Interim Report

Industry Assistance: Performance Assessment Framework

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EXECUTIVE SUMMARY

The Queensland Government has asked the QCA to assess the effectiveness and efficiency of State government assistance to industry.

In particular, the QCA has been asked to:

- catalogue industry assistance measures in Queensland
- assess the performance of those measures and their contribution to the Queensland economy.

The QCA defines industry assistance broadly to include budget outlays, tax concessions, underpricing of services and infrastructure, contingent liabilities, procurement preferences and regulations restricting competition.

In this interim report, the QCA outlines a performance assessment framework that will be used to evaluate industry assistance measures. The aim of the framework is to help government decision makers and the community judge the performance of industry assistance.

The assessment framework concentrates on establishing the effectiveness, cost effectiveness and net benefit of an industry assistance measure. While the concepts are related, they are not the same:

- effectiveness – relates to the degree to which stated objectives have been achieved
- cost effectiveness – measures whether the cost of achieving the objectives is minimised
- net public benefit – assesses all of the costs and benefits (direct, indirect and unintended) of an industry assistance measure.

To be justified, a measure should satisfy all three of the above tests, namely:

- achieve its stated objectives
- achieve these objectives at the lowest possible cost
- provide the Queensland community with a net benefit (see Figure 1).

The QCA has drawn on the significant body of evaluation literature and practice in Australia and overseas to develop the performance assessment framework. The framework is consistent with established processes, including the Productivity Commission’s approach to assessing industry assistance, and the regulatory assessment processes used by the Commonwealth, states and territories. It is also consistent with the Queensland Government’s Performance Management Framework (used for performance reporting) and Project Assurance Framework (developed for policy appraisal of projects).

While the principles underlying the assessment framework are familiar, integrating them into a single assessment framework to assess industry assistance is new.

A key aspect of the framework is that there must be clarity in the policy process, so that an assistance measure’s objectives are clearly defined, focus on outcomes and have measurable targets. Without this clarity in objectives, it is difficult, if not impossible, to assess the effectiveness of an assistance measure.

Equally, for an assistance measure to have the greatest chance of delivering a net benefit to the Queensland economy, it should generally focus on addressing areas of significant market failure (i.e. where market transactions alone do not produce the best outcome for society).
Figure 1 Overview of the Performance Assessment Framework

**Step one: Is there a case for government action?**
Identify the problem. Is there a significant policy problem that could be corrected through government action?

**Step two: Is it effective?**
Does the assistance achieve its objective/s? Has the assistance induced activity beyond what would have occurred without it? Is it cost-effective?

**Step three: Does it deliver a net benefit to the Queensland community?**
What are the costs and benefits of the assistance? Do the benefits outweigh the costs? Are there distributional (equity) impacts?

**Step four: Could alternatives deliver a greater net benefit to the Queensland community?**
Are there feasible alternatives to the assistance (including no action where appropriate)? What are the costs and benefits?

**Step five: What is the best option?**
Which option is likely to maximise the net benefit to the Queensland community?

This framework can be applied to evaluate existing assistance measures, as well as to assess the design of new assistance measures.

**Next steps**

This report completes the first part of this inquiry’s terms of reference, which asked the QCA to develop an appropriate performance assessment framework to evaluate industry assistance provided by the Queensland Government.

The QCA is working with Queensland Government agencies to establish a list of industry assistance measures. A preliminary list of measures will be released shortly for stakeholder comment on both the comprehensiveness of the list and the performance of identified measures.

The QCA will then seek to work with Queensland Government agencies and stakeholders to apply the performance assessment framework to identified industry assistance measures.
The Queensland Competition Authority (QCA) is an independent statutory authority established to promote competition as the basis for enhancing efficiency and growth in the Queensland economy.

The QCA’s primary role is to ensure that monopoly businesses operating in Queensland, particularly in the provision of key infrastructure, do not abuse their market power through unfair pricing or restrictive access arrangements.

In 2012, that role was expanded to allow the QCA to be directed to investigate, and report on, any matter relating to competition, industry, productivity or best practice regulation, including to review and report on existing legislation.

Task, timing and contacts
The Queensland Government has asked the QCA to investigate the effectiveness of Queensland Government industry assistance measures and their contribution to the state’s economic performance and productivity.

Further background information on the inquiry, including a copy of the Terms of Reference provided by the Queensland Government, can be found on the inquiry’s homepage at http://www.qca.org.au/Productivity/Productivity-Projects/Industry-Assistance.

Key dates
- Receipt of Terms of Reference: 31 March 2014
- Release of Issues Paper: 11 April 2014
- Submissions due date: 30 May 2014
- Interim Report for Government: 29 August 2014
- Consultations and submissions: mid September 2014-January 2015
- Final report for Government: 30 June 2015

Registration of interest
http://www.qca.org.au/Subscribe

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1 ABOUT THIS INQUIRY

The Queensland Government has asked the Queensland Competition Authority (QCA) to investigate the effectiveness of Queensland Government industry assistance measures and their contribution to the state’s economic performance and productivity.

A Direction Notice - Terms of Reference (TOR) was provided to the QCA on 31 March 2014 (Appendix A). It establishes the work required of the QCA, including the provision of this Interim Report which details the performance assessment framework to be used in evaluating Queensland Government industry assistance measures.

This report is primarily a presentation and discussion of the methodology the QCA will use in evaluating industry assistance measures. It does not include any findings or draft results from evaluations undertaken. The material can be viewed as a ‘How To’ guide to assist participants in understanding the inquiry’s forward work program and evaluation processes.

1.1 What the QCA has been asked to do

The Queensland Government has asked the QCA to investigate and report on Queensland Government industry assistance measures, to assess the effectiveness of the measures, including cost effectiveness, and evaluate the contribution of the measures to Queensland’s economic performance and productivity (see Box 1.1). More specifically, the QCA has been asked to:

- identify the current assistance measures in place, including each measure's objectives, administration, performance assessment and funding
- develop an appropriate performance assessment framework to evaluate assistance measures – including their cost effectiveness and their contribution to Queensland’s economic performance and productivity
- apply the performance assessment framework to current assistance measures
- propose options for reform of current assistance measures that would increase their effectiveness, including cost effectiveness
- develop an appropriate monitoring and performance evaluation process that the Queensland Government could adopt to continually evaluate the performance of assistance measures.

The QCA has initiated three main streams of activity to undertake the initial tasks of this inquiry, namely:

- public consultations to ensure that Queensland businesses and communities have the ability to contribute, in an informed and transparent way, to our inquiry and to the development of the government's future industry assistance priorities
- working with Departments to catalogue industry assistance measures. This ongoing task involves identifying the range of Queensland Government policies, programs, activities and practices that can be reasonably identified as providing assistance to industry
- developing the performance assessment framework presented in this interim report.
Box 1.1 Why review industry assistance now?

In 2013, the Queensland Commission of Audit (QCoA) examined industry assistance provided by the Queensland Government and found that:

Direct and indirect government assistance to industry has a significant effect on the structure of the economy and the incentives to invest. The role of the Government in assisting industry and facilitating industrial development needs to be clearly stated, consistently applied and directed towards productivity improvements which benefit the whole economy. (QCoA 2013, p 2-309)

...it is not possible to obtain sufficient information to list or quantify the range of industry policies in place in Queensland, or to evaluate the objectives, effectiveness or value for money of those policies. The Commission considers that industry policy needs to be more focussed on measures to improve the productivity of business and industry for the broader benefit of the economy. (QCoA 2013, pp. 2-337)

Likewise, submissions to this inquiry highlighted the significant impact of industry assistance and the need to get the policy settings 'right'. For instance, the Property Council (sub. 7, p. 1) noted the opportunity costs of ineffective assistance:

The Property Council expects that some industry assistance programs may be outdated or poorly designed and therefore provide little benefit to the community. Redirecting funding away from ineffective initiatives could enable a greater level of investment in projects that provide greater community or economic value or into reducing taxation to improve Queensland’s interstate competitiveness. (Property Council, sub. 7, p. 1)

The Medical Technology Association of Australia (sub. 3, p. 3) emphasised the importance of industry assistance to its sector:

Australia has many of the right attributes to grow a strong domestic industry; a significant health and medical research capability, quality health system, highly skilled manufacturing workforce, stable financial system and access to the growing middle class markets of Asia. What’s missing is attention from government policy makers enabling the private sector more scope to develop business opportunities.

Whereas others highlighted the potential distortions arising from industry assistance:

We see governments’ role in industry policy as encouraging and supporting the transformation of industry through policies aimed at encouraging business innovation and measures to boost productivity that are available across the economy. ... This minimises the likelihood of market distortions that can arise from sectoral support measures or from Government ‘picking winners’ (either in terms of sectors or in terms of stages in a particular supply chain). (Australian Industry Group, sub. 6, p. 1)

Probably of most importance when evaluating industry assistance is recognising that where competition is effective, it generally provides the best means of delivering the goods and services that consumers demand at prices that reflect efficient costs. Governments which choose to restrict consumers ability to choose among rival suppliers and alternatives terms and conditions should demonstrate why this is necessary in the public interest (Origin Energy sub. 4, pp. 2-3)

Asciano believes that the Queensland Government should focus on longer term industry assistance measures that improve economic outcomes and/or address areas of market failure rather than focus on shorter term measures driven by the requirements of the electoral cycle. (Asciano sub.2, p. 4)

The QCA will focus on finalising the catalogue of industry assistance measures, assessing the level of assistance provided to industries, evaluating the effectiveness and economic impact of the measures (i.e. applying the assessment framework) and designing an ongoing monitoring and performance evaluation process (see Figure 2). These tasks will be undertaken from late 2014 and into the first half of 2015.
1.2 What is industry assistance?

TOR definition of industry assistance

The TOR defines industry assistance as:

...any measures implemented and/or funded by the Queensland Government, directly or indirectly, that are intended to assist any industry in the State of Queensland as determined by the Authority as part of its investigation.

This definition is similar to the definition of industry assistance contained in the Productivity Commission Act 1998, and used by the Productivity Commission (PC) in its work on measuring the industry assistance provided by the Australian Government.¹

Governments can adopt two approaches to setting industry policy: focus on ‘framework conditions’, which generally apply to all businesses; or, adopt a strategy of providing ‘selective assistance’ to certain industries and businesses. In practice, governments choose a combination of both approaches, with the balance varying between governments and over time.

Some of the categories of policies which help establish or influence the framework conditions facing businesses include: macroeconomic and tax policies; economic, scientific and social infrastructure; labour markets; national institutions and property rights; the political system; the financial system; the education and training system; and market conditions (PC 2007, p.17). These are not the sorts of policies that are generally regarded as being industry assistance, even though they can assist or impose costs on industry and are fundamental to economic growth.

¹ The Productivity Commission Act 1998 defines government assistance to industry as, ‘... any act that, directly or indirectly: (a) assists a person to carry on a business or activity, or confers a pecuniary benefit on; or (b) results in a pecuniary benefit accruing to, a person in respect of carrying on a business or activity’.
To be considered industry assistance, policies will generally involve a transfer of benefits (e.g. financial resources) to a recipient business and the assistance will usually be selective (i.e. some businesses, industries or types of businesses receive the assistance while others do not).

Community and not-for-profit businesses are considered out of the scope of the inquiry, with the exception of any circumstances where assistance is provided to for-profit businesses through community or not-for-profit businesses. This is consistent with established practices of industry assistance measurement at the PC. The PC generally excludes government programs affecting a range of service industries where community and not-for-profit entities are active (e.g. health, education and community services).

Transfers of benefit to households are also out of the scope of the inquiry, with the exception where transfers are tied to the purchase of specific products not considered part of the general welfare system.

A qualification test incorporating the above characteristics of assistance and forms of assistance is outlined in Appendix C. The test provides a systematic approach to identifying the policies, programs, activities and practices of the Queensland Government which qualify as industry assistance.

The types of measures that will pass this qualification test, and can reasonably be considered to be industry assistance, are likely to include:

- budgetary measures
  - direct expenditure (e.g. grants, subsidies, credit and loans)
  - tax concessions (e.g. exemptions, deductions, rebates, preferential tax rates, deferred tax)
  - contingent liabilities (e.g. debt guarantees)
  - funding to organisations delivering services to industry

- government purchasing preferences and local content requirements

- subsidised public infrastructure and services including underpricing of services from Government owned assets (e.g. water pipelines and dams)

- restrictions on competition that benefit some businesses.

The Queensland Government has many different policies, relying on a wide range of measures that are implemented through a number of Departments and other entities (e.g. statutory authorities). The qualification test will be used to filter through these policies and identify the lists of industry assistance measures.
1.3 Measurement

The level of assistance can be measured for:
- budgetary outlays
- tax concessions
- underpricing of access to Queensland-Government-owned assets (at least for some asset types)
- provision of services for free or at less than full cost recovery.

Other forms of assistance usually cannot be readily measured. The main difficulties are a lack of data, difficulties in accessing existing data (e.g. where commercial-in-confidence contracts are established), and/or the need to undertake detailed analysis and modelling (e.g. where regulatory restrictions on competition provide an unknown level of benefit to incumbent businesses).

The level of assistance provided by the Queensland Government can be categorised by the type of assistance, industry sector, the nature of the assistance measure (e.g. research and development (R&D) and innovation assistance, export assistance and tourism assistance), the agency responsible for the assistance, and how the assistance is intended to affect industry outputs or inputs (e.g. labour, capital, materials and energy inputs).

1.4 Evaluation

Prioritisation

The lists of industry assistance measures will need to be prioritised for evaluation purposes. The techniques and resources devoted to evaluations should be proportional to the potential economic impacts of the measure. The QCA’s prioritisation test will consider the following questions when prioritising measures into low-, medium- or high-priority categories.

- Is the measure an established measure that has not recently been evaluated?
- Is the measure subject to a scheduled evaluation under other Queensland Government processes (e.g. Regulatory Impact Statement processes)?
- What is the expected level of economic impact?
  - Some of the criteria for considering the potential level of economic impact are: inconsistency with sound intervention rationales; risks of unintended consequences; the level of industry assistance provided; the degree to which the measure is selective and therefore potentially distorting; and the scope for the measure to distort capital investment.
- What is the complexity of the issues involved?
- Are the appropriate data available (or can they be developed at a reasonable cost)?

Performance assessment framework

The assessment framework focuses on the evaluation of individual industry assistance measures (the pink box in Figure 2 above). It guides the analytical work required to evaluate the:
• policy rationale/s of the measure
• effectiveness of the measure, including cost effectiveness
• economic impacts of the measure.
These are discussed in detail in later chapters.

Macroeconomic impacts of assistance
The aggregate economic impact of industry assistance measures will be modelled within a Computable General Equilibrium (CGE) framework. The scenarios will be illustrative of the magnitude of the potential impacts of the measures on incomes in Queensland.

The CGE framework can provide an economy-wide perspective of the measures’ impacts, as opposed to a narrower focus on the impacts on a particular target group. The CGE framework provides a useful basis for examining the:
• opportunity costs of industry assistance measures
• constraints on assistance measures in achieving their intended objectives
• allocative efficiency consequences of policies
• linkages between industry assistance, the public financing requirement, and the re-direction of resources from other potential uses
• linkages with the rest of Australia.

Recommendations
The evaluation work above will support the QCA’s development of recommendations to the Queensland Government on options for the reform of assistance measures to improve their effectiveness and economic impact.

1.5 Ongoing monitoring and evaluation framework
The TOR directs the QCA to recommend an appropriate monitoring and performance evaluation process that could be adopted by the Queensland Government to continually evaluate the performance of assistance measures.

The recommended process is likely to incorporate many of the elements of the Qualification Test, Prioritisation Test and assessment framework used in this inquiry. The QCA may recommend improvements in methodology based on issues raised during the inquiry.

The recommended process will also need to consider linkages with existing Queensland Government budgetary and other policy processes, policy appraisal and evaluation requirements, and institutions.

1.6 Submissions and consultations
In preparing this report, the QCA sought input from a range of stakeholders. The QCA released an Issues Paper in April 2014. The Issues Paper invited all interested parties to provide

2 A CGE model is a model of an economy that is used to assess impacts of policy options on an industry-by-industry basis. It specifies transaction values and the nature of demand and supply to model the impact that a change in one sector of the economy will have on other sectors. In doing so, it reflects the impacts that industry policies may have on other parts of the economy.
submissions addressing a series of questions posed by the QCA. The QCA received 11 submissions.

On 30 April 2014, the QCA held a workshop for Queensland Government Departments to provide background information on the inquiry and information requests to be sent to departments. The workshop was attended by 16 Departments.

QCA staff also met with a range of industry associations, Queensland Government Departments and the Office of the Queensland Chief Scientist.

The QCA would like to thank all organisations and individuals who have contributed to this inquiry to date.

Appendix B lists the submissions to the Issues Paper, and details of workshop attendees and consultations.

1.7 Structure of this report

The structure of this report is as follows:

- Chapter 2 provides an overview of the performance assessment framework.
- Chapter 3 discusses the role of government and the policy rationales for providing industry assistance.
- Chapter 4 discusses and outlines the proposed approach to evaluating the effectiveness of industry assistance.
- Chapter 5 discusses and outlines the proposed approach to evaluating the economic impact of industry assistance.
2 OVERVIEW OF THE PERFORMANCE ASSESSMENT FRAMEWORK

This chapter provides an overview of the performance assessment framework that has been developed to assess industry assistance measures in Queensland.

The purpose of the assessment framework is to enable a systematic review of the impact of industry assistance. The application of the framework should provide government decision makers with sufficient evidence on the performance of industry assistance measures, and the costs and benefits of alternative policy options, to improve policy outcomes for the Queensland community.

2.1 Why evaluate industry assistance?

Well-designed assistance to industry can potentially overcome a number of policy problems and provide a benefit to the Queensland community. Equally however, poorly designed assistance comes at a significant cost to other industries, taxpayers and consumers. Evaluating industry assistance is important to:

- assess the impact of assistance – policies which provide assistance to industry will have objectives which are intended to improve the welfare of the community. However, a policy may not be effective, or it may have unintended consequences which may partially or fully offset the intended benefits of the policy.

- support decision making – evaluating industry assistance can help Government make more informed policy decisions that will lead to an improved allocation of the community's scarce resources.

- improve future design and administration of programs – transparent and rigorous evaluation of existing assistance can help improve the design of future programs.

The aim of this report is to provide a performance assessment framework to evaluate the effectiveness and economic impacts of assistance. Applying a robust assessment framework should help provide the necessary information and analysis to the Queensland Government to identify:

- assistance measures that do not provide benefits to outweigh the costs

- policies that might be reformed so that they either cost less to achieve the same objectives or can achieve more with the same level of funding

- policies that should be retained because they provide significant benefits to the community.

2.2 Guiding principles in developing and applying the performance assessment framework

In developing and applying the performance assessment framework, the QCA is guided by the TOR and requirements in the Queensland Competition Authority Act 1997. In particular, the QCA has been asked to focus on the economy- or community-wide impacts of industry assistance. This requires a broader assessment than just the impact of industry assistance on individual groups or interests. As such, the assessment framework will consider the impact on the Queensland community as a whole, with the aim of identifying options that maximise the net benefit to Queensland.
Similarly, in assessing the impacts of assistance, potential differences in short-term and longer-term outcomes also need to be considered. For instance, introducing assistance may provide an immediate net benefit for industry and the wider community. But, if that assistance stifles competition and innovation, then a net cost may be imposed on both over the longer term. The QCA will take a long-term perspective in its assessments.

2.3 The performance assessment framework

The key steps in the performance assessment framework are outlined in Box 2.1. The framework essentially consists of three main elements, namely to assess whether:

- there is a case for government action (e.g. is there a market failure that could be addressed through government intervention?)
- the assistance is effective (did the assistance achieve what it was supposed to achieve?)
- the assistance provides a net benefit to Queensland.

For many industry assistance measures, applying the evaluation framework is unlikely to be straightforward. Some evaluations will be constrained by limited data and evidence.

Where information is available on industry assistance measures, the 'proportionality principle' can be applied to determine the most appropriate evaluation process and techniques (OECD 1995). That is, the level of analysis will be commensurate with the complexity and significance of the measure and the size of the impacts. For a highly significant industry assistance measure, a full economy-wide assessment of the costs and benefits (including quantitative analysis) may be appropriate, whereas less significant measures may have a greater emphasis on qualitatively evaluating costs and benefits.
Box 2.1: Overview of the Performance Assessment Framework

**Step one: Is there a case for government action?**
- Is there a market failure?
- What is the size and scope of the market failure? Is the market failure likely to be significant and enduring?
- What is the likelihood the market failure can be corrected through government action?

**Step two: Is it effective?**
- What are the objectives of the assistance? Are they clearly defined and focused on 'ends' not 'means'?
- What is the existing evidence on the assistance measure's performance?
- Does the assistance achieve its objective/s?
- Has the assistance induced activity beyond what would have occurred without it ('additionality')?
- Is it cost effective?
- Are there ways to improve the measure's cost effectiveness?

**Step three: Does it deliver a net benefit to the Queensland community?**
- What are the costs and benefits of the assistance?
- Do the benefits of the assistance outweigh the costs?
- Are there distributional ('equity') impacts?

**Step four: Could alternatives deliver a greater net benefit to the Queensland community?**
- Are there feasible alternatives to the assistance (including no action where appropriate)?
- What are the costs and benefits of the alternatives?

**Step five: What is the best option?**
- Retain assistance in current form or expand where it maximises net benefit.
- Modify or fine-tune assistance to better meet objectives.
- Limit or cease assistance where ineffective or where it does not provide a net benefit to the community.

Figure 3 sets out a decision tree to follow in applying the performance assessment framework. In general, each step of the evaluation will proceed only where the assistance measure has passed the previous step (e.g. if the assistance measure is not based on a sound rationale for government intervention, the outcome would be a net loss for the Queensland community, so no further evaluation is required).
2.3.1 Step one: Is there a case for government action?

Governments provide industry assistance for a wide range of reasons e.g. to raise the standard of living of its citizens, increase employment, investment or productivity, and improve health, safety or environmental outcomes. Whatever the mix of goals, the prerequisite for achieving them is that there is a policy problem that needs to be resolved through government action.

Economists tend to categorise these forms of government intervention as either seeking to address:

- a *market failure* (where market transactions do not produce the best outcome for society e.g. an underinvestment in R&D activities, or excessive pollution)
- *distributional or equity* issues (the distribution of resources among particular people or groups in the community).

A central principle underlying the operation of modern economies is that relatively unencumbered markets generally present the best way to allocate scarce resources. When markets function well, prices coordinate the interactions of consumers and firms,
providing signals to facilitate the production of goods and services that people value. Prices ration supply amongst consumers, according to willingness to pay, and indicate the opportunity cost of resources used in the production of goods and services. In such cases, government intervention through industry assistance to alter production and consumption will lead to a net loss for society.

However, markets do not always function well and can fail to allocate resources in a way that produces the best outcome for society. Key recognised market failures are:

- Lack of effective competition may arise where there is a natural monopoly, or when the market has a small number of firms that are able to restrict output and maintain prices above optimal levels. Similar problems may arise if there is a small number of buyers of a good or service (monopsony).

- Externalities occur when the act of producing or consuming a good imposes costs or benefits onto others such that the private benefits or costs of an activity do not reflect the full social benefits or costs. Environmental pollution, traffic congestion and exploitation of an open access resource (e.g. a fishery) are examples of externalities. Similarly, firms may not be able to capture the full benefit of their R&D activities and may invest at less than socially optimal levels.

- Public goods are goods and/or services where consumption is non-rivalrous (i.e. consumption by one person does not affect the amount available to others) and non-excludable (i.e. people cannot be prevented from consuming the good). Producers and consumers cannot capture the full benefits of provision and payments for provision cannot be enforced. As a result, public goods are likely to be underprovided by the private sector. Examples of public goods are the defence and police forces.

- Imperfect or asymmetric information occurs where one party possesses more information about a transaction than the other. Institutional or cost barriers can prevent parties to a transaction from obtaining relevant information about the characteristics of a transaction (most notably risks) and/or each other. Product standards and labelling laws are examples of government intervention to address information failures.

Government intervention may be warranted in the presence of market failures. However, establishing that there is a market failure does not, in itself, establish the case for government intervention. First, private individuals and organisations themselves may find solutions to market failures, such as sourcing information to overcome information imbalances. Second, the test of whether governments should intervene is not the existence of market failures, but whether the benefits of intervention will exceed the costs. Government action may produce benefits that are outweighed by the costs, or be ineffective, inefficient and bring unintended consequences, as the examples in Box 2.2 illustrate. This is commonly referred to as 'government failure'.
Box 2.2: Governments can fail too

Wool reserve price scheme
In response to rapidly declining wool prices in the late 1960s and early 1970s, the then Australian Government introduced a reserve price scheme for wool to protect wool growers from market fluctuations. Under the scheme, the Australian Wool Corporation (AWC) set minimum prices for different categories of wool and then used grower funds to buy wool that did not reach the prescribed price, aiming to hold it until the market improved.

Initially, the scheme appeared to ‘work’ and prices stabilised from 1974 to 1987. But by the late 1980s, market conditions had changed. The floor price had been set too high, and as a result, the AWC had amassed a stockpile of 4.75 million bales of wool, with an associated debt of $2.6 billion. The scheme failed because its key requirement — knowledge of how the long-run, market-clearing price related to observed prices — was unavailable to the scheme’s administrators, who also faced systematic incentives to overestimate the price.

In 1991, the reserve price scheme was scrapped. For a short time, wool growers were paid a government subsidy to kill their sheep. It took over 10 years to sell the last bale from the wool stockpile.

Interstate bidding wars
In 2001, the Queensland Government provided incentives for Berri Fruit Juice to relocate some of its manufacturing operations from New South Wales and South Australia to Queensland. Earlier, the South Australian Government had similarly provided incentives to Berri to retain manufacturing operations in its State, after the company had been persuaded to shift its headquarters to Victoria. Berri no longer operates in either South Australia or Queensland. Berri closed its manufacturing operations in South Australia in 2010. In 2013, Berri’s parent company, Lion Co., announced it would be closing its juice manufacturing site in Queensland and transferring its production to New South Wales due to lower costs.

Ethanol Production Grants Program
The Ethanol Production Grants Program was introduced in 2002 to encourage the production and use of ethanol. The program provided a fuel excise rebate to domestic ethanol producers of 38.5c/L, effectively making it excise free. In 2014, the Bureau of Resources and Energy found that the:

- program distorts the allocation of resources within and across the agricultural and fuel sectors in the economy
- costs to taxpayers are significant. The key economic and environmental benefits of ethanol production (regional employment and greenhouse gas abatement) are relatively modest but come at a high to very high cost
- subsidy appears to be largely captured by the production and supply chain rather than consumers. There is no evidence to suggest that the program assists in increasing competition or putting downward pressure on retail fuel prices.

The program was abolished in the 2014–15 Budget, but replaced with an excise tax concession that will gradually decline by 12.5c/L over the next five years. The concession will then be 26c/L.

Consequently, understanding the size and scope of the market failure is fundamental to determining the right policy response.

- Where the market failure is not significant, or unlikely to be enduring, the cost of government intervention is likely to outweigh the benefits. Intervention may introduce distortions of its own, fail to achieve the intended results and also carries administration and compliance costs.

- Understanding the type, size and scope of the market failure will help determine whether the market failure could conceivably be addressed through government invention. For example, financial markets may fail to correctly assess risk and result in restricted access to finance for certain parts of industry. However, governments may be no better, and may be less well placed, to assess risk and allocate credit compared with the private sector.

Governments also undertake actions to achieve social equity. They play an important role in redistributing income and redressing disadvantage in the community. However, in general, equity objectives, and income redistribution more broadly, are better achieved through the welfare system rather than industry assistance, as this can directly target those in need without unduly introducing inefficiencies in the market.

2.3.2 Step two: Is it effective?

Governments normally provide assistance to change something. Determining the effectiveness of an industry assistance measure requires an assessment of whether the outputs of that assistance have achieved the desired outcomes (i.e. has the assistance measure achieved what it intended to achieve?).

It is also important to look at cost effectiveness — a measure of the extent to which the cost of resources used to produce a specified outcome has been minimised. An assistance measure is cost effective if it has the lowest cost of producing the same or very similar effects, relative to other policy options.

The starting point in assessing effectiveness is to identify the objectives of the assistance. Objectives need to be clear, concise, accountable, measurable and outcome-focused. Importantly, objectives should not confuse the desired final outcome with the means of obtaining it. For example, a government's objective may be to reduce carbon emissions. This objective differs from narrower proposals such as ‘to provide incentives to install solar panels’ or ‘to mandate a renewable energy production target’, which may be two of the many means of attaining the objective.

Assessing whether an assistance measure actually resulted in the changes it was intended to achieve poses challenges, because it is often difficult to separate the impact of assistance from the multitude of other factors that may contribute to outcomes. Key issues to consider are whether the assistance measure:

- had a causal relationship with the outcome it sought to induce (i.e. the outcome can be attributed to the assistance measure)

- induced impacts over and above what would have materialised in its absence (i.e. the assistance measure has ‘additionality’).

To determine whether the assistance measure had any incremental impacts (and indeed a causal relationship with its intended outcomes), it is necessary to compare an appropriate base case or counterfactual (i.e. the world without the proposed change) with the world having the assistance.
In cases where few factors influence outcomes, it may be sufficient to rely on a ‘before and after’ assessment where the counterfactual is assumed to be a continuation of what was observed before the intervention. However, industry assistance typically targets outcomes that are influenced by a range of market factors and associated policy and regulatory settings. In these cases, it is important to establish a credible counterfactual to measure the impact of assistance to estimate what would have prevailed had the assistance measure not been introduced.

2.3.3 Step three: Does it deliver a net benefit to the Queensland community?

The primary question to answer in assessing an industry assistance policy or program is ‘does the assistance yield a net payoff to the Queensland community?’ Where the gains (benefits) resulting from the assistance exceed the losses (costs), then the Queensland community will be better off (i.e. there is a net benefit from having the assistance measure).

Assessing the net benefit of industry assistance requires all costs and benefits to be considered, drawing on information from the effectiveness assessment as well as costs and benefits borne in other parts of the economy and community.

Benefits of industry assistance may include:

- additional employment and investment that would not have occurred without assistance
- spillover benefits from knowledge and technological diffusion
- improved ecological and environmental outcomes (e.g. through reduced carbon emissions or improved energy and water efficiency).

Costs of industry assistance may include:

- program administration and compliance costs as well as the costs of taxation
- harmful environmental outcomes through the inefficient use of land, fuel and water resources
- increased costs on business as those firms receiving assistance may bid up the price of scarce resources (e.g. skilled labour)
- increased costs on consumers from higher prices, or reduced range and quality, of goods and services.

Ideally, a cost–benefit analysis would identify all costs and benefits, and compare them using a common measure (usually dollars). However, some costs and benefits are easier to value than others. For example, a market valuation may be used to estimate the magnitude of additional employment and investment, while other costs and benefits, such as those relating to the environment, are more difficult to value. These should be qualitatively assessed drawing on quantification where possible (Queensland Government 2014, pp. 29-32).

The cost–benefit framework takes a whole-of-society perspective. It attempts to identify policy actions that maximise the wellbeing of the community as a whole, incorporating all costs and benefits regardless of where they occur (‘a dollar is a dollar’ assumption). As such, it can sometimes obscure distributional or ‘equity’ implications of policy actions. In such cases, an evaluation should include information on the groups likely to gain and on those likely to lose as a result of assistance, and the nature and size of the gains and losses. In this way, government decisions on distributional or equity issues can be transparently informed about likely distributional implications and the costs of government action aimed at benefiting individuals or groups in the community.
The assessment of costs and benefits should focus on the state of Queensland. However, where policies and programs have broader impacts, or target national policy problems, a national assessment framework may be more appropriate. This may be particularly important for investment-attraction policies that seek to transfer investment between states without changing aggregate investment and employment in Australia (IC 1996).

2.3.4 Step four: Could alternatives deliver a greater net benefit to the Queensland community?

There is rarely only one option available for governments to achieve their objectives. An evaluation should consider other feasible policy instruments to ensure that the recommended option is the one that generates the greatest net benefit to the community (Queensland Government 2014, p. 27).

Feasible policy instruments may include alternative forms of assistance that may be less distortionary, market-based instruments, reform of the broader tax, financial and regulatory framework, and no action. The analysis should identify feasible policy responses and calculate the costs and benefits of each option, as well as use sensitivity testing to account for uncertainty and risk.

2.3.5 Step five: What is the best option?

Drawing on the assessment of effectiveness, net benefit and alternative options, the evaluation should identify the option that maximises the net benefit to the community. In doing so, it should make clear recommendations on what should happen to the existing measure — for example, retain in current form, retain but modify to improve outcomes, initiate further review, abolish and replace with alternative measure, or simply abolish.

The proposed evaluation template is provided in Appendix D.
3 RATIONALES FOR ASSISTANCE AND THE ROLE OF GOVERNMENT

The starting point for evaluating an industry assistance measure is to determine whether there is a definite case for government action. As discussed in Chapter 2, government intervention through industry assistance may deliver benefits to the target industries and communities. However, industry assistance can generally only provide a gain for society where markets have failed to allocate resources in an efficient way. Where market failures exist, the question then becomes whether, based on the nature and size of the market failure, governments can intervene in a way that provides an overall benefit to the community.

This chapter outlines the main rationales for government to assist industry. This chapter does not seek to be exhaustive, but seeks to discuss the merits of the main rationales for intervention.

The key rationales (see section 3.2) focus on addressing the adverse effects from the failure of markets to function efficiently. Industry assistance measures based on this set of rationales have the greatest scope to deliver a net benefit for the Queensland economy. Other commonly cited rationales, and their various merits, are discussed in section 3.3.

3.1 Basis for governments to provide industry assistance

Government policies and regulation generally seek to improve the welfare of the community. Economists evaluate welfare using the concept of economic efficiency. An economically efficient outcome is attained when individuals in society maximise their utility, given the resources available in the economy (PC 2013). Achieving overall economic efficiency requires satisfaction of productive, allocative and dynamic efficiency (Box 3.1).

### Box 3.1 Components of economic efficiency

Economic efficiency is about maximising the aggregate or collective wellbeing of the members of the community. There are three aspects of economic efficiency.

**Productive efficiency** is achieved when output is produced at minimum cost. This occurs where no more output can be produced given the resources available; that is, the economy is on its production possibility frontier.

**Allocative efficiency** is about ensuring that the community gets the greatest return (or utility) from its scarce resources. A country’s resources can be used in many different ways. The best or ‘most efficient’ allocation of resources uses them in the way that contributes most to community wellbeing.

**Dynamic efficiency** refers to the allocation of resources over time, including allocations designed to improve economic efficiency and to generate more resources. This can mean finding better products and better ways of producing goods and services. It can arise from innovation (producing more with less) and from growth in resources such as capital and labour. Improvements in dynamic efficiency bring growth in living standards over time.

*Source: PC (2013)*

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3 This is called achieving ‘Pareto efficiency’. With this allocation of resources no one can be made better off without making someone else worse off, nor could the winners from a reallocation compensate the losers (Kaldor’s extension of Pareto efficiency) (PC 2013).
Ideally, competitive markets will allocate resources to outputs most valued by people, thereby maximising economic efficiency. However, the necessary conditions that must be satisfied if markets are to achieve this result are strict and market failures may occur for a number of reasons:

- Lack of effective competition: where there is a natural monopoly, or when the market has a small number of firms that are able to restrict output and maintain prices above optimal levels.
- Externalities: when the act of producing or consuming a good imposes costs or benefits onto others such that the private benefits or costs of an activity do not reflect the full social benefits or costs.
- Public goods: goods and/or services where consumption is non-rivalrous (i.e. consumption by one person does not affect the amount available to others) and non-excludable (i.e. people cannot be prevented from consuming the good). Producers and consumers cannot capture the full benefits of provision and payments for provision cannot be enforced. As a result, public goods are likely to be under-provided by the private sector.
- Imperfect or asymmetric information: where one party possesses more information about the transaction than the other, or where institutional or cost barriers prevent parties to a transaction from obtaining relevant information about the characteristics of a transaction (most notably risks) and/or each other.

Regardless of the nature or extent of market failures, government intervention is appropriate only if the benefits of intervention are likely to outweigh the costs (see Chapters 2 and 5). That is, the existence of market failure provides a necessary but not sufficient condition for government intervention. Government intervention is unlikely to be a perfect substitute for market competition — it may fail to achieve intended results, have unintended consequences and carries administration and other program costs. It may also divert industry away from productive endeavours towards competing for government assistance (commonly called 'rent-seeking').

3.2 Market failure and industry assistance

While there are four commonly recognised market failures, the most common rationales for providing industry assistance focus on just two of those market failures, namely to correct externalities (or spillovers) and imperfect/asymmetric information.4

3.2.1 Spillovers

Spillovers occur where the actions of one entity lead to benefits (or costs) that are not reflected in price changes and some of which accrue to others.5 For instance, although a R&D project may provide private returns to an entity that pays for it, other parties may also accrue benefits from that investment. As individuals will only consider the private benefits or costs they face

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4 Governments do provide industry assistance to address the other two market failures. For instance, restrictions on competition are sometimes introduced to address market power (lack of effective competition).

5 It is important to distinguish between spillovers and the normal effect that business decisions have on other firms and consumers. For instance, while a pharmaceutical company may bring a life-saving product to market, where society has ‘paid’ for that product through market prices, it is generally not considered a spillover. Similarly, business decisions to establish or shut down an enterprise will affect others, but it does not produce spillovers when it is the result of normal market operations.
and not those accruing to third parties, there may not be a sufficient incentive for private investment in R&D projects that would make society better off. Conversely, significant spillovers may result in overprovision of an activity where costs are imposed on others e.g. pollution.

While the existence of spillovers is a well-recognised rationale for government intervention, it should not be regarded uncritically as the basis to subsidise a particular activity. For instance, firms engaging in R&D activities may be able to capture spillovers through intellectual property laws or market mechanisms (e.g. inter-firm networks). Even projects with large spillovers still proceed without assistance where the private return is sufficient to justify the investment.

As such, the strongest case for government support for R&D is for basic scientific research that is normally carried out in universities and public laboratories. The case for supporting commercially-orientated R&D is less clear cut as it may simply subsidise R&D that would have occurred anyway:

CCIQ believes there is a sound policy basis for assistance measures directed at scientific research and innovation as they offer widespread application and would not have otherwise occurred (e.g. Tropical Health and Medicine research). However, CCIQ questions the policy rationale for industry-specific research assistance and assistance aimed at commercialisation of research and innovation that concentrates benefits to a particular industry or group of businesses. (CCIQ sub. 10, pp. 8-9)

Aside from R&D activities, spillovers are commonly cited as the rationale for a range of industry assistance (see Box 3.2 on cluster, agglomeration and network effects). For instance, many environmental programs aim to address negative externalities of pollution, overuse of energy, water and other resources. Some of these programs are provided through industry assistance in the form of subsidies, tax concessions and regulatory restrictions on competition.

In summary, externalities or spillovers may provide a rationale for governments to intervene through industry assistance, but only where:

- it would change the private firm's decision (e.g. about whether to proceed with R&D, or reduce greenhouse gas emissions)
- firms cannot internalise spillovers through legislative provisions or market-based actions.

### 3.2.2 Imperfect information and information asymmetries

When one party to a transaction cannot observe all the relevant characteristics of the other party (or the quality of the goods and services they provide), then this may result in:

- adverse selection – where a party cannot distinguish between categories of goods or outcomes which have different costs/benefits or risks and so they make a choice based on the average value. For example, if an insurance company cannot distinguish good from bad risks, it will charge both a premium based on the average risk of the pool. The result is bad risks get cheaper insurance, and good risks more expensive insurance (Velijanovski 2010).
- moral hazard – where a party modifies their behaviour after a transaction to exploit an informational advantage. For example, the bank deposit guarantees provided by governments during the global financial crisis may actually encourage risky lending because financial institutions know they will always be 'bailed out'.
Box 3.2: Cluster, agglomeration and network effects?

In the last two decades, governments have increasingly focussed industry policy on facilitating cluster, agglomeration or network effects. Concentration (or ‘clusters’) of industrial activities may increase beneficial linkages between firms, by allowing firms to gain access to:

- information and know-how through increased sharing of staff, who are generally more likely to change employers if that does not require relocation
- lower coordination and cooperation costs among co-locating firms
- lower input costs due to economies of scale for input providers, coupled with lower transportation and communication costs.

Network effects occur where there is a change in benefit, or surplus, that a consumer or agent derives from a good when the number of agents consuming the same kind of good changes. Industries likely to exhibit network effects include telecommunications, credit card networks, computer hardware and software.

The theory is that firms will not take into account gains to other firms and will under-invest or invest in the wrong location. As such there can be a role for government to address these ‘coordination failures’.

There is no doubt that individual firms can reap significant gains from such effects, with the most famous example being the micro-electronics cluster in Silicon Valley, and there may be some spillovers associated with it. However, the key question for government is the extent to which there is a genuine role for governments to facilitate or create such clusters through industry assistance. This is particularly important given that governments are likely to have considerable difficulties discerning which industries would benefit from clusters and, as such, there is a significant risk that they will allocate scarce resources to projects with no net benefits.

Views on cluster policy vary, with some arguing governments should merely create an environment that facilitates the creation of clusters, while some argue governments should try and identify potential clusters and support their growth. There seems to be agreement though that clusters cannot be designed from scratch and must be built instead on the basis of existing activities.


Many industry assistance programs are created to address information problems. For instance, a range of programs attempt to overcome capital market imperfections that may impede or prevent commercially viable transactions from occurring. Other programs provide information to enable international firms to base their locational decisions on accurate assessments of the Australian market.

3.3 Other suggested rationales for providing assistance

3.3.1 Economic growth and employment

Promoting economic growth is, not surprisingly, an important objective of governments. It is a means to improve employment opportunities and raise living standards of its citizens. There is almost universal agreement that governments play a vital role in facilitating economic growth

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6 Not having full information is not necessarily inefficient. Acquiring and assessing information is not costless, and information costs need to be considered when deciding whether to enter a transaction.
by establishing appropriate frameworks through robust economic and legal institutions (including secure property rights, rule of law and core public services). There is also substantial evidence that a government's role in providing these frameworks or 'fundamentals' is its most effective tool to facilitate growth (Acemoglu and Robinson 2012). For instance, Kasper (1996) concluded that governments have a significant role in providing:

- efficient infrastructure such as roads, ports and waste management and operating these in an efficient low-cost way (directly or by private supply)
- simple, stable and transparent institutional rules to facilitate interactions and lower the transaction costs of doing business, by establishing user-friendly laws and regulations and enforcing them convincingly and consistently
- macroeconomic stability.

However, there is far less consensus on governments' ability to increase economic growth by providing industry assistance. While there is considerable evidence to indicate which factors drive productivity and economic growth (e.g. physical and human capital improvements, technological progress and innovation), it does not automatically follow that targeting these factors through industry assistance can have a positive impact.

In Australia, industry assistance through trade barriers, such as tariffs and quotas were historically promoted as a means to support Australian industry by reducing imports and thereby facilitating economic growth.

The significant costs of trade barriers are now well recognised. As a result, there has been a shift to 'new' forms of industry assistance, notably direct budget assistance, under the same rationale of promoting economic growth. For example, in the 1980s strategic trade theory was popularised following the impressive growth performance of the East Asian 'Tigers'. The theory proposed that governments could shift income from foreign to Australian-owned firms by providing export subsidies (Box 3.3). More recently, governments have attempted to stimulate economic growth using regional innovation funds to provide industry assistance.

While industry assistance may increase production in the assisted industry, where the economy is at, or close to, full employment, it is unlikely to increase employment or aggregate income. This is because increasing production in the recipient industry will draw labour and resources away from other activities, leading to lower production in those sectors. Even where there is less than full employment, an artificial shift in resources to the assisted industry will come at a cost to other sectors in the economy:

That trade barriers do nothing for overall employment in our economy (other than reducing workers' wages) is well illustrated by the steadily rising share of Australia's population in work since the advent of trade liberalisation in the mid-1980s, and their rising real incomes. ... Industry assistance directed at job creation can, at best, influence the pattern of employment. But it only achieves this by helping some workers at the expense of others. (Banks 2011, p. 8)

Similarly, it is often argued that industry assistance boosts economic activity and has flow-on or multiplier effects across the economy. However, such claims tend to overlook the opportunity costs of the resources used i.e. the alternative activities that could have used those resources:

Just as the spending created in and by the recipient firm has multiplier effects, so too does the spending that is displaced from other firms and industries. Looked at another way, while public funds devoted to a project will have multiplier effects, those public funds would also have had multiplier effects if spent on other purposes, or left in the hands of taxpayers to be spent on the things that they value. (Banks 2002, pp. 8-9)
Box 3.3: Strategic trade theory and economic growth

In the 1980s, strategic trade theory was popularised following the impressive growth performance of the East Asian 'Tigers'. The theory suggests that governments using trade policy instruments, particularly subsidies, can shift profits from foreign to domestically owned firms, thereby raising national economic welfare at the expense of other countries (see for example, Spencer and Brander 1983 and Krugman 1984).

However, this outcome is possible only under a restrictive set of assumptions: a specific market structure exists (oligopolistic market) and other countries do not retaliate and impose their own subsidies. To be successful, governments would require complex understanding of industry to correctly select projects and the level of support and as such, it carries a high risk of policy failure (Krugman and Obsted 2009). A notable historical example in Japan in the late 1950s was the Japanese Government's decision to pursue 'strategic trade' outcomes through subsidising industries such as petroleum and petrochemicals, while at the same time hindering Sony's transistor technology venture because it was "unpromising" (IC 1990, p. 57).

This is borne out of the empirical evidence which has found it is unlikely that these export subsidies play a significant role in economic growth:

> the available evidence — in the form of both econometric analyses and general observations — suggests that there is not a convincing link between governments targeting a particular industry and the performance of that industry. There were successes but there were also failures, and there were successes in spite of intervention.

> Overall, the evidence points to strategic interventions being unimportant in explaining success compared with a number of other factors — such as social commitment to achieve economic success, an effective role for the government in ensuring that the basics of markets were in place and in particular that special interest pleas were generally resisted, technological ‘catchup’, vigorous competition in product markets and a highly flexible and competitive labour force. (IC 1990, p. 63)

In short, for industry assistance to increase overall economic activity (and generate a net benefit for the community), the assistance must efficiently target market failures that are impeding socially beneficial transactions from occurring. Otherwise, using industry assistance to generate economic activity per se can, at best, simply shift economic activity among industries and, more problematically, where it shifts resources away from more highly valued uses, it will reduce aggregate income.

Regional economic growth and employment

As a subset of the broader economic growth rationale, industry assistance is also provided with the aim of increasing economic growth in specific regional areas (often called regional development policies or programs).

Queensland is the second largest Australian state in area, spanning over 1.7 million square kilometres, with a relatively high proportion of its population located outside of its capital city and dispersed across rural and regional Queensland (CCIQ 2010, p.5).

Like most other developed economies, the Australian and Queensland Governments have a number of policies aimed at supporting regional communities and targeting regional development. They typically have two main goals — greater equity and economic growth. Equity objectives are normally targeted through the welfare system and concessions, as well as improving government service delivery and infrastructure (e.g. roads, health and education). The OECD (2010, pp. 11–12) found that, across its member countries, regional economic
development was traditionally targeted through selective industry assistance, but is now increasingly focused on providing the right environment for business investment, rather than providing direct assistance.

As is the case for economic development more broadly, selective assistance for a particular region that does not target market failure is most likely to redistribute activity around Queensland, rather than add to growth. Moreover, patterns of economic growth, and the contraction of some regions and the expansion of others, generally reflect changes in the relative competitiveness and comparative advantage of the various regions:

> Growth is primarily driven by economic factors governments don't control. ... Regional development programs attempting to increase growth in lagging regions that do not have these necessary growth drivers are ultimately wasteful attempts to push economic water uphill.... [Such programs] should be clearly recognised as subsidies to be justified on equity or social grounds, rather than hoping that they will generate self-sustaining economic growth (Daley and Lancy 2011, p.42)

Australia's regions have changed substantially since early settlement, through the rise of agricultural and pastoral activity, the 1800s gold rushes, the many subsequent agricultural and mining 'booms' and the growth in tourism. It would have been misguided for governments to attempt to 'lock in' an industry structure and resources at any given point in time, because in the long term, the movement of resources to higher valued uses improves the welfare of the community as a whole.  

### 3.3.2 Adjustment assistance

As an economy changes new activities emerge and grow while other activities may decline or even cease altogether. Such change can bring significant disruption and cost, which may be acute for those communities that rely almost solely on a particular industry (see Box 3.4). In such cases, governments may need to support communities through structural adjustment.

Governments provide industry assistance to facilitate industry and community adjustment where the change has been brought about by government action (e.g. a reduction in tariffs or deregulation, whereby some of the gains generated from trade liberalisation are redistributed to those adversely affected), but it is also provided in response to market and environmental change (such as technological advances, a shift in consumer preferences or change in resource endowments). An example of the former is the assistance to dairy farmers following deregulation of the dairy industry in 2000 and an example of the latter is drought assistance.

In some circumstances, adjustment assistance is justified on efficiency grounds. For example, where labour and product markets do not function well, assistance can reduce the frictional costs associated with adjustment and can increase efficiency (Francois, Jansen and Peters (2011)). However, adjustment assistance is usually provided on the grounds of equity or fairness, particularly to support local communities following the closure or downturn of major employing industries.

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7 Some regional communities may willingly 'tax themselves' to retain activities that they think will sustain the region or its character. This is a legitimate preference for that regional community to make, even where it reduces the income of the region. However, it is important that communities have transparent information on the costs and benefits of pursuing such a preference to make informed choices. Moreover, inefficiencies will arise where a region does not tax itself but requires others to fund its preferences (IC 1996, p. 37).
Box 3.4: Some adjustment costs associated with firm closures

The process of adjustment which follows a firm closure takes time and involves adjustment costs. For example, following a firm closure, employees do not usually find new jobs immediately. Indeed, some employees may not even return to the workforce and firm-specific capital may become permanently idle. Such unemployment or underemployment of resources detracts from national output — at least to the extent that it is not offset by a consequent uptake of spare capacity elsewhere.

Firms will also incur some specific exit costs associated with site clearance, the payment of redundancy entitlements etc. In seeking new jobs, displaced employees will incur various ‘search costs’ and expenses associated with relocating or acquiring new skills necessary to secure alternative employment. They will also suffer an earnings loss while unemployed and possibly in their new jobs.

Employees who are displaced for prolonged periods of time can suffer from skill deterioration, loss of confidence and stress. These sorts of effects can in turn have significant ramifications for families and the community more generally. For example, a study on the impact of a downturn in manufacturing on people in the NSW Hunter region, found that many unemployed people experienced a deterioration in their health and personal relationships, lower levels of wellbeing and a loss of self-esteem and sense of belonging to the community.

Most of the costs associated with a firm’s closure are incurred regardless of the firm’s location. However, the impact of firm’s closure may be more acute where the firm is located in a regional area with few alternative uses for capital or opportunities for employment.


Where there is a compelling case for adjustment assistance, the design and provision of assistance should consider the following:

- adjustment assistance should facilitate, rather than impede, industry adjustment to market conditions. For example, production subsidies provided around the world to the automotive industry and agricultural sectors have undermined increased self-reliance and adjustment to changing market conditions.

- the rationale for assistance is generally stronger for workers than for business, as most workers cannot readily diversify risk and are relatively poorly informed about such risks when making employment decisions (Aho and Bayard 1984, p. 158). In addition, assistance provided directly to workers rather than business is less likely to impede efficiency enhancing industry change.

- assistance is normally better provided through general welfare and employment programs rather than selective support:
  - selective support should only be warranted where adjustment costs are significant and systematically different to those experienced by other industries, firms or workers adjusting to change
  - where assistance is justified on equity grounds, it is normally more effectively and efficiently provided through the general welfare system, as this can directly target those in need without unduly introducing inefficiencies in the market.
3.3.3 Systems failure

Many industry assistance measures are associated with R&D activities, innovation, science and technology policy. The rationale for these policies is often based on the market failure framework. However, proponents of the policies sometimes base their rationale for intervention on a 'systems failure'.

Systems theory recognises that innovation is supported by a number of market and non-market institutions (e.g. socio-economic, political and cultural systems) that play a central role in innovation outcomes. Systems failure occurs when problems arise that hinder the operational capability of the 'national innovation system'. Proponents of systems theory argue that governments should intervene where a systems failure has impeded the capability or development of the innovation system.

The systems approach is designed to overcome coordination problems (some of which were discussed in Box 3.2). As such, there is a general view that systems failure is wider — but does not displace — the market failure rationale (Warwick 2013). Still, some argue that systems failure is simply a subset of the market failure framework and should be classified as coordination failures (Rassenfosse et al 2011, pp. 8-9). Others suggest that national innovation system literature can provide useful perspectives on the design of interventions once the decision to intervene has been taken based on the market failure framework.

Outside of the theoretical debate, the more important question is whether systems failure and national innovation system theories are a sound basis for government intervention to provide industry assistance. While there is some consensus on a role for government to facilitate the innovation system and assist in resolving coordination problems where appropriate, this does not necessarily translate to an activist role for government through the provision of industry assistance. A prudent assessment of the policy problem and potential costs and benefits of government action is particularly important, given the scope for government failure.

3.3.4 Interstate rivalry

Governments clearly have a role in promoting economic development and employment in their state by establishing robust economic and legal institutions (see section 1.3.1). This can manifest itself in competition between the states, known as 'competitive federalism', which can provide a range of benefits. It acts as an incentive or discipline on governments to provide an efficient public service and infrastructure, effective and least cost regulation as well as competitive tax rates.

However, interstate bidding wars to attract investment and major events are probably the main exception. Such activities are unlikely to provide long-term benefits to a state.

Queensland could engage in such activities and could conceivably 'win' at the expense of other states. But these potential gains would be at a significant cost to Queensland taxpayers. There is also no guarantee that a project will deliver expected economic gains, or remain in the jurisdiction once the inducements cease. The empirical evidence from overseas tends to suggest that at best, the losses tend to cancel out the wins (Box 3.5).

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8 Interstate bidding wars do not provide benefits to the wider Australian community. If a business has already decided to undertake an activity or to locate in Australia, and state assistance is offered to 'tip the balance' in favour of locating in a particular state, there is no overall benefit to the Australian community — it simply shuffles resources around the states.
Box 3.5: Interstate rivalry: Can state assistance improve economic performance?

In the United States, there has been an active debate on whether state-based assistance significantly influences the location of economic development and whether it provides an economic benefit to a state.

Rasmussen and Ledebur (1986) found that state investment attraction does not increase economic growth and generally subsidises jobs that would have located in the state in any event:

There is a recognition that current efforts occasionally alter the location decision of an enterprise among adjacent jurisdictions but no evidence that they have any net impact on employment. Survey and analytical research suggests that the myriad of tax exemptions and tax credits included in development programs have little impact on the location decisions of firms. Thus it can be argued that most of the expenditures for “economic development” are virtually worthless as instruments of net job creation and economic stimulation of the national economy. (p. 152)

Netzer (1991) examined the effect of state incentives on resource allocation and efficiency, concluding:

Economic development incentives are, for the most part, neither very good nor very bad from the standpoint of efficient resource allocation in the economy. With all the imperfections, the offering of incentives does not represent a fall from grace, but neither does competition in this form operate in ways that truly parallel the efficiency creating operations of private competitive markets. Given the low cost-effectiveness of most instruments, there is little national impact, only a waste of local resources in most instances. (pp. 239-40)

Markusen and Neese (2007) were less definitive in their review of the literature, citing mixed evidence on the impact and welfare implications of assistance. Anderson and Wassmer (1995) were more sanguine about the effectiveness of incentives:

More recent studies have shown that in a given region, for certain types of cities, local fiscal incentives can exert beneficial additive effects. However, if communities offer economic inducement to business just because other municipalities are offering corresponding incentives, the influence of inducements is lessened. Communities may then feel compelled to offer a new round of greater inducements. (pp. 739-40)

On balance, research from the United States suggests that specific industry assistance is generally not an effective tool for increasing economic growth. There are some cases where there can be gains to individual states from providing specific assistance. However, any gains are generally small and are quickly eroded by further competition between states. Also, the risks for governments are large and the effects for the states as a group are negative.


Research shows that firms tend to base locational decisions on the rate of return they can achieve on an investment. The location decision is largely driven by general economic factors based on a range of cost drivers, as well as social and political factors (e.g. transport, energy and labour costs, infrastructure, workforce skills and social and political stability). Government assistance plays an insignificant role, if any, in a firm’s location decisions (Jensen 2014).

Despite this evidence and a broader recognition of the negative impacts of interstate bidding wars, state governments may face a ‘prisoners’ dilemma’ – i.e. if they cease to provide inducements, and other states continue to, then the non-bidding state will ‘lose’ investment (Auditor General Victoria 2002, p. 27). As such, there is an incentive for all states to continue to provide inducements but all are worse off than if no-one offered any inducements.
Recognising this, in 2003 all states (excluding Queensland) and the ACT signed an Interstate Investment Co-operation Agreement, where they agreed to work together to eliminate unnecessary bidding wars and to restrict the use of financial incentives in seeking investments and major events. In 2006, these states, along with the Northern Territory, decided to extend the agreement for a further five years. The agreement lapsed in 2011.

3.3.5 Alleviating cost and competition pressures

Australia is a relatively high cost place to live and do business. Businesses generally point to high wages, expensive land, occupancy and housing, rising utility costs, a small market and high international and domestic transport costs due to large distances. Purchasing Power Parity analysis shows that general price levels, expressed in Australian currency terms, are 20 per cent higher here than in relevant comparator countries. The difference in relation to the United States is around 30 per cent (QCA 2014, p. 58).

Industry assistance is often proposed as a means to mitigate these high costs. A number of submissions to this inquiry also argued that with the large-scale reduction in tariff and other trade barriers and significant program of deregulation over the last four decades, Australian industry receives a comparatively low rate of assistance compared to most other countries and so assistance must be retained for them to remain internationally competitive. For example, the QFF said:

... assistance programs and overall costs of production must be considered holistically. The relatively few assistance measures that Queensland farmers receive and the small quantum of assistance bears comparison with the rest of the world, given many of our commodities are internationally traded and Queensland farmers must be internationally competitive. (QFF sub. 1, p. 5)

A number of other stakeholders indicated that industry assistance is required to 'offset' market distortions or programs created by governments. For example, Canegrowers Isis Ltd (sub. 5, p. 1) indicated that the electricity subsidy growers receive is necessary to offset other government initiatives in the carbon tax and solar photovoltaic (PV) bonus.

While recognising these important policy issues, providing assistance to offset high costs, assistance provided in other countries, or other government regulatory/policy distortions is unlikely to provide an overall benefit. As discussed above, assistance provided in the absence of a market failure is likely to result in a net welfare loss for the Queensland community. Although the assistance would provide a direct benefit to exporters disadvantaged by foreign subsidies, this is likely to be outweighed by the cost of the assistance.

Similarly, countering one regulatory or tax distortion with another is unlikely to be optimal. In this case, the most efficient option would be for governments to review and reconfigure policy, regulatory and tax arrangements such that they are efficient, rather than trying to counter one distortionary arrangement with another. As noted by the Australian Industry Group (AIG sub. 6, p.2), there is significant scope for governments to directly reform policy, regulatory and tax arrangements to reduce costs to business:

In the past, Queensland was seen as a low cost place to do business in Australia. But the resources boom, the work of other states in reducing the cost burden for industry, and the effects of globalisation, have seriously affected Queensland's advantages. However this challenge is not insurmountable and can be met head on through further measures to reduce regulation and other costs to doing business.
3.3.6 Infant industry

One of the most enduring arguments for industry assistance and trade protection is the infant industry argument. In Australia, it has historically been used to support trade protection for the manufacturing industry (particularly for motor vehicles, whitegoods and textile, clothing and footwear). More recent variations have been used to promote assistance for ‘new’ industries in biotechnology and information technology sectors.

The basic argument rests on the notion that a country may have a comparative advantage in a particular industry but that this cannot be realised without initial government assistance. Production costs for a newly established industry in a country may be initially higher than established foreign competitors due to their greater experience, know-how or economies of scale associated with a more mature industry. Over time, domestic producers can achieve cost reductions and attain production efficiency through learning by doing. However, due to the initial absence of experience and scale, if the domestic industry is not protected (or assisted) it will never establish and achieve the cost advantages associated with large production runs (e.g. see Pack and Saggi 2006, p. 4).

While such arguments are superficially attractive, the real test is whether they can actually bear fruit – and the evidence in Australia is that it occurs infrequently, if ever. It is not an argument based on addressing a particular market failure. Rather, it is based on the notion that governments have a better long-term vision than industry. This notion is therefore, problematic for a number of reasons, including:

- If an industry became viable after an initial establishment period and could communicate this to the market, then the industry should be able to obtain long-term finance to fund its activities.

- It is challenging for governments to obtain the necessary information to identify if a domestic industry will have a comparative advantage and be viable after an initial period of assistance.

- Even if there is an in-principle case for assistance, the assistance needs to be temporary and time-bound to be efficient. Australian experience with subsidies and tariffs has shown that withdrawing support once provided is extremely difficult (see Box 3.6).

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9 A counter argument is that financial markets may be imperfect and fail to finance viable projects. Even if such imperfections exist, the appropriate policy response would be to correct financial market failures rather than provide assistance (see Baldwin 1969, Cordon 1984).
Box 3.6: The Ageing Infant: A Concise History of Automotive Assistance in Australia

1907: Tariffs on imported vehicle bodies and components were introduced to assist the development of local assembly and manufacturing capacity.

1916: Australian Government imposes a ban on import of foreign-made car bodies.

1918: Import ban is lifted, tariffs on bodies and panels doubled (tariffs on unassembled chassis lowered to encourage local assembly and production of cars).


1936: Tariffs on imported engines, chassis and bodies increased. A bounty is paid for each engine produced locally to provide incentives to build an Australian car.

1945: Australian Government agrees to provide assistance to General Motors if it can build a car with 90% Australian content.

1952-62: Import licensing on new cars.

1964: Menzies local content plan. Large manufacturers required to maintain 95% local content.

1966: Tariffs raised from 35% to 45%.

1973: Australian Government cuts all tariffs by 25%. Vehicle tariff falls to 34%.

1974-75: Tariffs on imported cars return to 45%. Quotas imposed on automotive imports.

1978: Australian Government increases tariffs on imported cars from 58% to 75%.

1981: Australian Government announces the Export Facilitation Scheme, whereby vehicle and component producers could earn credits for their exports to offset duty on their imports. Effective assistance to the vehicle and parts sector rises from 71% to 110%.

1984: Button Car Plan sets out a staged removal of assistance, with import quotas and tariffs to be gradually reduced over 15 years.

1991: Continued phased tariff reduction announced.

1997: Australian Government decides to hold tariffs at 15% from 2000-2004, reduce tariffs to 10% in 2005 and 5% in 2010.

2001: Automotive Competitiveness and Investment Scheme commences. Tariff and non-tariff assistance exceeds $1 billion per annum.

2008: Australian Government launches A New Car Plan for a Greener Future, providing $6.2 billion in assistance to the automotive industry until 2021. Additional budgetary assistance is provided to the industry through various capital subsidies in the form of co-investment grants provided by the Australian, Victorian and South Australian governments.

2013–14: The PC estimates that about $30 billion in net combined assistance (2011–12 dollars) was provided to the industry between 1997 and 2012. It concludes the rationale for specific assistance to the automotive sector is weak and assistance should be removed. The three remaining car manufacturers in Australia, Ford, General Motors Holden and Toyota announce that they will cease manufacturing in Australia by 2017.

3.3.7 Other common reasons put forward to support industry assistance

High 'value' of exports

Industry assistance is sometimes justified on the basis that income from a certain activity, such as exports, is inherently 'worth' more than income from other forms of economic activity, and as such, governments should provide assistance to expand export activity. Although this argument may have had relevance when Australia had high trade barriers, it does not appear to be relevant today. A dollar generated from export earnings has no greater value than a dollar generated from domestic sources (PC 2000). As a result, providing assistance to exports in the absence of market failure will generally shift domestic resources away from more profitable activities, potentially drive down the price of exports (benefiting foreign buyers) and reduce the state's aggregate income.

Demonstration effects

Assistance is sometimes provided by state governments to high-profile, large projects to act as a 'demonstration' and inform international firms that the state is business friendly. For this strategy to be effective, the project must be successful (which is not a given, see Box 3.7), and attract further economic activity without assistance. Arguably, governments could be more effective pursuing general measures to create an attractive business environment.

Box 3.7: Assistance to Australian Magnesium Corporation

In 2001, the Australian Magnesium Corporation (AMC) planned to establish the world's largest magnesium smelter near Rockhampton in central Queensland. The project aimed to commercialise the light metal for use in the motor industry, but had difficulty raising capital from the private sector given uncertainty about the viability of the technology.

To assist the $1.3 billion project, the Queensland Government provided up to $354 million in assistance. In addition, the Commonwealth Government agreed to support AMC by providing a loan guarantee of up to $100 million and a $50 million contribution through the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to assist with commercialising the technology. As the project commenced construction, the then Premier of Queensland, Peter Beattie, said:

> With these major commitments from the state government and the federal government we should see the birth of a new industry for Queensland which will generate $4.5 billion of investment over the next 15 years and create new jobs for 7000 Queenslanders and training opportunities. The economic returns to the state will be massive. That is why my government has made this substantial commitment. It is an investment in Queensland — an investment for the long-term benefit of all Queenslanders. (Beattie, P. cited in Queensland Parliament (2001))

The Federal Industry Minister Nick Minchin echoed these sentiments when he argued in 2001 that the risks to taxpayers were minute:

> The magnesium industry is one in which Australia has the potential to be a world leader. AMC Stanwell Magnesium Project will be a catalyst for making this happen. This is a massive project of great national importance. (Minchin, N. in 2001 as cited in Queensland Parliament (2003))

However, construction costs on the project soon escalated. Work on the project ceased in June 2003 due to significant project cost overruns. The Commonwealth Government was required to fulfil its loan guarantee obligation and pay $90 million to the ANZ Bank. The Queensland Audit Office reported that the Queensland Government lost $70 million in taxpayer funds.

Intangible benefits

Industry assistance, particularly for major events, could provide a range of intangible benefits. For instance, it is sometimes claimed that citizens gain 'psychic income' or a feel-good effect from staging international events such as the 2000 Olympics in Sydney or Expo 88 in Brisbane.

Similarly, society may experience intangible benefits from investing in research and development or funding the arts. These intangible benefits include things such as national prestige, cultivating the image view of a cultured or successful society and protecting or enhancing our local identity. While these benefits are hard to measure, they should not be dismissed. However, they do need to be carefully assessed against the costs of providing them.
The QCA has been asked to assess the effectiveness, including the cost effectiveness, of the Queensland Government’s industry assistance measures.

Effectiveness refers to the degree to which an assistance measure’s objective has been achieved. Cost effectiveness introduces a value-for-money concept, as it refers to the cost of achieving a particular unit of effectiveness.

To assess whether an industry assistance measure is effective:

- The objective should be correctly specified and well-defined e.g. it should target a policy problem and be measurable, time-dependent and outcome-focused.
- The outcomes should be reasonably attributable to the assistance measure rather than induced by general economic conditions.

Objectives should not be identified in terms of inputs, such as dollars spent. Spending money is a target all too easily achieved. It is more difficult to know what you want, knowing the best place to purchase it and getting it at a reasonable price: that is the essence of an effectiveness and cost effectiveness assessment.

4.1 What is effectiveness?

Effectiveness generally refers to the degree to which stated objectives are achieved (PC 2013). Accordingly, evaluating the effectiveness of an industry assistance measure requires assessing the extent to which the measure achieves its objectives.

A policy's (or assistance measure's) objectives are often characterised by its intended:

- **target groups** – the parties that the policy aims to assist (e.g. grain growers receiving a subsidy)
- **outputs** – the number of grain growers applying for the subsidy
- **outcomes** – improving grain production triggered by growers' use of the subsidy to refine farming practices (e.g. by increasing robustness to diseases and pests).

Essentially, an assistance measure's effectiveness tells policy makers whether the measure is having an impact on the outcomes being sought. If an assistance measure is producing the desired outcomes, then it is effective.

4.2 Difference between effectiveness, cost effectiveness and efficiency

The inquiry's TOR requires the QCA to assess the effectiveness, cost effectiveness and net benefits (i.e. economic efficiency effects) of the Queensland Government's assistance measures.

While these concepts are related, effectiveness, cost effectiveness and efficiency are different.

As discussed above, effectiveness is the extent to which stated objectives are met. In comparison, cost effectiveness is defined as the dollar cost of achieving a 'unit' of effectiveness; it is the ratio of inputs to outcomes (COAG 2004; PC 2013a). The concept of effectiveness does not strictly consider the costs involved in implementing an assistance measure. An effective measure may therefore not be cost effective (i.e. there may be a cheaper way of achieving the same outcome).
Effectiveness is also different from efficiency. Efficiency considers whether the total benefits of an assistance measure outweigh the total costs. Even where an assistance measure is effective, or cost effective (i.e. achieving the objective as cheaply as possible), it still may not be worth the cost to society more generally. Moreover, even if a cost effective measure produces greater benefits than costs, it may still be better to abolish the measures and use the resources elsewhere (PC 2013). Chapters 3 and 5 discuss efficiency and the net benefit test in more detail.

4.3 Assessing effectiveness in the performance assessment framework

This section sets out the principles and criteria the QCA considers should guide an effectiveness assessment of Queensland Government assistance measures.

An effectiveness assessment can be characterised by three stages, which should seek to answer the questions set out in Table 1.

**Table 1: Three-stage process for assessing a measure’s effectiveness**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Questions to be addressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Is the objective of the assistance measure correctly specified and well-defined (e.g. does it target a policy problem and is it measurable, time-dependant and outcome-focused)?</td>
</tr>
</tbody>
</table>
| 2     | Has the objective been achieved?  
If the objective has been achieved, can the observed outcomes be attributed to the assistance measure, rather than the influence of other factors?  
Is the measure generating activity over and above what would have materialised otherwise? |
| 3     | Assuming the measure is effective, is it cost effective?  
Are there ways to improve the measure’s cost effectiveness?  
Should the measure be replaced with an alternative policy instrument? |

This three-stage approach is set out in more detail below.

4.3.1 Stage 1: Is the objective of the assistance correctly specified and well-defined?

Correctly specified and well-defined objectives make it possible to clearly judge whether an assistance measure has been a success or failure. For instance, the PC (2008) found that while the National Drought Policy's objectives were focused on helping farmers build self-reliance to manage climate variability and the effect of droughts, program expenditures had not been directed to this end. Rather, the PC found that the program expenditures had amounted to a series of emergency payments to farmers meeting certain eligibility requirements.

As discussed in Chapter 3, industry assistance is most likely to provide a benefit where it targets a market failure. However, a common problem facing policy evaluators is that objectives are sometimes poorly specified or not specified at all. Objectives sometimes target factors that

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10 Governments also intervene to achieve a range of equity objectives. While these objectives may be highly desirable, they are generally best achieved through the broader welfare and taxation system rather than through selective industry assistance (see Chapter 2 and 3). That said, many of the principles outlined in this and later chapters can also be drawn on in the design and assessment of redistribution programs (e.g. clearly identifying the size and scope of the policy problem, crafting clear objectives to correctly target those most in need, considering a range of policy instruments and achieving equity goals while minimising administration costs and unintended consequences). See Althaus, Bridgman and Davis (2013) for a fuller discussion.
governments have little influence over, or that may be best addressed through means other than industry assistance.

An assistance measure's objectives should therefore clearly set out both the market failure being targeted, and how the measure seeks to remedy the market failure:

To ensure industry assistance measures are appropriately targeted, the objective and economic rationale must be clearly defined. This includes identifying the market failure and demonstrating it is amenable to government intervention. (Energy Supply Association of Australia sub. 8, p.2)

A key issue to be aware of is whether an objective is being met through a number of assistance measures (rather than by a single measure). It is quite common for several measures to be used to address a particular market failure (e.g. policies encouraging investment in renewable generation, residential homes' use of solar panels and the consumption of environmentally-friendly products seek to address the purported market failure of greenhouse-gas externalities). CCIQ (sub. no. 10, p. 5) considered the QCA should draw attention to cases where multiple assistance measures are being used to deliver a policy objective. In these instances, it may be more appropriate to assess such measures collectively and not as stand-alone options.

Objectives need to be measurable

Assessing the extent to which an objective is being met is less challenging if the objective is characterised by numerical targets and timelines. For example, 'doubling Queensland's agricultural production by 2040' is a clear objective and will be relatively straightforward to assess. However, a more vague objective like 'improve housing affordability in regional areas' is likely to prove to be more difficult to assess for effectiveness.

An effectiveness assessment of an assistance measure becomes more of a value judgement, rather than an objective assessment, if the measure's objective is neither quantitative nor time-dependent. Where a program's objectives are poorly specified, an effectiveness assessment may need to rely on the Queensland Government's business-case documents for that program, so a stronger link can be drawn between policy objectives and the program's ill-defined objectives.

Objectives need to be outcome-focused

An objective needs to be both measurable and to focus on an assistance measure's outcomes, rather than outputs. In other words, it needs to be based on an end rather than the means to that end. For example, an objective like 'increase funding to export-promoting activities' could be viewed as a means rather than an end. However, the genuine goal may have been to grow Queensland's exports or to create new jobs relating to the state's export sector. Providing funding to export-promoting activities would be a means of achieving those goals.

Also, higher outputs do not necessarily mean the desired outcomes of an assistance measure are being achieved; that is, a larger amount of government funding for export-promoting activities does not equate to higher exports being achieved or additional jobs being generated.

By having outcome- rather than output-focused objectives, policy evaluators are in a better position to determine whether an assistance measure is operating effectively.

4.3.2 Stage 2: Has the assistance achieved its objective?

The second stage of the effectiveness assessment aims to assess whether the objective has been achieved and, if so, whether the industry assistance played a role (i.e. the extent to which the observed outcomes can genuinely be attributed to the assistance measure).
A range of quantitative and qualitative methods can be used to assess whether industry assistance has been effective (see below). However, a key component to their applications is the need to identify:

- causality (i.e. whether the industry assistance is the cause of observed outcomes)
- additionality (i.e. whether the assistance has induced change over and above what would have occurred without the assistance).

**Causality**

There are many factors that can influence attaining an assistance measure’s objective — some of which may not relate to the assistance measure in question. An effectiveness assessment should be able to discern between:

- measure-induced; and
- non-measure-related effects that influence the measure's intended outcomes.

Determining causality is challenging. As the United Nations (2014) describes in the context of environmental measures:

> Determining the effect of an individual policy on a driver, pressure or an environmental state can be challenging because of the complexity of the causal chain of drivers and pressures for a range of environmental, social and economic issues11.

Policies are often evaluated based on changes to employment, investment or economic growth. However, such measures are influenced by a wide range of economic factors. For example, capital investment in the resources sector could be rising due to population growth or industry’s optimistic resource-price expectations; it may not be occurring because of an assistance measure.

**Additionality**

An effective assistance measure demonstrates additionality. This means a measure has caused a positive effect on economic activity relative to what would have materialised in the measure’s absence. Therefore, the 'additionality' test is not satisfied if the measure induces the same amount of economic activity that would have emerged without it.

While a measure may appear to be working effectively, it could also be causing unintended economic effects (e.g. displacement, substitution and leakage effects) that preclude positive net effects from emerging (see Table 4 in Chapter 5).

Additionality manifests itself in a number of ways, including:

- input additionality – as a result of the assistance measure, did recipient firms spend more of their own resources on the intended input activities? Or did the measure just substitute for own resource funding?
- output additionality – as a result of the assistance measure, was there an increase in the targeted output activities of the recipient firms?
- behavioural additionality – as a result of the assistance measure, was there a permanent change in the targeted behaviours of recipient firms?

Counterfactuals need to be developed to answer these types of questions.
A counterfactual is an estimate (quantitative or qualitative) of the circumstances that would have prevailed had an industry assistance measure not been introduced. While the outcomes in the presence of a measure should be observable (although perhaps not easily measured), the outcomes in the absence of that measure are not and must therefore be constructed.

Creating a counterfactual to accurately determine what would have happened in an assistance measure's absence is a key methodological challenge (DSDIP sub. 11, p. 1). For instance, it may involve looking at economic variables (including their trends and forecasts) and other policies (whether amended or introduced) that would have influenced the measure's intended outcomes.

Developing a quantitative counterfactual relies significantly on being able to obtain time-series data for key economic variables relating to an assistance measure. For this inquiry, organisations such as the Australian Bureau of Statistics, Office of State Revenue and Queensland Treasury and Trade (QTT) may have the required data to assist with developing the counterfactuals for the Queensland Government assistance measures being examined.

**Methods to assess whether the objective has been achieved**

A range of different methods can be adopted to assess effectiveness, each with advantages and disadvantages. The choice of method will largely depend on the type and significance of industry assistance and the availability of data and evidence.

In a scientific context, the 'gold standard' for establishing a counterfactual and assessing effectiveness is to use a randomised control trial, which exposes an experimental group and a non-experimental (control) group to exactly the same factors, but for the matter under investigation.

Randomised control trials can determine whether the policy itself, as opposed to other factors, caused the observed outcomes. While such trials generally form the basis for testing medical and pharmaceutical products, they have had a much smaller application in testing public policy (see Heckman & Smith 1995 and Leigh 2003). A number of other methods tend to try to construct a counterfactual using empirical or qualitative techniques to assess effectiveness. However, the challenge facing most evaluators is an environment of limited data and evidence, with restricted ability to employ quantitative techniques. In such an environment, the better approach is generally for evaluators to synthesise multiple sources of evidence to draw inferences on the impact of assistance (see Box 4.1). Some sources of evidence include:

- performance indicators (see below)
- benchmarking
- comparisons of outcomes before and after assistance (particularly where only a few other factors influence outcomes)
- surveys
- case studies

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12 For example, natural or quasi-experiments use various econometric techniques to artificially construct a counterfactual. These techniques include difference-in-differences, regression discontinuity and matching approaches. Matching approaches, for instance, attempts to control for observable differences by comparing firms with very similar characteristics, except one receives industry assistance. The ability to make inferences on the impacts of a policy will decrease as the method moves further away from a 'pure' counterfactual.
international and interstate evidence.

**Box 4.1: How the PC measured the PIIP’s additionality**

The Pharmaceuticals Investment Industry Program (PIIP), which ran from 1999 to 2004, aimed to counteract the potential suppression of pharmaceutical R&D from the Pharmaceutical Benefits Scheme (PBS). The program offered subsidies to pharmaceutical firms to induce: incremental R&D activity in the local pharmaceutical industry; and increased value added in production.

The PC used a range of methods to evaluate the effectiveness of the PIIP — simple comparisons of pre- and post-PIIP performance of participants and non-participants, a difference-in-differences estimate, a comparison of the levels of activity forecast by applicants versus actual levels achieved and case studies.

Using survey and administrative data, the PC measured the PIIP’s additionality by examining differences between:

- the pre- and post-PIIP performance of participants and non-participants
- levels of activity forecast under the PIIP by applicants and the actual levels achieved.

The PC said the second approach was a good test of whether the PIIP was effective at stimulating activity since, if it were, unsuccessful applicants would not have achieved the targets in their applications without the program subsidies. The PC added this ‘forecast errors’ approach was relatively robust, since it controlled for unobserved differences between firms.

*Source: PC (2003)*

**Considering long-term outcomes of measures**

A further dimension to assessing an assistance measure's objectives is whether the measure's short-term or long-term outcomes should be considered. The QCA notes stakeholders have urged the inquiry to have a long-term view of assistance measures (QFF sub. 1, p. 5).

Studies have suggested ‘serious monitoring and ex-post evaluation of implemented policies will be essential to learn about the conditions for effectiveness’ (Perrels 2001, p. 1). Analysing long-term outcomes allows for a more complete understanding of a measure's effectiveness. However, it may be challenging to do this if there is a lack of relevant time-series data. Without reliable data on an assistance measure, it is difficult to demonstrate it is performing effectively. Assistance measures therefore need to be supported by active data collection and record keeping.

**Drawing on existing government processes and sources of information**

The Queensland Government has a number of existing requirements relating to the performance of Government agencies and service delivery.

The Financial and Performance and Management Standard requires agencies to have systems to: collect performance information on whether objectives in their strategic plans are being achieved effectively and cost effectively; and assess the appropriateness of those objectives and associated services.\(^{13}\)

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To the extent an assistance measure relates to objectives in an agency's strategic plan, the requirements set out above would apply to that assistance measure. Some examples where industry assistance measures might be relevant to agencies' strategic plans are highlighted in Table 2.

**Table 2  Strategic plans of Queensland Government agencies**

<table>
<thead>
<tr>
<th>Department</th>
<th>Objectives potentially related to industry assistance</th>
</tr>
</thead>
</table>
| Department of State Development, Infrastructure and Planning (DSDIP)       | • Assist property and construction industries to flourish through streamlined planning processes – by punctually delivering development schemes in priority development areas  
• Diversify and strengthen regional and state economies – by securing new business and industry opportunities through DSDIP’s market analysis, facilitation and support                                                                                                                                                                                                                                                                                                                      |
| Department of Agriculture, Fisheries and Forestry (DAFF)                  | • Improve industry performance through innovation – by playing a role in: agricultural research, development and extension (RD&E) activities; and investing in agricultural research infrastructure                                                                                                                                                                                                                                                                                                                                 |
| Department of Tourism, Major Events, Small Business and the Commonwealth Games (DTESB) | • Competitive small business – by assisting businesses to identify and address issues impacting on growth and productivity  
• Enable new products and experiences – by attracting new investment into Queensland tourism and business products                                                                                                                                                                                                                                                                                                                                                      |
| Department of Science, Information Technology and the Arts (DSITIA)        | • Innovation – by delivering cross-Government initiatives by contributing information and capability in science, Information and Communication Technology (ICT), innovation and the arts  
• Innovation – by stimulating and accelerating the digital economy’s growth through the Digital Economy and ICT action plans                                                                                                                                                                                                                                                                                                                                 |

Source: Various Queensland Government Department Strategic Plans

The Queensland Government's Performance Management Framework (PMF) aims to facilitate improved performance management, evaluation, results monitoring and reporting in the public sector (DPC 2012). It guides agencies on how to appropriately measure the performance of their services, namely by seeking to ensure agencies:

- have clearly defined objectives and collect performance information to assess the extent to which those objectives are being met
- have clearly specified service areas and services, including standards to which those services will be delivered.

The PMF’s requirements in relation to effectiveness, including how it should be measured, are summarised in Box 4.2.
Box 4.2: Queensland Government's PMF views on effectiveness

Measures of effectiveness

- Effectiveness measures focus on:
  - cost effectiveness – the relationship between the cost of producing the service and the outcomes/results achieved
  - service effectiveness – the relationship between the objective and the outcomes/results achieved.
- Effectiveness measures reflect how well the actual outputs of a service achieve the agency’s stated purpose (objective) of the service. They describe the quantifiable extent of the effect of the service on recipients (the outcome experienced by recipients), as a result of the level and quality of the service provided.
- Knowing how well the agency is performing against its objectives is essential to determine if the agency needs to alter its strategies or policies, or re-evaluate its objectives to ensure value is delivered to its clients, stakeholders and the community.

Using performance indicators to measure effectiveness

- Performance indicators should measure the extent to which the outcomes achieved by an agency are meeting the objectives in the agency’s strategic plan.
- When dealing with outcomes, direct measures are often difficult – for this reason, measures can often only “indicate” the outcome rather than directly measure it. It often takes more than one performance indicator to adequately capture an outcome.
- Reporting actual results against the indicators should demonstrate the extent to which the objective is being achieved. Agencies are encouraged to develop and set targets for performance indicators where possible.

Source: DPC (2012)

Effective performance indicators are required to meaningfully track the performance of assistance measures (see Box 4.2). The PMF explains what effective performance indicators look like and says a performance indicator should:

- describe a change that is measurable and verifiable over the period of an agency’s strategic plan
- be relevant – it should reflect what the agency is aiming to achieve, not simply what is measurable
- be attributable – the objective measured must be capable of being influenced by, or influence, actions which can be attributable to the agency; it should also be clear where accountability lies
- be challenging but achievable – agencies should understand the relationship between resources committed and objectives
- inform decision-making processes, so it can be clear why an agency’s objective has been achieved (or not achieved)
- be outcome-focused rather than output-focused, by reporting ends (an objective’s performance) rather than means (services’/activities' performances) (DPC 2012, p. 38).
This suggests there are many factors to consider when designing performance indicators to meaningfully serve their purposes. A sample of Queensland Government performance indicators is provided in Table 3.

Table 3  Departmental Service Standards

<table>
<thead>
<tr>
<th>Department</th>
<th>Performance indicators relevant to assessing industry assistance measures</th>
</tr>
</thead>
</table>
| DSDIP      | • Value of private-sector capital investment leveraged through industry facilitation  
             • Value of infrastructure investment enabled through the Royalties for the Regions program |
| DAFF       | • Percentage of grazier and cane growers who have increased knowledge and skills through participation in best management practice programs  
             • Proportion of assisted firms reporting improved performance following funded innovation and capacity development activities  
             • Percentage return on R&D investment through royalty returns  
             • Queensland Rural Adjustment Authority (QRAA) - Percentage growth of the Productivity Loan portfolio to achieve self sufficiency |
| DTESB      | • Amount of additional capital attracted into tourism investment  
             • Tourism and Events Queensland (TEQ) - satisfaction with TEQ's development programs  
             • TEQ - value of cooperative investment in marketing campaigns |
| QTT        | • Maintain a competitive tax environment for business  
             • Trade and Investment Queensland - number of targeted and qualified trade and investment leads provided to Queensland businesses and generated through Trade and Investment Queensland’s overseas missions and other trade and investment development activities |


One key limitation is that performance indicators, in most cases, will be partial in nature and not able to identify the causality of a measure.

For example, additional investment flowing to tourism activities (see third row of Table 3) could be increasing due to population or income growth in overseas countries, rather than because of the impact of an industry assistance measure. Without the information required to examine causality, it is difficult to ascribe observations to a measure's effectiveness. In a similar vein, the QAO has noted:

... the service standards reported by the majority of departments and service areas fall well short of being direct measures of the efficiency or the effectiveness of the services they deliver (QAO 2014, p. 2).

Another limitation is that performance indicators sometimes track outputs rather than outcomes; the QAO has noted the problems with using output-based performance indicators:

... the tendency for departments to report output-based measures of service quality, as a proxy for service effectiveness, makes it harder to know whether intended or desired effects are being achieved, and so, harder to evaluate the efficacy of policy (QAO 2014, p. 16).

14 The QCoA said many performance indicators published with the Queensland Government’s Budget’s Service Delivery Statements are partial in nature. The QCoA also said very few indicators demonstrate effectiveness in achieving economic improvement (QCoA 2013, pp. 2-334).
Performance indicators therefore, like an assistance measure's objectives, need to be outcome-focused.

4.3.3 **Stage 3: Is the assistance cost effective?**

The third stage of the effectiveness assessment assumes an assistance measure has already passed the 'effectiveness' test. This stage aims to examine: if the measure is cost effective; and whether alternative policy tools can produce more cost-effective outcomes.

An assistance measure may be effective in achieving its desired outcome, but come at a high cost. For example, the Bureau of Resources and Energy Economics (2014) found that the outcomes of the Ethanol Production Grants Program, in terms of environmental and employment outcomes, were delivered at a very high cost ($274 per tonne of carbon dioxide abated and $545 000 to $680 000 per job created).

Similarly, the National Commission of Audit (NCoA) (2014a) concluded that the cost effectiveness of several Commonwealth Government industry assistance programs was poor, particularly for smaller programs where significant resources were expended on program administration compared with the level of assistance provided.

While an assistance measure may be effective, there may be room to improve its implementation and administration. This approach requires recognising the factors that may be impeding the cost effectiveness of the measure being assessed. These factors could encompass: industry's awareness of the measure; administrative complexity in understanding how to obtain the assistance; and (where relevant) the time taken for a government agency to approve an assistance application.

Cost effectiveness can be assessed by:

1. Keeping the cost for the assistance measure fixed – what aspects can be amended to improve outcomes related to its objective?
2. Keeping the outcomes of the assistance measure fixed – is there a less costly way to produce those outcomes?

4.4 **Summary**

Measuring the effectiveness of assistance measures informs policy makers about whether the assistance measures are having a desirable impact on the outcomes being sought.

Figure 4 summarises the proposed approach for assessing effectiveness.
Figure 4  Summary of effectiveness approach

Stage 1
- Does the assistance measure’s objective:
  - seek to target a policy problem amenable to government action?
  - have measurable and time-dependent targets?
  - focus on outcomes rather than outputs?

Stage 2
- Has the assistance measure’s objective been achieved?
  - Was the objective achieved because of the measure or because of other factors?
  - Is the measure inducing ‘additionality’?

Stage 3
- If the assistance measure is effective, is it cost effective?
  - Are there ways to improve the measure’s cost effectiveness?
  - Can other policy instruments produce more cost effective outcomes?

Source: QCA

Decision making can be improved if there is, upfront, a systematic approach to assessing whether a proposed assistance measure is likely to be the most effective way to achieve a desired outcome. In particular, it reduces the risk of having to reduce/cease the assistance and of dealing with the associated social repercussions (e.g. the employment-related consequences of reducing or removing automotive industry assistance in Australia).

Also, a systematic approach to monitor effectiveness over the life of an assistance measure would make it apparent if the measure is achieving, in a cost effective way, what policy makers are asking of it. This provides opportunities to refine or amend the measure to promote more cost effective outcomes.
5 COST-BENEFIT ASSESSMENT OF ASSISTANCE MEASURES

An industry assistance measure may be effective in achieving its objectives, but it may not be beneficial for Queensland as a whole. The ultimate aim of policy evaluation is to identify the efficient option — the policy that results in the highest net benefit to the community overall. This requires assessing both the direct and indirect costs and benefits of an industry assistance measure.

The process used in the performance assessment framework to assess whether an assistance measure provides a net benefit to society involves:

(a) identifying all benefits and costs associated with an assistance measure for evaluation
(b) assessing whether the benefits of industry assistance outweighs the costs using the net benefit test
(c) identifying those who stand to gain and those who stand to lose from an assistance measure and its implications
(d) assessing whether an alternative policy instrument is likely to generate a higher net benefit than the assistance measure being examined.

This chapter explores the process for assessing whether an assistance measure will provide a net benefit to Queensland.

5.1 The net benefit test

The TOR asks the QCA to assess an assistance measure's contribution to Queensland's economic performance and productivity. As noted in Chapter 3, the objective of all policy and regulatory endeavours is to improve welfare. Economic efficiency is primarily about maximising the aggregate welfare of society and can be used to assess whether an improvement has been achieved. The performance assessment framework aims to assess the economic performance of an assistance measure by considering whether it improves economic efficiency (i.e. improves overall welfare of society).

An industry assistance measure is welfare improving if it yields a net benefit for the community. The net benefit is determined by weighing up the benefits and costs associated with implementing an industry assistance measure. It measures both the direct impacts of industry assistance and the costs of providing it, as well as other impacts on the economy and the community. If the benefits of implementing an assistance measure exceed the costs, the Queensland community benefits from having the assistance.

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15 Productivity growth is a component of wider economic growth.
Figure 5: The net benefit test

Ideally, the net benefit test would be conducted using cost–benefit analysis. Cost–benefit analysis is an analytical tool that provides a quantitative method for assessing whether implementing a policy or project provides a net benefit to society (see Box 5.1).

Cost–benefit analysis seeks to estimate a dollar value for all of the positive and negative impacts of a policy, so a decision can be made on the basis of a single criterion – i.e. whether the benefits exceed the costs or, indeed, what decision or action maximises the net benefit to the community.

Cost–benefit analysis is useful because it:

- provides decision makers with quantitative information on the likely impact of a policy
- quantifies the impact of policies in a standard manner, which promotes comparability, assists in assessing relative priorities and encourages consistent decision making
- captures the various linkages between the policy and other areas of the economy (e.g. medical research) that improves health outcomes may reduce health costs (Medical Technology Association of Australia sub. 3, p.1)
- encourages decision makers to take account of all the positive and negative effects of a policy, and discourages them from making decisions based only on the impacts of a single group within the community (Australian Government 2007, p.115)

Many techniques used to conduct a cost benefit analysis are similar to those used for standard commercial investment analysis that seeks to translate the estimated flow of costs and revenues from an investment into a single profit estimate via a net present value assessment.

But a cost-benefit analysis for policy is quite different to an investment analysis. A cost-benefit analysis is not restricted to financial costs, but also includes changes to community wellbeing arising from changes to the environment, health and safety and other less tangible outcomes. In this way, cost-benefit analysis provides an estimate of the net impact of a policy from a societal perspective.

Undertaking a cost-benefit analysis is not straightforward as the inputs to the assessments may not be readily available. In an investment appraisal, the value of the inputs and outputs can be readily observed or estimated based on market prices. Assessing the additional R&D undertaken, jobs created, water conserved or greenhouse gases abated is a more difficult thing to do (Asciano Ltd. sub. 2, p.4).

Where the benefits and costs of a program are difficult to measure, non-market valuation techniques (e.g. using observed behaviour, purchasing decisions or survey evidence to estimate non-market values) can be used to estimate environmental and social costs and benefits. Even imprecise measures can be valuable, because they can identify those policies that obviously provide a benefit with and those that do not (Australian Government 2007, p. 115). However, cost-benefit analysis relies on data availability such that it may not always be possible to undertake quantitative cost-benefit analysis of industry assistance measures. Where it is
difficult to estimate costs and benefits with any precision, applying a more general cost-benefit framework still offers the best option to assess whether an assistance measure will, or does, provide a net benefit to the Queensland community.

Where it is not possible to monetise costs and benefits, it may still be feasible to monetise the costs of a policy and qualitatively assess whether the benefits are likely to exceed those costs (often called breakeven analysis). Where this is not achievable, costs and benefits should be qualitatively assessed drawing on quantification where possible. A cost-benefit framework makes clear and transparent the assumptions and judgements made; it attempts to identify and assess all the costs and benefits of an industry assistance measure from a whole-of-society viewpoint.

**Box 5.1: Cost-benefit analysis**

Cost-benefit analysis can be used to quantify the net benefit of a particular policy by calculating the benefits and costs associated with implementing a policy or program. The key steps in this process are as follows:

**Step 1: What is the problem?**

Investigate and assess the problem, its context and its background.

**Step 2: Determine the objectives**

Define the objectives of the policy and who the intended beneficiaries are.

**Step 3: What are the alternatives?**

Generate and clearly distinguish a number of alternatives policy options to provide the decision-makers with scope for exercising choice.

**Step 4: Identify benefits and costs**

Identify a list of the incremental benefits and costs flowing from policy options. Changes that would have occurred anyway should not be attributed to a policy action.

**Step 5: Quantify benefits and costs**

Assign values to as many of the benefits and costs as possible. Cost-benefit analysis compares costs and benefits using a common measure, usually dollars.

**Step 6: Calculate net present value**

Use the net present value to quantify whether benefits outweigh the costs. The process of discounting future costs and benefits removes the effect of the time value of money, to enable all values to be compared equally.

**Step 7: Sensitivity analysis for uncertainty**

There may be considerable uncertainty about policy impacts and their appropriate valuation. Sensitivity analysis helps to account for uncertainty and to determine reasonable values for costs and benefits.

**Step 8: Report**

Provide a recommendation to the decision maker. A cost-benefit analysis will support the alternative with the highest net present value (provided it is equal to or greater than zero).

*Source: Council of Australian Governments (2007).*
5.2 Assessing benefits and costs

As is the case for assessing the effectiveness of an industry assistance measure, assessing the net benefit for that measure involves establishing a counterfactual — the outcomes that would have eventuated if the assistance measure had not been implemented. The benefits and costs are identified by making a comparison between the outcomes associated with implementing an assistance measure and the counterfactual.

Any gain in the welfare of society that is generated from implementing the industry assistance measure is a relevant benefit for consideration in the net benefit test. The nature of benefits will depend on the type of industry assistance measure. Some benefits that may be considered are outlined below.

First, consumers and businesses may directly benefit from a lower price for a good or service, or from other non-monetary benefits. For example, if assistance is provided to industry in the form of underpriced water assets, water users (such as irrigators) will benefit from lower water prices.

Second, the community may gain a range of social benefits, which include spillover benefits such as those associated with health and environmental outcomes (see Box 5.2). For instance, the community may achieve better health outcomes through assistance to medical research, such as research into emerging tropical disease threats.

\[16\] For detailed guidance on how to assess costs and benefits, including methodological approaches and techniques, see for example Boardman et al (2006), Commonwealth of Australia (2006) and US EPA (2010).
Box 5.2: Spillover benefits

Spillovers occur where the actions of one entity lead to benefits that are not reflected in price changes and some of which accrue to others. Other parties, or the broader community, will often receive the benefit without having to pay for it. As noted in Chapter 3, spillovers may provide a rationale for governments to intervene through industry assistance.

A commonly cited source of spillover benefits are environmental goods. Environmental goods often have public good characteristics — they cannot be effectively excluded from use and use by one beneficiary does not reduce its availability to others — producing broader benefits that are not distributed through market transactions. In these instances, the benefit that accruing to society (marginal social benefit of consumption (MSB)) is greater than the benefit obtained through market transactions (marginal private benefit (MPB)). Given that the market price of a spillover does not reflect the social benefits obtained, the market generally does not capture the value of a spillover (see Figure 6).

Figure 6: The value of a spillover

Valuing spillovers can be difficult. Several non-market valuations have been developed. For instance, there is potential to adopt alternative willingness-to-pay, or willingness-to-accept, approaches to identify the value that the wider community places on the benefits received (Commonwealth of Australia, 2006).

Any reduction in welfare to society resulting from implementing an assistance measure is a relevant cost to be accounted for in the net benefit test. The use of resources for a particular assistance measure will preclude them from an alternative use. The costs of implementing an assistance measure reflect the value (opportunity cost) of those resources if utilised elsewhere in the economy.

First, consumers may bear some costs, such as increases in prices for certain goods and services, or other non-monetary costs. For example, the PC found that trade barriers (e.g. tariffs and quotas) had increased prices for consumers, and because trade barriers were highest for more basic consumer items (e.g. textiles, clothing and footwear, whitegoods and motor vehicles), the assistance had a regressive impact on consumers. In a similar vein, Ergon Energy (sub. 9, p. 3) argued that the Solar Bonus Scheme imposed significant costs on consumers:

In this case direct support was targeted at small electricity users which resulted in the rapid development of the solar industry and reduced electricity costs for some of the community but also had significant impacts and costs on the electricity network, disadvantaged lower
socioeconomic sections of the community and placed a cost burden on many electricity consumers.

Second, assistance may impose costs on businesses, including higher input prices, restricted access to markets and administrative and compliance costs, such as fees and paperwork. In its assessment of the policy to restrict imports of illegally logged timber, the CIE (2010) identified a number of compliance costs on producers and importers that resulted from additional requirements to demonstrate that they are not trading illegally logged timber.

Third, government may bear costs in providing assistance, such as the administrative costs associated with establishing, monitoring and managing the assistance measure.

Fourth, there may be costs to the community including various social costs, such as the adverse impacts of unemployment and environmental pollution. For example, the underpricing of water assets may encourage additional consumption of water. This additional water consumption may result in additional water run-off from agricultural land, which may reduce water quality downstream. This may impose costs on the community, including increased algal blooms and effects for regional tourism.

An example of a cost–benefit assessment is provided in Box 5.3.

In addition to benefits and costs that are the direct result of an assistance measure, there are two other types of costs and benefits that are sometimes overlooked in policy assessment.

Industry assistance measures often need to be financed through taxation. Raising taxation revenue imposes costs on society, referred to as the cost of raising funds. This cost does not refer to the income transferred from individuals and businesses to government — while tax payments to government are a cost to individuals and businesses, from an economic perspective they are viewed as a transfer of wealth and not an actual cost to society.

The economic costs of taxation refer to the additional costs, and thus loss to society, resulting from a government's revenue raising activities. These additional costs can be categorised into:

- collection/administration costs – the cost of administering the tax and collecting the revenue
- compliance costs – the monetary and time costs incurred by taxpayers to comply with the tax system
- deadweight losses – the value of the consumption or output foregone as a result of the price-raising effect of taxation. Taxation puts a wedge between the cost of supplying a product and the price of buying the product. At the higher price, less of the product is demanded (see Appendix E).

As a result of these additional factors, the costs of raising a dollar in taxation are higher than a dollar, because taxation alters the incentives to produce, work, save, buy or invest (known as the excess burden of tax). The Henry Tax Review (2009) indicated this excess burden of tax varies across forms of taxation (which reflects the efficiency of the various taxes) and are generally in the range of 10 to 70 cents per dollar raised.
Box 5.3: Case study — benefits and costs identified for conducting V8 car races in Canberra

The Canberra Tourism and Events Corporation (CTEC), an ACT statutory authority, signed an agreement with AVESCO to stage an annual V8 Supercars street race in Canberra from 2000 to 2005. The agreement required AVESCO to bring the event to Canberra for a fixed fee. CTEC was to finance and promote the races, bearing all financial risk from conducting the races.

In 2002, the ACT Auditor-General’s Office assessed the costs and benefits associated with conducting V8 car races in Canberra for 2000 and 2001. The Audit noted the following benefits associated with conducting the race in Canberra:

- Consumer surplus — the gain to ACT residents who attend the race (quantified by estimating the difference between the amount local residents would be willing to pay for a ticket and what they actually paid).
- Interstate tourist expenditure — the benefits to the ACT from additional tourist spending.
- Publicity value — the intangible benefits from media coverage of the race, resulting in a general increase in tourism at times other than when the race is held.
- Civic pride — the intangible benefits to residents who appreciate having the car race in Canberra but do not attend.

The Audit noted the following costs associated with conducting the race in Canberra:

- The net financial cost of conducting the races — this includes the expenses incurred by CTEC, less revenue generated by the event (the ACT Government subsidy to CTEC is not revenue generated from the race).
- Costs of conducting the race — the resources (labour, capital and materials) to produce the car race or services for tourists.
- Road Congestion — the time lost due to the road works undertaken to set up the race circuit.
- Noise costs — the intangible cost of additional noise generated by the event.

Based on its cost–benefit analysis, the ACT Auditor-General's Office concluded that hosting the V8 Supercar race in Canberra resulted in a substantial net cost to the ACT community.


A second category of costs and benefits that is sometimes overlooked is the indirect or unintended effects of a policy. For instance, assistance may lead to an increase in consumption for complementary products, or a reduction in consumption for substitute products. As noted in Chapter 2, an industry assistance measure may also have other unintended consequences, the costs of which need to be accounted for in the net benefit test (see Table 4).

17 It should be noted that cost-benefit analysis, and a more general cost-benefit assessment, is a partial analysis, in that it usually assumes that an individual assistance measure will not be significant enough to have substantial macroeconomic effects on the economy. Where such effects are relevant, a cost-benefit assessment could be complemented by economy-wide modelling (although such an approach has some disadvantages, see Jacobs (2006, p. 40)). Economy-wide modelling can, however, be most informative in examining the impact of all assistance measures or groups of assistance measures (see chapter 1).
Table 4: Unintended effects of policy interventions

<table>
<thead>
<tr>
<th>Effect</th>
<th>Definition</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Displacement</td>
<td>The positive outcomes from a policy are offset by negative outcomes of the policy elsewhere.</td>
<td>A firm receiving an R&amp;D subsidy increases the level of its R&amp;D, but the wages of scientists are bid up resulting in non-recipient firms reducing their R&amp;D investments. A policy increases exports of a target group, but the resulting increase in the exchange rate at the margin makes it more difficult for other industries to compete in export markets.</td>
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<tr>
<td>Substitution</td>
<td>The effects of an intervention on a particular individual, group or area are realised at the expense of other individuals, groups or areas, or public monies substitute for private monies.</td>
<td>An employer appointing a jobless person from a government scheme, rather than a standard applicant, in order to secure a recruitment subsidy, or hiring a subsidised person while firing a non-subsidised person. A firm receiving an R&amp;D subsidy reduces its own-source investment in R&amp;D (public money substitutes for private money).</td>
</tr>
<tr>
<td>Leakage</td>
<td>A policy benefits others outside the target area or group.</td>
<td>Jobs generated in a target area are taken by those who live outside it.</td>
</tr>
<tr>
<td>Unnecessary</td>
<td>The policy supports outcomes which would have occurred anyway.</td>
<td>An employer receives a subsidy to take on workers who were going to be appointed anyway.</td>
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</table>

Source: HM Treasury (UK), Magenta Book, p.59 Table 6.A

For example, the $2.8 billion Home Insulation Program introduced by the Australian Government in 2009 was terminated in 2010 following serious safety and compliance concerns and the death of four installers. A series of reviews have identified significant problems with program design and a failure to anticipate market response. Following the closure of the program, the Australian Government introduced several remediation programs, at an estimated cost of $425 million, involving safety inspections, removal and/or repair of insulation. It also provided industry with $56 million in adjustment assistance. Around 4000 potential cases of fraud have been identified (ANOA (2010)).

5.3 Accounting for distributional effects or equity

The net benefit test seeks to account for changes in welfare of society. The redistribution of resources associated with implementing an assistance measure will benefit some sectors of the economy at costs to others. The transfer of resources from one sector of the economy to another is not an improvement or reduction in overall welfare.

However, the way in which costs and benefits are distributed among various groups can be important to decision makers (QFF, sub. 1, p. 3, CCIQ sub. 10, p.11). Distributional effects describe the distribution of benefits or costs of assistance across different groups in society. Distributional effects do not add to, or subtract from, the net benefit of an assistance measure. Rather, they simply consider which parties are made better off and which parties are made worse off. These distributional effects may take a number of forms, including:

- regional distribution effects—the contrasting impacts that an assistance measure may have on regional areas.
• income distribution effects —the contrasting impacts that an assistance measure may have on different income groups.

• inter-temporal distribution effects —the contrasting impacts that an assistance measure may have over time.

While a cost-benefit assessment cannot resolve equity issues, it can draw attention to them by identifying those who win and those who lose from an industry assistance measure and the magnitude of the gains and losses. Decision makers can then determine whether distributional effects are important and whether they need addressing. For example, an outcome that achieves a benefit to society as a whole, but comes at a significant cost to disadvantaged groups, may be undesirable from an equity perspective.

5.4 Assessing alternatives for a greater net benefit

Determining whether an industry assistance measure provides a net benefit does not necessarily mean it maximises the benefit to the community (i.e. it is the efficient option).

There are usually multiple policy options available for governments to achieve their objectives. Feasible alternatives to an industry assistance measure may include other forms of assistance that may be less distortionary, market-based instruments, reform of the broader tax, financial and regulatory framework, information provision and withdrawing the assistance and doing nothing. As such, the evaluation should assess whether an alternative policy instrument is likely to generate a higher net benefit than the existing industry assistance measure.

The net benefit of any alternative options should be compared to that of the assistance measure. This involves three steps:

(1) identifying all alternative options available to the government to achieve the objective of the assistance measure

(2) assessing the costs and benefits of each alternative option, using the cost-benefit framework, including sensitivity testing to account for uncertainty and risk

(3) comparing the net benefits of the alternative options to determine which option maximises the net benefit of society.

The same counterfactual should be used for each option to ensure that the assessment of benefits and costs is consistent. A comparison of the net benefit associated with each option will determine which option maximises the net benefit to the community (see Figure 7).
5.5 Reporting the cost–benefit assessment

Figure 8 summarises the key steps in a cost–benefit assessment under the performance assessment framework.

Figure 7: Assessing alternative options

Figure 8: Assessing the impact of assistance in the performance assessment framework
An important final step in a cost–benefit assessment is the reporting of the results. For an assessment to inform decision makers, it should generally include:

- how the costs and benefits were estimated (whether this is done quantitatively or qualitatively)
- a list of assumptions made, sources of data and other evidence
- information on the sensitivity of the estimated impacts to alternative assumptions and any limitations of the analysis
- a description of the size and nature of any distributional effects
- a clear identification of the policy that generates the greatest net benefit to the community and why policy alternatives have been rejected.

By reporting a cost–benefit assessment in this way, it should not only improve the quality of information provided to decision makers, but also allow for the assessment to be tested by stakeholders and the wider community, and improve accountability for the policy decisions taken.
# Glossary

<table>
<thead>
<tr>
<th>A</th>
<th>Australian Capital Territory</th>
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<tbody>
<tr>
<td>AMC</td>
<td>Australian Magnesium Corporation</td>
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<td>AWC</td>
<td>Australian Wool Corporation</td>
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<td>B</td>
<td>Bureau of Resources and Energy Economics</td>
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<td>C</td>
<td>Chamber of Commerce and Industry Queensland</td>
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<td>CGE</td>
<td>Computable General Equilibrium</td>
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<tr>
<td>CIE</td>
<td>Centre of International Economics</td>
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<tr>
<td>COAG</td>
<td>Council of Australian Governments</td>
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<tr>
<td>CSIRO</td>
<td>Commonwealth Scientific and Industrial Research Organisation</td>
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<tr>
<td>CTEC</td>
<td>Canberra Tourism and Events Corporation</td>
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<td>D</td>
<td>Department of Agriculture, Fisheries and Forestry</td>
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<td>DPC</td>
<td>Department of the Premier and Cabinet</td>
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<td>DSDIP</td>
<td>Department of State Development, Infrastructure and Planning</td>
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<td>DSITIA</td>
<td>Department of Science, Information Technology, Innovation and the Arts</td>
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<td>DTESB</td>
<td>Department of Tourism, Major Events, Small Business and the Commonwealth Games</td>
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<td>I</td>
<td>Industry Commission</td>
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<td>M</td>
<td>Marginal Private Benefit</td>
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<td>MSB</td>
<td>Marginal Social Benefit</td>
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<td>National Commission of Audit</td>
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<td>NSW</td>
<td>New South Wales</td>
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<td>O</td>
<td>Organisation of Economic Co-operation and Development</td>
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<td>P</td>
<td>Pharmaceutical Benefits Scheme</td>
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<td>Productivity Commission</td>
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<td>PIIP</td>
<td>Pharmaceuticals Industry Investment Program</td>
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<td>Abbreviation</td>
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<tr>
<td>PMF</td>
<td>Performance Management Framework</td>
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<td>Photovoltaic</td>
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<td>Queensland Competition Authority</td>
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<td>QCoA</td>
<td>Queensland Commission of Audit</td>
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<td>QFF</td>
<td>Queensland Farmers’ Federation</td>
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<td>QRAA</td>
<td>Queensland Rural Adjustment Authority</td>
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<td>Queensland Treasury and Trade</td>
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<td>R&amp;D</td>
<td>Research and Development</td>
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<td>Tourism and Events Queensland</td>
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<td>Terms of Reference</td>
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<td>WTO</td>
<td>World Trade Organisation</td>
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APPENDIX A TERMS OF REFERENCE

QUEENSLAND COMPETITION AUTHORITY ACT 1997
SECTION 10(c)
DIRECTION

Direction

1. The Investigation and Report

I direct the Queensland Competition Authority (the Authority) to investigate and report on Queensland Government Industry Assistance Measures (Assistance Measures) to assess the effectiveness of Assistance Measures (including whether these measures are cost-effective) and the contribution to Queensland’s economic performance and productivity made by the Assistance Measures (the Report).

The Authority is to investigate and report on the following matters as part of the Report:

(a) What are the current Assistance Measures in place, including the objectives of each identified measure, administration, performance assessment and funding of the identified Assistance Measures;

(b) An appropriate performance assessment framework to evaluate the effectiveness of Assistance Measures, including whether these measures are cost-effective. The performance assessment framework should focus on the economic impact of Assistance Measures including the contribution made by Assistance Measures to Queensland’s economic performance and productivity;

(c) How current Assistance Measures perform under the performance assessment framework and how current Assistance Measures contribute to Queensland’s economic performance and productivity;

(d) Options for reform of current Assistance Measures that would increase their effectiveness, including the cost-effectiveness; and

(e) An appropriate monitoring and performance evaluation process for Assistance Measures that could be adopted by the Queensland Government to continually evaluate the performance of Assistance Measures.

2. Powers including consultation

Pursuant to section 12(6) of the Act, the Authority has all the powers under Part 6 of the Act in relation to the investigation under this Direction, including the power under section 172 of the Act to conduct public consultation in relation to the investigation.

3. Timing

The Authority must provide an Interim Report on the appropriate performance assessment framework by 31 August 2014.
The Authority must provide a Final Report on all matters by 30 June 2015.

4. Publication

The Interim Report, Final Report and submissions made in consultation undertaken by the Authority should be made available on the Authority’s website.

5. Definitions

For the purpose of this Direction:

“Queensland Government Industry Assistance Measures” includes any measures implemented and/or funded by the Queensland Government, directly or indirectly, that are intended to assist any industry in the State of Queensland, as determined by the Authority as part of its investigation under this Direction.

TIM NICHOLLS
Treasurer and Minister for Trade

31/3/14
APPENDIX B  SUBMISSIONS AND CONSULTATIONS

Submissions on the issues paper

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<td>2</td>
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<tr>
<td>Medical Technology Association of Australia</td>
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<td>Origin Energy</td>
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<td>Australian Industry Group</td>
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<tr>
<td>Department of State Development, Infrastructure and Planning</td>
<td>11</td>
</tr>
</tbody>
</table>

Workshop attendees

Department of Agriculture, Fisheries and Forestry
Department of Communities, Child Safety and Disability Services
Department of Education, Training and Employment
Department of Energy and Water Supply
Department of Housing and Public Works
Department of Justice and Attorney-General
Department of Local Government, Community Recovery and Resilience
Department of National Parks, Recreation, Sport and Racing
Department of Natural Resources and Mines
Department of the Premier and Cabinet
Department of Health
Queensland Treasury and Trade
Department of Science, Information Technology, Innovation and the Arts
Department of State Development, Infrastructure and Planning
Department of Tourism, Major Events, Small Business and the Commonwealth Games
Department of Transport and Main Roads.

**Consultations**

AgForce
Chamber of Commerce and Industry Queensland (CCIQ)
Department of Environment, Heritage and Protection (EHP)
Department of Health (DoH)
Department of National Parks, Recreation, Sport and Racing (NPRSR)
Department of State Development, Infrastructure and Planning (DSDIP)
Office of the Queensland Chief Scientist (OCS)
Queensland Farmers' Federation (QFF)
Queensland Resources Council (QRC)
Queensland Treasury and Trade (QTT)
APPENDIX C QUALIFICATION TEST

The Qualification Test applies a set of criteria in a systematic way to determine which policies, programs, activities or practices are and are not within scope of the definition of an industry assistance measure. However, 'borderline' cases will require the QCA to establish limits on the scope of what is defined as an industry assistance measure.

Table 5 Checklist to determine whether a policy qualifies as industry assistance

<table>
<thead>
<tr>
<th>Key criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>The policy or program is classified as an industry assistance measure if it has the following features:</td>
</tr>
<tr>
<td>• The policy or program confers a benefit upon the recipient (e.g. a transfer of financial resources).</td>
</tr>
<tr>
<td>• The initial or direct recipient of the benefit is a business(^{18}) (see exception related to households).</td>
</tr>
<tr>
<td>• The recipient business is not a community or not-for-profit entity.</td>
</tr>
<tr>
<td>• The assistance is 'selective'.</td>
</tr>
<tr>
<td>• The benefit is funded by or is the result of Queensland Government policy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form of assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The assistance may take the form of one or more of the following:</td>
</tr>
<tr>
<td>• Queensland Government budgetary outlays, including</td>
</tr>
<tr>
<td>– Direct financial assistance (grants and subsidies, Interest rate subsidies, credits and loans, loan guarantees, insurance, equity injections)</td>
</tr>
<tr>
<td>– Funding to organisations which perform services to benefit industry</td>
</tr>
<tr>
<td>• Tax concessions</td>
</tr>
<tr>
<td>– Exemptions, deductions, rebates, preferential tax rates, deferred tax.</td>
</tr>
<tr>
<td>• Underpricing of access to assets owned by the Queensland Government</td>
</tr>
<tr>
<td>• Services provided by the Queensland Government free or at less than full cost recovery</td>
</tr>
<tr>
<td>• Regulatory restrictions on competition or innovation</td>
</tr>
<tr>
<td>• Purchasing policy preferences</td>
</tr>
<tr>
<td>• Contingent liabilities and risks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tied assistance through households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures which provide assistance to businesses through the household sector may be considered within scope where:</td>
</tr>
<tr>
<td>• there is a transfer of resources to households tied to the subsidisation of specific products (increasing demand for those products)</td>
</tr>
<tr>
<td>• the transfer of resources is not considered to be part of the general welfare system.</td>
</tr>
</tbody>
</table>

\(^{18}\) A 'business' is defined broadly to include individuals carrying on a business activity (sole traders) through to listed corporations.
Borderline tests

Where the above tests have not ruled the policy or program clearly in or out of scope, further tests apply, such as:

- Is there a 'public interest' in disclosure?
- How economically significant is the potential impact of the measure? 19

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19 It is desirable to keep within scope policies even with small amounts of funding if they meet the other criteria for inclusion. ‘Economically significant’ refers to an economic concept of impact not a financial one (e.g. the impact takes into account impacts on other businesses and the broader community and not just the business receiving assistance).
## Sample Evaluation Summary Sheet

Note: this evaluation template may be refined in light of experience in its application.

### General information

<table>
<thead>
<tr>
<th>Name:</th>
<th>Insert the name of the industry assistance measure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General description of the assistance measure:</th>
<th>Provide a general description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administering department:</th>
<th>Entity which delivers the policy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name the department with ministerial responsibility for the measure</td>
<td>Department or external body (e.g. statutory authority)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Priority assessment:</th>
<th>Level of assistance ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate the assessed priority</td>
<td>Level of assistance over the forward estimates period</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Has the measure been fully evaluated previously?</th>
<th>Financial year the measure was first implemented:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Rationale

**Summary of the evaluation of the policy rationale for intervention:**

Is there a case for government action (yes, uncertain, no)? Briefly discuss key points.

### Effectiveness

**Summary of the evaluation of the assistance measure's effectiveness:**

Is the assistance measure effective? Is it cost-effective? Briefly discuss key points.

### Economic impact (cost-benefit assessment)

**Summary of the evaluation of the assistance measure's economic impact:**

Is the current measure likely to result in a net benefit?

Could alternatives or reforms to the policy result in a larger net benefit?
Recommendations

**Recommendations:**

Recommend:

- Further evaluation of the assistance measure (e.g. where key data are missing)
- Continuance of the assistance measure 'as is'
- Reform of the assistance measure, including adoption of alternative approaches
- Ceasing of the assistance measure.
Evaluation report

Background information

Industry description

Describe the industry context of the assistance measure

Include one or more of the following:

- Describe industry outputs (domestic consumption and exports, size and trends, volumes and prices).
- Describe industry inputs.
- Describe productivity trends (labour productivity and MFP).
- Classify and describe the structure of the market.
- Identify challenges and issues facing the industry.

Consider factors that will help in understanding the rationale and impacts of the assistance measure.

Policy context

Provide a summary of the policy's context

This may include, for example:

- The historical context of the assistance measure's adoption
- The role of the assistance measure in the context of federalism
- Evolution of the assistance measure.

Literature review

Key outcomes from the literature review:

Briefly review relevant theory, empirical studies and case studies.

Review of previous evaluations

Summarise findings from previous evaluations of the measure (if any) and any known issues

Measurement

Level of assistance provided

Table 6  Level of assistance: [insert measure name], ($)
Characteristics

<table>
<thead>
<tr>
<th>Form of assistance:</th>
<th>Category of assistance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate the form/s of assistance</td>
<td>Indicate assigned category of assistance</td>
</tr>
<tr>
<td>Policy orientation or selectivity:</td>
<td>Policy domain:</td>
</tr>
<tr>
<td>Indicate selectivity based on industry coverage or a business characteristic</td>
<td>Describe the 'domain' the assistance measure</td>
</tr>
</tbody>
</table>

Section C: Prioritisation

What was the outcome of the prioritisation test?
Indicate exempt, low, medium or high priority
Describe the reasons for the prioritisation outcome

Section D: Rationale for policy intervention

The case for government action

What problems existed (continue to exist) that might warrant policy intervention?
Provide a clear and concise statement of the problem/s to be (or are being) addressed by the assistance measure.
Is there a 'market failure'? If yes, describe the nature of the market failure (e.g. externalities or information asymmetries).
Is the intervention based on a different rationale? Define the rationale.

Objectives

What are the objectives of the assistance measure?
State the objectives of the assistance measure.
Who likely benefits from the intervention (by income groups, by spatial distribution, by industry)?
Who will likely incur the costs of the intervention?

The logic of the intervention

Describe the logic of the intervention
State/show how the intervention is intended to work in achieving its policy targets and objectives, including:
- the inputs, i.e. the resources (money, time, people, skills) being invested
- the activities which need to be undertaken to achieve the policy objectives
- the initial outputs of the policy (or policy targets)
- the outcomes (i.e. short and medium-term objectives of the intervention)
- the anticipated impacts (i.e. long-term results)
- the assumptions made about how these elements link together which will enable the programme to successfully progress from one element to the next (e.g. parameter and causation assumptions, economic linkages).

* Insert a flowchart if available.
Risks and constraints

What were/are the key risks and constraints of the assistance measure?

Consider and state prior expectations concerning the risks to the assistance measure achieving its intended objectives, including possible unintended consequences. Risks may be identified by considering the objectives, logic and implementation of the intervention against, for example:

- The market failure framework: industry assistance not based on solid market failure rationales is very unlikely to result in net benefit
- The non-market failure framework: the decision to intervene, the choice of how to intervene, and policy implementation all entail non-market failure risks
- Understandings of how industry assistance measures can result in unintended consequences
- Accumulated evidence of the effects of industry policy interventions.

Alternative approaches

What alternative policy instruments or approaches to the assistance measure were (or could be) considered?

Consider alternative policy instruments (direct delivery, tax, subsidy, regulation), and/or variations on the existing policy.

Evaluation summary

Provide a summary assessment of the policy's rationale for intervention

Step 1 of the market failure test: was the assistance measure based on a solid economic rationale for intervention? Is the rationale still valid?

Step 2 of the market failure test: ex-ante, was the intervention feasible? How probable was it that the intervention would result in net benefits?

State the key arguments for the above assessments. Address other rationales if applicable.

Section E: Evaluation of effectiveness

Evaluation of effectiveness

Evaluate whether the measure has achieved its objectives and whether effectiveness can be improved

Drawing on the evaluation of the policy rationale for intervention, identify the objectives of the measure. Consider evaluation options (e.g. case studies, partial performance indicators and statistical methods) in the context of data constraints and the desirability of testing for additionality and causality.

Where a partial indicators approach is selected -

- Identify partial indicators currently used by the department (if any).
- Specify a suite of partial indicators linked to objectives, including indicators of cost effectiveness.
- Discuss the counterfactual used to set realistic targets.
- Discuss the quality and limitations of the indicators.
- Evaluate performance against the indicators.
- In interpreting performance, consider the merit and feasibility of benchmarking.

Is the measure effective? Is the measure cost-effective? Can effectiveness be improved? How?
Section F: Evaluation of economic impact

The evaluation of the economic impact of the assistance measure is based on a cost–benefit framework. The framework is applied qualitatively and, where data permits, quantitatively.

* For each of the below steps, insert tables as needed.

The with and without cases

<table>
<thead>
<tr>
<th>Define and specify the with and without cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw on the policy rationale work on alternative options and the findings from the effectiveness evaluation.</td>
</tr>
<tr>
<td>Consider counterfactual.</td>
</tr>
<tr>
<td>Specify the 'with' and 'without' cases based on the current assistance measure.</td>
</tr>
</tbody>
</table>

Identify the costs and benefits

<table>
<thead>
<tr>
<th>Identify the impacts resulting in costs or benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify the intended impacts of the measure on the target group (from the effectiveness evaluation).</td>
</tr>
<tr>
<td>Broaden the analysis of impacts by identifying impacts from a state-wide perspective, taking account of national impacts where significant, and any unintended impacts/consequences.</td>
</tr>
<tr>
<td>If feasible, undertake quantitative analysis to identify the direction and magnitude of the impacts.</td>
</tr>
<tr>
<td>Undertake qualitative/quantitative analysis to assist in understanding the measure's impacts.</td>
</tr>
</tbody>
</table>

Value the costs and benefits

<table>
<thead>
<tr>
<th>Identify and value the costs of the assistance measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the magnitude of the impacts can be quantified, or reasonable 'what if' scenarios can be specified, then value the costs and benefits. State key assumptions and parameter values.</td>
</tr>
</tbody>
</table>

Net benefit

<table>
<thead>
<tr>
<th>Assess net benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where costs and benefits are quantified, calculate net benefit.</td>
</tr>
<tr>
<td>Where costs and benefits are not quantified, adopt a 'weight of the evidence' approach to discussing the likely net benefit of the measure.</td>
</tr>
</tbody>
</table>

Sensitivity analysis

<table>
<thead>
<tr>
<th>Apply sensitivity tests to the calculation of net social benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where the net benefit is quantified, analyse the sensitivity of the net benefit results to:</td>
</tr>
<tr>
<td>• Key costing assumptions</td>
</tr>
<tr>
<td>• Key benefit assumptions</td>
</tr>
<tr>
<td>• Alternative discount rates.</td>
</tr>
<tr>
<td>Incorporate analysis of risk and uncertainty (e.g. probability analysis).</td>
</tr>
</tbody>
</table>
### Distributional impacts

**Discuss the key distributional impacts**

Discuss impacts in relation to one or more of the following:
- The distribution of incomes
- The distribution of economic activity spatially or regionally
- Inter-generational impacts
- Impacts across different categories of businesses.

### Unquantified impacts

**Describe any non-quantifiable impacts**

Describe any unquantified costs and benefits of the measure not considered above. Describe their possible significance.

### Consider alternative cases

**Define and specify alternative case/s**

Consider alternative cases which may deliver a net benefit or a larger net benefit. This may include alternative intervention approaches or reforms to the existing measure.

### Conclusions

**State key conclusions**

Is the assistance measure likely to result in a positive net benefit? Which option is likely to result in the largest positive net benefit? What are the key qualifications?

### Recommendations

**State recommendations**

Options:
- Further evaluation of the assistance measure (e.g. where key data is missing)
- Continuance of the assistance measure ‘as is’
- Reform of the assistance measure, including adoption of alternative approaches
- Cease the assistance measure.
APPENDIX E THE DEADWEIGHT LOSS OF TAXATION

A deadweight loss is the consumption or output foregone as a result of the price raising effect of taxation. By increasing the prices of taxed items (e.g. goods and services and factor inputs, such as labour) taxation alters the decisions of households, domestic businesses and the foreign sector. As a result:

- households may change their level of consumption, what goods and services they spend their money on and/or the amount that they choose to work versus leisure
- businesses may change what they produce and/or how they produce it (e.g. whether they employ more labour or invest in labour saving technologies)
- foreign businesses and consumers may demand less of Australia’s exports or supply Australia with fewer imports (KPMG Econtech, 2010).

At the higher price, less of the product is demanded and the consumer and producer surpluses\(^{20}\) are reduced. The reduction in consumer and producer surpluses is the deadweight loss of a tax.

**Figure E.1: The deadweight loss of a tax**

Figure E.1 shows the deadweight loss of a tax. Prior to the introduction of the tax, the market clearing quantity demanded and price are \((q^*)\) and \((p^*)\), respectively. This could be a market for a product or, for example, labour.

The introduction of a tax raises the price from \((p)\) to \((p_1)\). At the price of \(p_1\), demand shifts back along the demand curve corresponding to the intersection of \((p_1, q_t)\). Quantity demand is reduced from \((q^*)\) to \((q_t)\).

The deadweight loss (efficiency loss) is represented by the areas \((a+b)\). Both the producer and consumer surplus are reduced as a result of the tax. The total burden of the tax to consumers is the area \(AB\) plus the efficiency loss \((a)\). The total burden on producers is the area \(CD\) plus the efficiency loss \((b)\).

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\(^{20}\) The consumer surplus is the welfare obtained by consumers from purchasing a product at a particular price. The producer surplus is the welfare obtained by producers from selling a product at a particular price.
Gabbitas and Eldridge (1998) state that the extent of the deadweight loss will depend on what is being taxed, how the tax actually operates and the scope for avoiding the tax. In general, the deadweight loss will be bigger:

- the higher the tax rate is
- the more sensitive demand is to price changes
- the more sensitive supply is to price changes
- the easier it is to relocate the transaction being taxed to a lower taxing jurisdiction.

The deadweight loss of taxation, also known as the excess burden of tax, can be measured in total (as an average) or at the margin:

- The average excess burden of a tax (AEB) is the total welfare loss from imposing the tax expressed as a proportion of the total revenue raised by the tax.
- The marginal excess burden of a tax (MEB) is the additional welfare loss imposed by increasing a particular tax by a small amount divided by the change in government revenue (KPMG Econtech, 2010). The MEB is calculated as: \( \text{MEB} = \frac{\Delta \text{welfare}}{\Delta \text{tax revenue}} \).

KPMG Econtech (2010) estimated the marginal and average excess burden of Australian taxes on behalf of the Commonwealth Treasury for the Henry Review (Table E.1). Generally, taxes on goods and services where supply and demand are relatively insensitive to changes in price have lower marginal excess burdens on the economy, while taxes on goods and services that are highly sensitive to changes in price produce large marginal excess burdens.

**Table E.1: Marginal and Average Excess Burdens of Australian Taxes**

<table>
<thead>
<tr>
<th>Tax</th>
<th>Marginal excess burden</th>
<th>Average excess burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal rates</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>GST</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Land taxes</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Fuel taxes</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Stamp duties other than real property</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Labour income tax</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Conveyancing stamp duties</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>Motor vehicle registration</td>
<td>37</td>
<td>32</td>
</tr>
<tr>
<td>Payroll Tax</td>
<td>41</td>
<td>22</td>
</tr>
<tr>
<td>Insurance taxes</td>
<td>67</td>
<td>47</td>
</tr>
<tr>
<td>Royalties and crude oil excise</td>
<td>70</td>
<td>50</td>
</tr>
</tbody>
</table>

*Source: Henry Tax Review (2009), KMPG Econtech (2010).*
REFERENCES


Banks, G. (2002) "Inter-State bidding wars: Calling a truce" Speech to the Committee for Economic Development of Australia, Brisbane, 6 November.

Banks, G. (2011)"Industry assistance in a 'patchwork economy" Speech to the ACCI Annual Dinner, Canberra, 23 November.


