



Australian Government
Productivity Commission

Trade and Assistance Review Estimates User Guide

TAR Process documentation

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The views expressed in
this user guide are those of the
staff involved and do not
necessarily reflect the views of the
Productivity Commission.

Trade and Assistance Review user guide

This note outlines the process for producing detailed estimates of Australian Government assistance to industry in the annual Trade and Assistance Review (TAR). As an example, the document uses the processes followed to produce the tables presented in chapter 5 and appendix A of the 2013-14 TAR (PC 2015).

It provides a link between TAR framework documents (such as the Methodological Annex for the 2011-12 TAR) and the procedures by which the methodology is applied. The estimates for 2013-14 are ‘updated’ based on ‘benchmark estimates’ that were produced in 2011-12; that is, the 2013-14 estimates did not require a procedure called ‘re-benchmarking’.¹

In the main, these procedures involve: a number of spreadsheets, the compilation of a database of budgetary measures, consultation with Government departments about the budgetary measures and interaction with the ABS for one of the data processing steps due to confidential issues.

1 Combined measures of assistance in the TAR

The TAR focuses on forms of government action that provide assistance to firms or industries selectively, and can be readily quantified on an annual basis. Assistance is categorised by:

- the form in which it is delivered (tariffs, budgetary outlays or tax credits, price setting and marketing for certain agricultural products.²)
- the direct effect of the assistance (assistance to outputs, inputs or to value-adding factors)
- industry (for 34 ANZSIC-based industry groups)
- the type of activity targeted (there are 8 assistance categories).

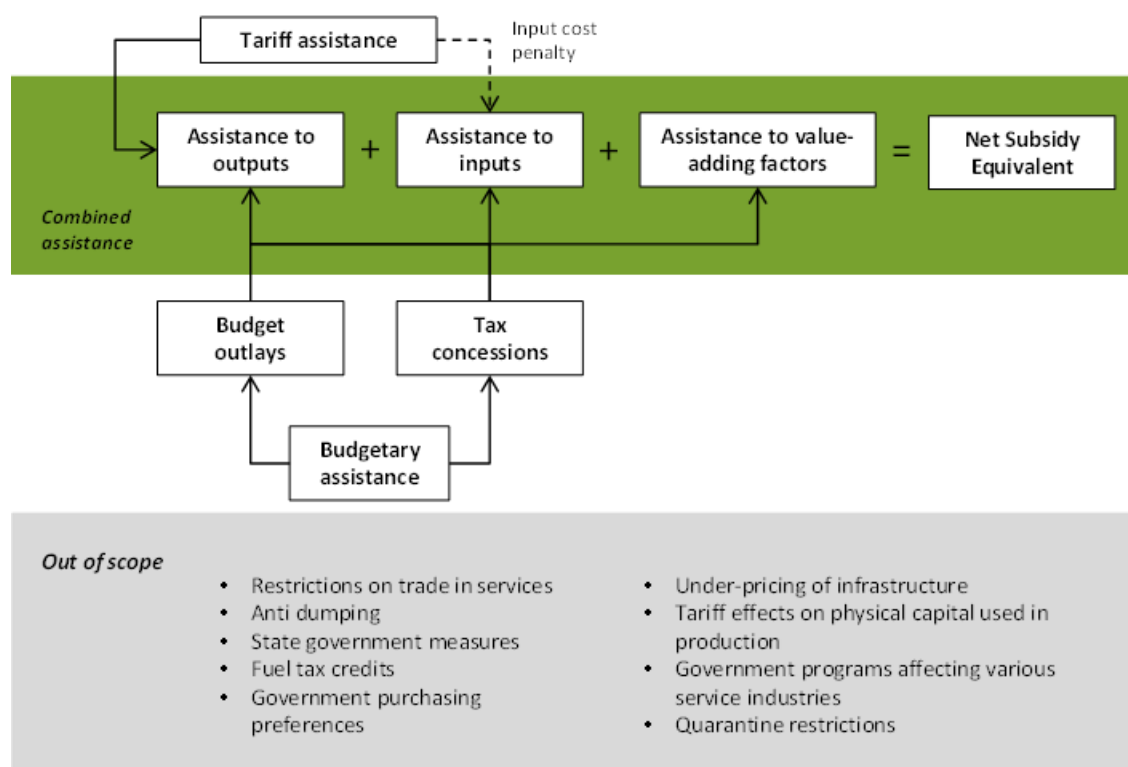
Combined assistance estimates consist of tariff assistance (tariff concessions and input cost penalties) and budgetary assistance (budgetary outlays and tax credits) (figure 1).

¹ Re-benchmarking is performed periodically to account for changes in the structure of trade and of the economy. It is covered in a forthcoming document. The principles are discussed below.

² Agricultural and marketing assistance, as defined by the Commission, has been steadily reduced over time, and is now negligible; it has not been calculated for several years. For further information, see chapter 3 of the 2011-12 Methodological Annex (PC 2014).

This note outlines the process undertaken to produce the 2013-14 tariff (section 2) and budgetary assistance (section 3) estimates, and the steps involved in combining them to produce rates of combined assistance (section 4).

Figure 1 Budgetary and tariff assistance included in 2013-14 TAR measures of combined assistance^a



^a Input tariff assistance is negative; it represents the increased cost of inputs as a result of tariffs levied on them.

Industry aggregations

Assistance estimates are disaggregated by industry using a TAR-specific industry classification, based on ANZSIC categories (appendix A shows how this relates to various ABS industry classifications). Outputs are presented in total, and by TAR industry groupings which are based on ANZSIC industry categories. There are 34 TAR industries and four additional 'industries' to which unallocated assistance is assigned; they are aggregated from 46 ANZSIC categories and four unallocated categories. The ANZSIC categories are a mixture of ANZSIC Divisions, Subdivisions and Categories (ABS 2006). There are also four TAR sectors (Primary production, Mining, Manufacturing and Services) and one 'unallocated' sector.

2 How tariff assistance is calculated

Tariff assistance refers to assistance provided in the form of tariffs levied on imports.³ The manufacturing sector receives the bulk of this assistance, which results in increased costs to consumers, and to industries that use these imported and domestically produced goods as inputs. The estimates of tariff assistance are divided into two parts — output assistance and ‘input assistance’. Output assistance allows Australian producers to increase their prices. Input assistance is the cost penalty that Australian producers experience where they face higher input costs because of tariffs.

Tariff assistance on outputs consists of two parts:

- the increase in the cost of imports that is attributable to tariffs
- the increase in the price of domestically produced goods that is enabled by the presence of tariffs, expressed as a notional subsidy equivalent.

Input assistance is calculated in a similar way. However, as tariffs penalise local industries by increasing the price of local and imported goods that are used as inputs, the ‘assistance’ is negative. It is presented as the ‘tax equivalent’, or the increase in costs due to tariffs on goods used as inputs (whether they are produced locally or imported).

The estimates of net tariff assistance use a benchmark year to determine the:

- input mix used in production — from the benchmark year input-output tables; and
- import mix used for both intermediate inputs and consumption — from the benchmark year import data in the input-output tables.

The approach to calculating tariff assistance will vary slightly when estimates are re-benchmarked:

- When estimates are being re-benchmarked, the initial input and import mix benchmarks are used to calculate tariff assistance estimates at the benchmark year prices for that benchmark year and a number of subsequent years.
- When estimates are using existing benchmarks, the benchmark year estimates need to be updated to current year values.

The latest re-benchmarking occurred in the 2011-12 TAR, using 2008-09 as the benchmark year. This resulted in a series of 2008-09 constant value tariff assistance estimates for the years 2008-09 through to 2015-16.⁴

³ Note that Australian tariffs are levied on the value of imports in the foreign port (that is, the ‘free-on-board’ (fob) value), as opposed to the landed value of imports (that is, the ‘cost, insurance and freight’ (cif) value).

⁴ It is intended to re-benchmark to the 2013-14 Input-Output data for the 2015-16 TAR. This will provide an opportunity to test the sensitivity of estimates to the assumptions around the IO and import mix benchmarks.

Re-benchmarking tariff assistance estimates

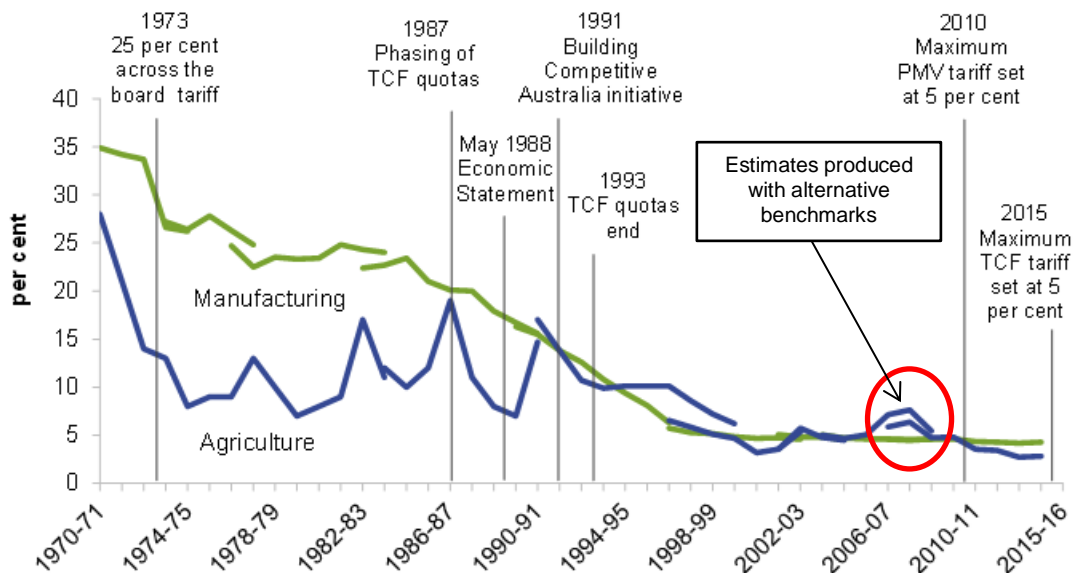
When re-benchmarking, tariff assistance is estimated for the benchmark year and all subsequent years for which tariff policies are known, using benchmark year input-output and import data. This is done using the Commission's Tariff and Import Database and Estimating System (TIDES) model to generate tariff price effects, which are then combined with confidential ABS input-output data (by the ABS) to produce estimates of tariff assistance.

The output of the re-benchmarking exercise is a time-series of tariff assistance estimates, expressed in the benchmark year's volumes and prices. Estimates of combined assistance in non-benchmark years rely on this series of tariff assistance estimates as inputs. An overview of the steps involved in re-benchmarking tariff assistance estimates is presented in box 1.

Using benchmark values for inputs and imports, means that any observed changes in rates of assistance are attributable to changes in tariff arrangements, and not from changes in input or import mix. That is, using benchmarks abstracts from changes in assistance arising from changes in the mix of inputs used by an industry, the share of imported inputs used, or changes in the external competitiveness of import competing industries (which change the share of consumption that is imported in any industry). The approach makes it easy to compare tariff assistance rates over time, and distinguish between the changes in assistance arising from changes in effective rates and those due to changes in industry gross value added.

The impact of technology and import mix on measured effective rates of assistance can be gauged from examining assistance estimates for overlapping years reported in TAR 2013-14 (figure 2). When assistance estimates based on 2006-07 were re-benchmarked to 2008-09, they produced lower effective rates of assistance between 2006-07 to 2008-09 for agriculture. With re-benchmarking, the input-output structure and the import mix changed, but the annual tariff arrangements were the same as before for respective years.

Figure 2 Effective rates of assistance to manufacturing and agriculture, 1970-71 to 2013-14
Per cent



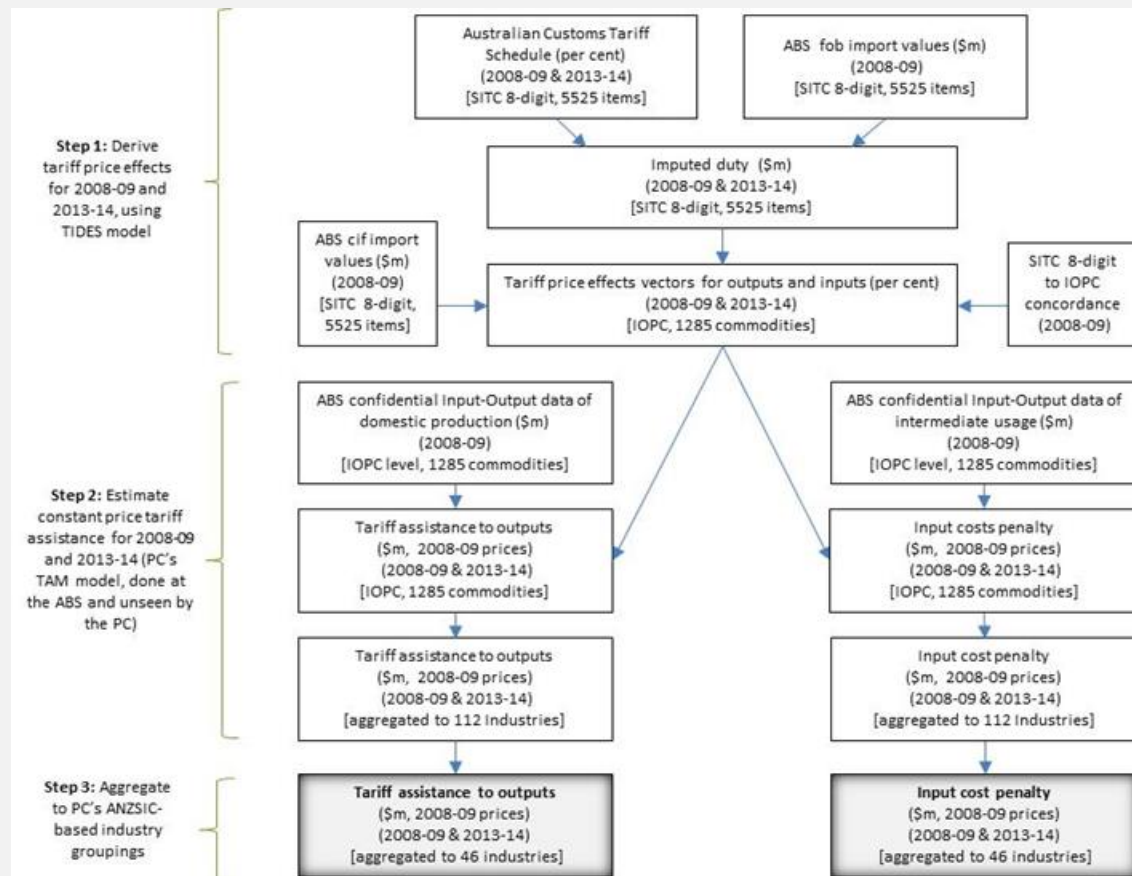
Data source: (PC 2015, p. 118)

To the extent that the structure of inputs and imports changes slowly, re-benchmarking can be undertaken every few years. In the past, re-benchmarking was determined by the production of the input-output tables. However, these are now being produced biannually. The import data is available annually, but at a substantial financial cost, so the approach has been to re-benchmark both the input and import mix at the same time. Re-benchmarking the import data separately to the input data is possible, but would involve large time costs, and would represent a change from previous practice.

Box 1 Steps in re-benchmarking tariff assistance

Re-benchmarking tariff assistance is undertaken periodically, and requires estimation of tariff assistance for the base and subsequent years. Estimates of assistance for subsequent years are derived from the benchmark year assuming that the mix of inputs and outputs, and the mix of imports for intermediate inputs remain constant. Current estimates for subsequent years are produced in constant 2008-09 dollars using input-output data from the benchmark year and expected tariff rates for the relevant year.

The process consists of three steps, as summarised in the following diagram.



More information on the production of the initial benchmarks is provided in the Methodological Annex to the 2011-12 TAR (PC 2014). Documentation of the procedures involved in updating the TAR benchmarks could be produced as part of the next re-benchmarking process.

Updating constant value tariff assistance estimates to current year values

After tariff assistance estimates have been calculated at 'benchmark year constant value', they are updated to current year values using 'adjustment factors' reflecting the rate of growth of the *value* of industry outputs. As the rate of growth is different across industries,

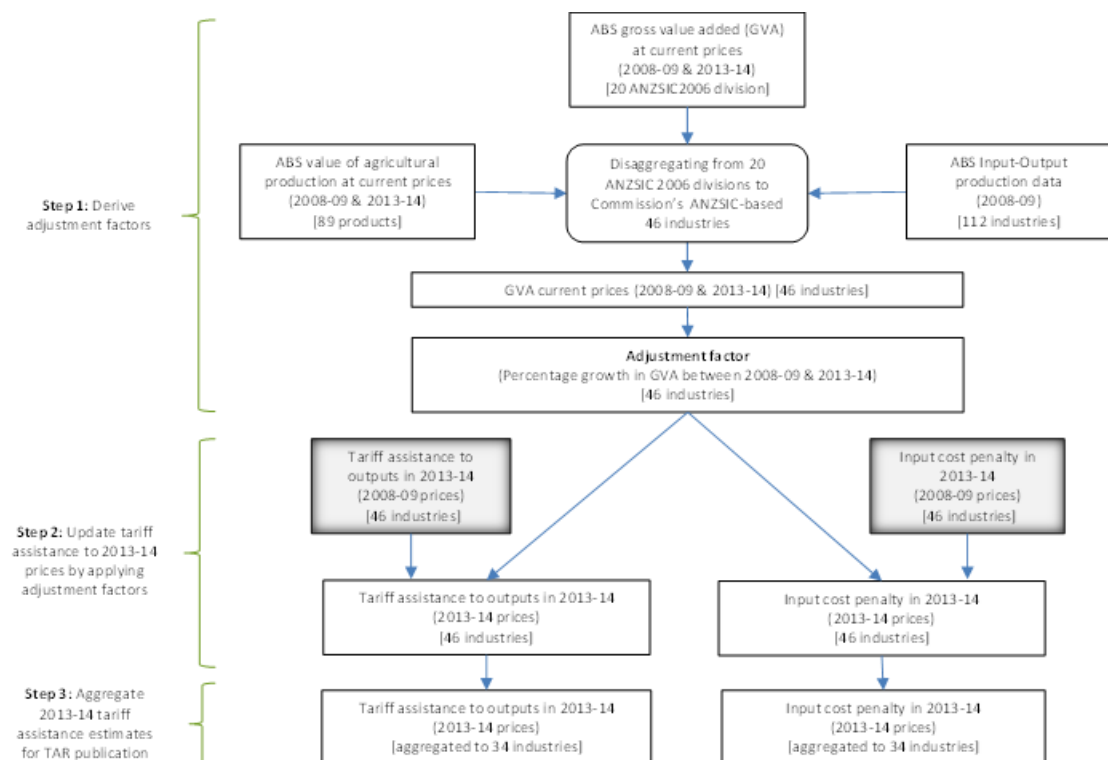
the relativities between the updated estimates will change. The process for updating tariff assistance measures is shown in figure 3. ABS estimates of gross value added (GVA) at current prices by industry division are used to calculate the adjustment factors. Implicit in this approach is the simplifying assumption that the values of inputs and outputs have moved proportionately between the base year and current year.

Mining is a special case

This assumption of no change in the input mix for each industry may not apply in the event of substantial changes in an industry's input and output prices and exchange rates, as was observed during the recent boom and bust in the Mining industry. As the bust set in (during the period covering 2013-14), the change in the GVA at current prices was driven by a significant fall in commodity prices without a corresponding fall in the input side, and the industry continued to expand. Mining gains little benefit from tariffs, but is penalized by tariffs on its inputs.

Applying the change in GVA at current prices to input assistance would understate the input cost penalty faced by the industry, an alternative treatment was applied. To overcome this valuation problem, the chain volume measure of GVA was taken to represent what was happening to the input and import mix for the industry.

Figure 3 Updating tariff assistance estimates to 2013-14 prices



The updating process

The updating process involves:

- producing a time-series of current price GVA that has been disaggregated into the Commission's ANZSIC-based industry groupings
- estimating an index of growth from the benchmark year (the industry-specific adjustment factors, which reflect both price and volume changes)
- applying the adjustment factors to estimates of tariff assistance that are based on 2008-09 values.⁵

Current price GVA data are published by the ABS for 20 industry divisions (appendix A). However, the process of updating requires GVA values for 46 ANZSIC-based industry groupings. This requires splitting GVA values for two divisions — Agriculture, forestry & fishing (AFF) and Manufacturing:

- the AFF division is split into 13 industries (using agricultural production data and I-O data — both sources are required to provide the necessary detail)
- the Manufacturing division is split into 16 industries (using GVA sub-division chain volume and I-O data — both sources are required to provide the necessary detail).⁶

For the other 18 industries, mapping from ANZSIC 2006 industry divisions in the National Accounts to the Commission's ANZSIC-based industry groupings is one-to-one except for Rental, hiring and real estate services and Ownership of dwellings industries, which are combined into a single industry. The concordance between the Commission's ANZSIC-based industry groupings and the national accounts divisions is provided in appendix A.

The industry-specific adjustment factors, derived from the index of growth in industry GVA, is calculated as:

$$\text{Index}_{\text{industry } i} = 100 * (\text{GVA}_{\text{industry } i}^{2013-14} - \text{GVA}_{\text{industry } i}^{2008-09}) / \text{GVA}_{\text{industry } i}^{2008-09}$$

Updated tariff assistance estimates are then obtained by multiplying the industry-specific adjustment factors by the tariff assistance to outputs and the input costs penalty for 2013-14, which are based on 2008-09 values, the two shaded boxes in figure 1. The constant value estimates for 2008-09 to 2013-14 are produced at the time of re-benchmarking, based on 2008-09 trade and production values and projected tariff rates. Updating the tariff assistance to outputs (gross subsidy equivalent (GSE)) and input cost penalties (tax equivalent on materials (TEM)) involves:

⁵ Expected tariff rates for 2013-14 are applied to the 2008-09 trade values.

⁶ See appendix A for the concordances.

$$GSE_{\text{tariff}}^{2013-14 \text{ in } 2013-14 \text{ value}} = \text{Index}_{\text{industry } i} * GSE_{\text{tariff}}^{2013-14 \text{ in } 2008-09 \text{ value}}$$

$$TEM_{\text{tariff}}^{2013-14 \text{ in } 2013-14 \text{ value}} = \text{Index}_{\text{industry } i} * TEM_{\text{tariff}}^{2013-14 \text{ in } 2008-09 \text{ value}}$$

The 2013-14 estimates of tariff assistance on outputs and the input cost penalties are then aggregated to the 34 TAR industry groupings that are used for publication.

3 How budgetary assistance is calculated

Budgetary assistance estimates cover Australian Government programs that ‘afford substantive support to industry and that can be readily quantified on a consistent annual basis’ (PC 2016, p. 9). In practice, this covers budgetary outlays and industry-specific tax concessions that have industry policy objectives. Budgetary assistance may be provided directly to firms in the form of subsidies, or indirectly to an industry by funding an intermediate organisation, such as funding for CSIRO.⁷

TAR estimates of budgetary assistance include most budgetary measures designed with the intent of providing support for industry. Budgetary outlays that are excluded from the TAR estimates include:

- budgetary measures which apply to all firms (eg. reductions in company tax rates)
- fuel tax credits
- outlays on public administration, defence, health, education, the environment and the labour market
- budgetary assistance provided by state, territory and local governments
- spending on infrastructure, except where it clearly is intended to afford selective support to specific industries or activities.

A guide to the inclusion or exclusion of government programs as budgetary assistance in the TAR are presented in box 2.

⁷ The full Australian Government appropriation for CSIRO is not included in budgetary assistance estimates — research programs of a general benefit to the public are not considered as industry assistance.

Box 2 **What is measured as budgetary assistance in the TAR?**

For the purposes of the TAR, budgetary assistance can be described as either a budgetary outlay or tax concession 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 (s.10(6), *Productivity Commission Act 1998* (Cwlth)).

Measured budgetary assistance

In order to be included in the TAR as measured budgetary assistance, a program must meet the definition above. This assistance may be direct (for example, in the form of industry-specific tax concessions), or indirect (for example, in the form of provision of goods and services that support specific firms). In addition, to be included as budgetary assistance for the TAR:

- the cost of the program must be measureable.
- the program must be an Australian Government program.

Unmeasured budgetary assistance

Government programs may be considered to provide budgetary assistance, but are not included in TAR budgetary assistance measures for a number of reasons. 'Assistance unmeasured', consists of programs that advantage some firms relative to others, but that are not included because of a lack of data. This can occur because:

- there is difficulty separating the firm and community benefits of the program
- Australian Treasury do not estimate the value of some tax concessions.

Similarly government purchases at above-market price (such as the local purchase of submarines) are regarded as unmeasured assistance. It is difficult to reliably estimate the extra cost faced by government as a result of the decision to purchase locally, relative to the cost from purchasing from the least-cost provider.

Not included as budgetary assistance in the TAR

Some government programs are excluded from the TAR. These include:

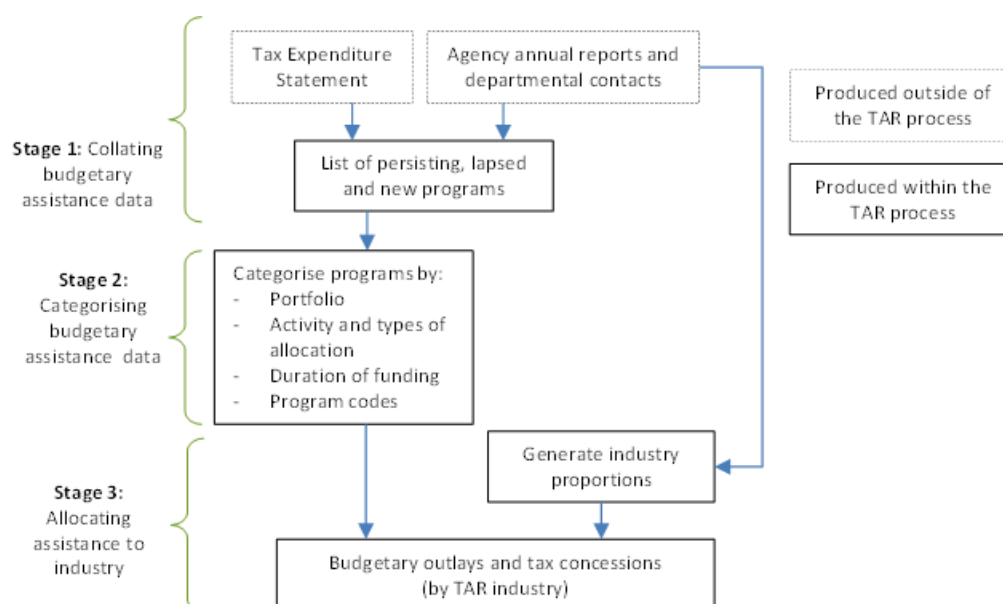
- all budgetary assistance provided by state, territory and local governments
- potential 'under-pricing' of access to resources (such as water, minerals, forests and fishing)
- subsidies that directly benefit consumers, and indirectly benefit particular firms or industries (for example, superannuation tax concessions, private health insurance rebates, fringe benefit tax exemptions, and negative gearing)
- government purchases that are competitively tendered
- infrastructure investments that have a general purpose
- research and development that does not have immediate or obvious commercial application by a firm
- tax exemptions where the tax is related to an activity which the firm does not undertake. For example, fuel excise notionally funds public roads and fuel tax credits are allowed for businesses that do not use public roads. This logic seems to have disappeared with the incorporation of fuel excise into consolidated revenue. Fuel tax credits could potentially be considered assistance that favours some firms, or as a cost penalty experienced by some firms but not others. It is worth noting that the status of fuel tax credits as a form of industry assistance is contentious, and has not been formally established by the Commission.

Budgetary assistance estimates are derived primarily from figures in departmental and agency annual reports and the annual Tax Expenditures Statement (TES) (Australian Government 2016). Where necessary, budgetary assistance is disaggregated on the basis of supplementary information provided by relevant departments or agencies.

The construction of the budgetary assistance measures requires a detailed itemisation and classification of programs regarded as Australian Government budgetary assistance (figure 4).⁸ The result of this process is a database of Australian Government budgetary assistance items that are used to produce:

- a set of tables detailing the assistance provided by individual programs to different industries (tables A.10 to A.14 in Appendix A of the 2013-14 TAR)
- an aggregated dataset of budgetary assistance that is an input into combined assistance estimates (section 4).

Figure 4 Compiling a budgetary assistance database



⁸ This is a particularly labour intensive part of the process that requires judgment and experience. Maintaining the integrity of the series requires that the same criteria are applied over time. A decision tool for determining which measures are to be included in the budgetary assistance estimates needs to be developed to ensure consistency over time.

Stage 1 — Collating budgetary assistance data

The first stage of calculating budgetary assistance by industry involves identifying new programs that are to be included as budgetary assistance, and updating any previous budgetary assistance measures that have been revised.

Information about new and updated budgetary assistance programs comes from:

- the Treasury's Tax Expenditure Statement
- departmental annual reports
- email correspondence with contacts in relevant government departments asking for information about newly implemented assistance programs (table 1)⁹.

Further information that informs the 'Recent developments' section in the TAR about selected newly implemented programs is gathered from media releases, program documentation, and through requests to the relevant department. Recent developments focus on:

- new programs that are large
- new programs that assist industries that have not previously received much assistance, or assist a small number of firms
- new programs that have new features in how they provide assistance
- major changes to existing programs, including their closure, major eligibility changes, or shifts in the form and/or quantum of assistance.

⁹ Contacts are likely to change from year to year, and so this list is likely to just be a starting point.

Table 1 Departmental contact list, 2014-15 TAR

<i>Department</i>	<i>Contact</i>	<i>Phone</i>	<i>Email</i>
Dept. of Industry, Innovation and Science	Cheryl Kong Senior Finance Officer, Corporate Network	02 6102 9579	Cheryl.Kong@industry.gov.au
Dept. of Industry, Innovation and Science	Cecilia Tran Cooperative Research Centres	02 6213 6034	coordcrcbranch@industry.gov.au cecilia.tran@industry.gov.au
Tradex, Dept. of Industry, Innovation and Science	Tom Lees Acting Director, Trade Policy	02 6198 7878	–
CSIRO	Mark Bazzaco Executive Manager, Planning & Performance	02 6276 6534	mark.bazzacco@csiro.au
Australian Taxation Office	Matt Power Director, Taxation Statistics	13 28 69	matt.power@ato.gov.au
Dept. of Agriculture, Forestry and Fishing	Kate Tominac Director, External Budgets	02 6272 4790	kate.tominac@agriculture.gov.au
Export Market Development Grants, Dept. of Foreign Affairs and Trade	Ian Chesterfield General Manager, EMDG	02 6201 7532	–
Duty Drawback, Dept. of Immigration and Border Protection	Craig Schenk Drawback Section, Trade Branch.	03 9244 8898	craig.schenk@customs.gov.au

It can be unclear whether a new program should be considered as a form of industry assistance. The approach to resolving this in the past has been to discuss within the TAR group the characteristics of the program in question in order to decide whether or not the program comprises ‘industry policy’, whether it confers an industry-specific advantage to some firms, and whether it is readily quantified.

Constructing a new budgetary assistance workbook

In practice, the simplest way to go about constructing a new budgetary assistance workbook is to use the worksheet from the previous year as a template. For the 2013-14 TAR, the budgetary assistance workbook from the previous year was copied and renamed.¹⁰

In the new workbook, the ‘Total_T 1314’ worksheet itemises budgetary assistance programs included in the TAR, going back to 1996-97, and includes detailed source notes as to the origins of each figure. A new column ‘1314’ was added to the worksheet as it previously appeared, and the worksheet was renamed. New budgetary assistance programs and revised estimates of previous assistance programs were then added to the new worksheet.

¹⁰ The workbook used to compile and categorise budgetary assistance for the 2012-13 TAR was named ‘T-1213 - BA Work Book_Current.xlsx’. The 2013-14 TAR was labelled ‘T-1213 - BA Work Book_Current.xlsx’.

Stage 2 — Categorising the budgetary assistance

After a current list of budgetary assistance programs has been compiled, each program is classified according to the type of assistance, and the type of ‘activity’ it supports. This classification process is conducted on the ‘*Total_T-1314*’ worksheet.

In addition to the dollar value of the assistance program, several fields need to be manually coded or updated. There are also several fields in ‘Total T-1314’ worksheet that do not need updating as they are a legacy of past work. The fields that are required are described in table 2.

Table 2 Budgetary assistance fields
To be completed in the ‘Total_T 13-14’ worksheet

<i>Field</i>	<i>Description</i>
Prog_ID	Program identification code, assigned when a program is entered into the ‘Total_T-1314’ worksheet, which can then be used for linkage purposes.
Program_Name	Name of the program, as described in either the Tax Expenditure Statement or the Departmental Annual Report.
PortfolioCode	A four-letter code indicating the portfolio responsible for the assistance measure.
Type_DFA_FI_TE	Whether assistance is classed as direct financial assistance (“DFA”), assistance provided through a financial intermediary (“FI”), or tax expenditure (“TE”).
Type_BO_TE	Whether assistance is classed as a budget outlay (“BO”), or tax expenditure (“TE”).
OIV	Whether assistance is classed as assistance to outputs (“O”), inputs (“I”), or value-adding factors (“V”).
Code_OIV_BOTE	A combination of the Type_BO_TE and OIV variables.
Measure_Chapter	Variable indicating the type of assistance provided (see table below for the relevant categories and their descriptions).
Measure_Appendix	The same as Measure_Chapter, with the ‘R & D measures’ category split into ‘General R & D measures’ and ‘Rural R&D measures’.
Entered	The TAR year that the program was first entered into the assistance data collection.
SourceNotes_T-1314	A note indicating the source of each number in the budgetary assistance data collection, including publication, year and page. To be updated for all active programs.

Budgetary assistance is intended to encourage specific activities, or to provide support for particular firms, industries or sectors. In order to provide an idea of how budgetary assistance is distributed across different activities, each program is assigned a category. New programs are assigned a category when updating the budgetary assistance dataset; this assignment has been discussed by the TAR team as a whole. The different types of assistance — as recorded in the ‘Measure_Chapter’ and ‘Measure_Appendix’ fields — are described in table 3.

The 2011-12 TAR Methodological Annex (PC 2014) notes that ‘[s]ome caution is required in interpreting estimates by activity because some programs could ‘fit’ into more than one

category’. Each program’s total funding is allocated to a single activity category. That category is the one that is deemed to best describe the purpose of the program.

Table 3 Types of budgetary assistance

<i>Category</i>	<i>Description</i>
R&D measures	Schemes which support business research, such as R&D tax concessions and funding of rural R&D corporations, CSIRO and CRCs. Note that this category is split into ‘General R&D’ and ‘Rural R&D’ for the detailed estimates presented in the appendix.
General export measures	Programs such as the Export Market Development Grants scheme, import duty drawback, TRADEX and Austrade.
General investment measures	Schemes which encourage certain types of investment, such as the development allowance.
Industry-specific measures	Schemes which are designed to encourage production in particular industries, such as the Automotive Transformation Scheme, the Clothing and Household Textile Building Innovative Capability Program, film industry measures and the Offshore Banking Unit tax concession
Sector-wide measures	Programs that are specific to a particular sector and designed to facilitate adjustment or provide income support. Examples of such programs in the Primary sector include exceptional circumstances drought relief payments and the tax concessions under the Farm Management Deposits Scheme.
Small business programs	Measures that specifically restrict eligibility to small businesses (variously defined across programs) such as the Small Business and General Business Tax Break, the small business capital gains tax concessions, the 25 per cent Entrepreneurs’ Tax Offset and the Small Business Advisory Services Program.
Regional assistance programs	Measures intended to promote regional industry such as Regional Partnerships and Tasmanian Freight Equalisation Scheme and various structural adjustment programs with a regional focus.
Other measures	Schemes that do not fall within any of the above categories such as the Venture Capital Limited Partnerships Program, the Pooled Development Funds Program and the Enterprise Connect Innovation Centres Initiative.

Source: 2011-12 TAR Methodological Annex (PC 2014).

Stage 3 — Allocating assistance to industry

As well as by activity type, the TAR disaggregates budgetary assistance into 34 ‘TAR’ industries, as well as 4 unallocated ‘sectoral groupings’. The TAR industry grouping is an aggregation into 46 ANZSIC and 4 unallocated sectoral categories.

A new spreadsheet, labelled ‘1314’, is created for the purpose of ‘splitting’ the assistance associated with a given program across the industry categories. This worksheet links in all the relevant fields (as in table 2) into a new worksheet, with the dollar value of the 2013-14 assistance associated with a given program. Each program is then allocated, either as a whole, or in part to an industry in this worksheet. This is done by multiplying the dollar value of assistance by the proportion of a program that has been allocated to a given industry.

Initial benefiting industry

The process for allocating assistance to industries differs across programs. Where possible, budgetary assistance is allocated to industries that are considered the ‘initial benefiting industry’ — that is assistance is allocated to the industry that ‘hosts’ the firm that benefits initially from a program or measure:

- Where programs assist a single industry, such as the Clothing and Household Textile Building Innovative Capability Program or the Grape and Wine R&D Corporation, assistance is allocated directly to that industry (Textile, leather, clothing and footwear and Horticulture and fruit growing, respectively).
- Where firms in multiple industries benefit from a program, the assistance associated with that program — for example, income tax averaging provisions for Primary Producers — a variety of sources of information are used to proportionately ‘spread’ the assistance across industries.
- Where assistance is delivered by an intermediate organisation or service, the initial benefiting industry is the one in which firms that benefit from the assistance are operating. Intermediate organisations may be research-related (such as the CSIRO), or businesses that provide services for firms in other industries. In each case it is the industry in which the beneficiary operates that is to be credited with the assistance.
- Where assistance is delivered to a consumer (rather than a firm or intermediary body) it is the industry providing the good or service to that consumer that is regarded as being the initial benefiting industry.
- Where the initial beneficiary of a program cannot be identified, the assistance is recorded as being ‘unallocated’; it is included in aggregate estimates, but not in industry totals. Where possible, unallocated assistance is assigned to a sector, (Primary production, Manufacturing or Services). Where this is not possible, it is designated as being ‘Other’ assistance.

The process of allocating assistance to different industries varies according to the types of information available for the different assistance programs:

- Where sufficiently detailed data for a program is available, this information can be used to distribute the program’s funding among the initial benefiting industries. For example, claims data for the Export Market Development Grants scheme is sufficiently detailed to determine the initial benefiting industries for the program.
- Where individual grant data is available, this information can be used to assign each grant to an industry. For example, the Department of Industry releases details of grant recipients for many of its administered programs, a practice that is becoming increasingly common in other departments.

4 Calculating combined assistance

Combined assistance is calculated as the sum of tariff and budgetary assistance that is provided to an industry.¹¹ Combined assistance is expressed in dollar value and as a rate, which allows the comparison of assistance to industries of different sizes. The main measure of combined assistance is the effective rate of assistance, where the total value of combined assistance is divided by industry unassisted value added. The key concepts involved in calculating rates of combined assistance are described in table 4, and an illustrative example provided in box 3.

In order to calculate both dollar values and rates of combined assistance by industry, it is necessary to have:

- base year (2008-09) and current year (2013-14) estimates of tariff assistance in 2008-09 constant prices (as described in section 2)
- base year (2008-09) and current year (2013-14) estimates of budgetary assistance in current prices (as described in section 3)
- unassisted values of output, material inputs and value added for the base year (2008-09)
- assisted value added estimates for the base year (2008-09) and current year (2013-14).¹²

Unassisted value added

It is assumed that published value added data includes the effect of assistance measures. This is referred to as ‘assisted value added’ (AVA). Calculating the effective rate of assistance requires a measure of ‘unassisted value added’ (UVA) as its denominator; it is derived from the published AVA figures as follows (also see figure 5):

$$UVO = AVO - OA_{total}$$

$$UVM = AVM - IA_{total}$$

$$UVA = UVO - UVM$$

¹¹ Agricultural pricing and marketing assistance, as defined by the Commission, has reached zero over time; it is therefore no longer included in the estimation process. For further information on this, see chapter 3 of the 2011-12 Methodological Annex (PC 2014).

¹² As discussed in section 2, assisted value added figures — as published by the ABS — for the current year are required to produce the adjustment factors.

Table 4 Rates of combined assistance framework^a

<i>Concept</i>	<i>Description</i>	<i>Abbrev.</i>	<i>Formula</i>
Gross subsidy equivalent	The dollar value of tariff assistance to an industry's outputs.	GSE	
Output assistance	Value of assistance to an industry's outputs, resulting from either tariff or budgetary assistance.	OA _{total}	$OA_{total} = GSE + OA_{outlay} + OA_{concession}$
Tax equivalent on materials ^b	Value of cost penalty to inputs due to tariff-related price increases.	TEM	
Input assistance	Value of assistance to an industry's inputs, including the cost penalty resulting from tariffs on inputs, and the value of assistance to inputs in terms of subsidies or tax concessions. As TEM is a negative value, IA _{total} can also be negative.	IA _{total}	$IA_{total} = TEM + IA_{outlay} + IA_{concession}$
Assistance to value-adding factors	Value of budgetary assistance not directly linked to the returns of outputs or the costs of inputs but which accrues to land, labour or capital.	AVAF	$AVAF = AVAF_{outlay} + AVAF_{concession}$
Net subsidy equivalent	Value of net assistance to an industry. Also referred to as net combined assistance.	NSE	$NSE = OA_{total} + IA_{total} + AVAF$
Gross combined assistance	Value of assistance to outputs and value-adding factors that results from tariff output assistance, budgetary outlay and tax concessions.	GCA	$GCA = OA_{total} + IA_{outlay} + IA_{concession} + AVAF$
Assisted value of outputs	Total value of output for an industry (sourced from ABS Input-Output tables).	AVO	
Assisted value of inputs	Total value of inputs for an industry (sourced from ABS Input-Output tables).	AVM	
Unassisted value of output	Assisted value of output minus output assistance	UVO	$UVO = AVO - OA_{total}$
Unassisted value of materials	Assisted value of material inputs plus the total output assistance.	UVM	$UVM = AVM + IA_{total}$
Unassisted value added	Total value-added within an industry.	UVA	$UVA = UVO - UVM$
<i>Rates of combined assistance</i>			
Nominal rate of assistance on outputs	Output assistance as a proportion of unassisted value of output measures the extent to which consumers pay higher prices and taxpayers pay subsidies in support of local output.	NRO	$NRO = OA_{total} / UVO$
Nominal rate of assistance on materials	Input assistance as a proportion of the unassisted value of materials is a measure of the extent to which prices paid for materials (intermediate inputs) used in the production process change due to government assistance.	NRM	$NRM = IA_{total} / UVM$
Effective rate of assistance	Measures net assistance to an industry's value-adding activities, taking into account not only output assistance and direct assistance to value-adding factors, but also the penalties (from tariffs on inputs) and benefits (from budgetary input subsidies) of government intervention on inputs.	ERA	$ERA = NSE / UVA$

^a Concepts are applicable at the industry level. ^b The Tax Equivalent on Materials (TEM) is a cost penalty resulting from assistance, and so is typically a negative value.

Source: Adapted from Methodological Annex TAR 2010-11.

Box 3 **Illustrating the effective rate of assistance for locally built submarines and local steel supply**

A useful indicator of the distorted resource allocation that can result from the provision of industry assistance is the 'effective rate of assistance' (ERA). This is a measure of the incentive to attract labour, capital and land — the so-called 'value added' — into an activity. The ERA is calculated as the amount of assistance (net subsidy equivalent) per unit of 'unassisted net output' (also termed 'unassisted value added'). The higher the ERA the greater is the potential incentive to draw productive resources into an activity and hence distort economic activity.

Assistance to the Australian submarine assembly industry

Consider a local submarine build at a 30 per cent premium and 50 per cent of the project spent in Australia (covering wages and local materials).

- Assume the submarine that costs \$130 to build in Australia, and involves local expenditure of 50 per cent comprising \$30 local steel, and \$35 local labour and capital (known as value added). It also requires \$65 imported materials (including complex systems costs and installation wages of foreign contractors).
- This is 30 per cent higher than the cost to build the same submarine overseas of $\$130/1.3 = \100 .
- Part of this higher cost is due to a requirement to purchase local steel. The illustrative calculations assume that foreign steel would have been available for a cost of \$25.

The ERA is calculated as the net subsidy equivalent (NSE) divided by the unassisted value added (UVA).

- The dollar amount of assistance provided by the cost premium (the gross subsidy equivalent) is \$130 less \$100 (the efficient benchmark price) = \$30. However, the net subsidy equivalent (NSE) must take account of the cost penalty (\$5) imposed on submarine assembly by mandating the use of higher cost local steel. So the NSE = \$25.
- The unassisted value added is calculated as the assisted value added of \$35 less the net assistance of \$25 = \$10.
- The ERA = \$25 divided by \$10 = 2.5, or 250 per cent.

These costs structures are hypothetical, but reflect the scant public information on the likely premium (30 per cent) and claims that 50 per cent of costs will be the spent in Australia. The example is intended to illustrate the methodology. It should be noted that the requirement to purchase more expensive steel reduces the ERA for the submarine industry. If they could instead purchase foreign steel at \$25, the assisted value would be \$40, their NSE \$30, the unassisted value added would still be \$10, and the ERA 300 per cent.

Assistance to the steel industry from mandated supply by higher cost local steel supply

Assume the \$30 local steel input to the submarine comprise \$20 local materials and \$10 local value add. If the government mandates use of Australia steel in the local submarine build then assistance is conferred to the domestic steel industry (while penalising the assembly industry, as above). The ERA to the Australian steel company in this hypothetical example is the net subsidy equivalent of \$5 (\$30-\$25) divided by unassisted value added (\$5) = 1.0 or 100 per cent.

Source: PC (2016).

In practice, UVO, UVM and UVA are taken from the base year (for 2013-14, 2008-09), and inflated to current year level multiplying by the adjustment factor (described in section 2):

$$UVO_{industry\ i}^{2013-14} = Index_{industry\ i} * UVO_{industry\ i}^{2008-09}$$

$$UVM_{industry\ i}^{2013-14} = Index_{industry\ i} * UVM_{industry\ i}^{2008-09}$$

This approach maintains a constant technology (ratio of inputs to outputs) across the estimated series. It ensures that changes in the assistance rates reflect ‘pure’ changes in assistance, and not changes in the input mix due to changes in technology or the relative prices of inputs.

Treatment of service inputs in calculating value added

One issue that arises in calculating UVA is the treatment of ‘service’ inputs. Service inputs are considered non-traded non-material (NTNM) in the TAR. Following ‘the Corden method’ (see chapter 3, 2011-12 Methodological Annex), value added is treated as:

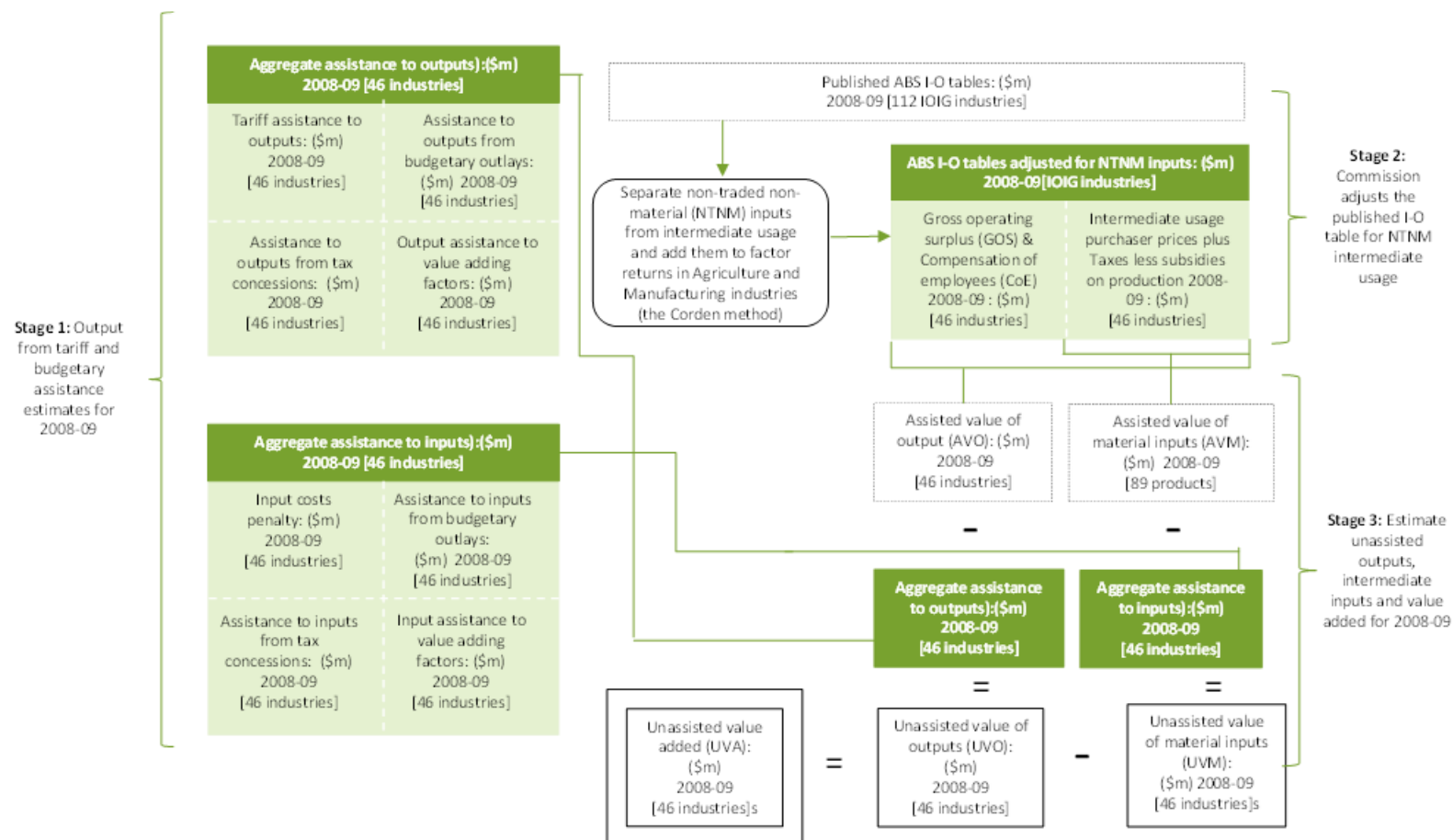
the sum of the returns to land, labor, and invested capital *directly* involved in the productive activity *and* to land, labor and capital embodied in the use of nontraded intermediary inputs (also referred to as [being] indirectly involved in the productive activity) (Tsakok 1990).

That is, the NTNM service inputs are not treated as intermediate inputs, but as being produced by value adding factors (for example, accounting services produced by accountants).¹³

Applying this method requires some adjustments to the published I-O data — the cost of domestic service inputs are subtracted from intermediate usage and added to the value added base.

¹³ This contrasts with the ‘Balassa method’ which treats service inputs the same as intermediate, ‘traded’ inputs (chapter 3, 2011-12 Methodological Annex).

Figure 5 Deriving Unassisted Value Added from published Assisted Value Added measures



Nominal and effective rates of combined assistance

Rates of combined assistance at an industry level are calculated in the ‘Combined assistance’ Excel workbook.¹⁴

Levels of aggregation

Combining assistance estimates to produce nominal and effective rates of assistance initially requires that tariff assistance, budgetary assistance, adjustment factors and unassisted value added are brought together at the ANZSIC-based industry level.

There are 46 separate ANZSIC-based industries, and an additional 4 categories that include assistance that is ‘unallocated’.¹⁵ Once values have been compiled at the ANZSIC-based industry level, they are aggregated to the TAR industry level, before calculating the nominal and effective rates of assistance. The TAR industry level includes 34 detailed industry categories and 4 ‘unallocated’ categories.

The output of this process is found in tables 2.5 and 2.6 in PC (2016).

Calculating rates of assistance

Estimating the nominal rates of assistance on outputs and materials (NRO and NRM) and the effective rate of assistance (ERA) for the 20 non-service TAR industries for which rates are reported is summarised in the Combined Assistance workbook:

1. Tariff assistance estimates, in the form of GSE and TEM, are linked into the Combined Assistance workbook in 2008-09 values from the workbook that concords the IOIG tariff assistance values to the AE level.¹⁶
2. The GSE and TEM values are updated to current year (2013-14) values by multiplying them with the relevant adjustment factors.¹⁷

¹⁴ For the 2013-14 TAR, the workbook is named *T-1314 (0809) - CombinedAssistance - ERA- ABS tariff estimates (Current.xlsx)*. The file name indicates that it includes the combined assistance estimates for 2013-14 that are benchmarked using the 2008-09 IO tables.

¹⁵ Assistance that is ‘unallocated’ is categorised as either Primary Production, Manufacturing, Services, or Other.

¹⁶ The base tariff assistance values are found in the *T-1314 - Concordance - IOIG to PC-ANZSIC_IO200809.xlsm* workbook.

¹⁷ See section 2 for calculation of the adjustment factors. The adjustment factors are sourced from *T-1314 - Adjustment Factor.xlsm*.

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3. Budgetary assistance estimates for the current year are linked in from the budgetary assistance workbook.¹⁸ This includes budgetary assistance to inputs (IA_{outlay} , $IA_{concession}$) and outputs (OA_{outlay} , $OA_{concession}$) and assistance to value-adding ($AVAF_{outlay}$, $AVAF_{concession}$).
 4. Totals for output assistance, input assistance and assistance to value-adding factors are calculated by summing the relevant budgetary and tariff assistance values (as in table 1). Care should be taken to ensure that the TEM has the correct sign (it imposes a cost on the industry so should be negative).
 5. Gross combined assistance (GCA) and net subsidy equivalent (NSE) can now be calculated.
 6. The base year unassisted value of outputs and materials (UVO^{base} and UVM^{base}), and unassisted value added (UVA^{base}) are linked in to the 2013-14 worksheet from the 2008-09 worksheet in the Combined assistance workbook. These values are taken from the base year estimates and are only updated when estimates are re-benchmarked. Current year values for UVO, UVM and UVA are calculated by multiplying base year values for these variables by the adjustment factors.
 7. Combined assistance *values* are then aggregated from the 50 AE industry categories to the 38 TAR industry categories.
 8. Nominal rates of assistance on outputs (NRO) and materials (NRM), and the effective rate of assistance (ERA) are then calculated at the TAR industry level using the formulae in table 1.

¹⁸ Budgetary assistance estimates are from *T-1314 - BA Work Book_Current.xlsx*.

References

- ABS (Australian Bureau of Statistics) 2006, *Australian and New Zealand Standard Industrial Classification (ANZSIC)*, 2006 - Codes and Titles, Cat. no. 1292.0.55.002.
- Australian Government 2016, *Tax Expenditure Statement 2015*, Canberra, January.
- PC (Productivity Commission) 2014, *'Methodological Annex: Estimation Framework, Coverage and Re-benchmarking of Estimates'*, *Trade & Assistance Review 2011-12*, Productivity Commission, Canberra.
- 2015, *Trade and Assistance Review 2013-14*, Annual Report Series, Canberra.
- 2016, *Trade and Assistance Review 2014-15*, Annual Report Series, Canberra.
- Tsakok, I. 1990, *Agricultural Price Policy: A Practitioner's Guide to Partial-equilibrium Analysis*, Cornell University Press.

Additional references

- Cobau, D. and Wells, R. 2002, *TIDES: Documentation of the Commission's Tariff and Import Database and Estimating System*, Internal Research Memorandum, Cat. No. GA 509.
- Wells, R. and Gretton, P. 2011, *Notes on the Productivity Commission Tariff Assistance Model*, Internal working paper. Not for quotation.

Appendix A — Required data

This appendix presents a list of data sources used to derive the Commission's assistance estimates.

Production, materials and value added data

ABS National Accounts Input-Output data

The ABS's Input-Output (IO) data is used to derive estimates of production, material usage and value added. This data is then used to derive estimates of tariff assistance, effective rates and also as an input to the Adjustment Factor workbook.

Source

ABS (Australian Bureau of Statistics) 2012, *Australian National Accounts: Input-Output Tables 2008-09*, Cat. no. 5209.0.55.001 (tables 1, 2 and 3), ABS, Canberra.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5209.0.55.0012008-09?OpenDocument> — tables 1, 2 and 3.

ABS (Australian Bureau of Statistics) 2014, *Australian System of National Accounts, 2013-14*, Cat. no. 5204.0 (table 5), ABS, Canberra.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/5204.02012-13?OpenDocument> — table 5.

ABS agricultural production data

ABS agricultural production data is used as an input to the Adjustment Factor workbook in deriving the adjustment, or scaling, factor for the agricultural sector.

Source

Australian Bureau of Statistics (ABS), *Value of Agricultural Commodities Produced, Australia, 2012-13 (table 1)*, Cat. No. 7503.0, ABS, Canberra.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/7503.02012-13?OpenDocument>

Tariff assistance estimates

Tariff schedules

Tariff schedules are used in the Commission's Tariff and Import Database and Estimating System (TIDES) model to derive benchmark (2008-09) estimates of the 'price impacts' of tariffs on domestic and imported goods.

The current tariff schedules used in the TIDES model were originally down-loaded from the APEC tariff database web site.¹⁹ This file contained data on tariff rates by 8-digit tariff item and also listed tariff rate changes from 1996-97 to 2000-01. This tariff file was also supplemented by hard copies of the Australia Customs tariff schedules, including information on concessional tariff items, held by the Commission and available online from the Department of Immigration and Border Security.

For use in the Commission's TIDES model, individual financial year tariff schedules were created from the original file. Specific rate and excise items were also identified in the Australian Customs tariff schedules. Subsequent arrangements for phasing out the tariffs for the *textiles, clothing and footwear* and *passenger motor vehicles* industries were then used to construct more recent tariff schedules.

The Department of Foreign Affairs and Trade also maintains a current version of the Australian tariff schedule in Excel format. The Commission has accessed this schedule on request from time-to-time to help supplement the Commission's constructed tariff schedules.

Before the import and tariff rate tables can be used in TIDES, a number of adjustments and preparatory tasks needed to be carried out. These procedures are discussed in more detail in the TIDES model documentation.

Source

Department of Immigration and Border Security, *Current tariff classification*, www.border.gov.au/Busi/Tari/Curr (accessed 21 September 2016).

ABS Merchandise Trade Data Imports

ABS international merchandise trade imports are also used in the Commission's TIDES model.

The ABS international merchandise trade imports and clearances data is obtained from the ABS in a compressed file format on a CD. The import data contains monthly data on import values and quantities, and duty payments. All information is classified at the 10-digit HS

¹⁹ The APEC tariff database is no longer available.

code level, includes country of origin information and allocates a specific ‘treatment’ code to all imports, which in-turn determines the duty payable for each import item on entry to Australia. The information required for the Commission’s TIDES model is extracted from the ABS file and imported into an Access database and saved as an Access table.

The procedures for extracting the ABS data are discussed in more detail in the documentation of the TIDES model.

Source

Australian Bureau of Statistics (ABS), *International Merchandise Imports, Australia (various months)*, Cat. No. 5439.0, ABS, Canberra.

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/5439.0Main+Features1Dec%202015?OpenDocument>

Budgetary assistance estimates

Total program funding

Budgetary assistance estimates are derived primarily from departmental and agency annual reports and contacts, and the Australian Government’s annual Tax Expenditures Statement (TES).

Table A.1 lists the data source for each budgetary assistance program with funding in 2013-14.

Source

Australian Government 2015, *Tax Expenditure Statement 2014*, Department of Treasury, Canberra, January.

Table A.1 Australian Government budgetary assistance programs, 2013-14

<i>Program</i>	<i>Funding source</i>
Farm Management Deposits Scheme	Tax Expenditures Statement 2014 (B39), p.45.
Rural Financial Counselling Service	Department of Agriculture Annual Report 2013-14, p.139.
Caring for our country – Landcare	Department of Agriculture Annual Report 2013-14, p.134.
Live Animal Exports Business Assistance	Department of Agriculture Annual Report 2013-14, p.137 and 139.
Carbon Farming Futures	Science, Research and Innovation Budget Tables 2014-15, p.7 and 11.
Carbon Farming Initiative	Department of Agriculture Annual Report 2013-14, p.134.
Australian Animal Health Laboratory	Department of Agriculture Annual Report 2013-14, p.142.
Exceptional Circumstances - relief payments	Department of Agriculture Annual Report 2013-14, p.142.
Fisheries Resources Research Fund	Department of Agriculture Annual Report 2013-14, p.134.
Egg Research and Development	Australian Egg Corporation Annual Report 2013-14, p.14.
Pig Research and Development	Australian Pork Annual Report 2013-14, p.89.
Wool Research and Development	Australian Wool Innovation Annual Report 2013-14, p.76.
Cotton Research and Development	Cotton Research & Development Annual Report 2013-14, p.89.
Dairy Research and Development	Dairy Australia Annual Report 2013-14, p.78.
Fisheries Research and Development	Fisheries Research & Development Annual Report 2013-14, p.108.
Forest and Wood Products Research and Development	Forest & Wood Products Annual Report 2013-14, p.91.
Grains Research and Development	Grains Research and Development Annual Report 2013-14, p.118.
Grape and Wine Research and Development	Grape and Wine Research & Development Annual Report 2013-14, p.81.
Horticulture Research and Development	Horticulture Australia Annual Report 2013-14, p.108.
Meat and Livestock Research and Development	Meat and Livestock Australia Annual Report 2013-14, p.69.
Rural Industries Research and Development	Rural Industries Research & Development Annual Report 2013-14, p.116.
Sugar Research and Development	Sugar Research & Development Annual Report 2013-14, p.50.
Income tax averaging provisions	Tax Expenditures Statement 2014 (B40), p.45 (Category 3+ (range \$100 million to \$1 000 million). Have set equal to 2012-13 TES estimate).
Australian Wine Industry Support	Department of Agriculture Annual Report 2013-14, p.137.
Wine Australia Corporation	Department of Agriculture Annual Report 2013-14, p.138.
Screen Australia	Screen Australia Annual Report 2013-14, p.149.
Film industry offsets	Commissioner of Taxation Annual Report, p.84.
Exemption of film tax offset payments	Tax Expenditures Statement 2014 (B32), p.42.
Tax incentives for film investment	Tax Expenditures Statement 2013, B74, p.81.
Community Broadcasting Program	Department of Communications Annual Report 2013-14, p.50.

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Table A.1 (continued)

<i>Program</i>	<i>Funding source</i>
Regional Equalisation Plan	Department of Communications Annual Report 2013-14, p.46.
ICT centre of excellence	Department of Communications Annual Report 2013-14, p.31.
Digital Enterprise Program	Department of Communications Annual Report 2013-14, p.25 and 26.
Indigenous Broadcasting Program	Sum of grants to individual projects (sum of individual grants) (http://www.communications.gov.au/__data/assets/pdf_file/0004/169591/Grant-reporting-2013-14-Indigenous - Broadcasting-Program.pdf).
Environmental Stewardship Program	Department of the Environment Annual Report 2013-14, p.345.
Indigenous Carbon Farming Fund	Department of the Environment Annual Report 2013-14, p.345.
National Urban Water and Desalination Plan	Department of the Environment Annual Report 2013-14, p.345.
Sustainable Rural Water Use and Infrastructure Program	Department of the Environment Annual Report 2013-14, p.345.
Austrade	For 2013-14, Austrade Annual Report 2013-14, p.161.
Export Market Development Grants Scheme	Austrade Annual Report 2013-14, p.88.
High Costs Claims Scheme	Department of Human Services Annual Report 2013-14, p.57.
Premium Support Scheme	Department of Human Services Annual Report 2013-14, p.57.
TRADEX	Customs contact (Tom Lees - thomas.lees@customs.gov.au).
Duty Drawback	Australian Customs and Border Protection Service, Annual Report 2013-14, p.44.
Automotive Transformation Scheme	Department of Industry contact (see accrual allocation spreadsheet).
Green Car Innovation Fund	Department of Industry contact (see accrual allocation spreadsheet).
Automotive New Markets Initiative	Department of Industry contact (see accrual allocation spreadsheet).
Coal Mining Abatement Support Package	Department of Resources, Energy and Tourism Annual Report 2012-13, p.197.
Australian Centre for Renewable Energy	Australian Renewable Energy Agency Annual Report 2013-14, p.82.
Carbon Capture and Storage Flagships Program	Department of Resources, Energy and Tourism Annual Report 2012-13, p.197.
National Low Emissions Coal Initiative	Science, Research and Innovation Budget Tables 2014-15.
Energy Efficiency Information Grants	Department of Resources, Energy and Tourism Annual Report 2012-13, p.197.
Energy Brix Australia Corporation	Department of Industry contact (see accrual allocation spreadsheet).
Energy Brix Australia Corporation	Department of Industry contact (see accrual allocation spreadsheet).

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Table A.1 (continued)

<i>Program</i>	<i>Funding source</i>
Ethanol production subsidy	Department of Industry Annual Report 2013-14, p.61.
Commercialisation Australia	Department of Industry contact (see accrual allocation spreadsheet).
CSL - Commonwealth assistance	Department of Industry contact (see accrual allocation spreadsheet).
Enterprise Connect Innovation Centres	Department of Industry contact (see accrual allocation spreadsheet).
Manufacturing Technology Innovation Centre	Department of Industry contact (see accrual allocation spreadsheet) (\$7.54 million + \$4.369 million).
Clean Business Australia - Green Building Fund	Department of Industry contact (see accrual allocation spreadsheet).
Clean Technology Investment - Food and Foundries Program	Department of Industry contact (see accrual allocation spreadsheet).
Clean Technology Investment - General Program	Department of Industry contact (see accrual allocation spreadsheet).
Clean Technology Innovation Program	Department of Industry contact (see accrual allocation spreadsheet).
Tasmanian Innovation and Investment Fund	Department of Industry contact (see accrual allocation spreadsheet).
Asia Marketing Fund	Department of Resources, Energy and Tourism Annual Report 2012-13, p.197.
Venture capital limited partnerships	Tax Expenditures Statement 2014 (B48 and E30), p.48 and 97 (Category 1+ and 2+, respectively, or tax expenditure between 0-\$10 million and \$10 million-\$100 million, respectively). Estimate from TES 2010 (B56).
Innovation Investment Fund	Innovation Australia Annual Report 2013-14, p.46.
Innovation Investment Follow-on Fund	Innovation Australia Annual Report 2013-14, p.59.
R&D tax concession	Tax Expenditures Statement 2013 (B100), p.93.
Premium R&D tax concession	Tax Expenditures Statement 2013 (B99), p.92.
R&D tax offset payments - exemption	Tax Expenditures Statement 2013 (B95), p.90.
Australian Paper's Maryville Pulp and Paper – Assistance	Department of Industry contact (see accrual allocation spreadsheet).
Cooperative Research Centres	Cooperative Research Centres contact (see CRC allocation spreadsheet).
CSIRO	CSIRO contact (see CSIRO allocation spreadsheet).
Small Business Advisory Services Program	Department of Industry contact (see accrual allocation spreadsheet).
TCF Structural Adjustment Scheme	Department of Industry contact (see accrual allocation spreadsheet).
TCF Small Business Program	Department of Industry contact (see accrual allocation spreadsheet).
TCF Strategic Capability Program	Department of Industry contact (see accrual allocation spreadsheet).

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Table A.1 (continued)

<i>Program</i>	<i>Funding source</i>
Clothing and Household Textile Building Innovative Capability Program	Department of Industry contact (see accrual allocation spreadsheet).
TCF corporate wear program	Australian Taxation Office contact.
Tourism Australia	Tourism Australia Annual Report 2013-14, p.94.
TQUAL Grants	Sum of grants to individual projects (http://www.austrade.gov.au/Tourism/Tourism-and-business/previous-grants-programmes).
Tourism Industry Regional Development	Sum of grants to individual projects (http://www.austrade.gov.au/Tourism/Tourism-and-business/previous-grants-programmes).
Tasmanian Freight Equalisation Scheme	Department of Infrastructure and Regional Development Annual Report, p.143.
Bass Strait Passenger Vehicle Equalisation	Department of Infrastructure and Regional Development Annual Report, p.143.
Payment scheme for Airservices Australia's en route charges	Department of Infrastructure and Regional Development Annual Report, p.143.
Tax deduction for conserving or conveying water	Tax Expenditures Statement 2014 (B69), p.56.
Tax deductions for grape vines	Tax Expenditures Statement 2013 (B75), p.81.
Capital expenditure deduction for mining, quarrying and petroleum operations	Tax Expenditures Statement 2013 (B87 and B88), p.85.
Product Stewardship for Oil Program	Commissioner of Taxation Annual Report 2013-14, p.84.
Brandy preferential excise rate	Tax Expenditures Statement 2014 (F13), p.102.
Offshore banking unit tax concession	Tax Expenditures Statement 2014 (B10), p.34.
Taxation assistance for victims of Australian natural disasters	Tax Expenditures Statement 2014 (B29), p.41.
Concessional rate of withholding tax	Tax Expenditures Statement 2014 (B83), p.62.
Small business CGT rollover deferral	Tax Expenditures Statement 2014 (E19), p.94.
Small business CGT 50 per cent reduction	Tax Expenditures Statement 2014 (E29), p.97.
Small business CGT retirement exemption	Tax Expenditures Statement 2014, C9, p. 67.
Small business CGT 15-year asset exemption	Tax Expenditures Statement 2014 (C15), p.69.
The Small Business and General Business Tax Break	Tax Expenditures Statement 2013 (B103), p.94.
Small Business - Simplified depreciation rules	Tax Expenditures Statement 2014 (B81), p.61.
R&D Tax Incentive - non-refundable tax offset	Tax Expenditures Statement 2014 (B80), p.61.
R&D Tax Incentive - refundable tax offset	Commissioner of Taxation Annual Report 2013-14, p.84, less the Tax Expenditures Statement 2014 estimate for the non-refundable component of the R&D Tax Incentive (B80), p.61.
R&D Tax Incentive - exemption of refundable tax offset	Tax Expenditures Statement 2014 (B79), p.60.

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Table A.1 (continued)

<i>Program</i>	<i>Funding source</i>
Tasmanian Jobs and Growth Package	Department of Infrastructure and Regional Development Annual Report 2013-14, p.145.
Melbourne's North Innovation and Investment Fund	Sum of grants to individual projects (http://www.business.gov.au/grants-and-assistance/regional-innovation/MNIIF/Pages/default.aspx)
Diamond Energy Assistance	Department of Industry contact (see accrual allocation spreadsheet).
Drought Assistance Package - concessions loans	Department of Agriculture Annual Report 2013-14, p.138.
Farm Finance - concessional loans	Department of Agriculture Annual Report 2013-14, p.139.
Beef Australia 2015	Department of Agriculture Annual Report 2013-14, p.137.
Asian Business Engagement Plan	Austrade Annual Report 2013-14, p.3.
Skilling Australian Defence Industry	Sum of grants to individual projects (http://www.defence.gov.au/dmo/doingbusiness/industry/skillingdefenceindustry/skillingaustraliandefenceindustry/)
Industry Skilling Program Enhancement	Sum of grants to individual projects (http://www.defence.gov.au/casg/DoingBusiness/Industry/Skillingdefenceindustry/IndustrySkillingProgramEnhancement/)
New Aircraft Combat Capability	Sum of grants to individual projects (http://www.defence.gov.au/casg/DoingBusiness/Industry/Industryprograms/JSF-ISP/)
Defence Materials Technology Centre	Defence Materials Technology Centre Annual Report 2013-14, p.48.

Source: Commission estimates.

Industry allocation data

The Commission's budgetary assistance estimates are also disaggregated into 46 ANZSIC-based industry groupings and 4 unallocated sectoral categories. These industry groupings are aggregated into 34 industry (and 4 unallocated) groupings for presentation in the TAR. For a number of programs the Commission obtains more detailed information about the industry incidence of program funding from a number of departments and agencies. These contacts include:

- Department of Industry (various programs including Cooperative Research Centres and TRADEX)
- CSIRO (research funding)
- Australian Taxation Office (various tax expenditures including the Small Business and General Business tax break and income tax averaging offset for primary producers)
- Department of Agriculture (and Water Resources) (various programs including Farm Management Deposits Scheme and Rural Financial Counselling Service)
- Austrade (Export Market Development Grants program)

-
- Australian Customs and Border Service (Duty Drawback)

This process is discussed in more detail in section/chapter 3.

Other data requirements

ANZSIC classification

In the *Trade & Assistance Review*, estimates of combined assistance are presented for 38 ‘industry groupings’ including 4 ‘unallocated’ groupings (table A.2). The industry groupings are based on the classification of industries in the 2006 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC).²⁰

Source

ABS (Australian Bureau of Statistics) 2006, *Australian and New Zealand Standard Industrial Classification (ANZSIC)*, Cat. No. 1292.0, ABS Canberra.

Concordances

One of the main concordances used in the TIDES model is the harmonised item (HIS) concordance between the 8-digit tariff item classification and the ABS Input-Output Product Classification (IOPC). The concordance is used to translate import and tariff rate data from the 8-digit tariff item classification to the IOPC product classification. This concordance was originally provided to the Commission by the ABS.

The concordance between the Commission’s ANZSIC-based industry groupings and the national accounts industry division and supplementary data used in the estimation process is provided in table A.3. This concordance is constructed by the Commission.

²⁰ The Commission’s combined assistance estimates are derived for 50 ANZSIC-based ‘industry groupings’ including four ‘unallocated’ groupings. For presentation in the *Trade & Assistance Review* these groupings are aggregated to the 38 industry groupings level.

**Table A.2 Industry groupings used for reporting assistance
in *Trade & Assistance Review***

<i>Industry</i>	<i>ANZSIC 2006 codes</i>
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).

Table A.3 Concordance between Trade & Assistance industry group and national accounts industry division

<i>Trade & Assistance industry group (ANZSIC 2006)</i>	<i>National accounts industry division (ANZSIC 2006)</i>	<i>Supplementary data</i>
Horticulture and fruit growing Sheep, beef cattle and grain growing Other crop growing Dairy cattle farming Other livestock farming Aquaculture and fishing Forestry and logging Primary production support services	Agriculture, Forestry and Fishing	ABS National Accounts industry gross value added chain volume measures (Cat. No. 5204.0) are used to split agriculture from forestry and fishing (combined). ABS value of agricultural commodities produced (Cat. No. 7503.0) are then used to split agriculture into the Commission's agricultural industry groupings. The latest available input-output data (Cat. No. 5209.0) are used to split the combined forestry and fishing estimates to Aquaculture and fishing and Forestry and logging.
Mining	Mining	
Food, beverages and tobacco Textile, clothing, footwear and leather Wood and paper products Printing and recorded media Petroleum, coal, chemical and associated products Non-metallic mineral products Metal and fabricated metal products Motor vehicles and parts Other transport equipment Machinery and equipment manufacturing Furniture and other manufacturing	Manufacturing	ABS National Accounts gross value added chain volume measures (Cat. No. 5204.0) are used to split most of the manufacturing industries into the Commission's ANZSIC-based industry groupings. Detailed information, however, is not available for: motor vehicles and parts; other transport equipment; machinery and equipment manufacturing; and furniture and other manufacturing. These industry groups are split into the Commission's ANZSIC-based industry groupings using the latest available ABS input-output data (Cat. No. 5209.0).

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Table A.3 (continued)

<i>Trade & Assistance industry group (ANZSIC 2006)</i>	<i>National accounts industry division (ANZSIC 2006)</i>	<i>Supplementary data</i>
Electricity, gas, water and waste services	Electricity, gas, water and waste services	
Construction	Construction	
Wholesale trade	Wholesale trade	
Retail trade	Retail trade	
Accommodation and food services	Accommodation and food services	
Transport, postal and warehousing	Transport, postal and warehousing	
Information, media and telecommunications	Information media and telecommunications	
Financial and insurance services	Financial and insurance services	
Property, professional and administrative services	Rental, hiring and real estate services; Professional, scientific and technical services; Administrative and support services; and Ownership of dwellings	
Public administration and safety	Public administration and safety	
Education and training	Education and training	
Health care and social assistance	Health care and social assistance	
Arts and recreation services	Arts and recreation services	
Other services	Other services	

Source: ABS (2006; 2013); Commission estimates.

Appendix B — Combined assistance file structure

Figure B.1 **File structure used for calculating rates of combined assistance**

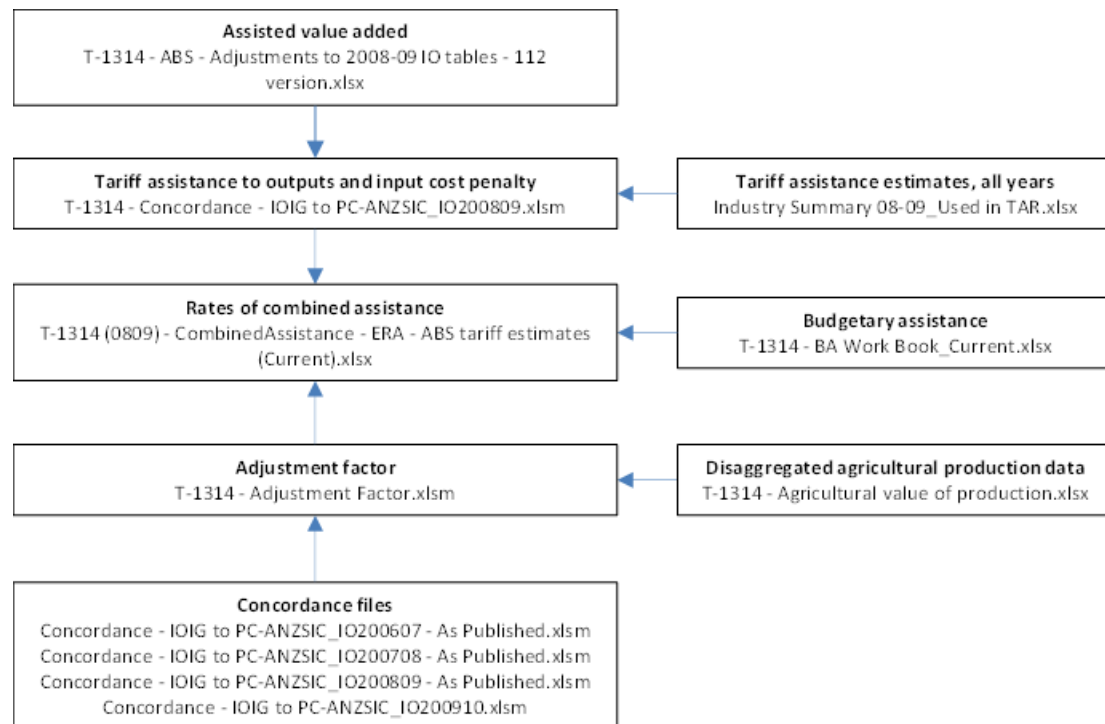


Table B.1 Files required to produce 2013-14 TAR estimates

Workbook name	Worksheet name	Summary description
Budgetary assistance		
T-1314 - BA Work Book_Current.xlsx	Total_T 1314, 1314	<ol style="list-style-type: none"> 1. Budgetary assistance estimates are collated from the Tax Expenditure Statement and relevant departmental annual reports. 2. Assistance estimates are then categorised according to the type of activity they support and whether they support input, output or value-added activities. 3. Assistance estimates are allocated across industries using information from departments. 4. Assistance by program is aggregated into 46 ANZSIC industries (and 4 'unallocated' categories).
Tariff assistance		
Industry Summary 08-09_Used in TAR.xlsx	Adj IndustrySummary 10	Tariff assistance estimates for 2013-14 at 2008-09 prices, for 112 IOIG industries. Derived by the ABS running TAM
T-1314 - Concordance - IOIG to PC-ANZSIC_IO200809.xlsm	ABS - 0809 IO & MW - IO Adj	Tariff assistance estimates aggregated into 46 ANZSIC based industries.
Unassisted value added		
T-1314 - ABS - Adjustments to 2008-09 IO tables - 112 version.xlsx	ABS Adj - Value Added - B&C	AVO, AVM and AVA for 2008-09, after adjusting for 'non-traded, non-material' inputs for 112 IOIG industries.
T-1314 - Concordance - IOIG to PC-ANZSIC_IO200809.xlsm	PC_Class_0809	AVO, AVM and AVA for 2008-09, aggregated into 46 ANZSIC-based industries.
T-1314 (0809) - CombinedAssistance - ERA - ABS tariff estimates (Current).xlsx	0809	UVO, UVM and UVA derived for 2008-09 for 46 ANZSIC-based industries.

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Table B.1 (continued)

Workbook name	Worksheet name	Summary description
Adjustment factors		
T-1314 - Adjustment Factor.xlsm	Adjustment Factor	The adjustment factors are applied to constant price (2008-09) values of GSE, TEM, UVO and UVM to update them to current year (2013-14) values.
<i>Input files for calculating adjustment factors</i>		
T-1314 - Agricultural value of production.xlsx	New Agricultural Estimates	Reads ABS data of current year (2013-14) value of agricultural commodities.
Concordance - IOIG to PC-ANZSIC_IO200607 - As Published.xlsm	PC_Class_0607	Reads domestic production, intermediate usage and factor returns data of 9 agricultural industries from 2006-07 input-output table.
Concordance - IOIG to PC-ANZSIC_IO200708 - As Published.xlsm	PC_Class_0708	Reads data as above from 2007-08 input-output table.
Concordance - IOIG to PC-ANZSIC_IO200809 - As Published.xlsm	PC_Class_0809	Reads data as above from 2008-09 input-output table.
Concordance - IOIG to PC-ANZSIC_IO200910 - As Published.xlsm	PC_Class_0910	Reads data as above from 2009-10 input-output table.
Estimates of assistance and effective rates of assistance		
T-1314 (0809) - CombinedAssistance - ERA - ABS tariff estimates (Current).xlsx	1314	<ol style="list-style-type: none"> 1. Reads GSE and TEM for all years and AVO and AVM for 2008-09, all in 2008-09 prices, from respective output files (as described before) 2. Apply the adjustment factors to update them to current price (2013-14) values 3. Budgetary assistance estimates at current prices for all years are read from the respective file 4. All assistance estimates (GSE, TEM and budgetary assistance) and UVO and UVM are aggregated to 38 TAR-industry groupings 5. Net combined assistance is divided by UVA to derive estimates for ERAs for 20 TAR industries.