
B Allocating budgetary assistance by industry grouping

The Commission has a statutory obligation to report annually on industry assistance and, as one part of meeting this requirement, the Commission provides annual estimates of budgetary assistance to industry. These estimates cover those budgetary measures that can be quantified, given practical constraints in measurement and data availability. They cover the budgetary assistance provided by the Commonwealth Government, but not that provided by State, Territory and local governments. The estimates exclude outlays on defence, health, education and the labour market. They also exclude measures which are generally available to all firms, such as changes in road funding. The Commission's approach to measuring budgetary assistance was explained in detail in appendix A of the *Trade & Assistance Review 1998-99* (PC 1999).

In the past, the Commission has provided estimates of the incidence of budgetary assistance using a simple, four sector classification of the economy. Budgetary assistance programs were allocated under the headings 'primary production', 'manufacturing', 'mining', and 'services'.

To provide a better basis for determining the incidence of assistance, this year the Commission has augmented this approach by also providing a disaggregated breakdown of the incidence of budgetary assistance, using a 27 industry grouping classification system. Under this system, primary production and mining remain as stand-alone categories, but the manufacturing and service sectors have been disaggregated into various sub-groupings.

Allocating budgetary assistance at the 27 industry grouping level is more difficult than allocating it at the four sector level. The Commission has used detailed information to assist in the allocation process and, in some cases, sought feedback from government agencies responsible for administering the relevant budgetary assistance programs.

This appendix explains the new classification system and outlines the way the Commission has allocated budgetary assistance using the new system. A program-by-program breakdown of allocations — published as a separate document (PC 2000d) — is available from the Commission or its web-site. The Commission

would welcome any comments on its general methodology or on the appropriateness of any particular allocations of budgetary assistance to industry groupings that it has made. The results of the allocation for the years 1997-98 to 2000-01 are presented in tables 4.3 to 4.7 of chapter 4 of this report.

Industry classifications

The Commission has based its 27 industry partition of the Australian economy on the ANZSIC system. There are 17 industry *divisions* in the ANZSIC system, which include primary production, mining, manufacturing and 14 service industries. The Commission further divides the manufacturing division into its nine *subdivisions* and, in the case of the *machinery & equipment* subdivision, further divides it into 3 *industry groups*. For convenience, all 27 industries are referred to as *industry groupings* (see table B.1 below). Finally, two additional categories cater for budgetary programs that the Commission is unable to allocate within the manufacturing or service industry groupings, and another category picks up the remaining unallocated programs.

The manufacturing division is subdivided in this way for three reasons. First, manufacturing industries receive the largest amount of budgetary assistance (around 41 per cent), and allocating this amount of assistance to one indivisible group would be contrary to the objective of measuring the resource allocation effects of budgetary assistance in as much detail as practicable. Second, this classification will allow for comparability with the Commission's estimates of tariff assistance to manufacturing (see appendix A). Third, allocating manufacturing assistance at the subdivision and industry grouping level is straightforward because assistance is mainly targeted at this level.

There are three points to note in relation to the industry groupings used here:

- First, notwithstanding the disaggregation of economic activity into 27 industry groupings, some of these groupings still contain disparate activities. For example, the *petroleum, coal, chemical & associated product manufacturing* industry grouping includes industries such as petroleum refining and pharmaceutical products manufacturing, as well as rubber and plastic product manufacturing. Further, in this case, a large proportion of budgetary assistance to this group is a result of schemes that support lower prices for prescription medicines (pharmaceuticals), whereas there is relatively little assistance targeted to other industries within this group.

Table B.1 ANZSIC codes used for budgetary assistance allocation

<i>ANZSIC code</i>	<i>Division, subdivision or industry group</i>	<i>ANZSIC code</i>	<i>Division, subdivision or industry group</i>
A	Agriculture, forestry, fishing & hunting	E	Construction
B	Mining	F	Wholesale trade
C21	Food, beverages & tobacco	G	Retail trade
C22	Textile, clothing, footwear & leather	H	Accommodation, cafes & restaurants
C23	Wood & paper products	I	Transport & storage
C24	Printing, publishing & recorded media	J	Communication services
C25	Petroleum, coal, chemical & associated products	K	Finance & insurance
C26	Non-metallic mineral products	L	Property & business services
C27	Metal products	M	Government administration & defence
C281	Motor vehicles & parts	N	Education
C282	Other transport equipment	O	Health & community services
C283 – C286	Other machinery & equipment	P	Cultural & recreational services
C29	Other manufacturing	Q	Personal & other services
D	Electricity, gas & water supply	Non-ANZSIC	Unallocated manufacturing, unallocated services, unallocated other

Source: ABS (1993).

- Second, the size of industry groupings varies considerably. The smallest of the 27 industry groupings is *textiles, clothing, footwear & leather*, which generates around \$3.5 billion in gross value added (GVA). The largest grouping, *property & business services*, generates around \$60 billion in GVA. The average across the 27 industry groupings was around \$20 billion in 1999-2000. Section 4 discusses the incidence of budgetary assistance both in dollar terms and as a percentage of industry GVA.
- Third, the ANZSIC system, upon which the Commission's industry grouping system is based, is becoming dated in some areas. For example, the development of the information technology industry has occasionally presented difficulties in allocating this type of funding. Various activities in this industry may belong to the *other machinery & equipment manufacturing, communication services* or *property & business services* industry grouping. At times, it is difficult to determine which industry grouping hosts the benefiting firms, particularly when the activities of certain professions or firms cut across industry classifications.

Allocation methodology

The initial benefiting industry concept

The Commission applies an *initial benefiting industry* (IBI) methodology to guide the process of allocation. The IBI method is used to allocate budgetary assistance to the industry grouping hosting the firm that initially benefits from the assistance. In the case where budgetary assistance benefits firms indirectly via an intermediate organisation, such as CSIRO or Austrade, the beneficiaries are identified as the firms that utilise these services, not the organisations that deliver the budgetary assistance.

The IBI approach does not attempt to identify all of the beneficiaries of the various forms of budgetary assistance. It may be that industry groupings not identified as initial beneficiaries benefit subsequently from assistance targeted to another group. For example, budgetary assistance to the Australian film industry is allocated to *cultural & recreational services*. However, the benefits of this assistance could extend beyond this particular industry grouping, say to *construction services* in the case where film production requires these services. Further, an increase in demand for construction services may increase demand in the *wood & paper products* industry grouping.

To identify all of the beneficiaries of budgetary assistance would require working through the production chain to find how industry groupings are likely to be affected by the initial assistance. The Commission uses general equilibrium models to do this in certain instances, such as when conducting inquiries into specific industries.

However, for the purposes of annual reporting, identifying the incidence of assistance by the initial benefiting industry or industries gives a reasonable indication of the effects of budgetary assistance measures on the allocation of economic resources amongst different industries and uses.

Allocating program funding to industry groupings

For 1999-2000, the Commission identified 100 general programs as budgetary assistance. The 20 largest programs by funding accounted for around 80 per cent of the \$3.7 billion total budgetary assistance. Table B.2 below lists these programs.

Information to allocate funding for all programs was sought from budget statements, legislation, ministerial statements and various departmental websites. Further, consultations with the organisations responsible for the largest non-targeted

appropriations including the CSIRO, Austrade, AusIndustry, the Australian Customs Service and the Australian Tourist Commission resolved a number of issues. The Commission also consulted with the ATO on tax expenditure measures including the R&D tax concession, the development allowance and the infrastructure bonds concession.

Most programs are targeted at a particular industry, so allocating the assistance is straightforward. For example, the TCF import credits scheme funding is allocated to the *textiles, clothing, footwear & leather* industry grouping, and the Australian Film Finance Corporation & Film Australia funding is allocated to the *cultural & recreational services* industry grouping. Of the top 20 programs, 7 are targeted to a *particular* industry grouping. Of the remaining programs, almost all are targeted towards a particular industry, mainly within the *agriculture, forestry, fishing & hunting* industry grouping.

Allocating funding for non-targeted programs, where there is more than one IBI, is not as straightforward as in the targeted case. For example, CSIRO undertakes R&D across several industry groupings. The information that CSIRO and similar organisations provide to the Commission is generally not in the industry grouping format that the Commission uses. In these cases, a concordance is developed between the information provided and the industry grouping classification system. The accuracy of the concordance depends on the level of disaggregation, and clarity, of the information provided. Inevitably, this process requires judgement and introduces the potential for imprecision in the estimates. (The Commission's approach to allocating CSIRO's research funding is provided, as an example, in the annex to this appendix.)

In a small number of cases, the Commission has ascertained that a significant majority of funding initially benefits one industry but has no reliable information to apportion funding between this industry and the other IBIs. In these cases, the Commission has allocated the entire amount of funding to the major IBI. For example, Commonwealth funding for Meat & Livestock Australia (MLA) supports R&D mainly targeted to the *agriculture, forestry, fishing & hunting* industry grouping. However, MLA has indicated that some of its R&D (probably less than 10 per cent) may benefit food processors, which belong to the *food, beverages & tobacco* industry grouping. However, MLA cannot provide actual data on this allocation. In this case, the Commission has allocated all funding for MLA to the *agriculture, forestry, fishing & hunting* industry grouping.

Finally, in some cases, particularly where a new scheme has been introduced, the Commission has had insufficient information to make any allocation. Funding for these schemes has been recorded in an 'unallocated' category. The three unallocated

categories accounted for around 12 per cent of total budgetary assistance in 1999-2000.¹

Table B.2 Budgetary assistance programs, 1999-2000

<i>Program</i>	<i>Initial benefiting industry</i>	<i>\$m</i>
R&D tax concession	Not targeted	510
CSIRO	Not targeted	381
PMV Export Facilitation scheme	Motor vehicles & parts	347
Development allowance	Not targeted	175
R&D Start program	Not targeted	171
Austrade export promotion	Not targeted	150
Austrade – Export Market Development Grants scheme	Not targeted	145
Cooperative Research Centres	Not targeted	115
Income tax averaging for primary producers	Agriculture, forestry, fishing & hunting	95
Australian Tourist Commission	Not targeted	90
Duty Drawback	Not targeted	87
Infrastructure bonds	Not targeted	85
TCF Import Credit Scheme	Textile, clothing, footwear & leather	83
Pharmaceutical factor-f scheme	Petroleum, coal, chemical & associated products	79
Capital gains tax exemptions for small business	Not targeted	75
Infrastructure Borrowings Tax Offset scheme	Transport & storage	75
Tasmanian Freight Equalisation Scheme	Not targeted	60
Tariff Export Concession (TEXCO)	Not targeted	58
Australian Film Finance Corporation & Film Australia	Cultural & recreational services	48
Regional Assistance Program	Agriculture, forestry, fishing & hunting	42
Sub Total (for top 20 programs)		2 871
Other Programs		815
Total		3 686

Source: PC estimates.

¹ The amount of budgetary assistance placed in the ‘unallocated’ categories is 8 per cent for 1998-99 and 7 per cent for 1997-98, as a result of more information being available.

Annex Allocating CSIRO research funding

CSIRO's primary function is to undertake scientific research to assist Australian industry (CSIRO 2000). In many cases, CSIRO collaborates with industry partners and its research funding can be allocated among the industries involved.

CSIRO's own classification of its research effort is based on its total expenditure, which includes appropriation funding and external revenue sources such as industry funding. CSIRO does not attempt to distinguish between the two sources of funding below the aggregate level.

However, for the purposes of allocating budgetary assistance, the Commission needs to identify the budget appropriation portion of CSIRO's total expenditure at a disaggregated level. In previous years, CSIRO has provided the Commission with its *planned* appropriation expenditure. The Commission has continued to use this data to determine budgetary assistance delivered through CSIRO. To aid the allocation of this assistance at the more detailed industry grouping level, the Commission has supplemented this information with CSIRO's total expenditure data, which is broken down to a more detailed level (although not by ANZSIC classification²).

The Commission concurs the information provided by CSIRO to its own industry grouping classification system (see table B.3). The data provided by CSIRO is in 23 sectors, of which six sectors are allocated to primary production and five sectors are not allocated as they do not fall within the Commission's definition of budgetary assistance.³ In two cases, the Commission has concurred a CSIRO sector between industry groupings based on additional information (see table B.3).

The Commission has used the concordance to allocate the CSIRO appropriation (table B.4).

² CSIRO has also provided a concordance between the way it classifies its research effort across the economy and the ANZSIC classification system and this has allowed the Commission to provide a better indication of where CSIRO directs its research effort by industry grouping.

³ Some CSIRO research may not *initially* benefit industry or, in the case of general research, may not benefit a particular industry grouping or groupings. Such research does not fall within the Commission's definition of assistance and hence is excluded from the estimates. For example, the Commission has excluded the funding allocated by CSIRO to its *Radio Astronomy* sector, which includes research into extragalactic phenomena and multibeam pulsar surveys. In 1999-2000, CSIRO received around \$468 million in appropriations, of which the Commission has identified \$381 million as budgetary assistance. That said, it should be noted that, with additional information, it may be possible to identify which *parts* of CSIRO research funding in particular sectors fall within the definition of assistance. For example, within the *Climate & Atmosphere* sector, certain research may initially and selectively benefit primary production. However, the Commission has been unable to obtain expenditure data on individual research projects. Therefore, this sector's funding has not been classified as budgetary assistance.

Table B.3 Concordance between CSIRO sectors and the Commission's industry groupings

<i>CSIRO sector</i>	<i>Industry grouping</i>	<i>CSIRO sector</i>	<i>Industry grouping</i>
Field Crops	Agriculture, forestry, fishing & hunting	Measurement standards	Not allocated
Food processing	Food, beverages & tobacco	Radio astronomy	Not allocated
Forestry, wood & paper	Agriculture, forestry, fishing & hunting/ Wood & paper products	Services	Unallocated services
Horticulture	Agriculture, forestry, fishing & hunting	Chemicals & plastics	Petroleum, coal, chemical & associated products
Meat, dairy & aquaculture	Agriculture, forestry, fishing & hunting	Integrated manufactured products ^a	Unallocated manufacturing
Wool & textiles	Agriculture, forestry, fishing & hunting/ Textiles, clothing, footwear & leather	Pharmaceuticals & human health	Petroleum, coal, chemical & associated products
Biodiversity	Not allocated	Coal & energy	Mining
Climate & atmosphere	Not allocated	Mineral exploration & mining	Mining
Land & water	Not allocated	Mineral processing & metal production	Metal product manufacturing
Marine	Agriculture, forestry, fishing & hunting	Petroleum	Mining
IT & telecommunications	Communication services	Corporate support	Corporate support is allocated across all sectors
Built environment	Construction		

^a A large part of this sector's funding, by project, concurs with the *other machinery & equipment* industry grouping. However some projects are targeted towards the *motor vehicles & parts* and *other transport equipment* industry groupings. Further, funding information on particular projects is not available. The Commission has therefore allocated this sector's funding to the *unallocated manufacturing* industry grouping.

Source: CSIRO (2000); PC allocation.

Table B.4 Allocation of CSIRO budget appropriation, by initial benefiting industry

<i>Initial benefiting industry</i>	<i>1997-98</i>	<i>1998-99</i>	<i>1999-00</i>	<i>2000-01^a</i>
Agriculture, forestry, fishing & hunting	127.9	133.0	140.7	114.3
Mining	45.3	46.8	47.3	52.7
Food, beverages & tobacco	17.2	17.8	18.4	19.9
Textile, clothing, footwear & leather	14.9	15.5	10.7	30.6
Wood & paper products	4.3	4.5	4.6	4.5
Petroleum, coal, chemical etc	37.7	39.0	40.4	40.8
Metal product manufacturing	25.4	27.3	28.0	28.3
Unallocated manufacturing	34.2	33.4	34.8	35.2
Construction	24.1	25.0	25.3	22.1
Communication services	21.6	21.3	21.3	20.9
Other	8.7	8.6	9.0	9.8
TOTAL	361.2	372.3	380.5	379.2

^a PC estimates based on 1999-2000 data.

Sources: CSIRO (2000); unpublished CSIRO expenditure data.