	0.52%	-
INF204KC1550	Nippon India Nifty Alpha Low Volatility 30 Index Fund	19-Aug-22	130	0.30%	-
INF277KA1646	Tata Nifty Midcap 150 Momentum 50 Index Fund	20-Oct-22	230	0.32%	0.25% (90 days)
INF754K01QD2	Edelweiss Nifty Midcap 150 Momentum 50 Index Fund	30-Nov-22	230	0.14%	0.50% (30 days)
INF200KA1WX6	SBI Nifty 200 Quality 30 ETF	10-Dec-18	80	0.50%	-
INF209KB15K4	Aditya Birla Sun Life Nifty 200 Quality 30 ETF	12-Aug-22	25	0.35%	-
INF109KC18V5	ICICI Prudential Nifty 200 Quality 30 ETF	07-Aug-23	25	0.30%	-

1. Based on data available till May'24

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