



FINANCIAL ANALYSIS

Beta and volatility

How far a price moves, how much of that moving goes with the market, and what India VIX measures

Index figures as on 31 August 2026

For training and education only. Not investment advice.

Volatility says how much a price moves. Beta says how much of that moving goes with the market.

Both are worked out from past returns. India VIX is different: it is worked out from option prices and shows the volatility the market expects over the next 30 days.

Four terms to know first



Volatility

How widely returns spread around their average, up or down. Standard deviation is the usual measure.



Beta

How sensitive a share's or fund's returns have been to the market's returns. The market's own beta is 1.



Correlation

How consistently two sets of returns move together, on a scale from -1 to +1.



India VIX

NSE's volatility index. It shows the volatility expected over the next 30 days, drawn from Nifty option quotes.

Sources: NSE Indices, Methodology Document for Equity Indices, September 2026 (beta); NSE white paper 'India VIX: Computation Methodology'.

Working out a beta

FOUR ASSUMED MONTHS

Market, monthly returns: +4%, -2%, +4%, -2%.

Fund F, monthly returns: +5%, -2.2%, +5%, -2.2%.

- 1 Averages. Market: $(4 - 2 + 4 - 2) \div 4 = 1\%$. Fund F: $(5 - 2.2 + 5 - 2.2) \div 4 = 1.4\%$.
- 2 Gaps from the average. Market: +3, -3, +3, -3. Fund F: +3.6, -3.6, +3.6, -3.6.
- 3 Multiply the gaps month by month and average them: 10.8 each month, so 10.8. Square the market's gaps and average them: 9.
- 4 Beta = $10.8 \div 9 = 1.2$.

In these four months Fund F moved 1.2 times as far from its average as the market did, the same way.

Illustration with an invented fund and assumed figures. Real calculations use many more returns.

Reading a beta figure

Arithmetic on a 10% market move. It shows what the past link implies by itself; it is not a forecast.

Beta	What it describes	Market +10%	Market -10%
1.0	Has tended to move in step with the market.	+10%	-10%
1.2	Has tended to move further than the market, in the same direction.	+12%	-12%
0.8	Has tended to move less far than the market, in the same direction.	+8%	-8%
0	Its moves have shown no link with the market's. It can still move for reasons of its own.	No link	No link

Illustration: $\text{beta} \times \text{market move}$. Actual returns also carry moves that are not linked to the market, so they differ from these figures.

Beta is not the same as volatility

TWO ASSUMED FUNDS

Market: standard deviation 10%.

Fund G: standard deviation 20%, correlation with the market 0.5.

Fund H: standard deviation 12%, correlation 0.9.

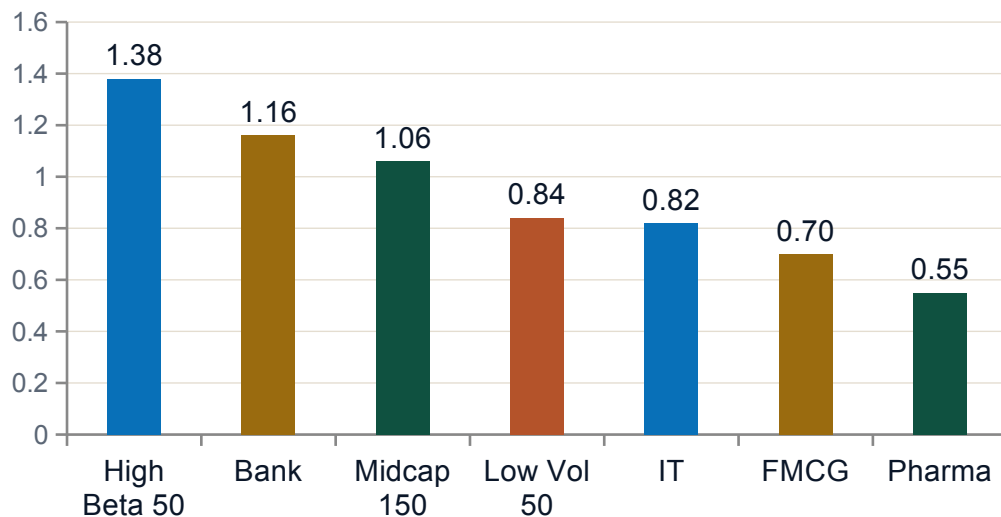
- 1 Beta can also be written as: correlation $\times$ (fund's standard deviation $\div$ market's standard deviation).
- 2 Fund G: $0.5 \times (20 \div 10) = 0.5 \times 2 = 1.00$.
- 3 Fund H: $0.9 \times (12 \div 10) = 0.9 \times 1.2 = 1.08$.
- 4 G is the bumpier fund: 20% against 12%. H has the higher beta: 1.08 against 1.00.

Beta counts only the movement that goes with the market. Standard deviation counts all of it.

Illustration with two invented funds and assumed figures. Not a view on any scheme.

Betas of seven NSE indices

Beta against Nifty 50, year to 31 Aug 2026



What the year shows

- Our own calculation: 247 daily returns, 29 Aug 2025 to 31 Aug 2026.
- Nifty 50: volatility about 13% a year over this period.
- Nifty IT: beta 0.82, yet volatility about 25% a year.
- A different year or benchmark gives different betas.

Source: Trustner calculation (not an NSE figure) from NSE Indices daily close files, 29 Aug 2025 to 31 Aug 2026; price indices.

How India VIX is worked out

A price index is built from share prices. A volatility index is built from option quotes.

1

What goes in

The best bid and ask quotes of Nifty option contracts for the near month and the next month, taken from NSE's order book.

2

What comes out

The volatility the market expects over the next 30 calendar days.

3

How it is stated

As an annualised percentage. A reading of 15 means 15% a year, not 15% over the next month.

4

How it tends to behave

It usually rises when the market moves steeply up or down, and declines as volatility subsides.

Source: NSE white paper, 'India VIX: Computation Methodology'. The method follows that of the Cboe volatility index, adapted to the Nifty option order book.

From a yearly figure to 30 days

ASSUMED READING

A volatility index reads 15.

The share index it is based on stands at 20,000.

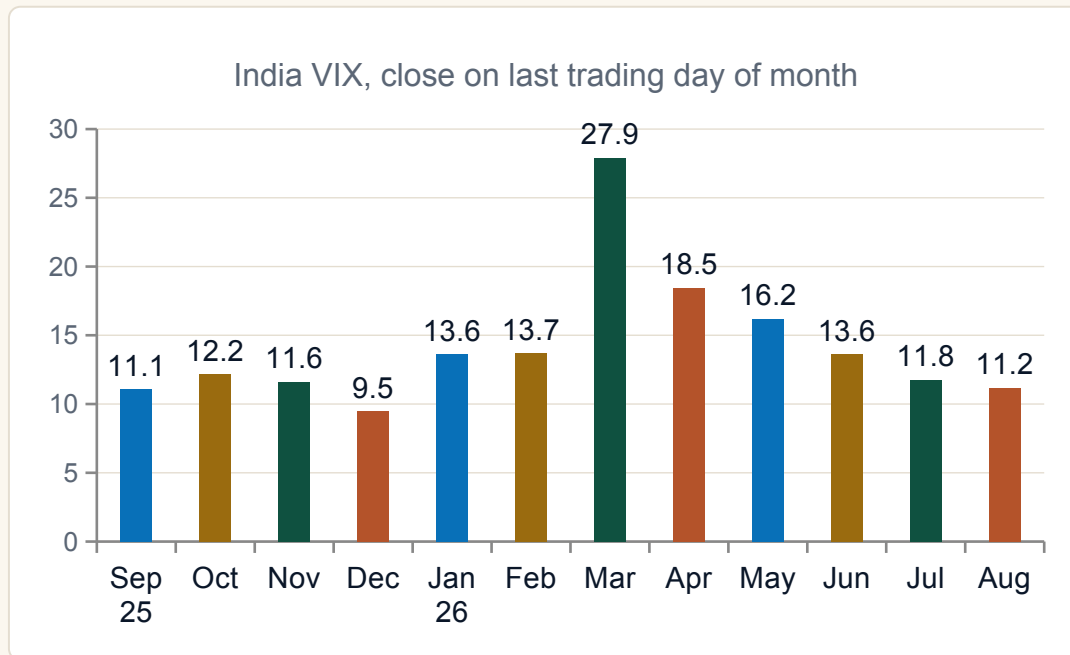
Both figures are assumed.

- 1 15 is an annualised figure: 15% a year.
- 2 Volatility scales with the square root of time. A month as 1/12 of a year (approximate): $\sqrt{12} = 3.4641$.
- 3 $15 \div 3.4641 = 4.33\%$ for about a month.
- 4 4.33% of 20,000 = 866 points, up or down.

Roughly one standard deviation of the implied move, either way; larger moves are possible. No direction.

Illustration, assumed figures. The range is a statistical measure, not a limit or a forecast. Source: Cboe, 'Inside Volatility Trading: Breaking Down the VIX Index and Its Correlation to the S&P 500 Index' ($\div \sqrt{12}$ for a month); not in NSE's paper; approximate.

India VIX over twelve months



Where things stand

- 31 August 2026: India VIX closed at 11.19.
- Highest close in the 12 months: 27.89, on 30 March 2026.
- Lowest close in the 12 months: 9.15, on 26 December 2025.
- Nifty 50 closed at 24,080.40 on 31 August 2026.

Source: NSE Indices daily index close files, 1 September 2025 to 31 August 2026 (closing values of India VIX and the Nifty 50).

Four things people get wrong



'A low beta means low risk.'

Beta counts only movement that goes with the market. A fund with a beta below 1 can still swing widely for reasons of its own.



'A fund's beta is a fixed number.'

It changes with the period, the benchmark and whether daily or monthly returns are used. Check all three before comparing.



'A high VIX means a fall is coming.'

India VIX measures the size of moves the options market expects, not their direction. It usually rises on steep market moves either way.



'Volatility means loss.'

Standard deviation counts rises and falls alike. It describes how bumpy returns were, not what an investor gained or lost.

Check yourself

Q1

The market's standard deviation is 10%. Fund K's is 15% and its correlation with the market is 0.8. What is K's beta, and what does it describe?

Q2

A volatility index reads 12. Roughly what move over one month does that correspond to, and does it say which way?

Q3

A client says: 'This fund has a beta of 0.7, so it cannot fall much.' What would you explain?

Sources and disclaimer

SOURCES FOR THE FIGURES IN THIS DECK

- Beta as the sensitivity of returns to market returns, with the Nifty 50 as the market: NSE Indices, Methodology Document for Equity Indices, September 2026 (Nifty High Beta 50).
- India VIX: inputs, 30-day horizon, annualised percentage, behaviour: NSE white paper, 'India VIX: Computation Methodology' (undated; file created June 2014).
- India VIX and Nifty 50 closing values, 1 September 2025 to 31 August 2026: NSE Indices daily index close files.
- Index betas, correlation and volatility on slide 7: Trustner calculation from the same daily files, 247 daily returns to 31 August 2026.
- $\text{Beta} = \text{covariance} \div \text{market variance} = \text{correlation} \times \text{ratio of standard deviations (standard statistics)} \div \sqrt{12}$ for one month: Cboe article, approximate.
- Funds F, G, H and K, the assumed market and the assumed index readings are invented for illustration. They do not refer to any real scheme.

This material is for training and investor education only. It is not investment, tax or legal advice and is not a recommendation to buy, sell or hold any security or scheme. Examples use assumed figures unless a source and date are shown. Mutual fund investments are subject to market risks; read all scheme related documents carefully. Trustner Asset Services Pvt. Ltd. is an AMFI-registered Mutual Fund Distributor (ARN-286886).