Business Standard

Understand the returns formula

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Comparing returns to benchmark will tell if investment objective is met.

The aim of any investment is to earn returns. It is necessary, then, to understand how to read these.

The simplest is the average annual return, the arithmetic mean of the returns earned over a period. It is prone to be the most misused indicator, to show unrealistic returns. Let us say you invest Rs 100,000 in a mutual fund (MF). At the end of the first year, the growth is 100 per cent and at the end of second year, a fall of 50 per cent. At the end of two years, you have not gained anything. But,the average annual return method will show net return of 25 per cent.

Invested Amount (Rs)	100,000
Purchase Price (Rs)	128.10
Units	780.62
Sale Price (Rs)	210.27
Sale Value (Rs)	164136.17
Holding Period (Days)	886.00
Absolute / Total Return (%)	6414.00
CAGR (%)	22.65

When the gain or loss in a portfolio is expressed as a percentage of the invested capital, it is known as the absolute return. Table 1 is calculated as the difference of current value and cost value, divided by cost value, which is 64.14 per cent. But, this does not take into account that this return has been earned over more than a year.

XIRR CALCULATION

Jan 5 - Dec 5, 2010 (Rs)	-5,000
Jan 6, 2011(Rs)	68,000
XIRR (%)	25.25

If the holding is for over a year, we usually look at the compounded annual growth rate (CAGR). This gives you the year-on-year returns. The formula is $((F/S)^{(1/n)})-1$. F = Final value, S = Initial value and n = holding period. In the table, CAGR is 22.65 per cent. It is assumed the gains are reinvested every year. So, the investment grew to Rs 122,646 in first year, Rs 150,422 in second year and Rs 164,136 at the end. But this might not be true.

The fund may have fallen drastically in one year and given excellent returns the next year. CAGR smoothens the returns and does not considering volatility over the holding period. But, it does make returns comparable across funds.

In case of a series of cash flows for which the rate of return is to be calculated, XIRR is used. This considers the timing of inflow and gives a better picture than CAGR. It is useful in calculating the rate of return for

investments like SIPs.

In Table 2, XIRR is 25.25 per cent. Here, most investors would calculate the return as 13.33 per cent. That's incorrect as the method does not take into account different timings of each cash flow. Again, it is assumed the cash is reinvested at the same rate. But, the rates fluctuate and may not be available when reinvesting.

Quoting returns delivered over less than a year as annual return uses simple annualised returns. It is not misleading. It is used in calculating returns in less volatile investments like debt funds. It will not work for equity funds. Simple annualised return= returns X(365/no. of days). This is not a real return, but can be used for comparison across funds, as the actual return in a year may be different than what is quoted.

All MF returns are historic data. Past performance may not be sustained. All these return calculations then become essentially tools to compare the plethora of funds in the market. These will also be used to compare the performance against the benchmark. A fund manager's job in an actively managed fund is to surpass the benchmark. Comparing the returns to the benchmark will tell if the investment objective is met.

The writer is a certified financial planner