TASO Transforming Access and Student Outcomes in Higher Education

# Framework for economic evaluation

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## Introduction

Economic evaluation is the comparison of the value of outcomes produced by a programme/intervention with the costs of implementing it (HM Treasury, 2022). It is used to compare the value for money (VfM) provided by different programmes/interventions and to inform decision making as institutions plan future delivery and provision.

At present there is no universal approach to conducting economic evaluations within higher education. This framework has been designed to provide an approach to economic evaluation in higher education that is both rigorous enough to meet the standards of economic evaluation applied in other sectors (such as standards detailed in HM Treasury's Green Book [HM Treasury, 2022]), and flexible enough to be applied to a variety of programmes/interventions related to improving access to higher education and student outcomes.

The design of the framework has been informed by:

- frameworks and guidance outlining best practice approaches to economic evaluation in other sectors, including the HM Treasury Green Book (HM Treasury, 2022), National Audit Office Successful Commissioning Toolkit (National Audit Office, 2023) and the Greater Manchester Cost Benefit Analysis Model (Greater Manchester Combined Authority, 2014)
- consultation with practitioners in the sector, through a survey and interviews, as well as a rapid evidence review on existing economic evaluation.

This framework outlines a recommended approach to conducting economic evaluation in higher education. It has been produced alongside guidance, which describes how to implement the approach. The guidance provides further detail on how to apply each step of the framework, including example scenarios. There is also a protocol template and report template to accompany the framework and guidance.

### Using this framework

Before you start, you need to select a programme/intervention to evaluate. Economic evaluation is relevant to all stages of the student journey, including access, success and progression.

You also need to identify the appropriate resources and when the ideal time is to conduct the evaluation. The guidance provides more information on what you need to have in place to conduct an economic evaluation.

An economic evaluation can be run before a programme/intervention is selected, to inform a decision between several options (ex ante), or to collect evidence about a programme/intervention's VfM after it takes place (ex post).

You should aim to plan your economic evaluation alongside or following Step 1 of the TASO Monitoring and Evaluation Framework (MEF). An economic evaluation can be planned and carried out in conjunction with other evaluations, including implementation and process evaluations and impact evaluations. If an impact evaluation of the programme/intervention has been/is being carried out, this is beneficial for the economic evaluation since it can draw closely on the findings of the impact evaluation.

### Structure of this framework

Section 2 of this framework describes two approaches that can be used to conduct economic evaluation in higher education. The main approach recommended by this framework is cost-benefit analysis (CBA). A secondary approach recommended to be used in some situations is cost-effectiveness analysis (CEA).

Section 3 provides a step-by-step framework which can be followed to implement CBA.

## Approaches to economic evaluation in higher education

### Cost-benefit analysis

CBA is the main recommended method of conducting economic evaluation in higher education. CBA is a process for comparing the benefits of a programme/intervention with its costs in monetary terms.

The framework for conducting CBA detailed in Section 3 also draws on social return on investment (SROI) approaches to provide greater flexibility in research design when it comes to engaging stakeholders and monetising outcomes.

### Cost-effectiveness analysis

CEA compares the relative costs of the outcomes of two or more courses of action. CEA is most useful when CBA cannot be used because of constraints around the inability to monetise programme/intervention benefits.

CEA is helpful in situations where you are focused on a single outcome, or you are interested in comparing the VfM of a programme/intervention with another that has the same main outcome.

### When to conduct CBA and CEA

CBA is the recommended approach for the vast majority of economic evaluations, as it provides clear metrics to identify and measure costs and benefits, and compare the VfM provided by different programmes/interventions.

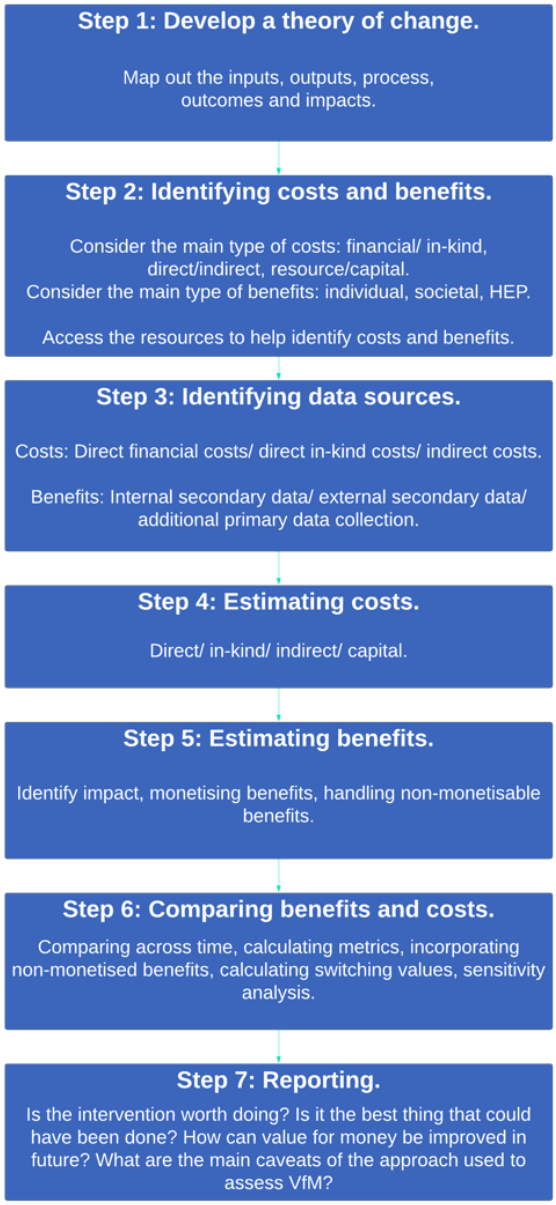
There is one specific situation where undertaking CEA is preferable to CBA. This is when:

- you are focused on a single outcome that is measured consistently across programmes/interventions
- you would like to consider how to maximise VfM in achieving this outcome.

## A step-by-step framework to conduct CBA in higher education

Figure 1 below summarises the steps followed in the economic evaluation guidance.

*Figure 1: The CBA framework*




## Step 1: Developing a theory of change

The first step involves developing a theory of change, because identifying costs and benefits (in Step 2) requires having a clear definition of the inputs, outputs, outcomes and impacts of the programme/intervention.

A theory of change may have already been developed as part of an impact or process and implementation evaluation. If a theory of change has not already been

developed, you should refer to TASO's theory of change resources, which provide guidance on how to develop a theory of change.

### Step 2: Identifying costs and benefits

The second step involves identifying the costs, benefits and disbenefits that need to be considered in the evaluation (Table 3 in the guidance). Refer to Scenario 2a in the guidance for an example of the decision making that you need to follow to identify programme/intervention costs, benefits and disbenefits.

#### Consider the costs

You should consider all costs required to carry out the programme/intervention. To make sure you capture all existing costs, familiarise yourself with the definition of costs in the guidance (Table 4) and start developing a list. The list should include both financial costs and in-kind costs.

Considering wider categories of costs such as direct/indirect costs**,** resource costs and capital costs can help prompt more ideas on what other costs can be included in the list. The guidance provides an example for each to help generate ideas.

#### Consider the benefits

Once you have identified the programme/intervention costs, proceed with identifying the potential benefits and disbenefits.

CBA seeks to capture all benefits no matter who they accrue to.

Therefore, you should consider and list the programme/intervention's benefits for individuals, the higher education provider (HEP) and the wider society.

For each benefit, identify what type of benefit it is. Distinguish between behavioural/non-behavioural benefits and direct/indirect benefits. Refer to the guidance for definitions and examples of each (Table 5 in the guidance).

Scenario 2b in the guidance also provides information about the decision-making process you need to follow to categorise benefits into different types and provides some useful examples.

You can refer to the guidance for recommended sources that can help you develop your list of costs, benefits and disbenefits.

#### Engage stakeholders

Draw up a list of stakeholders involved in the programme/intervention to engage in the CBA process. Stakeholders could include students, and HEP delivery, administrative and financial staff.

You can engage stakeholders either via a group workshop or one-on-one conversations.

Test the list of costs and benefits drawn up with stakeholders, and draw on their knowledge to identify data sources for Step 3.

### Step 3: Identifying data sources

Once you have identified the set of potential costs and benefits, proceed with identifying the data sources that are available to measure them. A good starting point is referring to TASO's administrative data source. You should also continue to engage the stakeholders you engaged in Step 2, since each will bring different knowledge of data sources relating to costs and benefits.

#### Data sources for costs

Refer to the guidance to identify data sources for costs**.** It outlines the key types of costs and examples of each, alongside potential data sources that can be used to measure them (Table 6 in the guidance).

Reach out to the programme/intervention delivery team and compile any existing intervention-level accounts and in-kind costs. Then consult with the HEP's finance department to collect information about any indirect or administrative costs.

#### Data sources for benefits

Refer to the guidance for examples of potential data sources for measuring benefits (Table 7 in the guidance).

Consider what other data sources you have to hand that can help measure the programme/intervention's benefits. This could include any primary data collection currently conducted at the HEP, such as impact evaluation, process and implementation evaluation, and student or staff surveys; and wider monitoring information collected by the HEP.

According to TASO's Mapping Outcomes and Activities Tool, outcomes can be divided into behavioural and non-behavioural. Behavioural outcomes refer to a positive identifiable change in behaviours (e.g., increased student retention). Non-behavioural outcomes refer to a change in knowledge, interpersonal skills and attitudes.

Prioritise measuring behavioural outcomes. Where non-behavioural outcomes are measured, use validated scales such as TASO's Access and Success Questionnaire, survey design and validation resources or Toolkit for Access and Participation Evaluation (TAPE).

Test your data sources list with any stakeholders engaged with the development or delivery of the programme/intervention.

## Step 4: Estimating costs

Develop an initial list of the total direct costs of *all* resources used for delivering the programme/intervention.

Expand on this list to include all additional in-kind, indirect and capital costs.

Refer to Scenarios 3a-d in the guidance for examples of the decision-making process for estimating direct, in-kind, indirect and capital costs.

Construct estimates of all in-kind costs and capital costs accrued for the programme/intervention, using the definitions and examples available in the guidance. Consult with the programme/intervention delivery and/or administration teams to get an accurate idea of all in-kind and capital costs accrued.

Since indirect costs tend to be paid for centrally by the HEP, it might be helpful to consult with the HEP's finance department on how to estimate and measure them.

## Step 5: Estimating benefits

Benefits included in the CBA need to be attributed to the programme/intervention itself and valued in monetary terms (where possible).

To enable benefits to be compared with the costs of the programme/intervention, first identify how much of the benefit is attributable to the programme/intervention itself. You can do this by referring to sub-step 5.1 in the guidance on how to use impact evaluation to determine causality between programme/intervention activities and outcomes.

Second, you need to monetise the programme/intervention benefits, which involves estimating a monetary value associated with the benefit. You should monetise all benefits where possible by following sub-step 5.2 of the guidance.

If it is not possible to value some of the benefits in monetary terms, you should still include them in the analysis. These are called non-monetisable benefits. Step 5.3 in the guidance shows you how they can be included in the analysis.

### Step 5.1 Identifying impact

First, identify what impact the programme/intervention had on each benefit. This sub-step is closely linked to impact evaluation.

Refer to any impact evaluations the HEP has conducted to estimate the impact of the selected programme/intervention on each benefit. You can use the results of the impact evaluation directly in your economic evaluation. An example of how to do this can be found in Scenario 4a in the guidance.

Where an impact evaluation has not been conducted, the guidance provides a list of resources on how you can design and conduct an impact evaluation.

When the impact on a benefit cannot be identified through a rigorous impact evaluation, you can follow a three-step process.

First, draw on other available data sources to form a best estimate of the change in the benefit that is attributable to the programme/intervention. This information could include a pre- and post-survey covering key outcome measures only among participants, or secondary data or evaluations estimating the impact of similar interventions. Please refer to the guidance for other types of evidence you may be able to draw on (Table 8 in the guidance).

Second, identify a confidence grade associated with the quality of the evidence, where a confidence grade of one signals the most rigorous evidence and a confidence grade of six refers to the least rigorous evidence. Please refer to the guidance for more information about confidence grades (Table 8 in the guidance).

Third, apply an 'optimism bias' adjustment that takes into account the quality of the evidence available to form that assessment. The optimism bias adjustment represents an amount your estimate of impact should be discounted by to account for the potential bias in the estimate. The guidance shows optimism bias corrections you can apply to different standards of evidence depending on their level of rigour (Table 8 in the guidance).

### Linking direct and indirect benefits

If you have a more reliable measure of impact of a programme/intervention on direct benefits than on indirect benefits, conduct an evidence review to determine whether there is credible evidence to link the direct and indirect benefit.

If a previous study has established a reasonable estimate of causal effect between the two, this evidence can be used to model the effects of direct benefits on indirect benefits.

More information on how to conduct the evidence review, identify credible evidence and link direct to indirect benefits can be found in the guidance. Refer to Scenario 4b for a practical example.

## Step 5.2 Monetising benefits

Once you have identified the impact of the programme/intervention on each of the benefits, estimate the monetary value associated with these benefits.

You do not have to monetise all of the benefits of your programme/intervention.

First, identify the set of end benefits using the theory of change you developed in Step 1. Please refer to the guidance for more information on how to identify these benefits and to Scenario 5a for a practical example.

Second, determine which monetisation approach is most appropriate for each of the benefits you have selected.

Refer to the guidance for a summary of the main approaches for monetising that are applicable to higher education. The guidance also includes a table with a potential monetisation approach (Table 9 in the guidance) for each of the example benefits identified in Step 1, to help with your decision.

Third, use your evaluation protocol to specify precisely which monetisation approach(es) you will use, and how you will apply them.

The guidance provides a hierarchy of monetisation approaches and how to conduct them, and recommends that you consider the following:

- Market prices, either through cashable benefits to the HEP or improved graduate employment outcomes.
- Wellbeing approach.
- Qualitative approaches.

### Step 5.3: Handling non-monetisable benefits

If it is not possible to monetise all benefits, still include the non-monetised benefits in the CBA. Use a qualitative assessment of the scale of these benefits to guide an assessment of whether they are likely to materially affect the results of the CBA.

Refer to Table 11 in the guidance for a scale you can use to assess the impact size of each of the non-monetised benefits you wish to include in your CBA. You can also see Scenario 5c for a practical example.

## Steps 6: Comparing benefits and costs

Once you have assessed the benefits and costs and valued them in monetary terms, you can proceed with comparing them to provide an overall assessment of VfM.

### Step 6.1 Comparing across time

To compare costs and benefits successfully, you need to make two important adjustments.

First, account for inflation over time. The Office for Budget Responsibility (OBR) inflation forecasts – found in their latest economic and fiscal outlook – can be used to adjust for inflation. You can also refer to Table A1 in the Annex of the guidance for how to use inflation forecasts to create an inflation index, and Scenario 6a for a practical example. Use the accompanying spreadsheet to perform inflation adjustments.

Second, apply a discount rate for time preference. Use the discount rate of 3.5% per year recommended by the HM Treasury Green Book (HM Treasury, 2022). Apply discounting to all costs and benefits to provide estimates of their present value. Refer to Table A2 in the Annex of the guidance for discount factors to use, and to Scenario 6b for a practical example. Use the accompanying spreadsheet to calculate present values.

### Step 6.2 Calculating metrics

Calculate both the benefit-cost ratio (BCR) and net present value (NPV) for the programme/intervention you are evaluating, using the formulas in the guidance. Refer to Scenario 6c for a practical example.

If you are comparing the VfM of different programmes/interventions, consider both metrics for your decision. Refer to Scenario 6d to track the decision-making process for comparing programmes/interventions based on BCR and NVP.

Where there are major differences in results between BCR and NVP, using local context can help inform your decision.

### Step 6.3: Incorporating non-monetised benefits

Use VfM categories to draw on qualitative assessments of non-monetised benefits. A list of VfM categories can be found in the guidance and can be adapted to your programme/intervention (Table 12 in the guidance). Refer to Scenario 6e for a practical example of using VfM categories to include non-monetisable impacts.

## Step 6(o): Optional additional steps

Sub-steps 6.4 and 6.5 are two optional additional steps you can follow to improve the quality of your CBA. However, following sub-steps 6.1 to 6.3 is sufficient to provide an assessment of the VfM of a programme/intervention.

### Step 6.4: Calculating switching values

If you are uncertain about the significance of non-monetisable benefits compared to monetisable benefits, use ‘switching values’ to inform your consideration. A switching value estimates how large a non-monetisable benefit would need to be to change the VfM category of an intervention.

Refer to the guidance for the formula used to calculate a switching value, alongside a practical example in Scenario 6f.

### Step 6.5: Sensitivity analysis

Ideally, sensitivity analysis should be conducted to test how sensitive the results of the VfM assessment are to specific assumptions made when estimating benefits. A 'low' and 'high' benefit scenario should be identified. The BCR and NPV should then be estimated for both the low and high benefit scenarios to provide a range within which you can expect that the true BCR and NPV of the programme/intervention will lie.

## Step 7: Reporting

The final step in conducting your economic evaluation is reporting your analysis and findings. Use the TASO Economic evaluation report template. It is vital that you explain the approach you have taken, data sources drawn on, analytical methods used and assumptions made clearly and transparently in your reporting.

When reporting your analysis, you should also return to your initial research questions and consider how your findings have answered these questions.

## References

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