Distributional Analysis

July 2023

Please note that this guidance is under review. If you have suggestions or would like to discuss, please email Helpdesk-OIA@pmc.gov.au

Introduction

Decision makers are often concerned about the distributional impacts of projects and policies. Distributional analysis is an important supplementary step to provide decision makers important information about the overall outcomes for the community.

Distributional analysis furthers the informative value of a Cost-Benefit Analysis (CBA) by articulating how costs and benefits are distributed across different cohorts of a population. Distributional analysis can thus provide greater information to decision makers about how certain cohorts are affected differently by particular policies.

Different cohorts respond to government policy in different ways. For example, small businesses often operate in a fundamentally different way to large or medium businesses, while women returning to work after parental leave are targeted by different government initiatives to those currently in the labour force, as they face different effective marginal tax rates.

When a policy proposal is judged to have disproportionate impacts on a particular population segment, such as small businesses or women, indigenous populations, or people living in regional and remote areas this should be considered in Impact Analysis. By itself, understanding the likely impacts does not provide a guide to action. However, when policy analysis goes beyond a purely quantitative CBA efficiency representation, decision makers can take these impacts into account in a final decision.

This guidance note explains how factors that are unique to different cohorts should be taken into account in addressing the seven Impact Analysis questions listed in the *Australian Government Guide to Policy Impact Analysis*. It includes a stepped process of performing a distributional analysis.

Why is distributional analysis important?

CBA is a useful tool to determine if a government intervention will result in an efficient outcome for society as a whole by estimating the net benefit (the difference between net benefits and net costs) of the proposed intervention.

However, CBA can fail to account for the distribution of costs and benefits in society. CBA assumes that one dollar has a constant marginal value for all individuals. A policy intervention with a positive CBA may therefore reduce social equity by concentrating gains from market activity in certain segments of the population.

Distributional analysis seeks to mitigate this shortcoming by specifying the impact of government interventions on different population segments. When policy proposals are founded on a positive CBA and robust distributional analysis, decision makers can prioritise interventions that promote efficient and equitable outcomes.

When should I perform distributional analysis?

Distributional analysis is necessary when an intervention is likely to have a significant impact on different groups or when the proposed policy has an explicitly redistributive objective.

Assessment of distributional impacts could range from a simple quantitative or descriptive approach where the scale of the effect is relatively low, to an in-depth appraisal and detailed calculation of distributional effects where the scale is relatively high.

Four examples of the way you can frame a distributional question include:

- To what extent does the policy benefit or harm those who have high or low incomes, or who are in good or poor health, more or less vulnerable to disease, or very young or very old?
- Does this policy disproportionately affect members of minority groups or residents of particular geographic areas?
- Are there issues of intersectionality that need to be addressed – are there subgroups within a distribution that are likely to be affected in a even more significant way? For example if a distributional analysis considers impacts on people living within regional areas is everyone affected the same or might women, indigenous people or people with disabilities be affected more significantly than other segments of the distribution?
- Does this policy have a different impact on businesses of different size, for example small and micro businesses?

What stakeholder groups should I be sensitive to when performing a distributional analysis?

There are several readily identifiable cohorts that could be accounted for through a distributional analysis, depending on the policy. These include, but are not limited to:

- Age
- Gender
- Disability
- Indigeneity
- Regional/geography
- Income/wealth level
- Business size
- Cultural background/immigration status
- Employment status and security
- Home ownership/housing stability

Who can I contact to get further information about these stakeholder groups?

Various departments across the Australian Public Service can assist with understanding the different needs of stakeholder groups and data. These include:

- Office for Women in the Department of the Prime Minister and Cabinet
- Department of Home Affairs
- Department of Climate Change, Energy, the Environment and Water
- Department of Employment and Workplace Relations
- Australian Small Business and Family Enterprise Ombudsman (ASBFEO)
- Department of Infrastructure, Transport, Regional Development and Communications
- National Disability Insurance Agency
- National Indigenous Australians Agency
- Australian Institute of Aboriginal and Torres Strait Islander Studies
- The Australian Bureau of Statistics.

How do I perform distributional analysis?

Performing distributional analysis can be summarised into these steps:

1. Identify the key stakeholder groups that stand to gain or lose.
2. Allocate the quantitative and qualitative costs and benefits (including transfer payments) identified in the impact analysis to one or more of these groups.
3. Consider whether any of these costs or benefits may be shifted to another group.
4. Address any uncertainty in the distribution of costs and benefits to stakeholders.

It is important that distributional analysis is undertaken in a systematic way and presented with the acknowledgement of relevant limitations. Distributional analysis need not be purely quantitative; providing qualitative assessments of perceived impacts can be useful context for informing decision makers.

A key component of any costing process will be estimating the number of businesses or individuals likely to be affected by the proposed measure. The following data sources can assist in estimating distributional effects:

- ABS Catalogues 8165.0, 8175.0, 6306.0 and ATO Taxation Statistics for business size,
- ABS Catalogues 6202.0, 6302.0 and 4125.0 for labour market and gender effects,
- ABS catalogues 3235.0 and 3101.0 for geographic and demographic effects,
- ABS catalogues 4430.0 provides detailed information on people with disability, while ABS catalogue 3302.0.55.001 are Australian Life Tables (showing mortality rates based on different ages).
- ABS catalogue 6227.0 provides information about education and work outcomes; it supplements the monthly Labour Force Survey (Cat 6202.0)

How do I consider distributional impacts in preparing Impact Analysis?

Documenting the impacts of options in Impact Analysis may or may not involve conducting a formal cost benefit analysis. Nevertheless, any impact assessment is going to involve some examination of costs and benefits to the businesses, community, individuals and/or the environment, where relevant.

Where distributional impacts are considered, a clearly labelled section summarising them should be inserted in the Impact Analysis following the analysis of the costs and benefits of each option.

The distributional analysis should follow the steps above, and where this indicates a disproportionate and potentially undesirable impact on a key stakeholder group(s), consider including additional discussion of possible mechanisms to mitigate some of these impacts.

Assistance

If you have any questions about this guidance note, email OIA at helpdesk-OIA@pmc.gov.au or call (02) 6271 6270.

Further information on the Impact Analysis process is in the *Australian Government Guide to Policy Impact Analysis*.