Annualized Total Return

What is an 'Annualized Total Return'

An annualized total return is the geometric average amount of money earned by an investment each year over a given time period. It is calculated as a geometric average to show what an investor would earn over a period of time if the annual return was compounded. An annualized total return provides only a snapshot of an investment's performance and does not give investors any indication of its volatility.

BREAKING DOWN 'Annualized Total Return'

When comparing annualized total return between two funds, take for example the following two hypothetical mutual funds and their annual returns over a five-year period:

Mutual Fund A Returns: 3%, 7%, 5%, 12% and 1%

Mutual Fund B Returns: 4%, 6%, 5%, 6%, and 6.7%

Both mutual funds have annualized returns of 5.53%, but Mutual Fund A is much more volatile. Its standard deviation is 4.2%, while Mutual Fund B's standard deviation is only 1%. Even when analyzing an investment's annualized return, it is important to review risk statistics.

Annualized Return Formula and Calculation

The generalized formula to calculate annualized return needs only two variables: the returns for a given period of time and the time the investment was held. The formula is:

$$\text{Annualized Return} = ((1 + r1) \times (1 + r2) \times (1 + r3) \times \ldots \times (1 + r(n)))^{1/n} - 1$$

For example, take the annual returns of Mutual Fund A above. An analyst substitutes each of the "r" variables with the appropriate return, and "n" with the number of years the investment was held. In this case, five. The annualized return of Mutual Fund A is calculated as:

Annualized Return = ((1 + 3%) x (1 + 7%) x (1 + 5%) x (1 + 12%) x (1 + 1%)) ^ (1 / 5) -1 = 130.9% ^ (0.20) -1 = 105.53% - 1 = 5.53%

Annualized return does not have to be limited to yearly returns. If an investor has a cumulative return for a given period, even if it is a specific number of days, an annualized performance figure can be calculated; however, the formula must be slightly adjusted to:

$$\text{Annualized Return} = (1 + \text{cumulative return})^{(365 / \text{days held})} - 1$$

For example, assume a mutual fund was held by an investor for 575 days and earned a cumulative return of 23.74%. The annualized return would be:

Annualized Return = (1 + 23.74%) ^ (365 / 575) - 1 = 114.5% - 1 = 14.5%

Reporting Annualized Return

According to the Global Investment Performance Standards (GIPS), a set of standardized, industry-wide principles that guide the ethics of performance reporting, any investment that does not have a track record of at least 365 days cannot "ratchet up" its performance to be annualized. Thus, if a fund has been operating for only six months and earned 5%, it is not allowed to say its annualized performance is approximately 10%, since that is predicted future performance instead of stating facts from the past.

From: http://www.investopedia.com/terms/a/annualized-total-return.asp