# 2 Overview of the Commission’s assistance measurement system

## 2.1 Coverage of assistance instruments

Section 10(6) of the *Productivity Commission Act 1998* defines assistance to industry as:

… any act that, directly or indirectly: (a) assists a person to carry on a business or activity; or (b) confers a pecuniary benefit on, or results in a pecuniary benefit accruing to, a person in respect of carrying on a business or activity.

Reflecting this broad definition, an array of different instruments can provide assistance to industry. These include:

* tariffs, quotas, anti-dumping duties and regulatory restrictions on imported goods and services, such as local design rules and quarantine laws;
* grants and subsidies for domestic producers;
* tax expenditures and offsets for domestic producers;
* ‘in-kind’ assistance provided by publicly-funded intermediaries, such as certain research undertaken by CSIRO;
* regulatory restrictions on domestic competition, such as those provided by some statutory marketing arrangements and legislation that reserves markets for particular groups (for example, pharmacy service provision);
* the provision of services by government agencies at concessional prices; and
* government procurement policies.

For its annual estimates of industry assistance as published in *Trade & Assistance Review*, it is not practicable to cover all forms of government support to industry. Rather, the Commission’s estimates focus on the main forms of support that *selectively* assist firms, activities or industries and that can be quantified on an annual basis given practical constraints in measurement and data availability.

The key assistance measures covered in the annual estimates are tariff assistance (including tariff concessions) and Australian Government budgetary assistance (including grants, subsidies and tax expenditures). The estimates also include some agricultural pricing and marketing assistance, although the number and impact of individual assistance instruments in this category has declined in recent years. The coverage of assistance under each of these categories, including changes made for the 2008‑09 series, is described in detail in chapters 3 and 4 of this annex.

Some measures affording assistance that are not covered in the annual estimates include:

* *Restrictions on trade in services* — the nature of these restrictions and the difficulties in establishing a ‘benchmark price’ for services means it is difficult to determine the level of assistance associated with these restrictions. However, the Commission has separately published specific studies of barriers to services trade, and their price impacts.
* *Anti-dumping and countervailing measures* — the Commission does not include the assistance effect of these duties in its annual estimates, but reports year-to-year usage.
* *State government measures* — apart from nationally-significant agricultural pricing and marketing assistance provided by State arrangements, the Commission does not include State government assistance as part of its annual estimates. However, from time-to-time, the Commission has published broad estimates of the level of State government budgetary assistance to industry.[[1]](#footnote-1)
* Various other assistance instruments, including government purchasing preferences, the under-pricing of infrastructure, the impact of tariffs on the cost of physical capital used in production, assistance effects that may be associated with quarantine restrictions, and government programs affecting a range of service industries, including the provision of health and welfare, where funding predominantly benefits consumers and individual citizens.

## 2.2 Classification of assistance

The Commission classifies its assistance estimates — comprising tariffs, budgetary outlays, tax expenditures, and agricultural pricing and marketing arrangements — into a number of different groupings (figure 2.1).

Figure 2.1 Classification of assistance

|  |
| --- |
| Figure 2.1. Classification of assistance. This figure shows how the Commission classifies its assistance estimates into a number of different goupings. These include by form, by ANZSIC industry and by targeted activity. |

### Industry groupings

The level of industry detail at which the Commission reports on assistance, and the focus of its estimates, have changed over time. The initial focus was on assistance within the traded-goods sectors — particularly manufacturing and agriculture — where levels of assistance were found to be high. Over time, assistance targeted to these sectors has been reduced while the incidence of budgetary assistance to both goods producing and services sectors has increased. Services activities have increased in relative economic importance and now account for around four-fifths of employment and Gross Domestic Product (GDP) in Australia.

Reflecting these developments, from the 2001‑02 *Review* (PC 2002a, 2002b), the Commission has included estimates of assistance to the services sector, and has integrated these, as far as practicable, with estimates in relation to manufacturing and agriculture.

In *Trade & Assistance Review 2011‑12*, estimates of combined assistance are presented for 38 ‘industry groupings’ including 4 ‘unallocated’ groupings (table 2.1). The industry groupings are based on the classification of industries in the 2006 edition of the Australia and New Zealand Standard Industrial Classification (ANZSIC). The 38 published industry groupings comprise 9 in the primary production sector, 12 in the manufacturing sector, 15 in the services sector, a mining group, and an unallocated other group.

Table 2.1 Industry groupings used for reporting assistance  
in *Trade & Assistance Review 2011-12*

|  |  |
| --- | --- |
| Industry grouping | ANZSIC 2006 codes |
| **Primary production** | **A** |
| Horticulture and fruit growing | 011, 012, 013 |
| Sheep, beef cattle and grain farming | 014 |
| Other crop growing | 015 |
| Dairy cattle farming | 016 |
| Other livestock farming | 017, 018, 019 |
| Aquaculture and fishing | 02, 04 |
| Forestry and logging | 03 |
| Primary production support services | 05 |
| Unallocated primary production | – |
| **Mining** | **B** |
| **Manufacturing** | **C** |
| Food, beverages and tobacco | 11, 12 |
| Textile, leather, clothing and footwear | 13 |
| Wood and paper products | 14, 15 |
| Printing and recorded media | 16 |
| Petroleum, coal, chemical and rubber products | 17, 18, 19 |
| Non-metallic mineral products | 20 |
| Metal and fabricated metal products | 21, 22 |
| Motor vehicles and parts | 231 |
| Other transport equipment | 239 |
| Machinery and equipment manufacturing | 24 |
| Furniture and other manufacturing | 25 |
| Unallocated manufacturing | – |
| **Services** | **D-S** |
| Electricity, gas, water and waste services | D |
| Construction | E |
| Wholesale trade | F |
| Retail trade | G |
| Accommodation and food services | H |
| Transport, postal and warehousing | I |
| Information, media and telecommunications | J |
| Financial and insurance services | K |
| Property, professional and administration services | L, M, N |
| Public administration and safety | O |
| Education and training | P |
| Health care and social assistance | Q |
| Arts and recreation services | R |
| Other services | S |
| Unallocated services | – |
| **Unallocated other** | **–** |

*Source*: Commission estimates based on ABS (2006).

Under ANZSIC, there are no separate categories for functional groupings such as tourism. Rather, such activities fall within several ANZSIC industry categories. While the Commission does not report assistance to functional groupings such as tourism in its annual estimates, from time to time it undertakes studies that cover assistance to such groupings.[[2]](#footnote-2)

### Targeted activities

*Trade & Assistance Review* also categorises budgetary assistance by one of eight targeted activities:

* research and development;
* exports;
* investment;
* industry-specific assistance;
* sector-wide assistance;
* small business;
* regional/structural adjustment assistance; and
* a residual ‘other’ category.

These categorisations are explained further in chapter 3.

## 2.3 Estimation procedures

The approach adopted by the Commission to estimating the value of assistance varies depending upon the instruments used to provide the support.

* Where governments impose tariffs on imports, the assistance to competing Australian producers is determined as the subsidy equivalent inferred from the price increase allowed (in principle) by the tariff on Australian producers’ domestic sales; not by the dollar amount of tariff revenue collected on imports.
* Where the protected goods are used by other industries as inputs, the negative assistance caused by tariffs on inputs is assessed as the tax equivalent imposed by tariffs on inputs (whether locally produced or imported) used in production.
* Where governments provide grants and subsidies directly to firms, the government expenditure on the subsidy is recorded as assistance. The annual estimates generally exclude the policy advice and general administration costs of government agencies that administer grants and other assistance programs.
* Where governments fund services that indirectly assist an industry, such as funding of CSIRO to conduct research activities, the full funding (excluding any industry contributions) is deemed to be assistance.
* Where governments provide tax concessions — exemptions, deductions, offsets, rebates, lower tax rates or tax liability deferrals — on a selective basis, the value of the assistance provided is estimated as the amount of tax revenue forgone by the government.

In quantifying the assistance provided each year by various measures, the Commission draws on a range of data sources, including:

* the Australian Customs tariff schedule;
* ABS data on foreign trade flows, the Australian national accounts and input-output ratios;
* Australian Government budget papers;
* annual reports of government departments and agencies;
* the Australian Government Tax Expenditure Statement;
* Australian Taxation Office taxation statistics; and
* other government department and agency publications and communications.

The estimation procedures, and associated qualifications, are explained in more detail in chapters 3 and 4 of this paper.

## 2.4 Types of assistance measures

In reporting on assistance, the Commission uses several measures that highlight different aspects of assistance and its effects on the economy and that facilitate comparisons of the effects of the diverse assistance arrangements affecting businesses across the economy.

The basic concepts underpinning assistance measurement evaluation are:

* the *gross subsidy equivalent (GSE)*, which is the dollar value of assistance to an industry’s or activity’s outputs;
* the *tax equivalent on materials (TEM)*, which is the dollar value of the penalty on an industry’s or activity’s inputs due to the price-raising effects of tariff assistance on those inputs;
* the *assistance to value adding factors (AVAF)*, which is the dollar value of assistance not linked directly to the unit returns of outputs or the cost of inputs, but which accrues to land, labour or capital returns of an industry or activity; and
* the *net subsidy equivalent (NSE)*, which is a measure of the dollar value of net assistance to an industry’s or activity’s value added (and is equal to the GSE plus AVAF, less the TEM).

These concepts are used to define the *Trade & Assistance Review* publication categories:

* *gross combined assistance* which is equal to the dollar value of assistance to outputs (the GSE) plus assistance to value adding factors (AVAF); and
* *net combined assistance* (also referred to as the NSE) which, applying the above basic concept, equals the gross combined assistance less the dollar value of assistance to inputs (the TEM).

The dollar value of *net combined assistance* is accompanied by a ‘rate of assistance’ measure, namely the *effective rate of assistance (ERA)* which is defined as the net combined assistance to industry (that is, the NSE) divided by the industry’s net output (measured in unassisted prices) or, more formally, its ‘unassisted value added’.[[3]](#footnote-3)

These estimates of assistance are based on a ‘static’ model and focus on the value of assistance accruing to different activities. Implementation of the assistance estimation model is supported by a number of simplifying assumptions (box 2.1).

|  |
| --- |
| Box 2.1 Assistance framework: key simplifying assumptions |
| The analytical framework used for the Commission’s assistance measures is static and partial equilibrium in nature. The main simplifying assumptions underlying the application of the framework are:   * Perfect substitution between domestic and foreign goods of the same description. * The ‘small country’ assumption, whereby Australia does not influence the world price of its imports or exports (that is, the terms of trade are assumed to be exogenous). * No substitution between nominally different goods. * Infinite elasticities of export demand and import supply. * The prices of goods, services, and resources represent their opportunity cost to the community in the absence of assistance. * The direction of trade in the absence of assistance can be assessed, with import parity prices forming the benchmark for goods assessed to be import-competing and export-parity prices for export goods. * Production relationships between inputs are unaltered by the assistance structure. * Constant returns to scale.   A detailed discussion of the framework is provided in the Commission’s 1995 paper: *Assistance to agricultural and manufacturing industries* (IC 1995). |
|  |
|  |

The measurement of the assistance concepts for the *Trade & Assistance Review* is described in chapters 3 and 4.

## 2.5 Interpretation

Estimates of industry assistance are intended to aid transparency and facilitate analysis of public policies. Such estimates can help to reveal which activities benefit and which are penalised in the first instance from particular government policies. Assistance estimates can also provide an indication of the resource allocation effects of the assistance structure. By highlighting which policies afford the greatest assistance or which industries receive the most support from assistance, they can aid in the prioritisation of policy reviews. Assistance estimates can also be of use as an input into broader evaluations of the merits of particular policies.

However, the estimates themselves only provide a partial guide to these matters and must be interpreted carefully. Guidance on the interpretation of the estimates, including the key qualifications, is set out in box 2.2.

|  |
| --- |
| Box 2.2 Interpreting the estimates |
| The Commission’s estimates of government assistance to industry are intended to aid transparency and facilitate analysis of various matters related to the assistance structure. The estimates themselves, although important, provide only a partial guide to these matters and must be interpreted carefully.  Transfers  The assistance estimates help to reveal who gains and who loses from industry assistance, and the extent of those gains and losses. The NSE is a dollar estimate of the net effects of assistance measures and is used to provide an indication of the transfers of income to producers from consumers, taxpayers and intermediate suppliers resulting from the assistance structure.  The estimated transfers of income, however, being based on a ‘static’ model do not explicitly take account of:   * changes in production and consumption in response to changes in assistance; * flow-on effects to broader economic variables, such as exchange rates and general price levels; and * the overall ‘welfare’ costs, or ‘deadweight’ losses, from assistance.   Resource allocation  The estimates also provide a broad indication of the resource allocation effects of the assistance measures covered. The ERA is used as an indicator of the net incentive effect of the many different forms of assistance.  Care is required, however, in drawing inferences about the flow-on resource allocation effects given the ‘static’ nature of the underlying model, incomplete coverage of government interventions and general aggregation of the estimates.  Policy evaluation  Industry assistance has a range of benefits and costs, and whether the benefits exceed the costs may to some extent, depend on whether the measure in question addresses a ‘market failure’, or other distortion, and is efficient in doing so.  Traditionally, industry assistance captured by the Commission was derived mainly from tariffs and restrictive agricultural marketing arrangements. These instruments were difficult to justify on economic efficiency grounds and there was potential to improve overall economic efficiency and welfare through reducing this assistance.  Over time, however, measured assistance to manufacturing and agriculture from tariffs and restrictive marketing arrangements has declined significantly, while other forms of assistance have increased. Some of this assistance, such as for R&D, is directed towards activities where there is some evidence of market failure. This suggests that some forms of assistance may be justified on economic efficiency and welfare grounds. |
|  |
|  |

1. The Industry Commission published such estimates for the years 1994‑95, 1995‑96 and 1996‑97 as part of its 1996 public inquiry into *State, Territory and Local Government Assistance to Industry* (IC 1996). The Productivity Commission also published similar estimates for the years 2000‑01 and 2001‑02 (in *Trade & Assistance Review 2001‑02*) and 2008‑09 (in *Trade & Assistance Review 2009‑10*). [↑](#footnote-ref-1)
2. The Commission published estimates of assistance to tourism, from Commonwealth and State Governments, for three years from 2000‑01 to 2002‑03, in its 2005 Research Paper *Assistance to Tourism: Exploratory Estimates* (PC 2005). [↑](#footnote-ref-2)
3. Other assistance concepts that can be calculated include: the nominal rate of assistance on outputs which is the GSE divided by the industry’s value of production (measured in unassisted prices); the nominal rate of assistance on inputs which is the TEM divided by the industry’s value of materials (measured in unassisted prices). [↑](#footnote-ref-3)