# 4 Methodological changes to the estimates

This chapter summarises the methodological adjustments included in the assistance measurement system for the *Trade & Assistance Review 2012‑13*. These adjustments include changes made to:

* the derivation of revenue foregone for the income tax averaging provisions for primary producers tax concession;
* selected industry allocations for individual Co-operative Research Centre (CRC) programs; and
* the method used to revalue mining sector assistance estimates from 2008‑09 dollars to current dollar estimates.

### Income tax averaging provisions for primary producers

The income tax averaging provisions for primary producers tax concession allows primary producers to average their income over a five-year cycle in order to minimise their tax liability. Under the averaging provisions, primary producers may pay tax on their income at the rate of tax applicable to their average income, regardless of whether the average rate is greater or less than ordinary rates. This provides a concession as the saving from paying less tax in high income years outweighs additional tax paid in low income years (Australian Government 2014a).

The Commission sources estimates of revenue foregone under the income tax averaging scheme from the Treasury’s annual Tax Expenditure Statement (TES). For the 2013 TES, however, the Treasury did not provide an estimate for the tax concession in 2012‑13. Treasury noted that projections beyond 2011‑12 have not been reported as the concession is sensitive to variations in primary production income, which depends on a number of external factors. The Treasury, however, provided a range of possible estimates of revenue foregone from $100 million to $1 billion. The Commission has used the lower end of the range to represent revenue foregone under the scheme in 2012‑13. Estimates of the concession since 2007‑08 are presented in table 4.1.

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| Table 4.1 Income tax averaging provisions for primary producers, 2007‑08 to 2012‑13  $ million |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  | 2007‑08 | 2008‑09 | 2009‑10 | 2010‑11 | 2011‑12 | 2012‑13a | | Income tax averaging provisions for primary producers | 110.0 | 100.0 | 85.0 | 155.0 | 145.0 | 100.0 | |
| a The Commission has selected Treasury’s lower bound of the estimated range – $100 million to $1 billion – of estimated revenue foregone from the income tax averaging scheme. |
| *Source*: Australian Government (2014a). |
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### Cooperative Research Centres

The Cooperative Research Centres (CRC) program was established by the Australian Government in 1991 with the intention of improving the effectiveness of Australia’s R&D effort. Among other things, the program aims to link researchers with industry to focus R&D efforts towards utilisation and commercialisation (DIICCSRTE 2013).

The CRC program is administered by the Department of Industry. Each year, the Department provides the Commission with funding information for each individual CRC.

In many cases, because of the particular focus of a CRC, an initial benefiting industry is readily identifiable.[[1]](#footnote-1) For example, the Metal Cast CRC is allocated to the metal products manufacturing industry grouping. In some cases, however, the program’s research effort does not appear to benefit a particular industry or industries selectively. For example, the Antarctic Climate and Ecosystems CRC is not classified as budgetary assistance to industry.

For *Trade & Assistance Review 2012‑13*, the Commission revised the industry allocation for some individual CRCs. These changes are outlined in table 4.2. The impact of these changes on the assistance estimates for 2012‑13 is a net reduction in allocated assistance to the *health care and social assistance* industry grouping of $21.3 million in the published estimates.[[2]](#footnote-2)

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| Table 4.2 Changes to Cooperative Research Centres industry allocations |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | CRC Program | Previous industry allocation | Current industry  allocation | Funding 2012‑13 | | | Allocated | Not allocated | |  |  |  | *$m* | *$m* | | Vision CRC | Health care and social assistance | Not allocated | – | 5.5 | | CRC for Biomarker Translation | Not allocated | Health care and social assistance | 4.1 | – | | Oral Health CRC | Health care and social assistance | Not allocated | – | 3.5 | | HEARing CRC | Health care and social assistance | Not allocated | – | 3.6 | | Wound Management Innovation CRC | Health care and social assistance | Not allocated | – | 4.3 | | Young and Well CRC | Health care and social assistance | Not allocated | – | 4.5 | | CRC for Mental Health | Health care and social assistance | Not allocated | – | 4.0 | | **Total** |  |  | **4.1** | **25.4** | |
| – Nil. |
| *Source*: Commission estimates. |
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### Combining tariff and budgetary assistance – conversion to a current dollar basis

The Commission’s tariff assistance estimates are initially derived for all years in the series in 2008‑09 Input-Output base-year dollars. That is, different tariff levels, or rates, over a number of years are combined with the same 2008‑09 ABS input-output data. This approach provides multi-year estimates of GSE and TEM tariff assistance in constant 2008‑09 dollars and estimates of effective rates of tariff assistance using constant reference year input-output coefficients.

In contrast, expenditure under budgetary assistance programs, including budgetary outlays and tax concessions, is in current year dollars.

To combine estimates of the value of tariff assistance at reference-year values, currently 2008‑09, with estimates of budgetary assistance at current-year values, the estimates of tariff assistance need to be revalued from input-output base-year dollars to current-year dollars, holding the reference year input-output coefficients constant. For assistance estimation, ABS estimates of Gross Value Added (GVA) at current prices by national accounts industry division are generally used to scale estimates of tariff assistance on outputs and inputs from base-year values to current-year values. Supporting data are also used to apportion GVA on a current price basis from the aggregate primary production and manufacturing industries to the industry groupings adopted for reporting estimates of assistance.

The concordance between trade and assistance industry groupings and the national accounts division and the supplementary data used in the estimation process is provided in table 4.3.

For *Trade & Assistance Review 2012‑13*, the method used to revalue mining industry estimates from input-output base-year dollars to current-year dollars differs from that applied to other industries to take account of mining terms of trade effects. As noted, under the general approach, both inputs and outputs are scaled by the current value of industry value added. This involves the simplifying assumption that the value of inputs and outputs moved proportionately. However, substantial variations in industry terms of trade can erode the applicability of this assumption and can fall disproportionately on assistance to outputs or inputs. Mining industry has negligible tariffs on outputs but incurs a tariff penalty on inputs. Including changing mining terms of trade in the calculations inflates (or deflates) the estimated tariff penalty on inputs. To overcome this valuation problem, the mining estimates of inputs and outputs were projected using the ABS Industry Gross Value Added chain volume measures.

For 2012‑13, the impact of changing the scaling adjustment on the assistance estimates for mining is to increase the estimated tariff penalty on mining activity by around $40 million from what it would otherwise have been — removing the effect of the significant decline in the mining terms of trade from 2011‑12 to 2012‑13. This adjustment reduces the estimated net subsidy equivalent for the mining industry (inclusive of budgetary assistance) to around $331 million. The valuation adjustment does not affect input-output coefficients used in the estimation of effective rates of assistance. The effect of the adjustment on the effective rate of assistance for mining is therefore negligible

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| Table 4.3 Concordance between Trade & Assistance industry group and national accounts industry division |
| |  |  |  | | --- | --- | --- | | Trade & Assistance industry group (ANZSIC 2006) | National accounts industry division (ANZSIC 2006) | Supplementary data | | Horticulture and fruit growing | 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), currently 2009-10, are used to split the combined forestry and fishing estimates to Aquaculture and fishing and Forestry and logging. | | 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 | | Mining | Mining |  | | Food, beverages and tobacco | 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, 2009-10, ABS input-output data (Cat. No. 5209.0). | | 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 | |
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| Table 4.4 (continued) |
| |  |  |  | | --- | --- | --- | | Trade & Assistance industry group (ANZSIC 2006) | National accounts industry division (ANZSIC 2006) | Supplementary data | | 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. |
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1. The initial benefiting industry allocation methodology is discussed in more detail in the Methodological Annex to the *Trade & Assistance Review 2011‑12* (PC 2014). [↑](#footnote-ref-1)
2. Further examination of the activities of these CRCs as part of the preparation of this Annex has indicated that a wider range of the CRC may have an industry component than implied by the published estimates. It is intended to further review the allocation for the 2013‑14 *Review*. [↑](#footnote-ref-2)