

Economic Impact Assessment

An overview

What is Economic Impact Assessment?

An Economic Impact Assessment examines the effects of a project or proposed policy change on the economy. The scope can range from something impacting a small suburban neighbourhood, to a policy that has economic ramifications on a global scale. Ultimately, Economic Impact Assessments offer a rules-based and transparent measure of the economic importance of certain operations or undertakings to an economy.

This sort of analysis is typically undertaken in instances where there is public concern about the potential impacts of a project or policy, such as the construction of a new residential development or mine, or changes to taxation policies (e.g. restricting the use of rental property losses to reduce taxable income, so-called “negative gearing”).

An Economic Impact Assessment also serves to highlight the importance of a particular type of operation or project using standard measures of economic activity including Gross Domestic Product (GDP), employment, wages and tax revenues.

Decision-makers, including local councillors, mayors and members of parliament need to know how economies will be affected by certain projects or policy / regulatory changes. These economic consequences can influence decisions regarding development or environmental approvals, as an example.

Methodologies for Economic Impact Assessment

The most common methodologies for compiling an Economic Impact Assessment are the following:

- Input-Output analysis (I-O)
- Input-Output Econometric modelling (IOE)
- Computable General Equilibrium modelling (GCE)

For the purpose of keeping this explanation of an Economic Impact Assessment succinct, the Input-Output methodology will feature as the key focus.

Input-Output tables explain the structure of an economy

Input-Output tables help to organise the business sector of an economy in terms of who makes what outputs and who uses what inputs. Think of it as a matrix. The I-O technique is useful for estimating how an increase in demand for a product of one industry could impact other industries and the broader economy, as a whole.

Input-Output analysis is used to construct Input-Output Multipliers which can in turn be applied when estimating the impact of incremental spending in an economy.

Direct and indirect (i.e. multiplier) impacts

There are three types of economic impacts:

Direct

These measure the primary impacts, which are changes that occur in “front-end” businesses that would initially incur expenditures and receive revenue as a direct consequence of the operations and activities of a project. These can include labour, materials, supplies and capital. Capital expenditures are normalised to a base year and reported in current dollars.

Indirect / supply-chain

These can be categorised as a type of “second tier” effect, arising from changes in activity for suppliers of the “front-end” businesses. Think of these multipliers as having a kind of “knock-on” effect in the economy. They include the purchase of goods and services and the hire of workers by the suppliers of the project in order to meet demand.

Induced

These measure the impacts from shifts in spending on goods and services as a consequence of changes to the payroll of the directly and indirectly affected businesses. They include spending by the employees of the project on goods and services at a household level, like food, clothing, motor vehicles, etc.

Outputs of an Economic Impact Assessment

An Economic Impact analysis measures impacts on the following:

1. Output
2. GDP
3. Employment
4. Wages and salaries
5. Taxes

Output

Output is the broadest measure of economic activity. It encompasses the total gross value of goods and services produced by a company or industry. Output is typically a large number when it comes to measuring economic activity, but it is important to note that it can double-count impacts. Hence, Gross Domestic Product (GDP) is typically preferred.

Gross Domestic Product (GDP)

The GDP or value-added impact refers to the additional value of a good or service over the cost of inputs used to produce it from the previous stage of production.

It is equal to net output, or the difference between revenues and expenses on intermediate inputs.

It is the incremental value created through labour or mechanical processing.

Total GDP is a more meaningful measure of economic impact than output, because it avoids double counting during each round of impacts.

GDP is smaller than Output but it is more important to government stakeholders. At a state level, the counterpart of GDP is Gross State Product (GSP) and, at the regional level, the counterpart is Gross Regional Product (GRP). GSP and GRP are calculated on the same basis as GDP.

Employment

Employment is the number of additional jobs created as a result of the expenditures made by the operation / undertaking. Typically it is measured in full-time equivalent (FTE) terms, so someone employed two-and-a-half days out of a full five day work week is counted as 0.5 of an FTE employee.

Depending on the definition used, direct employment is generally employees on payroll, but can include contractors working at the site of the operation.

Indirect employment is related to the suppliers' workforce.

Induced employment encompasses the retail and other types of jobs that support household expenditures.

Wages and Salaries

Wages and Salaries are a measure of the cash earnings of employees.

Tax revenues

Government tax revenues are derived from personal income taxes, indirect taxes minus subsidies, corporate income taxes, and royalties (e.g. from mining). They are measured as the total amount of tax revenues generated for each level of government (local, state and federal).

Inputs to an Economic Impact Assessment

Data used as inputs to the modelling include both capital expenditures (CAPEX) and operating expenditures (OPEX) by industry sector (e.g. non-residential construction and accommodation & food services for a tourism project).

Typically, projects will be split into a construction phase in which the CAPEX occurs and an operational phase in which the OPEX occurs. Economic impacts can be measured for both. Construction phase impacts will be temporary, while operational phase impacts will be ongoing.

It is important to note that only the new or incremental cash expenditure amounts of a project that will be spent in the region in which the project or operation is located should be included. Often, secondary data from statistical agencies can be used to support the expenditure estimates used during the modelling phase.

Four steps for Economic Impact Assessment

Step One: Measure direct impact: CAPEX and OPEX of the project / policy / undertaking

Step Two: Build/update economic model: build/update input-output model of regional economy

Step Three: Estimate indirect and induced impacts: input CAPEX and OPEX data into the model and derive impacts

Step Four: Stakeholder communications – reporting back to those decision-makers and groups or individuals affected by the suggested project

Conclusion

An Economic Impact Assessment can be a powerful tool to garner stakeholders' support, which is critical to the successful establishment of the proposed project or policy going forward. Securing and maintaining that support, through demonstrating the economic benefits, can help to limit overall project risks.

The Input-Output technique is a straightforward, (and often the most economical) way to conduct modelling. It provides an upper limit, but does not take into account resource constraints, including labour, capital and land.

Computable General Equilibrium (GCE) modelling, which has not been detailed in this explanation, is as a general rule, more expensive. However, it provides a more realistic estimate of the long-term impacts of the project / policy.

The choice of the most appropriate methodology for an Economic Impact Assessment should be taken on a case by case basis. An experienced economist will know the best methodology to apply and will, in most cases, also include a sensitivity analysis, providing information on how changes in the models' specification, reflecting alternate assumptions, would affect the results. In fact, the inclusion of such documentation may be taken as a sign of a rigorous and deeply considered analysis. This can add considerable weight to your credibility and offer great reassurance to the various stakeholders, underlining the need to always engage a professional and experienced economist to prepare your Economic Impact Analysis.

Attribution

This briefing note is based significantly on the Queensland Treasury's excellent 2005 paper *Overview of some alternative methodologies for economic impact analysis*.

Get in touch regarding Economic Impact Analysis

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