ASSIGNMENT - 6

Explain CAGR with examples

CAGR (Compound Annual Growth Rate) is the rate at which an investment grows annually assuming the profits are reinvested at the end of each year. It smooth out the growth rate over a period, accounting for volatility and showing a steady annual rate of growth from the beginning to the end of the period. The formula for CAGR is

$$CAGR = \frac{\text{Future value}}{\text{Past value}} \left(\frac{\text{Ending value}}{\text{Beginning value}} \right)^{1/n} - 1$$

Ending value

Value of the investment at the end of the period

Beginning Value

Value of the investment at the start of the period.

N Number of years

Example

Investment Growth

Let's say you invested $10,000 in a stock in 2019 and by 2023 the value of your investment has grown to $20,000. To calculate the CAGR.

Beginning Value (2019) : $10,000

Ending Value (2023) : $20,000

Number of year = 4

$$CAGR = \left(\frac{20,000}{10,000}\right)^{1/4} - 1$$

$$= (2)^{0.25} - 1$$

$$= 18.92\%$$

So, the CAGR is 18.92% meaning the investment grew by about 18.92% per year on average over the 4 year period.