

Cost Benefit Analysis

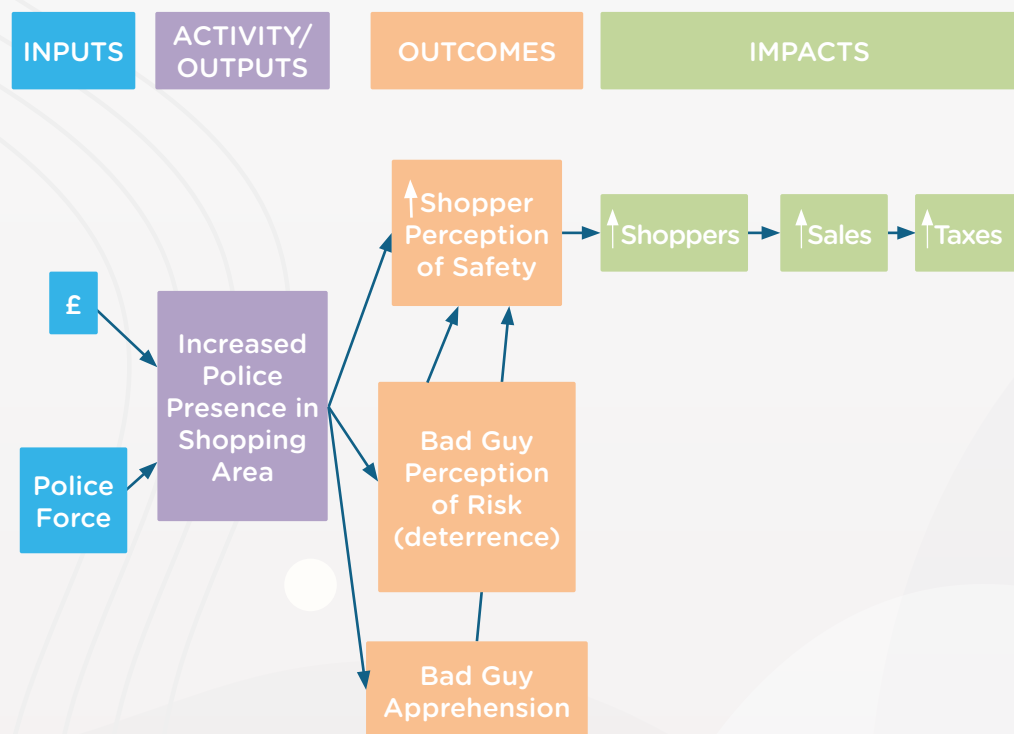
Cost Benefit Analysis

Definition: Cost benefit analysis (CBA) is a method for measuring, in financial terms, the costs and benefits of an investment project. It includes a consideration of the external costs and benefits to society as well as the costs and benefits to just the business.

Cost benefit analysis is often used by governments when they are considering a public project, such as the building of a new motorway, rail bridge or hospital. Many different options can be ranked in order.

When carrying out a cost benefit analysis there are a wide range and variety of costs and benefits to be identified and given a value. These can be divided into two groups:

- Private Costs and Benefits
- Public Costs and Benefits.



Private Costs and Benefits

Private Costs:

- These are costs that the business making the investment must accept.
- They include training and recruitment costs, the purchase of new capital equipment, marketing costs etc.

Private Benefits:

- These are benefits that the business gains from as a result of making the investment.
- These benefits will include things such as increased productivity, increased sales, brand values and increased profits.

Public Costs and Benefits

Public Costs:

These are costs external to the business making the investment.

- A building company will have an environmental impact as it builds houses – increased traffic, noise etc.
- A farm extracting water from a river to irrigate its crops leaves less water further downstream for fishing.
- A new factory may involve the loss of open space, increased traffic congestion and so on.

Public Benefits:

- These are benefits external to the business that result from making the investment.
- An obvious external benefit from a large-scale investment would be jobs created by the business.
- Other public benefits include further jobs created outside the business as a result of increased business activity and an increase in tax paid by employees to the government.
- In areas where unemployment is high, crime and social problems might be reduced.

Social Costs and Benefits

– **Social Benefit** (private benefit + public benefits)

– **Social Cost** (private costs + public costs)

- If the social benefits are greater than social costs, then go ahead with proposal.
- If the social costs are greater than social benefits, then do not go ahead with proposal.

Advantages of CBA

- Considers a wide range of benefits and costs.
- Impacts on society and the community are included.
- Puts a value to external benefits and costs that would normally be ignored by private sector businesses.
- Can be used to rank possible major projects in order of public cost.
- It shows that a business cares about the local community and the environment, which can be good for public relations.

Disadvantages of CBA

- The valuation of intangibles will be difficult – how do you put a value on the effect of pollution or the improved traffic flow of a new road?
- Valuations will often include value judgements – one person's or manager's calculation of an intangible benefit is likely to differ from another person's calculation, who has a different set of views on what is important for a business.
- If the social costs and benefits are incorrectly calculated, then the wrong choice could be made.
- Will all stakeholders be included in the calculation of social costs and benefits?

Consider the issues that will need to be considered when undertaking a cost-benefit analysis of the Severn Barrage

The advantage of this method of analysis is by using a numerical/quantitative approach it is possible to compare unlike things and come to a more objective decision.

However, it is often very difficult to quantify some of the costs and benefits, e.g., how do you put a monetary figure on the loss of habitat for feeding birds? In this case they will need to assess a variety of costs and benefits.

Costs might include:

- Environmental costs of damming the river and the impact on wildlife, fishing etc. It may, for instance, be necessary to provide alternative feeding grounds for migratory birds and fish ladders for salmon, etc.
- Flooding.
- The costs of preventing ships passing beyond the barrage, perhaps expensive lock systems will need to be built into the barrage.
- There will be external costs to residents with massive numbers of lorries carrying materials to the site causing pollution and noise.
- There may be several accidents and even fatalities during the project and estimates will have to be made of the monetary costs involved.
- The private costs to the consortium of construction.

Benefits might include:

- The amount of power generated by the turbines, 5% of the UK's energy demands.
- The benefits of economic regeneration (but this is difficult to quantify).
- The jobs created and the subsequent boost to the economy.

Overall, CBA may be flawed but it is a widely used method to evaluate this sort of large-scale project. It has its drawbacks, many of the estimates may prove to be inaccurate, but it is better than not attempting to quantify these factors at all.