
2 Types of assistance

As noted earlier, the key forms of assistance covered in the Commission's annual assistance estimates are:

- Commonwealth budgetary assistance;
- tariff assistance; and
- agricultural pricing and regulatory assistance.

One goal when estimating these separate forms of assistance is to derive an estimate of the GSE and TEM associated with each, for subsequent inclusion in the Commission's ERA estimates of combined assistance.

However, the components of the different forms of assistance, and their effects and changes over time, are of interest in their own right. This is particularly the case in relation to budgetary assistance, which covers a range of different forms of assistance which can have diverse effects on economic incentives. Accordingly, as well as calculating an overall estimate of assistance, each year the Commission breaks down and describes these forms of assistance in some detail.

This section explains what is covered under each category and how the Commission goes about classifying and quantifying the assistance provided.

2.1 Budgetary assistance

Budgetary measures can provide industry assistance through government spending or through selective tax concessions to business.

Budgetary assistance takes an array of forms and is variously provided to producers in all sectors of the economy, particular firms or industries, or particular activities — such as investment, exporting and R&D — undertaken by firms in different industries.

In compiling its annual estimates of Commonwealth budgetary assistance, the Commission has adopted the practical approach of seeking to gauge only those budgetary measures which selectively benefit firms, industries, sectors, or activities. That is, its aim is to quantify those budgetary measures which provide benefits to

certain businesses but not to others. The estimates thus provide a guide to how the discriminatory nature of assistance provided through the budget alters incentives to use resources in different industries or activities.

Coverage

The Commission's annual estimates include a wide range of budgetary assistance, but do not seek to incorporate all budgetary measures which provide support for industry, for a range of practical as well as conceptual reasons. Included within the coverage is an array of budgetary measures which provide assistance to firms in all four sectors of the economy.

The various budgetary measures are listed in tables A.1 to A.5 of appendix A of *Trade & Assistance Review 2001-02*. These include industry-based bounties and subsidies, specific investment incentives, export development grants, and selective structural adjustment programs.

Budgetary assistance to the manufacturing sector predominantly comprises major industry-specific schemes and R&D support measures. Industry-specific budgetary assistance includes special tariff concession (such as those provided for PMV through the Automotive Competitiveness Investment Scheme), grants (for example, the TCF Strategic Investment Program and the Pharmaceutical Industry Investment Program) and bounties (such as to shipbuilding). R&D schemes include the R&D tax concession, targeted R&D grant schemes, and selected CSIRO and CRC research.

The programs assisting agriculture predominantly comprise sector-specific measures and R&D support. The sector-specific estimates include funding for farm landcare activities, income tax averaging and selective income support measures, as these measures are specifically available to agricultural activities but equivalents are not available in other sectors. Support for rural research mainly comprises funding of rural R&D corporations and CSIRO and CRC research.

The key measures included in the mining estimates are the development allowance, and research assistance delivered via CSIRO funding and the R&D tax concession.

The diverse nature of the services sector is reflected in the wide range of assistance measures afforded it. However, the estimates exclude government programs affecting a range of service industries relating mainly to the provision of health, welfare and education, where funding predominantly benefits consumers and individual citizens.

Support for business R&D, which assists firms across a range of industry groupings, is covered in the estimates. The schemes included are the R&D tax concession,

targeted R&D grant schemes, funding of rural R&D corporations, and CSIRO and CRC research on primary production, manufacturing, mining and service activities.

The Commission's estimates of budgetary assistance also include programs which are designed to encourage exporting activity by firms across different industry groupings. Covered in the estimates are outlays on export marketing and promotional services provided through Austrade's programs and export financing activities provided by the Export Finance and Insurance Corporation (EFIC) export credit facilities. Other budgetary programs which assist exporting include funding to the Australian Tourist Commission and other tourism programs that are aimed at promoting inbound tourism. Also included in the budgetary assistance estimates are duty concessions made available through the TRADEX and Duty Drawback provisions to assist exporters.

While the Commission's estimates cover a wide range of Commonwealth budgetary measures, they do not include the following:

- budgetary measures which are generally available to all firms – for example, reductions in company tax rates applying to all firms;
- outlays focussed on public administration, defence, health, education, the environment and the labour market;
- expenditures on infrastructure, except where they clearly apply to specific activities;
- budgetary assistance provided by State, Territory and local governments (appendix B of the *Trade & Assistance Review 2001-02*);
- certain drought relief payments, such as Exceptional Circumstances payments; and
- revenue forgone from accelerated depreciation provisions.²

As the coverage of budgetary assistance is confined to those budgetary measures which, among other things, are readily quantifiable, the estimates are likely to understate the overall level of Commonwealth budgetary assistance in Australia to some degree. The extent of this underestimation is likely to vary between sectors, industries and activities.

² Accelerated depreciation provisions allow assets to be written off over a period shorter than the effective economic life of the assets, the assistance impact of accelerated depreciation is equivalent to an interest-free loan, and can thus differ from the estimated revenue forgone. Accelerated depreciation arrangements have been important measures of assistance to capital intensive industries of manufacturing and mining. Some specific measures are also available to agricultural activities such as vineyards and horticulture. Estimating the assistance impact of accelerated depreciation is difficult due to limited data on the true economic life of capital assets.

Classifications

To provide some indication on the nature and extent of Commonwealth budgetary assistance, the Commission classifies budgetary assistance programs according to:

- the *form* of assistance;
- the *activity* it predominantly assists; and
- the *sector* and *industry grouping* to which it applies.

Forms of assistance

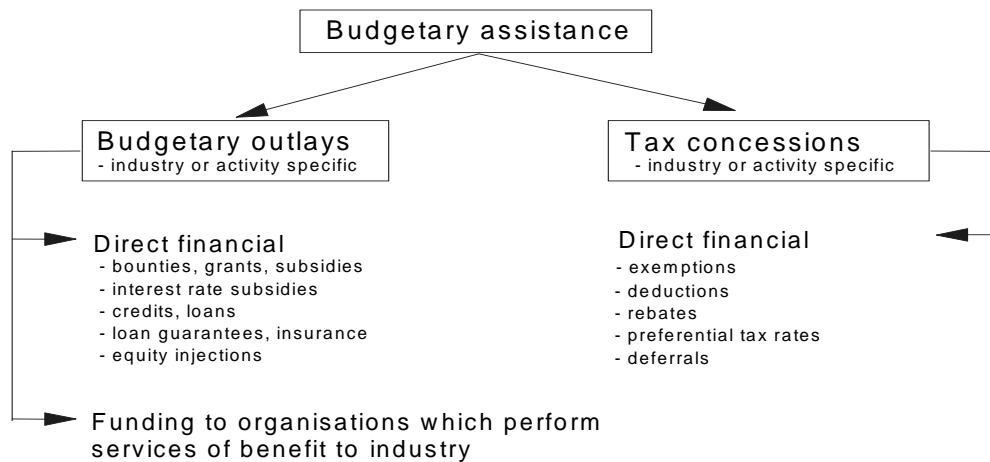
In classifying the ‘forms’ of budgetary assistance, total budgetary assistance is categorised into *budgetary outlays* and *tax expenditures* (or ‘*concessions*’), which are further distinguished by the type of benefits provided (figure 2.1).

In relation to ‘budgetary outlays’, a distinction is made between:

- *direct financial assistance* — which broadly comprises bounties, grants and subsidies; interest rate subsidies, loans, credits and guarantees; and government equity participation; and
- *funding of intermediary institutions which perform activities of benefit to industry* — for example, funding of CSIRO and CRC research programs, Austrade’s International Business Services and the Australian Tourist Commission. Provision of services raise producers’ returns in ways similar to direct financial assistance.

‘Tax expenditures’ provide financial benefits to industry through tax exemptions, deductions, rebates, preferential tax rates and tax deferrals. For example, tax exemptions allow income to be excluded from the tax base. Tax deductions, such as the R&D tax concession, allow certain expenditures to be eligible for deductions which normally would not be allowed in the tax system. Preferential tax rates involve the application of a lower tax rate for particular industries. The deferral of tax over a number of years also constitutes a form of assistance. Accelerated depreciation provisions are examples of tax deferrals.

Figure 2.1 **Forms of budgetary assistance**



Activities assisted

Budgetary assistance is often designed to encourage particular activities undertaken by firms across industries and/or sectors, while some assistance measures are industry-specific. To provide an indication of the distribution of assistance amongst activities, the Commission classifies Commonwealth budgetary assistance as belonging to one of seven categories³:

- industry-specific assistance — schemes which are designed to encourage production in particular industries, such as the PMV Automotive Competitiveness Investment Scheme and the TCF Strategic Investment Program;
- general export measures — programs which target particular stages of exporting activities, such as the Export Market Development Grants scheme;
- general investment measures — schemes which encourage certain types of investment, such as the development allowance;
- general R&D measures — schemes which support business research, such as the R&D tax concession and funding of rural R&D corporations;
- sectoral assistance — programs which are specific to a particular sector, such as agriculture, to facilitate adjustment or provide income support; or
- other measures — schemes, such as regional assistance programs, that do not fall within any of the above categories.

³ The Commission altered the basis on which it classifies assistance by activity for *Trade & Assistance Review 2001-02*. Among other things, previously industry-specific export facilitation schemes had been included in the Commission's estimates of 'export' assistance, whereas now they would be classified as 'industry specific assistance'. The category 'general export measures' refers to measures that apply to exporting activity across a number of industries.

Caution is required in interpreting these estimates because particular industry-specific programs may be designed to encourage more than one type of activity. In these cases, the Commission has allocated the program's total funding as industry-specific without further categorising the activities. A further qualification is that the extent to which an activity that appears to be targeted by a program actually benefits from the assistance is not always clear. This reflects a lack of information on the operation of certain schemes and their economic effects.

Sectoral and industry incidence

As well as reporting assistance by form and activities, the Commission also estimates the incidence of budgetary assistance by benefiting industries. Prior to 1999, the incidence of assistance was reported using a four-sector classification of the economy. In 2000, the industry classification was broadened to include 27 industry groupings. Under this system, primary production and mining remained as single categories, while manufacturing and services were subdivided into 11 and 14 industry groupings, respectively. This disaggregation was first completed for the *Trade & Assistance Review 1999-2000* and a detailed description of the methodology used was included in a *Methodological Annex* (PC 2000b). For *Trade & Assistance Review 2001-02*, the Commission has expanded its industry classification to include 10 new primary production groupings. The new allocation provides significantly more detail than the previous classification. The methodology used to disaggregate the estimates for primary production is included in *Methodological Annex B* (PC 2002d).

In allocating assistance to industry groupings, the Commission examines each program individually. Programs that assist only a single industry, such as the Sugar Industries Program or the Grape and Wine R&D Corporation, are allocated directly to that industry (*other crop growing* and *horticulture*, respectively). However, many programs assist multiple industries — for example, income tax averaging provisions. The Commission uses a variety of methods in determining to what extent each industry benefits from these programs.

- Where the Commission can obtain sufficiently detailed data for a program, it has used this data to distribute the program's funding among the benefiting industries. For example, the Commission obtains four digit ANZSIC claims data for the Export Market Development Grants scheme which is sufficiently detailed to determine the degree to which each industry grouping benefits from the program.
- For programs that provide grants to industry and where the Commission has details on the individual grants, it uses this information to assign each grant to a particular industry. For example, the (Department of) Agriculture, Fisheries and

Forestry Australia publishes details for grant recipients under the Farm Innovation Program. These details are used by the Commission to determine which industries benefit from the program.

- Where the Commission cannot obtain data to indicate which industries benefited from a particular program, the assistance given under that program has been left unallocated.

In most cases, the Commission has obtained sufficient data to allocate assistance to the 35 industry groupings — around only 15 per cent of budgetary assistance has been placed in an ‘unallocated’ category.

Quantification

The assistance impact of most budgetary measures can be readily quantified by the budgetary outlays and tax revenue forgone provided to industry in a particular year. In compiling estimates, data are drawn from Commonwealth Budget Papers, annual reports of government departments and agencies, the Treasury’s Tax Expenditure Statement and Australian Taxation Office (ATO) taxation statistics.

The estimates incorporate only the government contribution to programs’ funds. This approach is applied consistently to all programs, including those (such as rural R&D corporations) which are funded jointly by industry and governments.

Some aspects of the Commission’s quantification of budgetary assistance may overstate the benefits received under certain programs or tax expenditures, although the extent to which this occurs is likely to be small relative to the overall level of estimated budgetary assistance. This may occur where recipients of the funds are not minimising costs. In such cases, part of the payment may be a genuine production subsidy while part is an income transfer. For example, total outlays are reported for non-business organisations that undertake activities of benefit to industry, but this will overstate the benefits to the extent that the activities are not delivered efficiently. Also, under Australia’s tax imputation system, the value of tax concessions can be reduced to some degree as such concessions reduce company tax liabilities. That said, the costing of tax expenditures is understood to provide some allowance for such factors. Issues in costing tax expenditures are discussed in more detail in the Treasury’s Tax Expenditure Statement (Treasury 2002).

2.2 Tariff assistance

Tariffs have a number of direct effects on the returns received by Australian producers. Tariffs on imported goods increase the price at which those goods can be

sold on the Australian market, and thus allow domestic producers of similar products to increase their prices. On the other hand, tariffs also increase the price of goods that are used as inputs by Australian producers and thus penalise some Australian producers. This ‘penalty’ is reduced if tariff concessions are available to Australian users.

Australia’s tariffs on imported goods are set by the Commonwealth government and a record of individual tariff levels is maintained in the Australia Customs Tariff Schedule. Australian tariffs are levied on the value of imports in the foreign port, as opposed to the landed value of imports. Tariffs on all imports have been reduced significantly since the early 1970s. As a result, with the exception of goods within the *textiles, clothing & footwear* (TCF) and *motor vehicles & parts* (MVP) industries, and of some cheeses, all general tariffs applied to imports are now 5 per cent or less.

The main forms of tariff concessions and duty exemptions include the following.

- *Duty exemptions for selected countries.* Imports from certain sources, such as New Zealand, Papua New Guinea, the Forum Islands and some developing countries, are given duty free status. This duty free entry is generally granted either to countries with a cost structure similar to Australia or to compensate for a trade disadvantage not typical of most countries exporting to Australia. The main effect of these arrangements is therefore likely to be to divert some trade to these sources, rather than to lower the price of imports (after duty).
- *Tariff concessional arrangements,* such as the Tariff Concession System (TCS), Project and other policy by-laws, the Automotive Competitiveness and Investment Scheme (ACIS), the Duty drawback scheme, the TCF imports credits scheme and TRADEX. These schemes typically lower the ‘operative’ tariff rate from the general rate to either zero or a concessional rate; and
- *Duty exemptions for government imports.* Certain government imports enter duty free, such imports are usually for defence purposes and general government use.

The Commission’s estimates of tariff assistance for output and input goods are derived in two main steps. These involve:

- using the Commission’s TIDES⁴ model to provide estimates of the ‘price impacts’ of tariffs (and quotas)⁵ for both output and input goods; and
- combining these results with ABS Input-Output data to derive NSE estimates of tariff assistance.

⁴ Tariff and Import Database and Estimating System (TIDES).

⁵ To simplify the operations of TIDES, all quotas have been converted to an ad valorem basis.

Calculating price impacts using TIDES

TIDES uses information from the Australian Customs tariff schedules and ABS merchandise trade imports to estimate the price impacts of tariffs and quotas for both domestic and imported goods.

As a first step, it derives an estimate of ‘imputed duty’ for each import item — that is, the duty payable for each tariff item, given its value of imports and operative tariff rate. To take into account the effects of tariff concessions and duty exemptions on imported goods, TIDES separates the import data into three distinct groups and then estimates imputed duty separately for each group. These groups include:

- *general* entry items. General entry items comprise imported goods that are subject to the general tariff rate and do not receive any form of tariff concession or duty exemption. For this group, imputed duty is calculated as the import value for duty⁶ multiplied by the annual average tariff rate for each tariff item;
- *government* entry items. Government entry items comprise goods imported by the government such as defence goods and goods for general government use. Goods subject to government entry enter duty free. Imputed duty for this group is therefore set equal to zero; and
- *concessional* entry items. Concessional entry items comprise imported goods whose general tariff rate is amended to reflect concessional entry. For this group, the calculation of imputed duty is similar to that for *general* entry items except that the tariff rate has been adjusted to reflect the tariff concession.

TIDES then concords its estimates of imputed duty, together with the landed value of imports, by tariff item to the ABS Input-Output Product Classification (IOPC). This procedure is largely carried out using a concordance provided by the ABS linking 6-digit tariff items with IOPC (1996-97) items.

At the IOPC classification level, TIDES then derives estimates of the price impacts of tariffs and quotas for both output and input goods. The price impacts of tariffs and quotas are defined as the imputed duty divided by the landed value of imports:

- for output goods, only data from the *general* entry group is used to estimate the price impacts of tariffs and quotas. *Government* and *concessional* entry items are excluded; and
- for input goods, only data from *general* and *concessional* entry groups are used to calculate the price impacts of tariffs and quotas. Goods subject to *government* entry are excluded. The use of *general* and *concessional* entry items is deemed to represent the average mix of goods used as inputs by industry.

⁶ The free-on-board (fob) value of imports.

Estimating subsidy and tax equivalents using ABS Input-Output data

The price impacts of tariffs and quotas are then combined with ABS Input-Output data to derive estimates of border assistance for both output and input goods.

For output goods, the price impacts of tariffs (and quotas) are combined with ABS Input-Output domestic production data to estimate the dollar value of output tariff assistance — the Gross Subsidy Equivalent (GSE).

For inputs, the price impact of tariffs (and quotas) are combined with ABS Input-Output intermediate usage data to derive estimates of input tariff assistance — the Tax Equivalent on Materials (TEM). The TEM imposes a penalty, or negative assistance, on producers who use imported inputs, or their domestic equivalent, that are subject to the price rising effects of tariffs.

These estimates are derived by the ABS using confidential Input-Output data, together with data from the Commission's TIDES model. The GSE and TEM estimates are derived at the detailed IOPC classification level (about 1000 items) and then aggregated to the 106 industry ABS Input-Output Industry Group (IOIG) classification. The ABS then returns these results to the Commission for further analysis.

The GSE and TEM estimates are then combined to derive an estimate of net tariff assistance, or the Net Subsidy Equivalent (NSE). The NSE is calculated as the GSE less the TEM. The NSE estimates are calculated at the 106 industry ABS IOIG classification and then further aggregated to the Commission's ANZSIC-based 'Industry Grouping' classification system used to present assistance estimates in the *Trade & Assistance Review*.

2.3 Agricultural pricing and regulatory arrangements

The Commission's estimates of assistance derived from agricultural pricing and regulatory arrangements historically have dominated total measured assistance to the agricultural sector. While many assistance schemes have been discontinued since the 1980s, as recently as 1997, the Commission's estimates incorporated statutory marketing arrangements for dairy, sugar, rice, and eggs, a local content scheme for tobacco leaf, and loan guarantees for the borrowing by the wheat and wool boards. More recently, pricing and regulatory support have been the preserve of the dairy and rice industries, although these too have been wound down significantly.

Dairy pricing and regulatory assistance

Prior to 2000-01, the dairy industry received assistance largely from a combination of State government price and regulatory controls, which maintained high prices for drinking milk, and Commonwealth Market Support Payments for milk used in manufacturing — for processing into products such as butter, cheese, milk powder and ice cream. These arrangements provided dairy farmers with assistance of around \$450 million in 1999-2000.

These arrangements were terminated as part of the deregulation of the dairy industry in July 2000. As part of the deregulation process, the Commonwealth Government introduced new arrangements to provide payments to dairy farmers — the Dairy Industry Adjustment Package (DIAP). These payments will amount to around \$1.8 billion over the 8 year life of the package.

The cost of the package is funded by an 11 cents per litre levy on retail sales of drinking milk, to remain until at least 2008. Further details of the adjustment package and milk levy were provided in *Trade & Assistance Review 2001-02*.

The package includes a number of sub-programs. These include:

- the Dairy Structural Adjustment Program (\$1.63 billion);
- the Supplementary Dairy Assistance Program (\$139 million);
- the Dairy Exit Program (\$30 million); and
- the Dairy Regional Assistance Program (\$65 million).

While assistance is defined in very broad terms in the *Productivity Commission Act 1998*, not all of the funding of the DIAP neatly falls within the bounds of the Commission's assistance measurement framework. For example, the *Dairy Exit Program* (DEP) confers assistance to dairy farmers who leave the industry. The Commission's assistance estimates, however, are confined to those currently engaged in production. The DEP therefore falls outside of the Commission's criteria for assessing assistance and as such has been excluded from the Commission's estimates.

The *Dairy Regional Adjustment Program* (DRAP) provides financial benefits to manufacturing activities on a project-by-project basis. As the Commission's assistance measurement approach is based on the initial benefiting incidence of assistance, the DRAP has not been incorporated into the agricultural (or dairy) assistance estimates.

The *Dairy Structural Adjustment Package* (DSAP) and the *Supplementary Dairy Assistance Program* (SDAP) directly provide financial assistance to farmers who

remain in dairy farming activities. Payments from the DSAP and SDAP programs therefore have been included in the Commission's assistance estimates.

The DSAP and SDAP programs, however, also provide assistance to farmers who exit the industry in any relevant year. There is no requirement that those who qualify for, and receive, DSAP and SDAP payments remain in dairy farming activities. As the Commission's assistance measurement system is confined to those currently engaged in production, the Commission's estimates only record as assistance DSAP and SDAP payments to farmers who remain in dairy farming activities.

Although an imperfect indicator of DSAP and SDAP recipients leaving the industry, the fall in dairy-farmer numbers since 1999-2000 has been used to scale the payments to reflect those funding recipients that have exited the industry. It is assumed that the average DSAP and SDAP payment is the same for those farmers remaining in the industry and for those who leave, and that the number of new farmers entering the industry is negligible.

To reflect the different mix of production, and DSAP/SDAP payments, for market and manufacturing milk, estimates of assistance (scaled DSAP and SDAP payments) have been derived at the State level. State estimates of farm numbers are available from the Australian Dairy Corporation (ADC), while DSAP and SDAP payments have been pro-rated to the individual states based on their DSAP and SDAP payment rights (up to the end of June 2002) as published in the Dairy Adjustment Authority (DAA) annual report 2001-2002.⁷

In addition to measuring assistance, the classification of assistance from the new assistance arrangements into output, input and assistance to value adding factors has

⁷ There is also scope to further adjust assistance received from the DSAP and SDAP programs according to the number of farmers electing to take an exit payment in any particular year. Under the DIAP, farmers are only entitled to receive the net amount of any payments from the DSAP/SDAP and dairy exit programs. For example, a farmer who initially has a DSAP payment right of \$30,000, and subsequently elects to take an exit payment of \$45,000, is only entitled to receive the net of both payments, or \$45,000. If the farmer has already received \$5000 in DSAP payments, then the exit payment is reduced by \$5000 and all future DSAP payments are cancelled. This implies that when a farmer elects to take an exit payment, the average DSAP payment between those who remain in the industry and those who leave is not equal. That is, a greater proportion of DSAP payments are directed towards those remaining in the industry as opposed to those who leave.

This adjustment, however, has not been made to the Commission's estimates for two main reasons. Firstly, the maximum dollar amounts involved are relatively small — \$2.3 million and \$2.7 million in 2000-01 and 2001-02, respectively — and, secondly, the amount of DSAP and SDAP payments re-directed to those remaining in the industry is unclear from the available information.

changed relative to the previous arrangements. Payments from the DSAP and SDAP programs increase the incomes of those who own the factors of production in dairy farming activities. Unlike previous arrangements, the new package does not contain direct output requirements. Funding from the new programs has therefore been classified as assistance to value adding factors in the Commission's assistance measurement system, while assistance derived from the previous arrangements were classified as assistance to outputs. The impact of this classification change is to reduce the nominal rate of assistance for the dairy industry, but to leave effective rates unchanged, relative to the previous treatment.

Overall, assistance provided by the DIAP is significantly lower than the previous arrangements. Assistance from the DIAP was estimated to be around \$180 million in 2000-01, while the previous arrangements are estimated to have provided around \$450 million in 1999-2000. The level climbed to around \$250 million in 2001-02, primarily reflecting SDAP payments, but is expected to decrease again in 2002-03.

As well as reducing the total quantum of assistance, the new arrangements also removed the (price) distinction between market and manufacturing milk at the farm gate level, although payments from the new arrangements continue to reflect the previous distribution of assistance. The Commission has not published separate assistance estimates for market and manufacturing milk, since production and subsidy payments are no longer linked.

Rice pricing and regulatory assistance

The rice industry is centred in the Riverina in New South Wales and is assisted through statutory marketing arrangements which allow the NSW Rice Growers Co-operative to vest and market all rice grown in the state. This enables the domestic price of rice to be maintained at higher levels than would prevail under more competitive conditions.

In measuring assistance to the rice industry, it is assumed that the NSW Rice Growers Co-operative is able to increase domestic prices to import parity levels. Information on import parity price levels for the rice industry is derived from ABS merchandise trade import data. An estimate of assistance is then derived by multiplying the amount by which domestic prices increase (import parity less export parity) by domestic rice production. In 2001-02, assistance provided from the rice industry's statutory marketing arrangements was estimated to be \$6.6 million.