

Digging deeper: Reckoning with risk

1. Beta

Beta

Beta is a measure of an investment's volatility compared with that of the broader market.

It is derived from the relationship between the market return, the risk-free rate (a notional figure usually derived from short-term government bond yields) and the actual return received.

Beta of security/portfolio:

- **Equal to 1** = expected to deliver the same return as the broader market.
- **Less than 1** = expected to be less volatile than the market.
- **Close to 0** = will behave more like cash.
- **Greater than 1** = expected to be more volatile than the market.

Beta allows investors to calculate the relationship between market movements (market volatility) and price movement of the individual security or a portfolio.

Formula for calculating beta (β) of a fund:

There are several ways to calculate beta, but this formula provides a simple way:

$$\beta = (R_i - R_f) / (R_m - R_f)$$

- > β = beta
- > R_i = return of the investment
- > R_f = risk-free rate of return
- > R_m = market return

Example

R_i = return of the investment = 12%

R_f = risk-free rate of return = 3%

R_m = market return = 8.5%


$$\beta = (12 - 3) / (8.5 - 3) = 1.64$$

The fund in this example has produced a **beta (β) greater than 1**.


You would expect the fund to be more volatile than its market.

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