

Discounting & Present Value

Accounting & Finance

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

A future cash flow is worth its amount divided by one plus the rate, compounded over the periods.

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

£1,000 in 3 years at 8%

£794 today

Perpetuity

Forever.

$$PV = C \div r$$

Growing perpetuity

$g < r$.

$$PV = C \div (r - g)$$

THE COMMON MISTAKE

✗ **Adding cash flows from different years**

✓ **Discounting each to the same date first**

Cash flows in different periods are different units. Adding them directly is like adding metres to seconds.

The discount rate carries both the time preference and the risk. Riskier flows get a higher rate and are worth less.