FinStart

Tracking error – how well the ETF "follows its index"

Investment performance of any investment, including ETFs, is measured by its "total return"

- Total return is the change in value of an investment over a period of time, usually one year
- The value of an investment changes because
  1. It may pay distributions or dividends (if it's a stock or a fund / ETF) or coupons (if it's a bond),
  2. It may generate a capital gain / loss (its price can increase / decrease from the price at which it was bought)
- Total return is expressed as a percentage of the amount originally invested

Total return of an ETF will naturally be a bit lower than that of its index

- This is because the costs of running the ETF are subtracted from the investment income it generated before its total return is calculated

But you should expect your ETF's total return to fluctuate in the same way as that of its index

- For practical purposes, a quick way to check how well the ETF tracks its index is to look at the difference between their total returns over time

  The statistical metric called "tracking error" can be calculated in a couple of ways:
  1. As the R^2 of a regression of the ETF's total return against the index' total return
  2. As the standard deviation of the differences between the two total returns over time

Bottom line

- ETFs that mimic liquid markets and are managed by established providers should have small tracking errors
- The more exotic/less liquid the assets in the ETF, the bigger the tracking error will be
- For a specific ETF, tracking error should be stable over time