

Ten things you need to know about investment appraisal

Ian Marcousé provides a framework of ten concepts to aid your finance revision

1 Average rate of return (ARR)

Average annual profit as a percentage of the sum invested.

Example: a £250,000 investment expected to generate £450,000 in cumulative cash flows over 4 years has an average return of $\frac{£200,000}{4} = £50,000$ a year, which is a 20% ARR.

Advantage: shows the profitability of the investment in annual percentage terms, so investments of differing size and duration can be compared with each other.

Disadvantage: averaging the data masks the time value of money, i.e. the opportunity cost. So ARR provides an overly simplified result.

2 Criterion levels

Yardsticks agreed within senior management about the boundary between acceptable and unacceptable investment proposals.

Example: the directors say that investment proposals must have a maximum payback of 2 years, a minimum ARR of 10% a year and a minimum NPV of £0. Only then will they be considered.

Advantage: helps avoid time wasting where a manager puts lots of work into something the board will never accept.

Disadvantage: some managers may be tempted to manipulate the figures, for example boost the forecast cash inflows to squeeze ARR up from 9% to 12%.

3 Discounted cash flow (DCF)

Downgrading forecast future cash flows progressively over time to allow for the time value of money. Each year's forecast net cash flow is multiplied by a discount factor (which is less than 1).

Example: if interest rates are 10%, the year 1 discount factor is 0.91. So a forecast £10,000 year 1 net cash flow becomes £9,100 when discounted.

Advantage: takes into account the opportunity cost of the capital.

Disadvantage: requires a good guess about future interest rates.

4 Discount factor

The rate of interest chosen to represent the company's cost of capital.

Example: the hugely successful and profitable Ted Baker plc probably needs to pay no more than 4% to acquire capital. Therefore 4% discount factors are appropriate.

Advantage: it discounts progressively over time, taking full allowance of the opportunity cost of time.

Disadvantage: the use of discount factors makes the data too complex for most staff to be able to interpret.

5 Initial outlay

The cash that must be put at risk at the start, before future cash flows start kicking in.

Example: when Primark opens its first shop in Beijing, it may take 2 years to find the right property, get the building work done and set up the right warehousing system for supplies. This will require an initial outlay of £8–10 million.

Advantage: whereas future cash flows are guesses into the future, a well-run business has a tight grip on its initial outlay.

Disadvantage: this is the only figure in an investment appraisal that has a high degree of certainty.

6 Net present value (NPV)

This is the value today of the total of all the yearly cash inflows and outflows on an investment. If the NPV exceeds £0, the investment is worth proceeding with in real financial terms.

Example: if the total of all future discounted cash flows is +£4,600 but the initial investment outlay is £5,000, the NPV is –£400 and the investment should be cancelled.

Advantage: helps in making an investment decision based on net cash flows, their timing, and their opportunity cost.

Disadvantage: clumsy to use when comparing two investments of different size or covering different time periods.

7 Payback period

The time it takes to recoup the initial outlay.

Example: for many years Arcadia (owner of Topshop) insisted on a maximum payback period of 12 months. Many business analysts would regard this as being far too restrictive on business investment.

Advantage: payback period focuses only on near-term cash flows, which are likely to be forecast with far greater reliability than distant ones (so payback should be more accurate than, say, ARR).

Disadvantage: it only considers the time until payback, and therefore completely ignores profitability.

8 Qualitative factors

Factors that may be important to an investment decision, but cannot be quantified, i.e. they are non-financial.

Example: many businesses are located close to the founder's home, even though other sites may theoretically be more profitable.

Advantage: not every business decision has to be profit-driven: social, ethical or personal factors have a proper place in decision making.

Disadvantage: if qualitative factors are allowed too much sway there may be threats to future business success or even survival.

9 Reward for risk

The difference between an investment's forecast ARR and the current rate of interest.

Example: if interest rates are 4% and appraisal forecasts a 12% ARR on an investment, the reward for risk would be 8% (because 4% can be earned risk-free).

Advantage: helps in judging between two investments: if a low-risk one has an 8% reward for risk while a high-risk investment's reward for risk is 11%, surely the 3% extra reward isn't worth the extra risk.

Disadvantage: the figures might get in the way of a good business judgement based on market understanding and intuition.

10 Risk and uncertainty

Some cash flow forecasts have a high degree of certainty, whereas others are breaking new ground, making the figures uncertain and therefore the risk level much higher.

Example: high certainty: Primark opening its second store in Peterborough, with 200 stores already opened in the UK; low certainty: Primark opening its first Chinese store.

Advantage: there are huge benefits in being confident in the broad accuracy of your cash flow forecast: you won't need such a high reward for risk.

Disadvantage: companies sometimes kid themselves about the certainties of their future, e.g. Tesco in 2007–2014.

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