Time Value of Money

Business & Management

Why a pound today is worth more than a pound next year.

Present value equals future value divided by one plus the rate, raised to the number of periods.

$$PV = FV \div (1 + r)^n$$

£1,000 in 3 years at 8%

£794 today

$1000 \div 1.08^3$.

Perpetuity

PV = cash flow ÷ r

A constant flow forever.

Growing perpetuity

PV = CF ÷ (r – g)

The Gordon growth model.

THE COMMON MISTAKE

× Adding cash flows from different years

✓ Discounting each to today first

Cash in different periods is not the same unit. Adding them is like adding pounds to dollars.

The discount rate carries the risk. A riskier project needs a higher rate, which lowers the present value.