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Trade and Assistance Review 2022-23

Annual report series

The Productivity Commission acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, waters and community. We pay our respects to their Cultures, Country and Elders past and present.

The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au).

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Foreword

This is the 50th edition of the Trade and Assistance Review (TAR), the Commission's annual publication that tracks the nature and extent of industry assistance provided by the Australian government each year.

It is a natural point to look back and to reflect.

Over the 50 years of the TAR the Australian economy has undergone enormous change.

The first TAR was first published amidst the growth and productivity challenges of an economy that was protected from international competition by a system of import quotas, tariffs, and industry assistance. Over the subsequent fifty years of the TAR, a high income, globally integrated, services-based economy has emerged in its place.

The gains in Australian living standards enjoyed over the period have been due in no small part to Australian businesses being able to take advantage of the liberalisation of trade and investment policy settings. In so doing they have reallocated Australia's scarce resources to the production of those goods and services that we are best placed to produce, and traded them for those that other countries are best placed to produce.

Quotas and tariffs are now largely a thing of the past in Australia, although there remains work to do. It has been a multi-generational, and multi-partisan project, with successive governments of different political persuasions progressively dismantling Australia's trade and investment barriers.

The TAR has systematically recorded each step.

While the payoffs to Australians have been significant and widespread, they are commonly overlooked. The benefits can be seen in the expanding range of goods and services available to us; in their lower prices and higher quality; in the higher wages that we have to purchase them; and in the increased reliability with which they are made available.

Being connected to a global economy around 60 times larger than our own means that when one source of goods and services is disrupted, others are readily available to replace them.

Greater economic reliance on our neighbours may have also contributed to the reduction in broad-based international conflict witnessed over the period - by creating stronger personal and commercial links between nations, by creating greater costs to conflict for each nation, and by allowing trade sanctions to act as an alternative to armed conflict when disagreements emerge.

These are gains that are worth celebrating and building upon.

The 50th TAR is released at a time when the Australian Government has moved to eliminate 457 nuisance tariffs, a welcome development that continues the liberalisation project of the last few decades. But there are new challenges, with a return to trade protection and industry policy among the major economies. Some of the trends in industry policy have also begun to appear in small open economies like Australia.

There are risks in this approach. While the current suite of industry policies has been aimed at a range of policy goals – indirectly pricing externalities, building supply chain resilience, providing for structural adjustment for areas particularly exposed to the net zero transition, positioning countries to benefit from the net zero transition, and enabling the building of industries in which individual countries might have reason to expect to enjoy an enduring comparative advantage – if poorly designed, they could act as a form of trade-

protectionism. After all, a $100 subsidy for domestic producers can have the same protectionist effect as a $100 tariff imposed on their foreign competitors.

Because alternative policies can achieve many of the goals of industry policy, it is important that the goals of each policy be well articulated and subject to rigorous, publicly available cost-benefit analysis. It is also vital for off-ramps to be incorporated into policy design, to allow a timely exit if policies fail to achieve their stated goals.

This is as much a challenge for future editions of the TAR as it is for Australian policy makers.

What trends will shape the next 50 editions of TAR? That will be revealed in time. But irrespective of the direction that future policy debates take, the Commission's strong conviction is that sunlight remains the best disinfectant. By providing transparency around policy settings, future editions of the TAR will continue to help policy makers make informed policy decisions and help secure a more prosperous future for all Australians.

Alex Robson

Deputy Chair, Productivity Commission

July 2024

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Acknowledgments

The Commission acknowledges and thanks the staff who worked on this year's TAR, including Patrick Jomini, Benjamin Mitra-Kahn, Cameron Eren, Jeremy Kamil, Jared Claxton, Ben Cochrane, Colin Burns, Umme Salma, Eric Liu, and Diego Machillanda.

Executive Summary

Industry assistance provided by the Commonwealth fell to $15 billion in 2022-23, from $15.2 billion in 2021-22. This reduction was primarily driven by phasing out some of the remaining COVID-19 stimulus measures, rather than a structural decline in the level of industry assistance provided in Australia (chapter 1).

Recent policy announcements mean that industry assistance is likely to trend upwards over the years ahead, particularly as assistance provided under the Future Made in Australia (FMIA) program, currently projected to cost $22.7 billion over ten years, begins to flow to industry. Two of the largest components of the FMIA, production tax credits for eligible renewable hydrogen and critical minerals projects are scheduled to become available from 2027-28, and the funding allocated to the broader range of policy support might take some time to begin flowing to industry. Because the TAR is backward looking, these programs are only likely to appear in the TAR estimates over coming years.

The FMIA policy program, and the range of industry policies that preceded it, are consistent with the growth in the importance of behind-the-border forms of industry assistance in Australia, as at-the-border forms of industry assistance like quotas and tariffs have been progressively dismantled. Behind-the-border industry assistance can take many forms, beyond the budgetary outlay and tax concession-based assistance reported each year in the TAR. This makes it particularly important to shed light on them through the TAR and related publications.

TAR 2021–22 began the process of reviewing the range of alternative forms of industry assistance that exist in Australia by exploring concessional finance. This year's TAR continues that process by exploring local content rules and domestic price controls. It also explores the conditions under which any future Australian carbon border adjustment mechanism might act more as a form of trade protection, than a mechanism to prevent carbon leakage (chapter 2).

The move towards industry policy in Australia is part of a broader global trend. Over 2023 around 1800 trade distorting industry policy measures were implemented across both advanced and emerging economies. This potentially reflects the growing normalisation of industry policy in the minds of policy makers in the aftermath of the US Inflation Reduction Act, the US CHIPS and Science Act in 2022, and their EU Net Zero Industry Act, Critical Raw Materials Act, and Chips Act counterparts from 2023 (chapter 3).

The stated objectives of these policy settings are broad-ranging – building supply chain resilience, advancing decarbonisation, positioning countries to benefit from the net zero transition, providing for structural adjustment for regions exposed to that transition, and enabling the building of industries in which individual countries might have reason to expect to enjoy an enduring comparative advantage. Because these policy goals might be achieved through a range of interventions, living standards will be best supported by identifying which policies are likely to achieve these goals at the lowest cost.

Industry policy can also act as an indirect form of trade protection, however, and reduce living standards by redirecting resources towards the production of goods and services that individual countries are not best placed to produce; goods and services in which individual countries do not enjoy a comparative advantage. Reviewing empirical techniques commonly used to identify comparative advantage reveals the difficulties

that can be faced when attempting to identify in which sectors a country is likely to enjoy an enduring comparative advantage. This is even more so when attempting to identify future comparative advantage.

Australia has a strong interest in ensuring that the production of goods and services is allocated globally on the basis of which economy is best placed to produce them. This is true from both an income and consumption perspective. Focusing on the production of those goods and services that we are best placed to produce and trading them for those that other countries are best placed to produce means that we have access to a wider range of goods and services, at a lower cost, than would otherwise be the case. It also enables higher incomes with which to purchase them.

It is also true from the perspective of being a net investor in the global economy. Australia now has the fifth largest funds under management position in the world in dollar terms, principally as a result of our superannuation system. Australia has also held a net asset position in equity since 2013 – Australians own more of the world's shares than overseas investors own Australian shares. This net asset position grew from 9.7% to 14.1% of GDP over 2023. As a growing holder of global assets, Australia has an interest in promoting the efficient allocation of global production.

For similar reasons, Australia also has an interest in promoting the free flow of capital internationally. First, because foreign direct investment is an important source of knowledge and technology transfer into Australia, and second, because our foreign investment policy settings may affect those of other countries. Perhaps as a direct response, but more likely through the inadvertent normalisation of these settings in the minds of policymakers globally.

Increased screening of foreign direct investment applications for key sectors may help to reduce national security concerns. However, application fees are applicable to all foreign investment applications in Australia, and risk acting as a tax on foreign investment into Australia. These application fees doubled over 2022-23, on top of the increases in fees reported over previous years (chapter 4).

1. Estimates of assistance and costs

Key points

- **Budgetary assistance decreased to $15.0 billion (nominal) in 2022–23, down from $15.2 billion in 2021-22.**
  - New measures contributed an additional $165 million to the assistance estimates; existing measures grew by $528 million while about $895 million in funding was discontinued – largely due to COVID-19 related assistance subsiding. HomeBuilder makes up almost all remaining COVID-19 budgetary assistance.
  - Budgetary outlays contributed $7.1 billion (48%), while tax concessions contributed $7.8 billion (52%).
- **A small number of large, long-standing programs dominate budgetary assistance.**
  - The five largest measures made up 46% of budgetary assistance in 2022–23 and the largest ten made up 68% of assistance.
  - Large measures were generally long-standing programs, with the top five having a median age of 21 years old, compared to the median program age of eight years.
  - Demand driven, small business tax concessions were among the largest programs in the budgetary assistance estimates and saw spending rise sharply in 2022–23.
- **Primary production received the most assistance in relative terms.**
  - Primary production received approximately five times more in budgetary assistance relative to its share of the Australian economy.
  - The services sector received the most budgetary assistance in absolute terms, however it received less assistance relative to its share of the Australian economy.
- **The Australian Government is making the largest unilateral tariff reform in two decades by abolishing 457 tariffs from 2024–25 onwards.**
  - The selected tariffs were estimated to cost businesses between $43 million and $128 million in administrative and compliance costs.
  - Overall, in 2022–23 the tariff regime is estimated to have imposed compliance costs of between $1.3 billion and $4.0 billion, while collecting $2.1 billion in revenue.
- **The Commission estimates the government provided between $211.4 million and $356.0 million in assistance to industry through concessional finance in 2022–23.**

1.1 Introduction

The Australian Government assists industries and businesses through a broad range of programs, regulations and policies. Following s 10 of the *Productivity Commission Act 1998* (Cth), the Productivity Commission reports annually on the level of industry assistance provided each year by the Australian government through the Trade and Assistance Review (TAR). The Act defines government assistance to industry as:

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

Every year for the past 50 years, the TAR has fulfilled these functions. The TAR publishes estimates of selective assistance provided to industry. The types of assistance may change over time, depending on the tools government uses to achieve its objectives and the data available to report on different types of assistance. Some programs last for a year and are discontinued after their objectives are fulfilled, some programs last a number of years if government deems assistance is required over a longer time span, and other programs provide assistance on an ongoing basis.

While government assistance benefits the businesses that receive it, there are costs to others. For example, budgetary outlays and tax concessions must be funded through increased taxes, debt or forgone government expenditure elsewhere. Tariffs increase the prices of imports and locally-produced substitutes, increasing costs for consumers. They also impose compliance costs on businesses, which affects business input users. In addition to explicit costs of assistance, regulation can provide implicit assistance with implications for costs and prices. For example, domestic reservation policies implicitly increase costs to providers who must sell a portion of their products into the domestic market. In assessing government assistance, the benefits of the assistance must be weighed against their potential costs.

Further, the costs of services provided by government agencies at concessional prices and other government measures that create favourable business conditions must also be funded. It can be difficult to quantify this type of assistance (although last year's TAR provided a framework to do so), and the use of these types of measures is increasing.

The effect of assistance on community wellbeing and the economy overall depends on how well programs are designed. Where assistance is selective (that is, only available to some types of businesses, industries or locations), there are implications for resource allocation in the economy. Some assistance aims to address market failures by promoting activities that markets can under-provide, such as research and development (R&D). Other assistance aims to promote social, environmental or national security objectives.

Regardless of the net effect of assistance, reporting the nature and magnitude of selective measures that benefit industry provides a basis upon which to monitor and assess potential distortions. This transparency also provides a starting point to assess whether taxpayer dollars are being well spent.

This year's TAR includes estimates of budgetary assistance, broken down into budgetary outlays (predominantly subsidies and grants) and tax concessions worth about $15.0 billion in section 1.2. It also includes the cost of complying with the tariff system, estimated as between $1.3 billion and $4.0 billion in

section 1.3,[1] and estimates of the concessional finance provided by government to the value of between $211.4 million and $356.0 million in section 1.4.

This first chapter should be read in conjunction with both the *Methodological annex* – which includes further detail on how the assistance estimates are produced and what types of assistance measures are in scope – and the detailed tables of estimates (appendix B).

1.2 A look at budgetary assistance

The TAR breaks down estimated budgetary assistance by different types of spending, and different benefiting industries, and illustrates how budgetary assistance has changed over time. Doing so sheds light on Australian Government priorities and policy settings. The TAR can also inform discussions about the benefits and costs of programs or measures, and the role of government assistance more generally.

Budgetary assistance is included in the Commission's assistance estimates when it provides a benefit to some businesses and not others. Differential treatment can arise across a range of dimensions, including: business size, industry or sector, or location of a business. The inclusion of a particular budgetary measure in the Commission's estimates does not mean that it is undesirable. The TAR is a repository of government assistance, rather than an evaluation of each program. It provides some indication of how particular industries and sectors benefit from government assistance, relative to others.

The Commission divides budgetary assistance in different ways, to examine changes in the composition and nature of assistance. These include two categories of assistance (budgetary outlays and tax concessions), whether the spending is related to the COVID-19 pandemic or not, the 'type' of spending, and the industry the assistance is allocated towards. These breakdowns give some insight into the evolving policy objectives associated with budgetary assistance. Box 1.1 provides greater detail on each of these classifications.

[1] Declining tariff assistance has meant that tariffs are less distortionary than they have been in the past and do not capture the full extent of the assistance provided to industry. Therefore, since 2021-22, the TAR focuses on estimates of the *cost of complying with the tariff system*, rather than estimating the assistance provided by import tariffs. Changing the focus from tariff assistance to the administrative and compliance costs of tariffs for business and consumers adds to the transparency of tariffs and supports policymakers to undertake further reforms to Australia's tariff system.

Box 1.1 – Components of budgetary assistance

Two categories of assistance

- Budgetary outlays – program funding provided by the Australian Government that assists businesses. Budgetary outlays most commonly take the form of grants, subsidies, loans, guarantees or funding for organisations to perform commercially beneficial services. Outlays may provide financial assistance directly to businesses or deliver assistance indirectly via organisations such as the rural R&D corporations[2] and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).
- Tax concessions – assistance by way of differential tax treatment that provides benefits to some businesses but not to others.

COVID-19 spending

- COVID-19 spending – The Australian Government launched a number of programs in response to the COVID-19 pandemic. Many of these were considered to be 'economy-wide' measures, in that they did not offer any one business or sector preferential treatment. However, some industries were more acutely impacted by the pandemic than others. In response, the Australian Government implemented a wide range of additional measures that provided support to these industries. These measures are classified as 'COVID-19 spending' in the TAR estimates.
- Non-COVID-19 spending – Any program that does not identify the COVID-19 pandemic as a reason for its assistance is considered to be non-COVID-19 spending.

Type of spending

- Industry-specific – encourages production in particular industries.
- Small business – restricts eligibility to small businesses (variously defined across programs).
- R&D – supports business research and development activities.
- Export – supports exports.
- General investment – encourages certain types of investment, such as development allowances.
- Regional/structural adjustment – encourages production in particular locations.
- Sector-specific – encourages production in a specific sector.
- Other – schemes that do not fall within any of the above categories.

Initial benefiting industry

Assistance from each measure is allocated to an Australian and New Zealand Standard Industrial Classification (ANZSIC) 2-digit industry code. Spending from one program can be allocated across multiple industries. Where possible, the Commission allocates budgetary assistance to the industry or sector that benefits from it. This is undertaken on an 'initial benefiting industry' basis – that is, assistance is allocated to the industry that 'hosts' the business or businesses that initially benefits from a program or

[2] Rural research and development (R&D) corporations are partly funded by some of the revenue raised by industry levies. When a proportion of industry levy revenue is set aside for funding sectoral R&D activities, it is generally matched by the Australian government, forming a part of the budgetary assistance measured by the TAR each year. Following the December 2023 publication of *Towards Levyathan: Industry Levies in Australia*, the Commission now publishes an annual stocktake of industry levies in Australia in the TAR (Attachment C). Only some industry levies included in the stocktake attract matched funding from the Australian government.

Box 1.1 – Components of budgetary assistance

measure. For some measures, such as assistance provided through rural R&D corporations and the R&D Tax Incentive, the Commission typically uses the industry allocation provided by the department or agency that oversees these measures. The *Methodological annex* that accompanies the TAR provides more information on the budgetary outlays and tax concessions that are included in the estimates of assistance and how this assistance is allocated across industries.

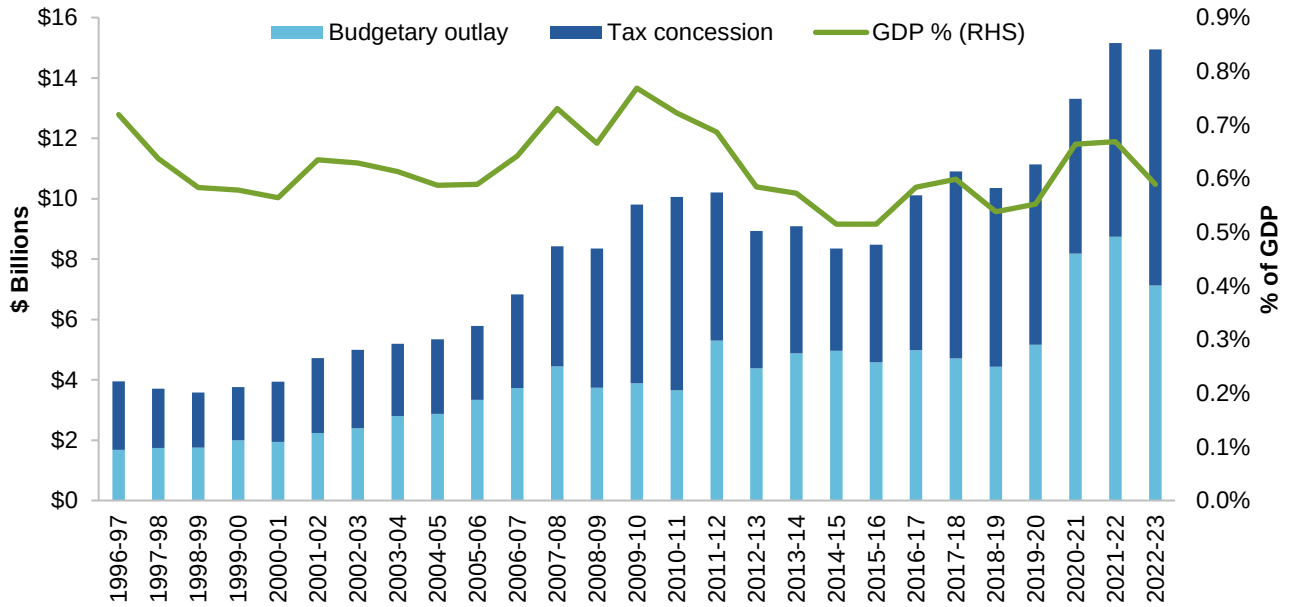
Budgetary assistance declined in 2022-23

In 2022-23, the Australian Government provided approximately $15.0 billion in budgetary assistance. In nominal terms, budgetary assistance declined slightly in 2022-23 from its peak of $15.2 billion in 2021-22 (figure 1.1), largely due to the phasing out of some of the remaining COVID-19 stimulus measures over 2022-23. Assistance also declined as a share of Gross Domestic Product (GDP), playing a smaller role in the economy.

The share of budgetary outlays had increased during the COVID-19 pandemic as they were the Government's preferred method of supporting industry through the pandemic. In 2022-23, most of the decline in assistance came from a decline in outlays, resulting in 48% of assistance coming through budgetary outlays and 52% of assistance coming from tax expenditures.

Figure 1.1 – Government assistance fell over 2022-23

Budgetary outlays and tax concessions, current dollars and % of GDP, 1996-97 to 2022-23



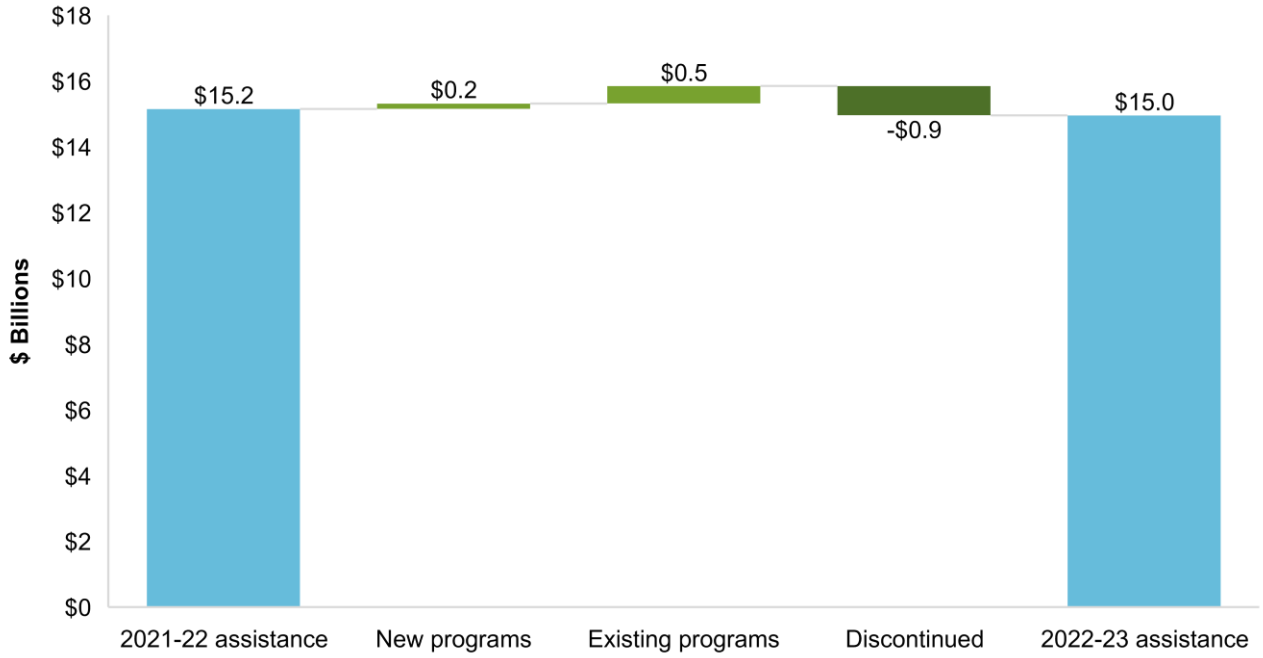
Source: Productivity Commission estimates.

In 2022-23, 16 new programs were introduced, contributing a total of $165 million to the budgetary assistance estimates. Meanwhile, assistance from existing programs grew by $528 million, representing a 3% growth rate. This was below the inflation rate of 6% (ABS 2023).[3] The cumulative impact of increases in assistance from both new and existing programs was offset by the discontinuation of 32 programs in 2022-23, which amounted to a $895 million reduction in assistance (figure 1.2).

The discontinued spending was primarily due to the expiry of measures aimed at supporting industry during the COVID-19 pandemic. In total $718 million (80%) of discontinued funding came from the phasing out of COVID-19 specific measures.

Figure 1.2 – Discontinued measures more than offset new and growing assistance

Budgetary assistance, current dollars, 2021 22 to 2022-23



Source: Productivity Commission estimates.

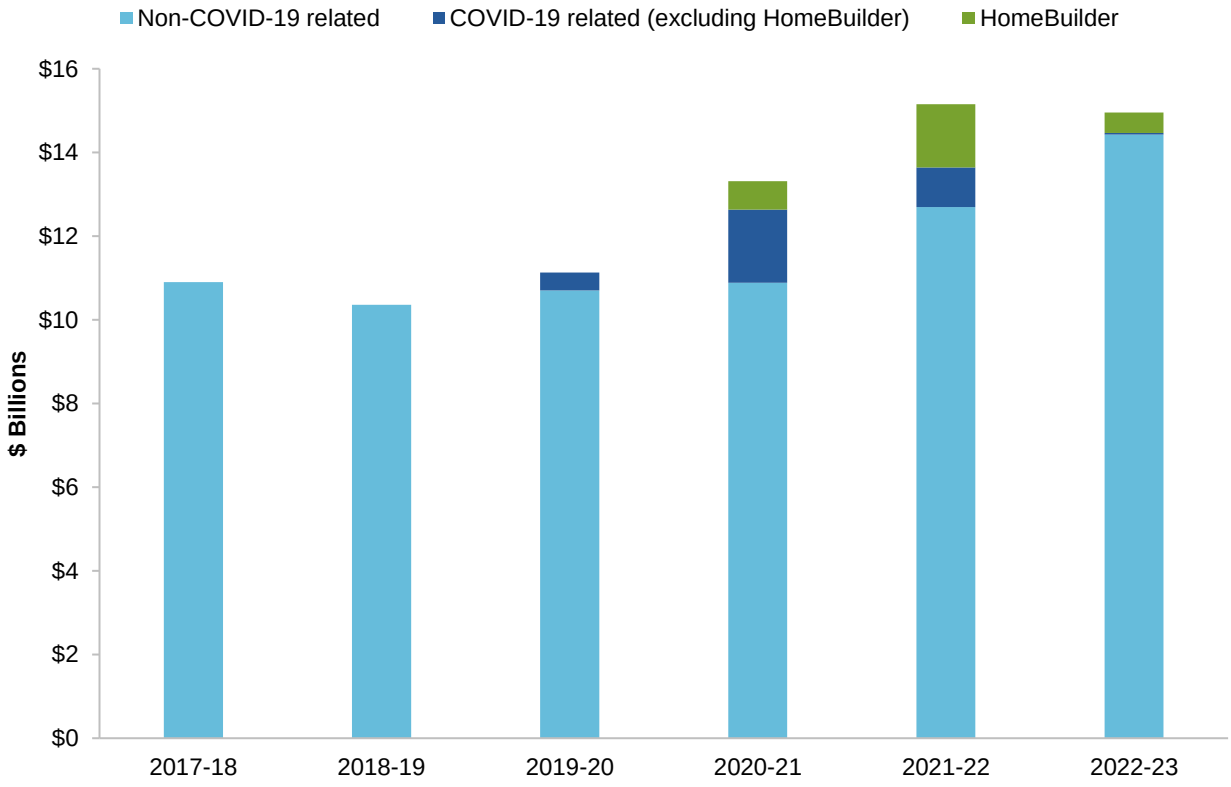
Of the six COVID-19-related measures remaining, HomeBuilder made up 92% ($482 million) of COVID-19 assistance in 2022-23. Spending on HomeBuilder declined by $1.0 billion from 2021-22 (figure 1.3).

HomeBuilder is expected to continue to provide budgetary assistance for at least two more financial years – while the program ceased accepting new applications in April 2021, existing applicants have until 30 June 2025 to complete submissions (Collins 2023). A total of $2.7 billion has already been spent on the program, after originally being forecast by Treasury to cost $680 million (Commonwealth of Australia 2020, p. 276). Other remaining COVID-19 measures made little impact on assistance estimates in 2022-23 and are expected to be discontinued by the end of 2023-24.

[3] Based on the GDP chain price index. The index measures the price change for goods and services purchased by both consumers (like the Consumer Price Index) and by businesses and government (unlike the Consumer Price Index). It also does not measure the price change for imports.

Figure 1.3 – HomeBuilder accounted for almost all remaining COVID-19--related assistance[a]

Value of budgetary assistance by type of measure, current dollars



a. COVID-19-related assistance excludes JobKeeper, Boosting Cashflow for Employers, Backing Business Investment, and the expansion of the Instant Asset Write Off.

Source: Productivity Commission estimates.

Small business assistance rose while general budgetary assistance fell

More than half of overall budgetary assistance in 2022-23 provided support for R&D activities and to small business (figure 1.4). R&D contributed the greatest share of budgetary assistance, and was broadly unchanged from 2021-22 levels. The stagnating R&D assistance was in large part due to some programs being discontinued while other programs provided less assistance, such as assistance from the Australian Renewable Energy Agency which declined by $109 million year on year.[4] A large proportion of R&D assistance came from the R&D refundable tax offset measure ($2.5 billion) and the non-refundable tax offset measure ($620 million).

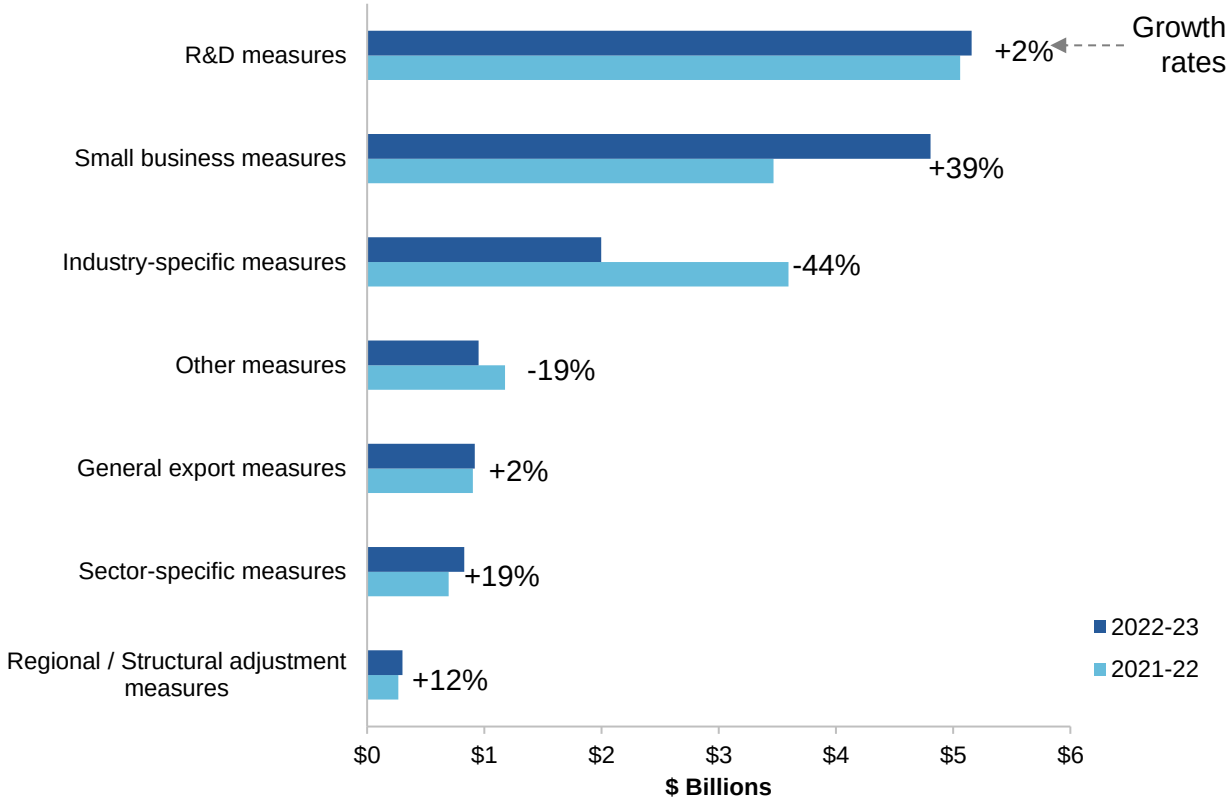
Budgetary assistance provided to small businesses grew by 39% between 2021-22 and 2022-23. The Commission identified only eight measures as 'small business measures', with the growth and the size of small business measures attributable to a few small business tax concessions.

[4] Government revenue for the agency jumped in 2021-22 and has declined from this high base to support new activities started in 2021-22. The agency reports revenue from Government when they receive the funding from the Portfolio department and not necessarily when that money is spent.

The decline in industry specific measures was mostly due to discontinued COVID-19 measures, which were almost invariably industry specific measures.

Figure 1.4 – Assistance for R&D was the largest type of budgetary assistance; while small business measures grew the most[a]

Value of budgetary assistance in current dollars by type of measure, 2021-22 and 2022-23



a. See table D.6 for definitions of types of measures. **b.** Data labels are the percent change, year on year.

Source: Productivity Commission estimates.

A few large, long-standing programs dominate

The five largest programs made up 46% of total assistance

The Commission identified 114 budgetary assistance programs, of which 46% of budgetary assistance originated from just the five largest programs, while 68% of assistance came from the top ten largest programs (figure 1.5).

The five largest programs in 2022-23 were:

- R&D Tax Incentive – refundable tax offset (16% of total assistance)
- Small business Capital Gains Tax (CGT) 15-year asset exemption (9%)
- Small business CGT 50% reduction (8%)
- CSIRO (7%)
- Small business CGT retirement exemption (6%).

The largest measure – the refundable research and development (R&D) tax offset – first entered the Commission's assistance estimates in 2012-13.[5] Since its introduction, the tax incentive has consistently made up a significant share of budgetary assistance. In 2022-23, it constituted approximately $2.5 billion, accounting for 16% of total budgetary assistance. At the time of its introduction, the stated rationale for the policy was to lower the cost of R&D, which was hoped to benefit the wider economy through improved productivity and growth (House of Representatives 2010, p. 6). The R&D Tax Incentive also aimed to redistribute support towards small and medium sized businesses which were judged to be more responsive to fiscal incentives (Commonwealth of Australia 2009, p. 2).

Three CGT concessions for small businesses make the top five budgetary assistance programs. These were introduced following a Review of Business Taxation in 1999 which found that the burden of CGT fell disproportionately on small business, discouraging savings and investment among small business owners (Ralph, Allert and Joss 1999, pp. 573–589). The concessions were introduced to increase the value of small businesses savings, improving retirement outcomes for small business owners and ensuring that a lack of capital did not constrain the growth and development of small businesses (The Board of Taxation 2019, pp. 43–44).

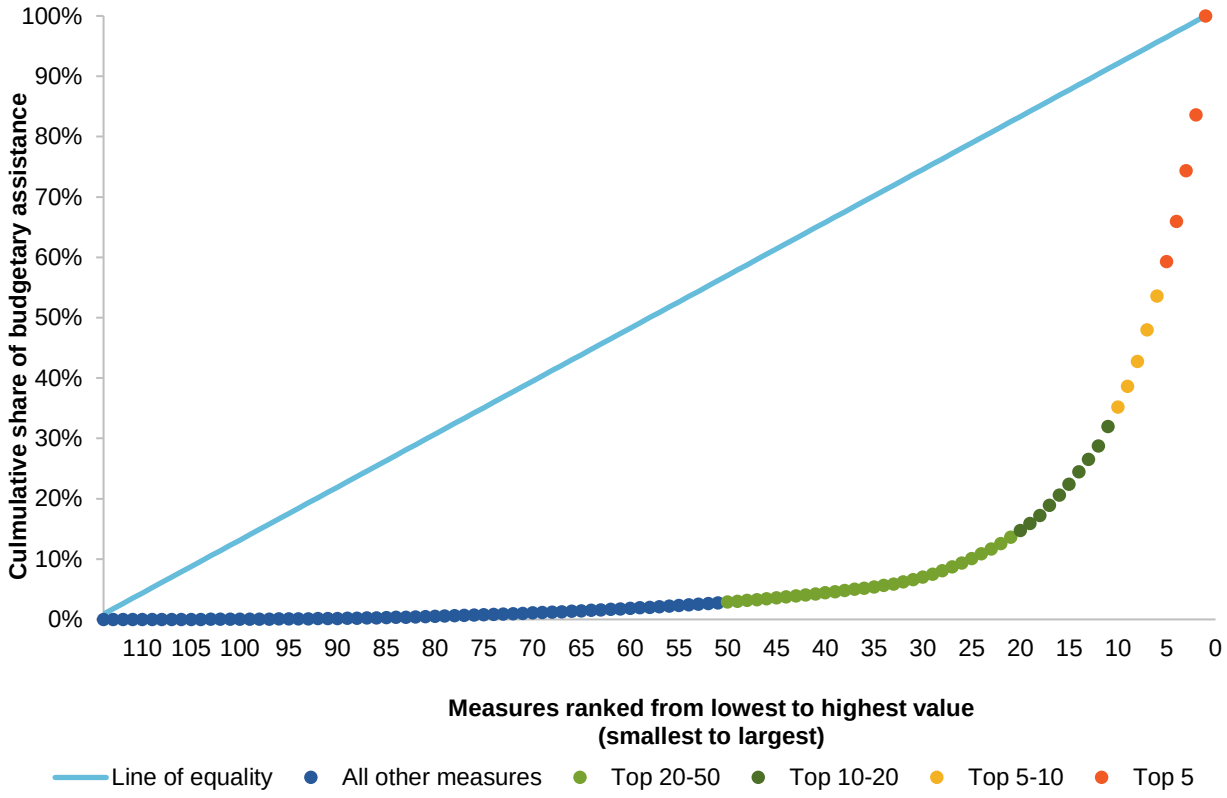
The final measure of the top five – CSIRO – has received Government funding for over 70 years, with the objective to carry out scientific research for multiple purposes. One of these purposes is to assist Australian industry.

Except for funding for the CSIRO, all of these larger programs are demand driven, and have no caps on overall expenditure, meaning spending and tax relief provided by these programs is likely to be ongoing. Figure 1.5 presents the cumulative share of budgetary assistance (on the y-axis) against the cumulative share of the population of measures (on the x-axis).

[5] The measure replaced a previous R&D tax incentive, broadening the entities eligible and streamlining the offsets available. The preceding incentive included a tax deduction of 125% of certain expenditure for Australian-owned R&D activities. The new scheme provided a 45% refundable offset for R&D activities for entities with a turnover under $20 million and a non-refundable complementary scheme for other entities (House of Representatives 2010, p. 48).

Figure 1.5 A small number of programs made up the bulk of assistance in 2022-23[a]

Curved line representing the proportion of assistance held by a share of measures.



a. The dark blue dots tell us the bottom 64 programs (those ranked 51-114 by assistance provided) provide less than 5% of all assistance. If every program was allocated equal value, the dotted curve would follow the 'line of equality' – the blue line. The gap between the line and the curve illustrates how a few measures dominate budgetary assistance measures.

Source: Commission estimates.

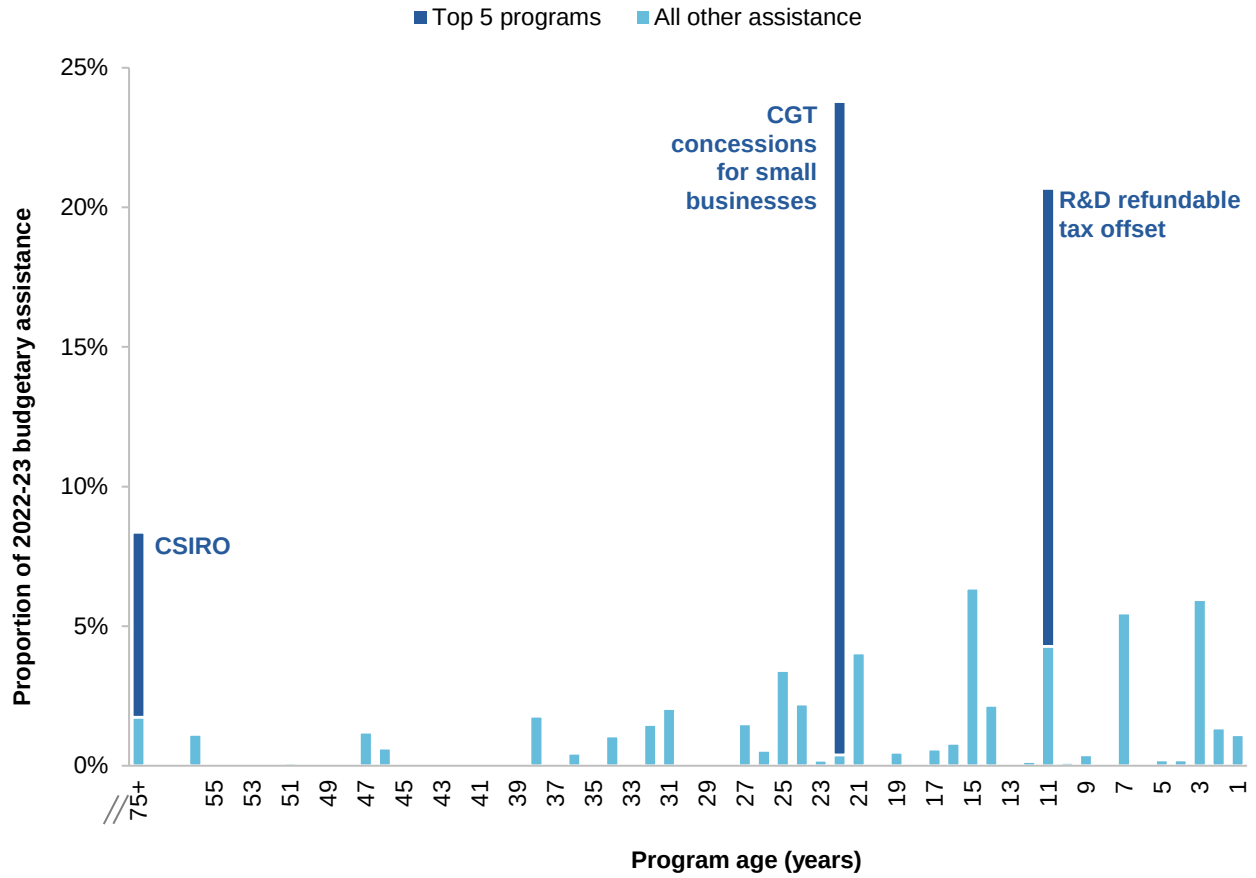
Larger programs are generally long-standing programs

One of the key features of larger budgetary assistance programs is that they tend to have been in place for an extended period of time. For example, a majority of the $15.0 billion in assistance in 2022-23 was allocated to programs that were over 20 years old ($8.1 billion or 54%). Only about $2.2 billion or 15% went to programs that were ten years old or less, indicating that 2022-23 budgetary assistance was primarily due to a subset of continuing programs that were introduced some time ago (figure 1.6).

The oldest programs – those introduced before 2000 – are predominantly R&D measures, intended to support research and development activities that benefit the broader economy. A full account of the key programs released over time is included in box 1.2.

Figure 1.6 Most budgetary assistance comes from long-standing programs

Proportion of 2022-23 budgetary assistance spending by program start period



Source: Commission estimates.

The top five programs by spending in 2022-23 had a median age of 21 years. In comparison, all measures in the 2022-23 budgetary assistance estimates had a median age of eight years (table 1.1). Historically, budgetary assistance measures recorded in the TAR have had a median lifespan of only three years before being discontinued. In other words, most budgetary assistance measures have typically been short lived, but larger measures have tended to be more durable.

Table 1.1 Large programs tend to be older

Median age of budgetary assistance measures in 2022-23 ranking by size

Ranking by value	Median age
Top 5	21
Top 6-10	14
Top 11-20	26
Top 21-50	15
Top 51-114	3
All 114 measures	8

Source: Commission estimates.

Box 1.2 – Key ongoing government measures

Before 2000 …

R&D measures that were introduced before 2000 comprise a large share of 2022-23 assistance. In addition to the CSIRO, these include funding for Australia's Rural Research and Development Corporations ($426 million) and the Cooperative Research Centres Program ($195 million). These measures facilitate R&D co-investment between the government and industry organisations, particularly primary producers. Other large programs include general export measures such as funding for the Duty Drawback Scheme ($259 million), Austrade ($265 million), and Tourism Australia ($167 million).

The mining boom and the lead up to the Global Financial Crisis (2000–01 to 2007–08)

Programs introduced between 2000–01 and 2003–04 that remain today are dominated by the small business CGT concessions. Also introduced in this period was the Australian Screen Production Incentive, which sought to attract expenditure on large budget film productions to Australia. It is now the Australian Screen and Digital Game Production Incentive and was allocated $600 million in 2022–23.

The 2005–2008 period is notable for a lack of continuing programs. Although several programs were introduced and around two-thirds of their assistance was directed to industry-specific measures, the majority were discontinued by 2008–09.

Through the global financial crisis and the Euro debt crisis (2008–09 to 2011–12)

Programs introduced between 2009 and 2012 that remain today are dominated by the concessional rate of withholding tax for foreign residents. Introduced in 2008 to attract foreign investment, the scheme reduces the tax rate on payments from managed investment trusts to foreign investors living in countries which have an information sharing agreement with Australia. The scheme has grown substantially since its introduction and amounted to about $835 million in 2022-23, comprising around 6% of total assistance.

Recovery after the global financial crisis (2012–13 to 2018–19)

The R&D Tax Incentive dominated assistance to programs introduced between 2012–13 and 2015–16 and was introduced as an attempt to promote innovation and economic growth more generally. The R&D Tax Incentive's refundable tax offset was the largest program in 2022–23. The non-refundable tax offset – available to R&D entities with aggregated turnover of more than $20 million – amounted to another $620 million or 4% of total assistance in 2022–23. All other programs introduced between 2013–2016 came to $98 million in 2022–23.

The unincorporated small business tax discount dominated assistance to programs introduced between 2017–2020, at $780 million in 2022–23. The scheme aimed to reduce regulatory and compliance burdens by reducing the tax that unincorporated businesses with aggregated turnover of less than $5 million can pay by up to $1,000 each year. All other programs introduced between 2017–2020 came to $112 million in 2022–23.

Not all large budgetary assistance measures have endured. For most of the TAR's history, measures supporting car manufacturing were significant. Individual measures supporting the industry contributed upwards of 13% of all budgetary assistance. From 2012-13 onwards budgetary assistance to car manufacturers in Australia faded substantially, with most (but not all) schemes targeting the industry being discontinued by 2016–17 (PC 2018, p. 112).

Assistance was unevenly distributed across industries

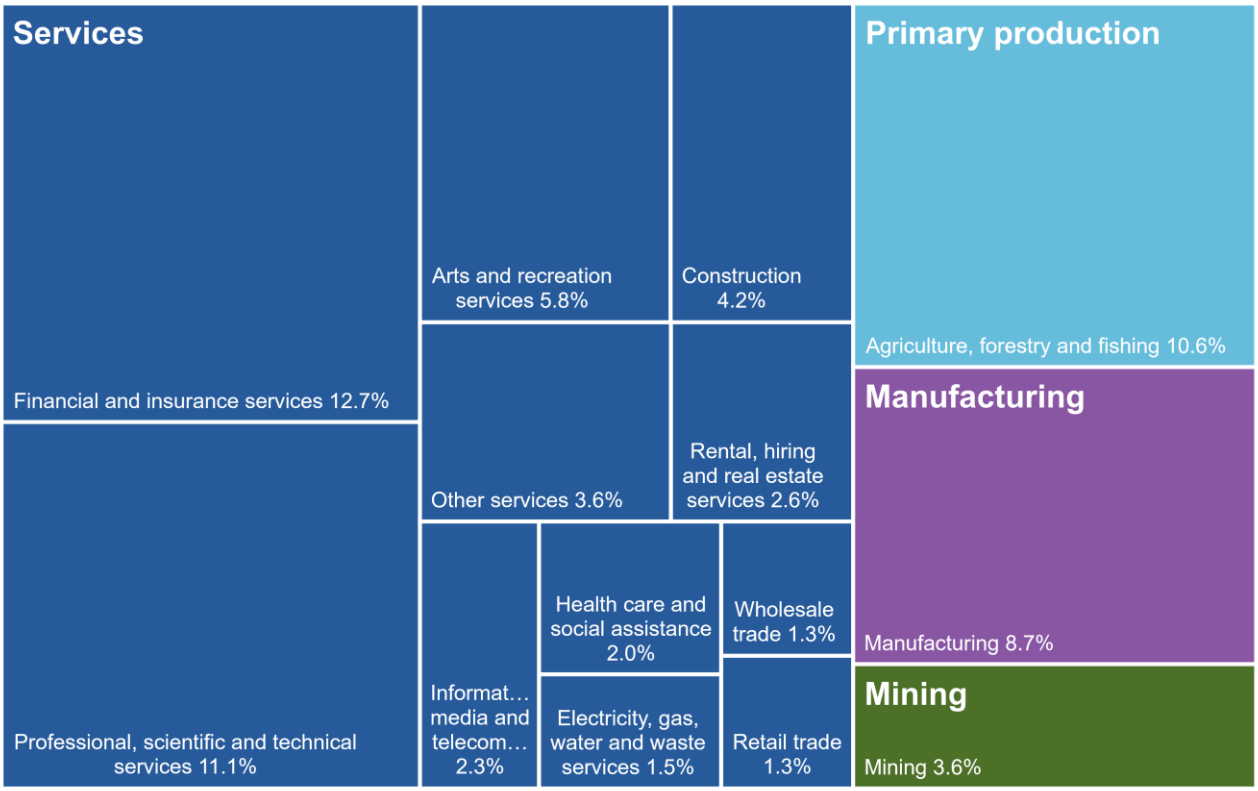
Of the $15.0 billion in budgetary assistance in 2022-23, the Commission was able to allocate $11.6 billion to specific sectors.[6] Most assistance went to the services sector ($7.4 billion or 50% of total budgetary assistance). The services sector encompasses a wide variety of activities including construction, retail trade, the arts, and professional services.

Goods sectors experienced a nominal increase in budgetary assistance in 2022–23 compared with the previous year, while services sectors experienced a nominal decrease. Construction drove the decline in assistance to the services sector, down from $1.6 billion in 2021–22 to $629 million in 2022–23. This is largely explained by the decline in spending on HomeBuilder.

Figure 1.7 shows the breakdown of budgetary assistance by sector and their corresponding Australian and New Zealand Standard Industrial Classification (ANZSIC) divisions. As a share of 2022-23 budgetary assistance, the top recipients were financial and insurance services ($1.9 billion), professional, scientific and technical services ($1.7 billion), and agriculture, forestry and fishing ($1.6 billion). More information can be found in appendix B.

Figure 1.7: Services received the most budgetary assistance[a]

Sectoral share of budgetary assistance, broken down by ANZSIC division, 2022-23



a. Other services also includes transport, postal and warehousing (1%), accommodation and food services (0.7%), administrative and support services (0.5%), education and training (0.5%), and public administration and safety (0.4%). Figure excludes $3.3 billion that cannot be allocated to any sector and $1.0 billion that can be allocated to a sector but not to a specific ANZSIC industry (e.g. unallocated services).

Source: Productivity Commission estimates.

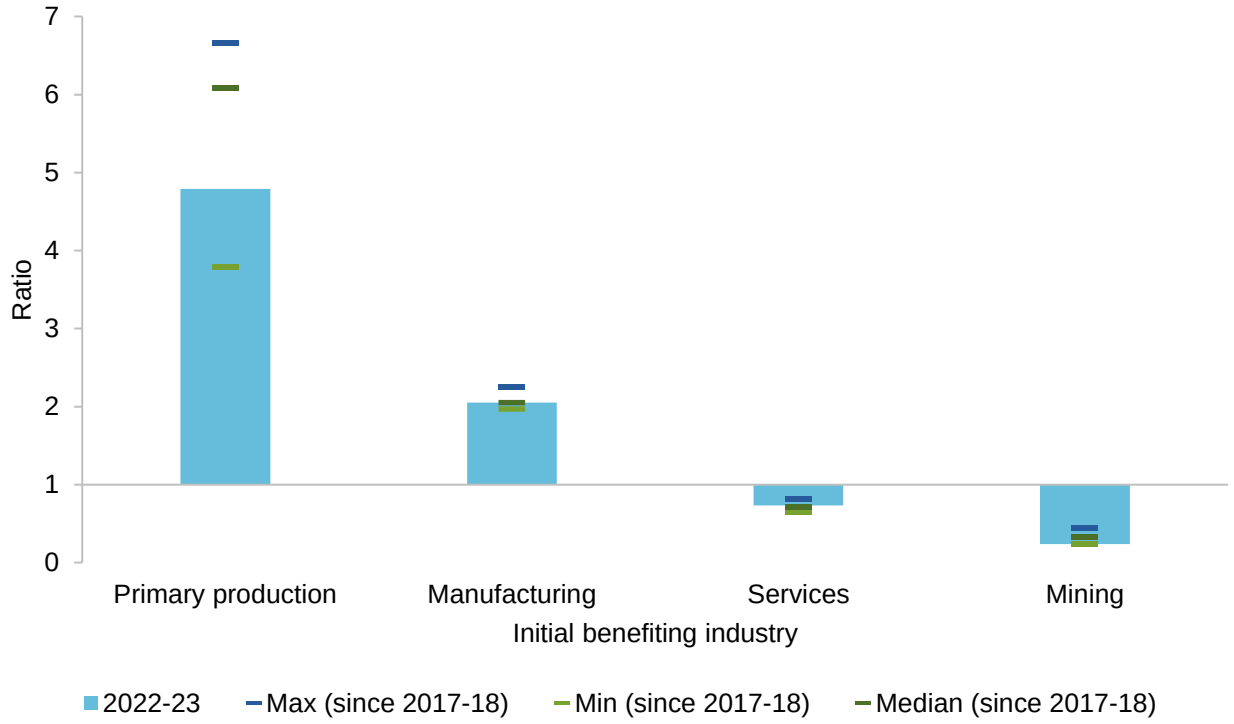
[6] The Commission allocates budgetary assistance to the industry of the businesses that benefit initially from a program or measure. Where there are no data identifying the industries that initially benefit from a particular program, the assistance given under that program is recorded as 'unallocated'.

Relative to their share of the economy, the primary production and manufacturing sectors continued to receive a disproportionate amount of budgetary assistance (figure 1.8). Services and mining received a lower share of assistance than their share of the economy, despite services receiving the greatest share of budgetary assistance in absolute terms. Assistance to primary industries has also been the most volatile in recent years, ranging from between 3.8 to 6.7 times its share of Gross Value Added (GVA), as measures such as the Farm Management Deposits Scheme act as temporary assistance for primary producers to combat years with unfavourable growing conditions.[7] The maximum and minimum assistance provided to the other industries is relatively more stable.

The share of budgetary assistance directed to primary production and manufacturing (relative to each sector's share of the economy) grew from 2021–22 to 2022–23. This ratio decreased for the services sector and remained the same for mining.

Figure 1.8 – Primary production and manufacturing attracted large shares of budgetary assistance relative to their size[a]

Ratio of sectoral shares of allocated assistance to sectoral share of industry gross value added, 2022-23



GVA = gross value added, which is the sectoral share of GDP. **a.** The ratio of share of assistance to share of GVA is the share of each sector's budgetary assistance divided by the sector's share of GVA. Some assistance cannot be allocated to an initial benefitting industry. A ratio greater than 1 indicates that the sector received a share of assistance greater than its share of GVA.

Source: Commission estimates.

[7] The Farm Management Deposits Scheme allows primary producers to make tax deductible deposits during years of good cash flow and withdraw them during years with worse cash flow (ATO 2022).

1.3 Compliance cost of tariffs

The total cost of interacting with the tariff system continued to climb in 2022-23 …

Previous versions of the TAR have tracked tariffs on Australian imports, as tariffs protect domestic industries that compete with imported products. However, since the 1970s tariffs have declined from in excess of 50% of import value for some goods (IC 1997, p. 200), to only 5% at most for almost all goods (PC 2022, p. 47). About 90% of imports enter Australia duty free, with almost all remaining imports subject to the statutory rate of 5% (PC 2022, p. 14).

Both the low tariff rate and the narrow coverage of goods it applies to means the industry protection provided by tariffs is small, and is likely to distort prices for only a small number of businesses. However, the tariff system is not without its costs – businesses still incur costs when interacting with the system.

In practice, a nominal tariff still applies to about 50% of imported goods (PC 2022, p13), and importers must apply to lower the tariff rate. Broadly, there are two ways in which lower tariff rates can be accessed – importing the good from a country with which Australia has a preferential trade agreement (PTA) or importing a product that is subject to a special concession. While these options allow businesses to access lower tariff rates, the complexity of the tariff system creates compliance costs for businesses when they apply to obtain a preference or a concession. These costs are not immediately visible to government or readily recorded by administrative systems. Moreover, businesses do not always keep records of the costs of interacting with the tariff system unless they have employed third party customs agents. But these compliance costs of tariffs raise the price of imported goods relative to domestic goods, and thereby act as a form of industry protection.

The Commission (2022) first estimated the compliance costs that businesses incurred for 2019–20 and then for 2021–22. Using the same methodology, this year's TAR estimates the nuisance cost of tariffs for 2022–23 are between $1.3 and $4.0 billion (table 1.2).

The increase in the estimated cost is due to the increase in the value of imports, with the nuisance cost assumed to be a stable percentage of the value of imports (box 1.3).

Table 1.2 – Estimated cost of the tariff system[a,b]

Year	Total value of imports	Value of imports under PTAs	Compliance costs from accessing preferences	TCS-related compliance costs	Total compliance costs (C)	Tariff revenue (R)[c]	Value of imports that attracts tariffs (V)	Measure of cost (C+R)/V
2019-20	$299b	$85b	$0.9–2.7b	At least $5m	$0.9–2.7b	$1.5b	$31b	7.8–13.5%
2021-22	$371b	$114b	$1.2–3.6b	At least $5m	$1.2–3.6 b	$1.8b	$37b	8.1–14.6%
2022-23	$419b	$127b	$1.3–4.0b	At least $5m	$1.3–4.0b	$2.1b	$43b	8.0–14.3%

TCS = tariff concessional system. **a.** Value of imports under PTAs is the value of imported goods that do not attract tariffs because they are covered by a preferential trade agreement. **b.** Compliance costs associated with accessing a preference is calculated by multiplying the value of imports that benefitted from a preference by the estimated compliance costs as a percentage of values of imports, which is 2.1% (PC 2022, p. 66). Given the uncertainty of point estimates, a range of 1.05–3.15% (50% range around 2.1%) is used to estimate compliance costs. **c.** Tariff revenue is the tariff levied on goods that are subject to a non-zero statutory rate and are not subject to a preference or where a concession has not been applied.

Source: Commission estimates.

Box 1.3 – Estimating the compliance cost of tariffs

In 2022 the Commission explored the nuisance costs of tariffs (PC 2022). As part of this research the Commission estimated the compliance costs incurred by businesses when they import goods that are subject to tariffs but for which a preferential rate or concession can be accessed.

- These compliance costs arise because businesses devote resources to accessing preferential and concessional rates of customs duty.
- Compliance costs come in two forms: the costs of generating and dealing with the 'paperwork' (now often electronic) needed to demonstrate eligibility for a preference or concession, and the costs that foreign producers incur in adapting their production to make the imports eligible for a preference.
- Most of these costs are passed on along the supply chain to Australian consumers in the form of increased prices, at least in the short run.

Compliance costs are not readily available in administrative records, and estimating them is not straightforward. The Commission estimated compliance costs incurred in 2019–20 against a counterfactual of costs that would not have been incurred had the statutory rate been 'free'. The Commission limited the estimation to the costs of complying with preferential trade agreements (PTAs) and with the tariff concession system (TCS), as these are the most common ways in which businesses reduce their tariff liabilities to zero.[8]

- The Commission estimated annual TCS related compliance costs to be at least $5 million. The $5 million calculation understates the true costs, because of the uncosted components outlined in the research paper.
- Compliance costs associated with accessing preferences were 2.1% of the value of imports that benefitted from a preference (PC 2022, p. 66). This cost can be expected to be lower than the 5% statutory rate – if the compliance costs were higher, importers would just pay the tariff.
  - Compliance costs were found to be relatively stable across recent years, and so are held constant for this edition of TAR. As new trade agreements are signed and the distribution of imports changes (between those entering Australia under a PTAs or those entering under the tariff concession system), compliance cost estimates are likely to change.

Further detail on the estimation methodology can be found in the research report (PC 2022).

…but Government changes to the tariff system should reduce compliance costs in the future

On 11 March 2024, the Australian Government announced they would abolish almost 500 tariffs from 1 July (Treasury 2024e). The Government provided a list of 457 items which will no longer be subject to tariffs from 1 July 2024, as they have been identified as a nuisance to Australian businesses, imposing unnecessary administrative costs and compliance burdens (Treasury 2024d).

These 457 items represented $8.8 billion of imports in 2022–23 (out of a total import value of $419 billion in 2022–23), but only generated $10.4 million of tariff revenue (an average tariff rate of 0.12% – well below the

[8] In 2019–20, 28% of imports entered under a PTA, 11% entered under the tariff concession system, and a different instrument was used to reduce the tariff to 'free' for only 1% of imports (PC 2022, p. 9).

statutory rate of 5%). In other words, most of these tariffs generate very little, or even no revenue, for the Australian Government, and simply represent a cost to businesses as they navigate the tariff system to avoid paying the statutory rate of 5%.

The Commission has argued that simplifying the tariff system will lead to cost savings for businesses that will eventually flow through lower prices to Australian consumers (PC 2022). It therefore supports the government's decision to remove tariffs as part of a process of simplifying the tariff system, but notes that further work can be done to reduce compliance and administrative costs. The Commission estimates that removing tariffs on these items would have reduced compliance costs for businesses by between $43 million and $128 million in 2022–23 (table 1.3).[9]

Table 1.3 – Effective cost of the tarriff system adjusted to remove some nuisance tariffs[a,b]

Year	Total value of imports	Value of imports under PTAs	Compliance costs from accessing preferences	TCS-related compliance costs	Total compliance costs (C)	Tariff revenue (R)[c]	Value of imports that attracts tariffs (V)	Measure of cost (C+R)/V
2022–23	$419.0b	$127.0b	$1.3–4.0b	At least $5m	$1.3–4.0b	$2.1b	$42.7b	8.0–14.3%
457 items	$8.8b	$4.1b	$43-$128m	0	$43-$128m	$10.4m	$209m	25.5-66.0%
2022–23 (adjusted to remove 457 items)	$419.0b	$122.9b	$1.29-3.9b	At least $5m	$1.29-3.9b	$2.07b	$42.5b	7.9-14.0%

TCS = tariff concessional system. **a.** Value of imports under PTAs is the value of imported goods that do not attract tariffs because they are covered by a preferential trade agreement. **b.** Compliance costs associated with accessing a preference is calculated by multiplying the value of imports that benefitted from a preference by the estimated compliance costs as a percentage of values of imports, which is 2.1% (PC 2022, p. 66). Given the uncertainty of point estimates, a range of 1.05–3.15% (50% range around 2.1%) is used to estimate compliance costs. **c.** Tariff revenue is the tariff levied on goods that are subject to a non-zero statutory rate and are not subject to a preference or where a concession has not been applied.

Source: Commission estimates.

[9] This estimate differs slightly from the media release titled *Tariff reform to cut costs for businesses and boost productivity* (Treasury 2024e), which used a slightly smaller list of items on which tariffs would be removed and applied the more lower-bound of 0.9% of import values (whereas this report used 1.05% of import values).

Box 1.4 – Breaking down the proposed tariffs to be removed

Commission analysis shows that the 457 items represented $8.8 billion of imports in 2022–23 (relative to a total import of $419 billion). Only $10.4 million of tariff revenue was generated from these items (an average tariff rate of 0.12% – well below the statutory rate of 5%).

The tariffs being removed are largely on imported goods within the manufacturing sector, with approximately 45% of imports being supplied by China.

Of the $8.8 billion in imports, $4.1 billion are subject to preferential trade agreements (PTAs). As compliance costs are most heavily linked with the administrative burden of complying with PTAs (box 1.3), the reduction in the nuisance cost is predominantly on this subset of items.

The remaining $4.7 billion technically have a statutory rate of 5%, but these are subject to concessions under the tariff concession system. The cost of complying with this system is negligible (previous estimates have the total cost of complying with this system to be about $5 million (PC 2022), relative to total import value of over $400 billion). Therefore, for this exercise, the reduction in cost for complying with the tariff concession system is assumed to be $0 – the analysis focuses only on the reduced costs associated with the reduced burden associated with no longer complying with PTAs.

1.4 Concessional finance

TAR 2021–22 identified concessional finance as a growing form of industry assistance in Australia. This is likely to grow further once Australia's National Reconstruction Fund begins to provide financing to select parts of industry over coming years, and following the Housing Australia Future Fund and the National Housing Accord conducting their first funding round in the first quarter of 2024.

Concessional finance refers to subsidised loans and equity investments – finance provided by government on more favourable terms than would otherwise be made available by the market. This concessionality often comes in the form of lower interest rates but can also include more favourable loan terms like deferred repayments or income contingent repayments.

From the perspective of a business, lower financing costs can be the equivalent of cash grants or tax concessions. Every thousand dollars saved in interest costs is equivalent to a thousand dollars of government grants or a thousand dollars of tax savings.

Concessional finance can act as a form of industry assistance when it is selectively available to a domestic firm or sector, but not others. A key exception is where subsidies provided through concessional finance programs efficiently price-in positive externalities that are generated, or negative externalities that are avoided. For example, subsidising finance for low emissions technologies might not constitute industry assistance where the level of the subsidy is designed to account for the social cost of greenhouse gas emissions.

TAR 2021–22 identified five entities that are responsible for the majority of concessional finance issued in Australia considered to be industry assistance. These entities are listed in table 1.4.

Table 1.4 – Concessional Finance Entities in Australia

Entity	Finance approved[a] at 30 June 2023 ($b)	Targeted sector/s	Year established
EFA	12.8	Exporting businesses	1991
CEFC	12.7	Clean energy and low emissions technology	2012
NAIF	4.0	Northern Australia businesses	2016
NHFIC	3.9	Community housing providers	2018
RIC	3.2	Farm businesses	2018

EFA = Export Finance Australia, CEFC = Clean Energy Finance Australia, NAIF = Northern Australia Infrastructure Fund, NHFIC = National Housing Finance and Investment Corporation, RIC = Regional Investment Corporation

a. Loans only – estimates only include loans from EFA's commercial account and exclude loan guarantees previously provided by the Export Finance and Insurance Corporation.

Sources: EFA (2022) and earlier years, CEFC (2023, p. 7), NAIF (2023, p. 6), NHFIC (2023, p. 3), RIC (2023, p. 8)

Estimating the value of concessional finance to industry

For the first time, TAR 2021–22 included an estimate of the value of concessional finance provided to industry (estimated to be between $64.8 and $220.2 million in 2021–22). The estimate was developed by estimating the value of concessional finance offered by the five entities listed in table 1.4. This year's TAR updates the estimated concessional finance to industry following the same approach. All these entities provide different information. As a result, a number of assumptions, set out in last year's TAR, (PC 2023, pp. 33–36) and in the *Methodological annex* that accompanies the TAR, underpin these estimates.

In light of the differences in reporting across agencies, the Commission adopted two approaches to estimating the value of concessional financing – a 'bottom-up' approach, which relied on values reported in financial statements; and a 'portfolio approach,' which required a derived estimate of the rate of the return of each entities loan book, relative to prevailing market rates (box 1.5).

Box 1.5 – Approaches to estimating the value of concessional finance

Method 1: Annual unwind of bottom-up concessional loan charges

Some government-owned finance entities like NHFIC, CEFC and RIC publish concessional loan charges in their annual reports.

These concessional loan charges are calculated by taking the difference between the net present value of a concessional loan were it to be provided at commercial rates and the net present value of the loan given the concessional terms on which it is offered. It is thereby an estimate of the overall value of the concessional component of the concessional loan activities of the entity.

The annual decrease in the value of the concessional loan charge is expressed as a concessional loan charge 'unwind' and can be taken as an indicative annual value of the concessional component of the outstanding stock of concessional loan activity in that year.

Method 2: Top-down portfolio 'return gap' methodology

The top-down portfolio 'return gap' is calculated using the following formula:

Stock of loans reported as assets in annual reports of government-owned finance entities (S) multiplied by the benchmark market yield[a] (i), less the stock of loans (S) multiplied by the portfolio rate of return (p) which is the interest earnings divided by stock of outstanding loans. Or simply: $(S \cdot i) - (S \cdot p)$.

a. The range of estimates is calculated using the five year A rated debt security yield series from the RBA F3 statistical tables for the lower bound and the ten year BBB rated debt security yield series from the RBA F3 statistical tables for the upper bound.

The value of concessional finance

The value of concessional finance offered by government in 2022–23 was estimated to be between $211.4 million and $356.0 million (table 1.5) – the range shifting up relative to the $64.8 million to $220.2 million estimated in 2021–22. The bottom-up estimates self-reported by some entities generally fall within the indicative range of estimates produced by the top-down portfolio rate of return gap methodology.

To assist with interpretation of the 'top-down' estimate, the results suggest that had the total outstanding stock of EFA loans been invested at market interest rates over 2022–23, then EFA would have earned 107 to 250 basis points more than it did earn in that year, depending on whether that money would have been invested in five year A rated debt securities or ten year BBB rated debt securities. In dollar terms, that difference in returns would have amounted to between $13.7 and $31.9 million in 2022–23. This can be taken as an indicative estimate of the concessional value of these loans in any given year.

Table 1.5 – Value of concessional finance to industry, 2022-23

Entity	Outstanding loan amount ($m)[a]	Top-down 'return gap' range (basis points)[b]	Top-down 'return gap' estimate range ($m)[c,d]	Bottom-up: unwind of concessional loan charges ($m)
EFA	1,277	107 – 250	13.7 – 31.9	na
CEFC	2,687	7 – 150	2.0 – 40.2	4.6
NHFIC	2,328	258 – 400	60.0 – 93.1	21.4
RIC	2,757	400 – 542	110.3 – 149.5	117.6
NAIF	1,122	226 – 368	25.4 – 41.3	23.6
Total	10,171	208 – 350[e]	211.4 – 356.0	na

a. Stock of outstanding loans provided by each entity, drawn from the annual report of each entity, gross of concessions and impairments. For RIC, this is a best estimate based on information provided in the Department of Agriculture's annual report. **b.** Basis point difference between the rate of return the portfolio would have earned had those funds being invested at prevailing market interest rates, and the rate of return actually earned on that portfolio of loans. A positive number implies concessionality. The range of estimates reflects the range of tenor and credit rating assumptions used for the commercial portfolio return comparator, ranging from the average rate of return on an A rated five-year tenor (5.2%) to a BBB rated ten year tenor (6.6%) that prevailed during 2022-23. **c.** The rate of return actually earned is estimated using interest income provided in each entities annual report. However, for EFA, RIC and NAIF, interest income earned on the portfolio of loans of interest to this analysis is not provided. For these entities, the rate of return is the Commissions best estimate, based on available data and a number of assumptions. **d.** Dollar value of the return gap range applied to the outstanding stock of loans held by each entity. **e.** Weighted average of basis point gaps of individual entities.

Sources: EFA (2023), CEFC (2023), DAFF (2023), NHFIC (2023), DITRDC (2023), DISR (2021), RBA (2024), Productivity Commission estimates.

2. Industry assistance developments

Key points

- **Over the 50-year life of the Trade and Assistance Review (TAR) Australia has largely dismantled the system of quotas and tariffs that previously protected domestic industry from international competition.**
- **This trade liberalisation has driven notable gains in living standards in Australia, with Australia moving towards producing what it is best placed to produce, and importing that which other countries are best placed to produce, in line with Australia's comparative advantage.**
- **However, as these traditional forms of at-the-border trade protections have receded, the importance of alternative forms of behind-the-border industry assistance have grown.**
- **The TAR underestimates the level of industry assistance provided by the Australian Government each year because many forms of off-budget industry assistance are not included in the formal estimates provided in chapter 1.**
  - TAR 2021–22 explored concessional finance as one such form of off-budget industry assistance. This edition of the TAR explores additional forms of off-budget industry assistance like domestic price control mechanisms and local content rules, which can benefit domestic producers over their international competitors.
- **The importance of the broad range of behind-the-border forms of assistance is set to grow further in Australia as the Future Made in Australia (FMIA) program begins to provide assistance to select industries from 2024-25, building upon the move towards industry policy explored in last year's TAR.**
- **Under some conditions, the imposition of a Carbon Border Adjustment Mechanism (CBAM) could add to the level of at-the-border trade protection in Australia.**
- **While some elements of modern industry policy have been positioned as being consistent with the comparative advantage of nations, empirical measures considered by the Commission demonstrate that the sectors in which a country is likely to enjoy a comparative advantage is not easy to identify.**

Over the 50-year life of the Trade and Assistance Review (TAR), Australia has progressively dismantled the system of quotas and tariffs that previously protected domestic industry from international competition. Notable milestones include the Whitlam Government's unilateral 25% reduction in tariffs in 1973, and the progressive tariff reductions of the Hawke Government between 1987 and the early 1990s. Today, it is largely only 'nuisance tariffs'

that remain, with the number of these also set to decline following the Albanese Government's 11 March announcement that it will abolish around 500 of these nuisance tariffs from 1 July 2024 (section 1.3).

This evolution has been reflected in annual TAR reporting of industry assistance. In 1974, the bulk of total industry assistance in the TAR came in the form of tariffs. Today, tariffs are such a small proportion of industry assistance that they are no longer directly reported in the TAR.

As these traditional forms of at-the-border trade protections have receded, the importance of alternative forms of behind-the-border industry assistance have grown. This form of assistance is expected to grow further under the Future Made in Australia (FMIA) program detailed in the 2024-25 Federal Budget. A number of these growing forms of assistance, such as concessional finance, were explored in TAR 2021–22. This year's TAR continues the exploration of these alternative forms of behind-the-border industry assistance by exploring how domestic price controls, and local content rules, can act as a form of industry assistance by providing domestic industry with an advantage over foreign competitors. It also explores the conditions under which any future Australian Carbon Border Adjustment Mechanism (CBAM) could mark a partial return to at-the-border trade protection in Australia.

The notion of comparative advantage featured prominently in historical arguments for trade liberalisation in Australia, and has featured in warnings against an expansion of behind-the-border industry policy. It has also been invoked in the design of new industry policy interventions. Given the centrality of comparative advantage to these developments - and its prominence in current debates about the merits of an expansion of industry policy in Australia – this chapter also explores what is meant by the term, how readily it can be estimated, and the potential implications of the two for policy makers.

2.1 The transition from at-the-border to behind-the-border industry assistance in Australia

With quotas and tariffs being progressively phased out in Australia over the past 50 years, assistance to Australian industry is now largely in the form of behind-the-border policy settings – subsidies, tax concessions, tax credits, budget spending on favoured sectors, concessional finance, domestic price controls, and local content rules.

Tax concessions and government spending programs alone totalled $15 billion in 2022-23, and the figure is higher still once the value of concessional finance is taken into consideration (chapter 1). These estimates are an incomplete estimate of industry assistance in Australia, however. They do not include alternative forms of industry assistance like domestic price controls (section 2.4), and local content rules (section 2.5). Nor do they include the exemption of some sectors from some regulatory controls, as is the case with some elements of Australian climate policy, as explored in TAR 2021–22.

These various forms of domestic industry assistance are expected to grow further as the policy interventions included in the FMIA policy package begin to provide assistance to favoured sectors from 2024-25 (section 2.1). They could grow further were Australia to introduce a CBAM (section 2.6). These various forms of industry assistance are motivated by a range of goals. Measuring the industry assistance value of each of these forms of industry assistance will be important for policy transparency, and to assess the policy case for each intervention.

Industry policy is expanding further in Australia

TAR 2021–22 explored a number of new directions in industry policy in Australia. This included the announcement of a new National Reconstruction Fund, as well as sectoral initiatives such as the Hydrogen Headstart program, the National Battery Strategy, the Critical Minerals Strategy, and the launch of an associated Critical Minerals List.

Several new industry policy initiatives were announced over 2023-24, including the February 2024 addition of nickel to Australia's critical minerals list; the March 2024 announcement of the Solar SunShot program; the May 2024 announcement of the National Quantum Strategy; and most notably, the announcement of the Future Made in Australia (FMIA) program.

The FMIA program was set out in Budget 2024-25, and supporting legislation was introduced into Parliament in early July 2024. It is currently projected to cost $22.7 billion over the next decade and includes planned spending on five sectors judged to warrant support under a new National Interest Framework (box 2.2). These include renewable hydrogen, critical minerals processing, green metals, low carbon liquid fuels, and clean energy manufacturing (box 2.1).

Much of this support will be provided to industry in the form of tax concessions (e.g. production tax credits to renewable hydrogen and critical minerals processing projects), budget expenditure (e.g. appropriations to green metals and low carbon liquid fuels), and concessional finance. These forms of industry assistance are included in the TAR's annual estimates of industry assistance. Because the TAR is backward looking, however, industry assistance provided by the FMIA program will only appear in future editions of the TAR.

As a transparency document, the TAR reports on the form and magnitude of industry assistance. It does not assess the cost-effectiveness of individual policies. However, publishing the industry assistance value of policies contributes to the transparency required to undertake such an assessment. Any future evaluations of the cost-effectiveness of FMIA measures would consider these costs alongside the extent to which FMIA delivered on its stated objectives. The cost-effectiveness of the FMIA measures, or industry policies more generally, could then be compared to the cost of available alternatives.

For example, if the stated objective of a particular policy was to improve supply chain resilience, the cost of a domestic production capacity could be compared against a range of alternatives, including domestic stockpiling; if the stated objective of the policy was to contribute to Australian greenhouse gas emissions reduction goals, the indirect carbon price of chosen measures could be compared to the cost of alternative emissions abatement options; if the goal was to enable the development of an industry in which Australia might have an enduring comparative advantage, the cost of that support could be compared to broader policy settings that might similarly allow for the realisation of that comparative advantage; and, if the stated objective of the policy was to help workers transition from regions and sectors impacted by the net zero transition, the cost of that policy could be compared against alternative means of doing so.

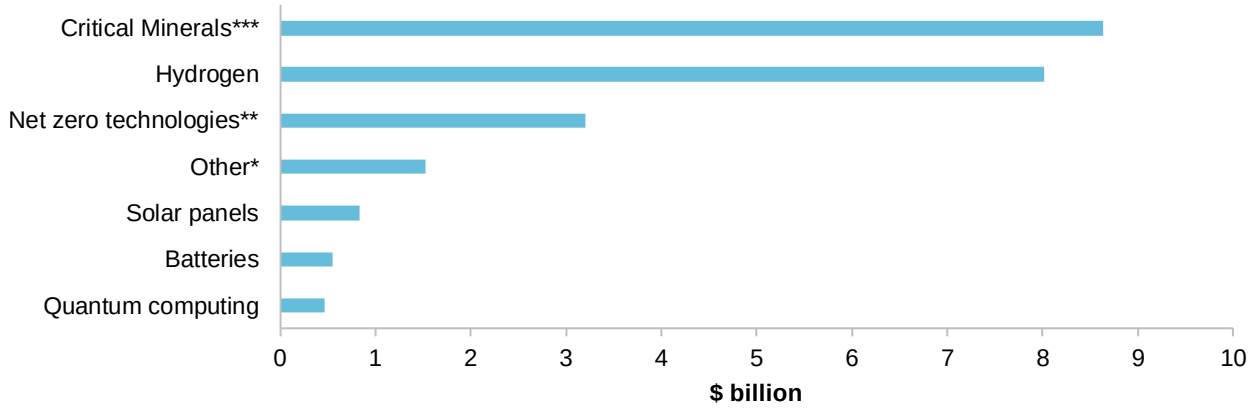
Box 2.1 – Future Made in Australia

The Future Made in Australia (FMIA) policy package was set out in Budget 2024-25, with a projected spend of $22.7 billion over a decade (figure 2.1). Sectors to be supported under FMIA currently include:

- **Critical Minerals** – A new Critical Minerals Production Tax Incentive was announced, to cover 10% of processing and refining costs for the 31 critical minerals listed on the Critical Minerals List. This production tax credit is limited to 10 years per project, will be available from 2027-28 and is estimated to cost $7 billion over a decade. Being uncapped, this projection could change depending on the level of uptake by industry. In addition, the Critical Minerals Facility, and the Northern Australia Infrastructure Facility were expanded by $555 million and $400 million respectively. Geoscience Australia received $566 million to map critical mineral deposits.
- **Renewable Hydrogen** – A Hydrogen Production Tax Incentive of $2 per kg of hydrogen was announced. This production tax credit is limited to 10 years per project, will be available from 2027-28 and is estimated to cost $6.7 billion over a decade. Being uncapped this projected cost could change depending on the level of uptake. In addition, the Hydrogen Headstart program (discussed in TAR 2021–22) was expanded by $1.3 billion.
- **Clean energy manufacturing, including batteries and solar panels** – The FMIA included a $835.6 million SolarSunshot program and $523.2 million for a Battery Breakthrough Initiative, aimed at supporting domestic manufacturing of solar panels and batteries.

A broader range of net zero technologies are to be also supported by a new $1.7 billion Future Made in Australia Innovation Fund, and a $1.5 billion increase in funding for the Australian Renewable Energy Agency. $466.4 million in support for Quantum computing was also announced.

Figure 2.1 – FMIA spending, by sector [a]



a. *Other includes spending provided to government departments to administer the FMIA** Net zero-technologies is made up of the $1.7 billion Future Made in Australia Innovation Fund, and $1.5 billion increase in Australian Renewable Energy Agency funding. *** Critical minerals comprised of production tax credits, the expansion of the Critical Minerals Facility and the Northern Australia Infrastructure Facility, the increase in funding to Geoscience Australia for mapping critical minerals deposits, and support for pre-feasibility studies.

Source: Commonwealth of Australia 2024.

Box 2.2 – National Interest Framework

A National Interest Framework (NIF) was announced alongside the FMIA policy, designed to impose "rigour on Government's decision making on significant public investments in industry… particularly those used to incentivise private investments at scale." (Australian Government 2024, p. 2)

The NIF recommended that FMIA investments fall within one of two streams:

- **Net Zero Transformation Stream** – industries that "will make a significant contribution to the net zero transition and are expected to have an enduring comparative advantage, and public investment is needed for the sector to make a significant contribution to emissions reduction at an efficient cost." (Australian Government 2024, p. 1)
- **Economic Resilience and Security Stream** - industries where "some level of domestic capability is necessary or efficient to deliver adequate economic resilience and security, and the private sector would not invest in this capability in the absence of public investment." (ibid)

Sectors that the NIF judges that Australia is likely to have an enduring comparative advantage in are sectors that make notable use of inputs that Australia can be relatively abundant in (low-cost renewable energy, critical minerals, and biomass), where transport costs constrain the ready export of inputs to other countries, where technology can avoid labour-intensive production, and where there is a reasonable prospect of significant economies of scale in Australia.

Industries judged in Budget 2024-25 to be consistent with the NIF are renewable hydrogen, critical minerals processing, green metals, low carbon liquid fuels, and clean energy manufacturing, including battery and solar panel supply chains.

The NIF Supporting Paper produced by Treasury argues that there are grounds for believing that Australia can have an enduring comparative advantage in hydrogen, green metals, and low carbon liquid fuels (Australian Government 2024, pp. 15–20). It also argues that critical minerals processing is consistent with the principles of the economic security and resilience stream (Australian Government 2024, p. 24)

The NIF Supporting Paper also suggests that supply chain resilience concerns in the solar panel and battery sectors might also be managed through the development and maintenance of close trading relationships with the growing number of countries that are currently building their own domestic battery and solar manufacturing capacity (Australian Government 2024, p. 28).

2.2 Identifying comparative advantage

Comparative advantage is attracting renewed public focus

The concept of 'comparative advantage' has featured prominently in recent announcements and debates about industry policy in Australia. The Australian Government has stated that one of the rationales for the FMIA program is to back industries where it believes Australia is likely to have a long run comparative advantage (Treasurer 2024).

This raises the question of how we can assess and anticipate comparative advantage.

What is comparative advantage

There has been tremendous growth in living standards since the Second World War, driven in large part by the expansion and deepening of international trade. Australia and its trading partners have benefitted from specialising in exports of goods and services in which they have a comparative advantage. Comparative advantage, when each country specialises in the things they do 'best', results in higher levels of production, income and consumption across all trading partners than would otherwise occur.

'Best' does not mean that a country needs to produce the good or service at a lower cost than all other countries. In fact, even a country that does not have such an *absolute advantage* in any activity, still has a comparative advantage in producing something for export. 'Best' here means that a country could not be doing anything better with its resources. That is, it is focused on the production of those things with the lowest *opportunity cost* (box 2.3).

Patterns of global production and exchange follow comparative advantage when countries specialise in producing goods and services that are intensive in the resources that are relatively abundant in that country. This is why countries in tropical climates tend to export agricultural products that thrive in humid conditions, while populous countries with relatively scarce land and capital tend to specialise in labour-intensive manufacturing. This is not necessarily because they have an absolute advantage in the production of these goods, but because the relative abundance of these inputs to production makes for a lower opportunity cost to their use, relative to other goods and services they could be producing.

Comparative advantage can also be driven by technological innovation. But because technology is now globally transferrable, innovations generally only impact long run-comparative advantage in two cases. The first, is where a technology compounds a comparative advantage that is due to resource endowments. The second is associated with a 'first mover' advantage that other countries might find hard to catch up with. This could occur with an industry cluster that might emerge as a result of being a first mover (more below).

Some clusters can also arise from historical 'accidents', alignments of otherwise disconnected inputs or events that occurred, without government planning or anticipation of what industries might emerge, which combined to create a first mover advantage for a particular country or region. There are elements of this in the history of the US manufacturing belt over the 19th and 20th century, where "…increasing returns and cumulative processes are pervasive and give an often decisive role to historical accident." (Krugman 1991, p. 82). There also exist elements of serendipitous historical 'accident' in the emergence of Silicon Valley in California (Moore and Davis 2001).

Box 2.3 – What is comparative advantage?

Comparative advantage at the country level extrapolates from the specialisation that generates higher living standards at the individual or business level. Individuals do not produce everything that they need for themselves. They instead focus on a job or profession that they are best placed to undertake and use the income that they earn to buy goods and services that are better left to others – even if that means buying products that they can produce better themselves. They still buy from others because the income they would lose from being distracted from their main job would be greater than the additional cost of the products that they choose to buy from others.

In the same way, countries should not aim to specialise in what they are best at in absolute terms, but rather what they are best at in relative terms. Take two countries. Both produce bread and clothes. Imagine that the first country can produce bread at three quarters of the cost of the second, and clothes at half the cost of the second. Even though the first country has an absolute advantage in the production of both bread and clothes, both countries would be better off overall if the first country focused on making clothes, and the second country focused on making bread, and trading their surplus clothes and bread production with eachother. Doing so would maximise the overall quantity of bread and clothes produced by both countries, and would do so at least cost.

Comparative advantage is not easy to identify

Identifying comparative advantage is not straightforward.

One strategy is to simply look at 'revealed' comparative advantage by examining data on imports and exports. Alternatively, one can look at productivity across sectors, with higher productivity sectors more likely to be ones where the country has a comparative advantage.

The Commission has explored three methods to identify sectors in which Australia is likely to possess a comparative advantage. These three methods are detailed in appendix A:

- The *Ricardian Index* compares a country's sectoral productivity with its overall productivity. Sectors in which a country is particularly productive, could be sectors in which that country is likely to have a comparative advantage.
- The *Balassa Index* compares the export intensity of each sector to the global ratio of exports to output. A high export intensity in a sector could suggest that a country has a comparative advantage in that sector. Generally speaking, this measure needs to be adjusted to account for cases where a country is a notable exporter of a good or service, not because they enjoy a comparative advantage in that good or service, but because the sector benefits from industry policy. This caveat might not directly apply to Australian export sectors, though it may well do indirectly, through the industry policy supported export sectors of other countries.
- The *Costinot Index* measures a country's revealed comparative advantage by combining these two approaches. The idea here is that the export intensity of a sector (the proportion of a sector's production that is exported) is likely to be higher for sectors with higher productivity.

All three methods identified that Australia has a comparative advantage in 'mining and quarrying, non-energy producing products' (table 2.1). The Balassa index ranked the sector as number 1, because its export intensity exceeds the global average more than all other sectors in Australia. The Ricardian index ranked it as third because it has the third highest productivity relative to other sectors in the economy. The Costinot Index ranked it as fourth.

While the three approaches largely agree on key Australian sectors, they do not agree on all.

Table 2.1 – Australia's top 5 comparative advantage industries according to different measures[a]

Rank	Ricardian Index	Balassa Index	Costinot Index
1	Fishing and aquaculture	Mining and quarrying, non-energy producing products	Mining support service activities
2	Agriculture, hunting, forestry	Construction[a]	Mining and quarrying, energy producing products
3	Mining and quarrying, non-energy producing products	Education	Construction
4	Water Transport	Mining and quarrying, energy producing products	Mining and quarrying, non-energy producing products
5	Mining and quarrying, energy producing products	Basic metals (manufacturing)	Electricity, gas, steam and air conditioning supply

a Strictly speaking, when a foreign construction firm provides construction services in Australia this should be recorded as an import of construction services into Australia. In practice, most foreign construction firms establish an Australian branch and register an ABN, meaning they are not measured in the international service trade statistics (ABS 2021). For this reason, construction numbers should be interpreted cautiously.

Sources: Productivity Commission estimates using OECD (2024a, 2024b, 2024c).

The difference in ranking is the first sign that these approaches have limitations for identifying comparative advantage. But there are more.

First, the potential number of goods and services capable of being produced by the global economy is immense, as are the potential number of producers of those goods and services, and the potential location of those producers. This complexity means that indexes built on broad product aggregates can throw up surprising results. For instance, the United States (US) boasts high labour productivity across various industries, yet it imports numerous products from those same sectors.

This might partly reflect consumer demand for variety in particular sectors. For example, wine producing and consuming nations might appreciate wines from a wide variety of wine producing countries. It might also reflect, however, differences in comparative advantage between the wide range of products that can emerge within a particular sector, which aggregate measures can overlook, and which different countries might be best placed to produce.

And second, these methods are backward looking by nature. They are based on detailed analysis of historical data and are not suited to making projections about future sources of comparative advantage. The goods and services of the future are likely to be notably different from what are commonplace today, and difficult to predict. Moreover, forward looking assessments of comparative advantage are inherently difficult as sustained differences in relative opportunity costs often develop after many years, through the trial-and-error interplay of economic forces and ensuing patterns of profit, loss, exit and entry.

Nevertheless, we can anticipate that as economies decarbonise, comparative advantages will shift, partly based on each country's access to low-cost renewable energy.

The Commission intends to do further work to understand how this anticipated shift might meaningfully inform sustainable policy directions for interventions like the FMIA policy.

But, as a general rule, given the complex interplay of factors, we should be modest about our capacity to make precise predictions about future comparative advantage.

Comparative advantage cannot be readily manufactured

Government policy settings can be important in building broad sources of advantage across economies. For example, policy settings that promote a highly skilled workforce, may help to create a comparative advantage in at least some sectors that are intensive in skilled labour. But often these specific sectors cannot be identified in advance. Indeed, it is difficult for government policy to manufacture comparative advantage in a specific sector by building these general endowments.

The exception may be in industries with significant spillovers, where government interventions could help businesses benefit from these spillovers and thereby deepen emerging 'clusters' – for example, the wind turbine industry in Denmark or the semiconductor industry in Taiwan. Clusters can have self-reinforcing benefits through learning or knowledge spillovers between producers, the upskilling of a local workforce aligned to the sector's needs, and the development of specialised suppliers to the clustered industry (see for example Krugman and Obstfeld 2009, pp. 140–143).

But industry clusters are more likely to compound a nation's comparative advantage in a particular sector, than to create a new comparative advantage.

For example, a policy to create an industry cluster in low-skill labour-intensive manufacturing in a country with a small population, high wages and significant natural resources is unlikely to enable an enduring comparative advantage in that sector, because spillovers are unlikely to overcome the initial disadvantages facing the sector. However, a policy to encourage an industry cluster in resource extraction might compound an existing comparative advantage. Similarly, a policy intervention that aimed to promote high skilled services through developing a highly educated workforce could plausibly enable an enduring comparative advantage in a broad range of skilled service industries.

Industry clusters are also more likely to be successful where a country has a 'first mover advantage' or is at least not replicating similar efforts in many other countries. Successful clusters rely on economies of scale and scope, supporting networks, and on specialist expertise. When potential output is reduced by significant global competition, the agglomeration benefits are dissipated.

Unsurprisingly then, for every example of a successful cluster there are examples of governments supporting sectors for extended periods without ever developing an internationally competitive industry. A key Australian example is the failure to build a self-sustaining car industry, despite decades of heavy policy support.

This counsels caution in industry policy interventions

The difficulty of identifying future sources of comparative advantage means that governments should be cautious in pursuing industry policy on this basis (Robson 2023).

If governments proceed in doing so they should build in off-ramps so they can step away if it becomes evident the strategy is not successful. Failure to do so risks allocating support to industries that may not have reasonable long-run prospects, and redirecting scarce resources away from sectors that do.

2.3 Exploring the wider range of industry assistance tools in Australia

The industry assistance estimates published each year in the TAR are an incomplete estimate of industry assistance in Australia. Several forms of industry assistance provided by the Australian government are not included in those formal estimates. One such form of industry assistance, concessional finance, was explored in TAR 2021–22. This edition of the TAR continues this examination of the broader range of industry assistance mechanisms by exploring the way in which domestic price controls (section 2.4) and local content rules (section 2.5) can act to benefit some Australian companies over their international competitors. In addition, while carbon border adjustment mechanisms are generally designed to manage 'carbon leakage' risks, some design choices can mean that they operate more as a form of trade protection (section 2.6).

2.4 Domestic price controls

Domestic price controls can act as a form of industry assistance, to the extent that they lower the cost of some inputs to domestic firms relative to that paid by their international competitors. Two broad types of domestic price controls exist in Australia:

- **Direct price controls** set a price at which domestic goods should be sold, they are typically accompanied by measures which aim to restrict exports. Box 2.4 provides an example of direct price controls in the east coast gas market.
- **Indirect price controls (quantity controls)** aim to lower domestic prices by binding commodities to the domestic market. Examples include New South Wales's coal reservation scheme and Western Australia's natural gas reservation policy.

While domestic price control mechanisms effectively transfer resources from producers of the price-controlled product (through reduced revenue and income) to users of that product (through lower costs), they can serve as a form of industry assistance by selectively benefitting only some sectors.

The industry assistance value of these policies can be valued by multiplying the gap between export parity prices and domestic prices with the amount of the price-controlled good used by domestic industry.

Australian Government price controls, such as those imposed on wholesale gas markets in 2023 are currently more difficult to estimate, as their scope is limited, but are estimated to have provided approximately $119 million to $198 million of industry assistance to gas buyers. The growing role of domestic price controls (both direct and indirect) aimed at supporting domestic industry has led the Commission to explore methodologies for assessing the industry assistance value of domestic price control measures.

Example: estimating the industry assistance value of domestic price controls in the east coast gas market

In the east coast gas market, there is a combination of indirect and direct price controls imposed by the Australian government, as well as some State governments (box 2.4).

Box 2.4 – Direct Price Control example – East coast gas market

In late 2022 the Australian Government imposed a 12-month price cap of $12 / gigajoule (GJ) on the East Coast gas market. The cap applies to new wholesale gas contracts in the east coast of Australia entered from 23 December 2022 to 22 December 2023 by regulated gas producers and affiliates from existing producing fields. The price cap only applies to gas supplied in calendar year 2023 contracted from producers. Wholesale spot markets and gas supplied by retailers are both exempt from the price cap (ACCC 2023b, p. 8).

From 11 September 2023 a mandatory gas code of conduct was introduced which has an embedded 'reasonable pricing' provision for future gas contracts. The reasonable price provision means that regulated gas contract prices are capped at $12 / GJ. By no later than 1 July 2025, the 'reasonable pricing provision' will be reviewed (Australian Government 2023a; ACCC 2023b).

The reasonable pricing provision has broad exemption criteria, including an automatic exemption for small gas producers who only supply to the domestic market and exemptions for large gas producers, including liquid natural gas (LNG) exporters, who increase the supply of gas available to the domestic east coast gas market.

Some east coast gas producers like Australia Pacific LNG and Senex have already been exempted from the price control measure moving forward in exchange for committing 300 petajoules (PJ) of gas domestically (King, Bowen and Husic 2023). Woodside and Esso, neither of which export LNG in the east coast, also received exemptions in exchange for committing investments to bring 260 PJ of gas to the domestic market (Crowley 2024).

Direct price controls in the east coast are complemented by an array of indirect price controls. Such measures aim to redirect gas domestically or provide advantages to gas production intended for domestic use. Table 2.2 provides a non–exhaustive list of such measures in Australia.

Table 2.2: The east coast gas market has several mechanisms that can indirectly control prices by favouring domestic users

A non-exhaustive list of indirect domestic price controls in the east coast gas market

Policy	*Overview*	*Legislating body*
The Australian Domestic Gas Security Mechanism	Gives the Government the power to intervene with gas export controls in the case of an anticipated gas shortfall.	Australian government
Heads of agreement	A non-regulatory agreement between the Prime Minister and representatives of the three east coast LNG exporters to guarantee gas will be offered to the domestic market.	Australian government
Acreage reservation	*Gas produced under certain tenements must be supplied to domestic manufacturing.*	*Queensland government*
Offshore Petroleum and Greenhouse Gas Storage Act section 152A	*Requires offshore producers in Victorian state waters to provide domestic customers with an equal first opportunity to buy new gas discovered under certain acreage.*	*Victorian government*

Source: Department of Industry, Science, Energy and Resources (2020, pp. 15–16) and the Australian Competition and Consumer Commission – ACCC (2023b, pp. 14–15).

The industry assistance value of the price cap can be estimated by multiplying the volume of gas contracted under the cap by the gap between domestic and export parity prices. Export parity prices are the prices earned in the export market (a reference price) minus the cost of liquefying the gas and transporting it to that export market. For example, if the export parity price of gas was $15 per GJ, the price cap was $12 per GJ, and the volume of gas purchased at the price cap was 100 GJ, the industry assistance value of the price cap would be $300 (i.e. 100 x ($15-$12) = $300).

Gas markets have two major export parity references prices:

- S&P Platts Japan Korea Marker (JKM) – a commonly used benchmark price that represents the LNG spot cargo price in North-East Asia. The JKM price and JKM futures are often used as references prices for trading LNG on a short -term basis.
- Brent crude oil linked contracts – a commonly used benchmark in longer term LNG contracts and in some domestic contracts in Australia, with 39% of contracts by volume of gas in Australia being brent linked in for supply in 2023 before the price cap had come into effect (ACCC 2023a, p. 50).

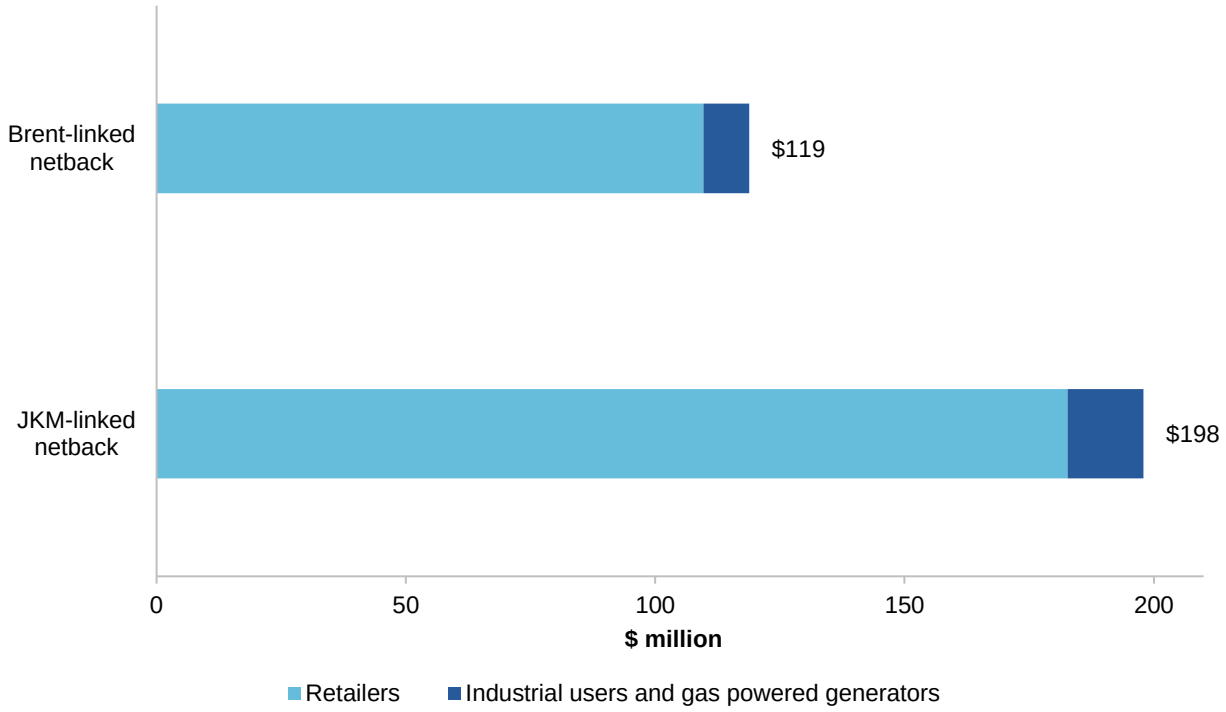
The emergency price cap has only applied to a small proportion of gas contracts, bringing the estimated industry assistance value to between $119 million to $198 million from December 2022 to August 2023 depending on the export parity price benchmark used.[1]

As shown in figure 2.2, most industry assistance initially goes to retailers, who then contract on to industry and households. Gas powered generators and industry contracted less gas directly under the price cap. When estimating industry assistance, the TAR only looks at the initial benefitting industry (box 1.1), and not the flow on impacts to consumers. The Australian Government previously estimated that the gas price cap, together with state measures on coal prices, would reduce inflation by around 0.5 percentage points in 2023-24 (Chalmers and Gallagher 2022). Industry assistance does not necessarily directly flow through to households or other secondary beneficiaries proportionately. The impact of the price cap on households or on energy retailer profit margins would require significant further analysis beyond the scope of the TAR. Moreover, these estimates are not net of the cost of the policy, in terms of foregone revenue and income, to the gas producers themselves.

1. From 23 December 2022 to August 2023 gas suppliers sold 19.8 PJ for 2023 supply subject to the price cap at a quantity weighted price of around $11.08 (approximation based on ACCC (2023b, p. 90). The volume contracted excludes gas sold from producers to other producers under the price cap. JKM linked netback has a price gap of $10.15 per GJ using the ACCC's JKM netback series (ACCC 2024). The brent linked netback price gap was $6.09 per GJ over the same period. This is a Commission estimate using IMF (2024) brent prices based on a conversion of 5.816 GJ per barrel of oil equivalent (Santos 2024) and converted to Australian dollars using RBA (2024). The series has been converted to netback using ACCC netback prices (ACCC 2024).

Figure 2.2 – Estimated industry assistance went primarily to gas retailers

Industry assistance due to the east coast price cap from December 2022 to August 2023, $ million



Source: Commission estimates based on ACCC (2023b, p. 90). Note: netback refers to export parity prices adjusted for the costs of transporting gas overseas and converting gas into LNG.

These assistance estimates rely on several simplifying assumptions. It assumes that LNG producers always have the option to export, meaning export prices represent the opportunity cost of selling gas domestically. However, liquefaction trains could experience outages or capacity constraints which could prevent them from being able to export further gas. Likewise, domestic producers could offer to contract gas at lower prices in exchange for more favourable contract terms. Domestic prices could also exceed export parity prices if local demand events (such as a coal plant outage) pushed gas prices higher. Such factors mean that, even in the absence of any price controls, the realised gas prices could diverge from export parity at any given time.

Only gas explicitly contracted under the price cap has been considered in this estimate. However, the threat of intervention may have also had an effect on domestic gas pricing since at least 2021 when wholesale gas prices began diverging significantly from LNG export parity prices. The ACCC has previously observed that 'some suppliers appear to have been influenced in their domestic pricing by the perceived threat of regulatory intervention … This may also have contributed to domestic offers having remained below $10/GJ over 2021 despite significant increases in LNG prices, particularly given current policy developments in the gas industry' (ACCC 2022, p. 99).

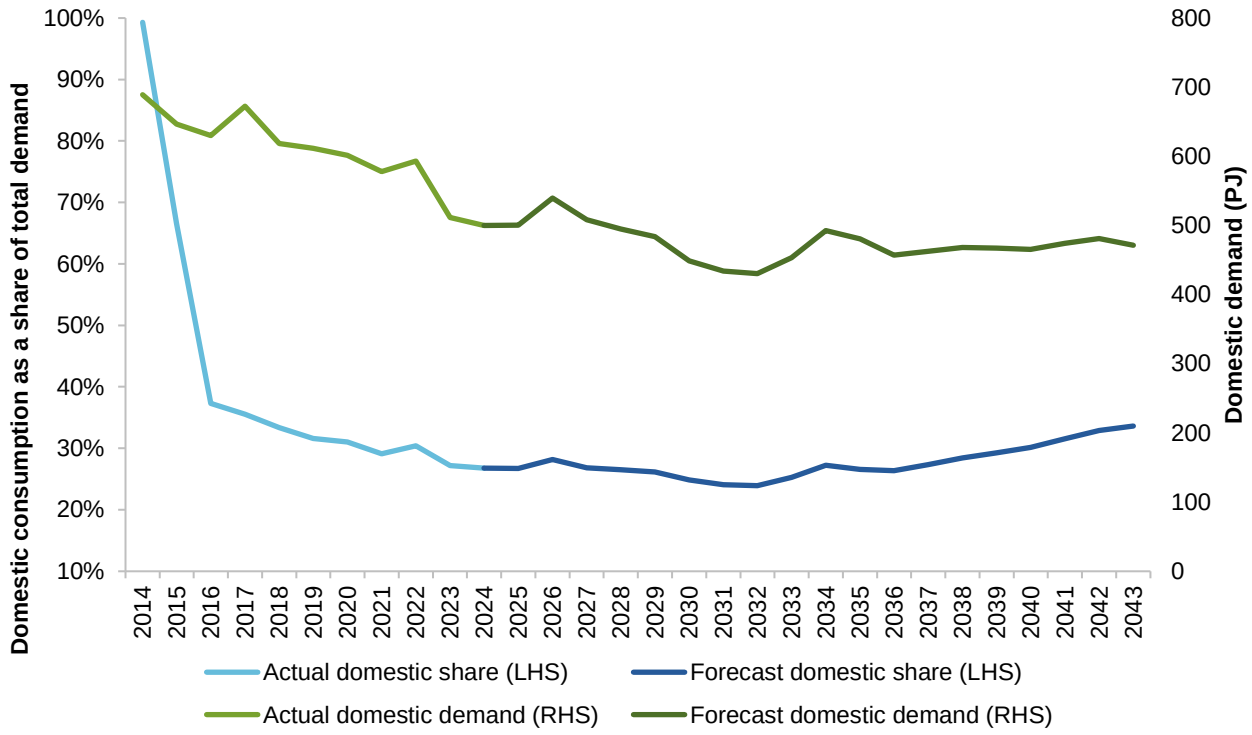
A similar methodology could also be used to estimate the industry assistance value of the wholesale price cap on thermal coal in New South Wales and Queensland. According to the Department of Climate Change, Energy, Environment and Water coal generators will receive up to an estimated $1 billion in rebates from the Australian Government because of a compensation package linked to the wholesale price cap on thermal coal. Unlike in the gas market, coal generators were offered compensation in cases generators had existing

contracts for coal supply above the price cap level. They also receive compensation in cases where the coal miner's cost of supply is above the price cap level (DCCEEW 2023a; Kelly 2024).

In late 2023, the price cap was replaced by the reasonable pricing provision (box 2.4). A broad exemptions framework is in place for producers who commit to additional domestic gas supply. In effect, the reasonable pricing provision, coupled with the exemption framework and other gas market interventions may increase the share of gas supplied domestically. Domestic gas demand has fallen since the introduction of LNG exports and is forecast to continue to fall modestly, while the share consumed domestically is forecast to rise modestly (figure 2.3). Given this context, the industry assistance value of the reasonable pricing provision's exemption framework may work more similarly to an indirect price control (quantity control) over time. It is too early to assess the overall impact of the policy, and the impact of exemptions on the share of gas consumed domestically. These impacts will likely become discernible over time.

Figure 2.3 – Domestic gas demand has fallen and is projected to fall modestly over time

Actual and forecast east coast domestic gas demand, domestic demand (%) of total and domestic gas demand (PJ), 2014 to 2043



Source: Australian Energy Market Operator's step change scenario – AEMO (2024)

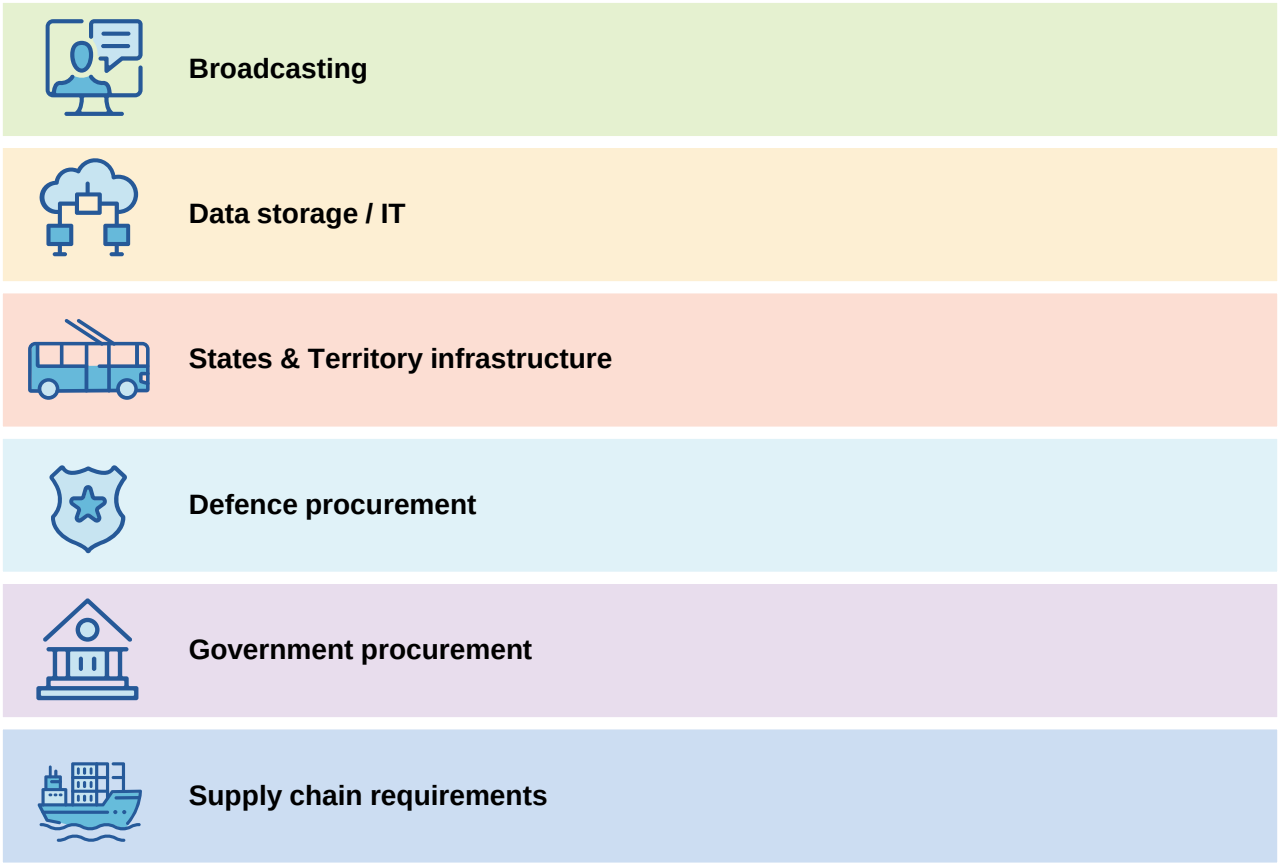
2.5 Local content rules

Local content rules (LCRs) place a requirement on governments and businesses to direct a certain proportion of their spending to domestic companies. LCRs can either be direct, requiring government departments or businesses to purchase a certain percentage of their inputs from domestic producers. They can also be indirect, making access to government subsidies and concessions conditional on purchasing from domestic industry (Industries Assistance Commission 1974b). Both forms act to protect domestic producers from international competition, and thereby act as a form of assistance to domestic industry.

LCRs are often motivated by a desire to generate employment in particular industries, or to advance a broader range of cultural, strategic, or security objectives (Yan Ing and Grossman 2023). While these policies may achieve certain short-run objectives, they can reduce overall income levels when they redirect resources away from sectors in which a nation enjoys a comparative advantage (Stone, Messent and Flaig 2015).

Australia has had a range of LCRs throughout its history. Notable examples include the automotive industry in the 1960s, 1970s, and 1980s, where cars made in Australia were required to be built using a certain proportion of locally produced components.[2] While trade liberalisation saw the progressive removal of LCRs in Australia, they never completely disappeared (figure 2.4, box 2.5). Internationally, new industry policy measures in the major economies has also led to the imposition of new LCRs in those countries. For example, the degree to which electric vehicle makers benefit from the generous subsidies and tax credits of the US Inflation Reduction Act (IRA) is contingent on the degree of 'local' components in those cars.[3]

Figure 2.4 – Sectors with LCRs in Australia



[2] The local content requirement on Australian passenger motor vehicles was 85%. From 1982 this number could be reduced depending on the level of export success enjoyed by domestic car producers (Sanidas and Jayanthakumaran 2003, p. 2).

[3] For example, under the US IRA, access to the maximum available tax credit on electric vehicles is contingent upon final assembly of the vehicle in North America (US, Canada, or Mexico) and 50% of the critical minerals in the battery being sourced from the US or a country with which the US has a Free Trade Agreement, like Australia. This 50% minimum requirement on critical minerals is scheduled to rise to 60% in 2025, 70% in 2026, and 80% in 2027.

Box 2.5 – A selection of LCRs in Australia

Government and defence procurement

Commonwealth Defence Procurement Rules and government procurement rules (like the Commonwealth Procurement Rules) can effectively require that government departments preference a local supplier. For instance, under the Defence Industry Procurement rules consideration must be put towards how certain proposals contribute to broader Australian defence industry capabilities. The Australian Industry Capability and Australian Industry Participation rules also require certain programs to have a plan to utilise domestic industry. These requirements can benefit domestic industry, insofar as being a domestic provider notably increases the likelihood of a successful tender.

Television and film sector

The Broadcasting Services Act 1992 imposes a transmission quota on commercial television networks (e.g. Seven, Nine, Network 10). This quota requires that at least 55% of transmitted programs between 6am – midnight each year are 'Australian programs'. Australian programs are defined as those which are produced under the creative control of Australians which, amongst other requirements, means a certain number of Australian actors, writers, and producers be involved in the production.

In addition to this, there is also a point-per-hour scheme for 'first-release Australian programs'. Commercial television networks must broadcast at least 250 points of first-release Australian programs each year. Meeting these requirements makes networks contribute ongoing spending on purchasing or producing Australian programs to meet these requirements (ACMA 2024).

Data storage

The Hosting Certification Framework places requirements on 'data sovereignty' of government data holdings, which establishes certification of data centres (Federal Financial Relations 2024). Section 77 of the My Health Records Act 2012 outlines a requirement not to hold or take records outside Australia. Together these rules create LCRs for data storage and data security processes, insofar as they create a requirement to purchase domestic data storage services.

State and territory local content policies

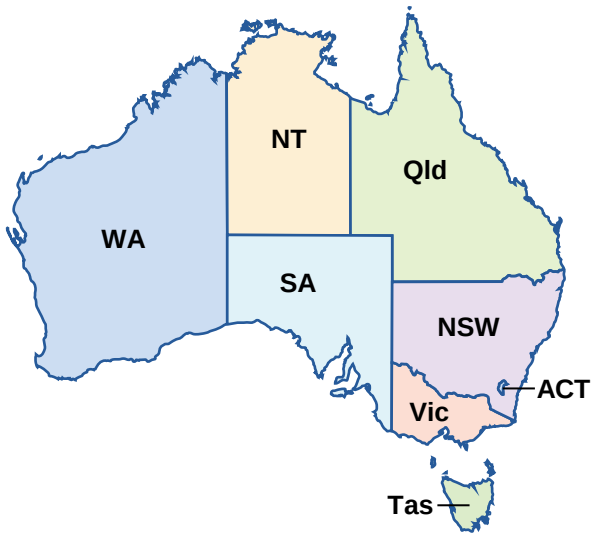
There exist a range of State and Territory policies that may operate as local content rules (figure 2.5). For example, the current variety of State and Territory level policies in rail infrastructure and rail manufacturing has led the Australian Government to seek a nationally agreed approach (Department of Industry 2023). More generally, State and Territory policies that may operate in this capacity are particularly notable in the case of large infrastructure projects. While State and Territory policies would normally be beyond the scope of the TAR, which focuses on industry assistance provided by the Australian Government, many of these projects receive funding from the Australian government (box 2.6). These funding contributions to State and Territory infrastructure projects can effectively make the Australian government party to these State and Territory policies.

Figure 2.5 – Various State and Territory level policies that may operate as LCRs

Many policies at a State and Territory level may operate as LCRs, predominantly in the infrastructure and manufacturing sectors.

Northern Territory
- Territory Benefit Policy (TBF)
- Buy Local Policy
- Northern Territory Business Innovation Strategy

Western Australia
- WA Industry Participation Strategy (WAIPS)
- Buy Local Policy
- Local Industry Participation Framework



Queensland
- Queensland Charter for Local Content
- QLD Procurement Framework / Policy
- New-Industry Development Strategy

New South Wales
- Procurement Policy Framework
- SME and Regional Procurement Policy
- Industry Development Framework
- Public Works & Procurement Regulation 2019

South Australia
- South Australian Industry Participation Policy (SAIPP)
- Small Business Strategy

Victoria
- Local Jobs First
- Advancing Victorian Manufacturing
- Trains, Trams, Jobs 2015-2025
- Made in Victoria 2023: Manufacturing Statement

ACT
- Canberra Regional Local Industry Participation Policy (LIPP)
- Procurement Values Guide

Tasmania
- Buy Local Policy
- Advanced Manufacturing Action Plan
- Treasurer's Instruction PF-1 Procurement Principles
- Defence Industry Strategy

Source: Australian Parliament 2023, p. 406; Australasian Railway Association 2022.

Box 2.6 – Co-funding arrangements can see the Australian Government become party to State and Territory LCRs

Through Federal Funding Agreements (FFA), the Australian Government can choose to co-fund a specific project proposed by States and Territories. The budgets for such projects are often managed by the State or Territory[4], and if the project is subject to State and Territory LCRs, the Australian Government can indirectly become party to State and Territory LCRs.

The Federal Financial Relations 'Agreement Finder' lists active FFAs across State/Territory by agreement type (ranging from education, health, housing and infrastructure). For active programs commencing in 2023, the average FFA spend was $120 million across 50 projects, totalling $6.3 billion in Federal funding (Federal Financial Relations 2024).

And they may grow further in Australia

On 30 January 2023 the Australian Government announced a new cultural policy, *Revive*, which included a proposed LCR for streaming platforms like Netflix, Stan, Amazon Prime and other streaming platforms operating in Australia. The stated rationale for the proposal is to 'ensure continued access to local stories and content' as well as 'straight revenue for artists and for the industry.' (Australian Government 2023b; Burke 2022). The former rationale aligns with the historical justification for LCRs in broadcasting more generally, to promote the availability of locally relevant media and entertainment content (PC 2000, p. 54).

In addition, on 24 April 2024 the Australian Government announced its first national *Environmentally Sustainable Procurement Policy*, which aims to tie government procurement contracts to the sourcing of materials, textiles, ICT equipment, and fittings and equipment from domestic recyclers. The stated aims of the policy include improving environmental outcomes in Australia and "providing work for Australia's domestic recycling industry" (Plibersek 2024).

The industry assistance value of LCRs is not currently measured by the TAR

Industry assistance estimates are not publicly available for any of the federal LCRs listed in box 2.5, constraining their inclusion in the TAR.[5] Estimating industry assistance values has been found to particularly challenging for some LCRs in the past. For example, the Commission's Broadcasting inquiry found that not enough was known about the economic structure of the broadcasting industry at the time to determine the exact effect of removing general quota protection for these programs in the short term (PC 2000). The 1973-74 Annual report by the then Industries Assistance Commission noted that the industry assistance value of LCRs cannot be easily quantified (Industries Assistance Commission 1974a, p. 14).

More generally, LCR-related research to date has tended to focus on their effect on welfare, market diversity, and economic activity (Richardson 2006), rather than estimating the level of industry assistance that they provide.

[4] Federal Funding Agreements Principle 4 provides states 'New agreements will provide states with budget autonomy and flexibility, where practical, to deliver services and infrastructure in a way that they [the states] consider will most effectively and efficiently improve outcomes for Australians.'

[5] ACMA provides data on compliance of local content quota (e.g. per cent of broadcast that is Australian content) however this does not measure the industry assistance value of the LCR.

This absence of reporting can make LCRs a relatively opaque form of industry assistance. Periodic reporting of the estimated industry assistance values of individual LCRs by government departments and agencies that administer LCRs, perhaps expressed within a certain confidence range, would help to promote policy transparency in the space.

2.6 Carbon border adjustment mechanisms (CBAMs)

CBAMs try to level the playing field between domestic and foreign businesses, by equalising effective carbon prices between the two

As explored in TAR 2021–22 Carbon Border Adjustment Mechanisms (CBAMs) are designed to reduce the threat of 'carbon leakage.' Carbon leakage refers to the situation where differences in effective carbon prices faced by domestic and foreign producers drives production from higher carbon-constrained countries to lower carbon-constrained countries – effectively transferring the emissions associated with that production overseas, but with little reduction in global emissions. This risk is greatest for producers of emissions-intensive products that are traded globally – so called 'Emissions-Intensive Trade-Exposed Industries' (EITEIs).

CBAMs aim to ensure that both domestic and foreign producers of the same product ultimately face the same effective carbon price in the CBAM-imposing country. They do so by imposing a 'top-up' carbon price on emissions-intensive imports equal to the difference between the effective carbon price faced by domestic producers, and that facing the foreign producer in their home country (figure 2.6).

CBAMs differ from traditional approaches to managing the threat of carbon leakage, which have largely involved making domestic EITEIs exempt from domestic carbon constraints. This is partly a reflection of a convention of international climate change agreements that countries only take policy responsibility for emissions produced within their own borders, not for emissions produced in other countries. These traditional approaches have become questioned, however, partly because of the need for all sectors to contribute to emissions abatement if increasingly ambitious emissions reduction targets are to be met.

Figure 2.6 – A CBAM imposes a 'top-up' if imports face a lower carbon price

A CBAM aims to equalise effective carbon prices between domestic producers and competing imports and apply that rate to emissions embedded in imports.

$$CBAM\ tariff\ =\ (Domestic\ effective\ carbon\ price\ -\ Foreign\ effective\ carbon\ price) * (CO2\ equivalent\ emissions\ embedded\ in\ import)$$

CBAMs have attracted a growing amount of policy interest over recent years. In October 2023, the European Union (EU) commenced the preparatory phase of its CBAM policy, imposing reporting requirements on select commodities in advance of those commodities becoming subject to a carbon border adjustment liability, determined by the weekly average auction price of EU Emissions Trading Scheme permit prices, from 2026 (European Commission 2024d). The United Kingdom has also announced its intention to implement its own CBAM by 2027. At the same time the Australian Government is conducting a review into the extent of carbon leakage in Australia and policy options to address it (DCCEEW 2023b).

Growing policy interest in CBAMs has led the Commission to evaluate the extent to which any future Australia CBAM would require annual reporting as a form of industry assistance in the TAR, and to explore the specific circumstances under which CBAMs could act more as a form of trade protection than a means of managing carbon leakage concerns.

Identifying when a CBAM has become more a form of trade protection

The TAR has historically viewed all tariffs as a form of industry assistance. While CBAMs seek to level the playing field between domestic and foreign producers facing different effective carbon prices (rather than act more as a form of trade protection), they would still be considered tariffs for the purposes of the TAR. It follows that even if a CBAM simply acted to level the playing field between domestic and foreign producers it might still be viewed as a form of industry assistance.

In addition, under specific circumstances it is possible that a CBAM will act more as a form of trade protection than a means of managing carbon leakage concerns – where a CBAM will not just level the playing field between domestic and foreign producers but will tilt the playing field in favour of domestic producers. These include situations where the:

1. CBAM ‘top-up’ tariff is more than is required to equalise effective carbon prices between domestic and foreign producers.
2. Administrative costs of complying with the system raise the effective costs of importing from a foreign market, relative to domestic producers (see the Commission’s 2022 report on the nuisance costs of tariffs for a discussion on how this can act as a form of protectionism).

In both situations, a CBAM would increase the cost of imports above what could be justified by carbon leakage concerns alone.

Assessing CBAMs potential to overprice imported emissions

In assessing whether tariffs imposed on imported goods by the CBAM are too high, policy makers should consider the extent to which:

- the domestic country’s effective carbon price is accurately estimated;
- the importing country’s effective carbon price is accurately estimated; and
- the imported emissions data is accurately reported, or imputed.

Effective carbon prices should be accurately estimated

Ensuring that a CBAM levels the playing field between domestic EITEIs and their foreign competitors, rather than tilting the playing field in favour of domestic producers, will require appropriate measurement of the carbon prices faced by competing producers. The most meaningful way of doing so is measuring effective carbon prices, not simply headline or statutory carbon prices.

Effective carbon prices are the carbon prices that are actually paid by industry. They not only consider direct carbon prices like those established by carbon taxes and emissions trading schemes, but also the proportion of emissions that are subject to that pricing. For example, Australia has something of a direct carbon price in the form of the Australian Carbon Credit Units (ACCU) that can be used to satisfy abatement obligations under the Safeguard Mechanism (SM). However, only a small proportion of emissions are actually priced by the SM, ensuring that effective carbon prices under the SM are notably lower than suggested by the headline ACCU price (box 2.7). Effective carbon prices also include indirect carbon prices faced by industry, such as those implied by the imposition of higher cost emissions reduction technology mandates. If effective carbon prices on domestic industry are overstated by a CBAM, or foreign effective carbon costs are understated, the CBAM would act more as a form of trade protection than a means of managing carbon leakage concerns.

Box 2.7 – Australia's Safeguard Mechanism

Under the Safeguard Mechanism (SM), captured facilities need only prevent their emissions from rising beyond their baseline – effectively a facility level emissions budget – through pursuing internal abatement options, or by purchasing a sufficient number of Australian Carbon Credit Unit (ACCU) offsets.

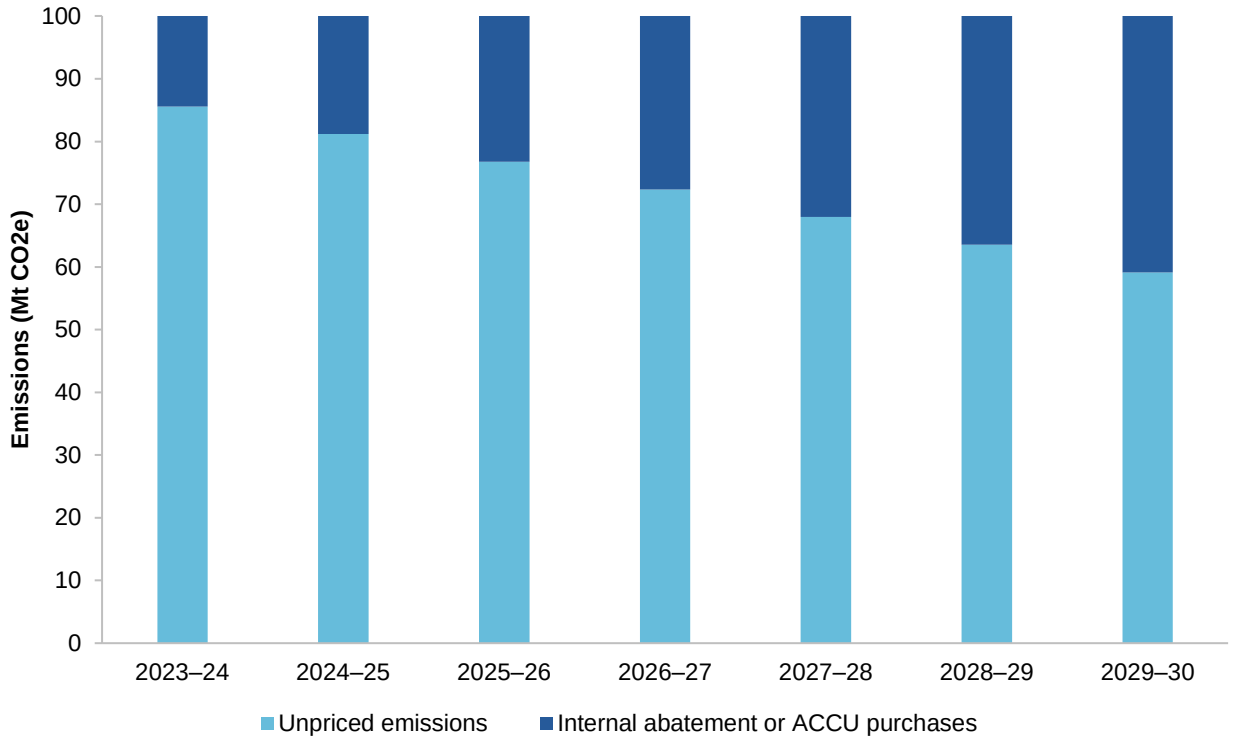
Facility baselines under the SM are based on historical emissions intensity levels and are scheduled to decline at a rate of 4.9% per annum. This generally mean that the SM granted facilities 95.1% of the historical emissions for free in 2023-24. The proportion of free emissions can even be greater for EITEIs, under the SM, who can apply for concessional baseline reductions over time.

With ACCU spot prices currently around $34[6], the effective carbon price facing a non-EITEI in their first year is $1.67 per tonne (Clean Energy Regulator 2024). As baselines are gradually reduced to meet Australia's emissions targets, this effective carbon price will grow. Figure 2.7 presents an illustrative example of the growth in priced emissions, based on the default decline rates for standard safeguard facilities.

[6] As discussed in the 2021-22 TAR, the most relevant ACCU price for the Emissions Reduction Fund – the biggest buyer of ACCUs – is the average fixed delivery contract price, which is $11.70. The spot ACCU price might be more relevant for offset sellers and private buyers and was around $34 in March quarter 2024.

Figure 2.7 – Illustrative example of declining baselines under the Safeguard Mechanism

Hypothetical decline in unpriced emissions from 2023-24 to 2029-30 based on default decline rates under Safeguard Mechanism reforms



Source: Based on decline rates from CER (Clean Energy Regulator 2023).

Embedded emissions should be accurately estimated

CBAMs are designed to be imposed on imports from countries with lower carbon constraints than the CBAM-imposing country. As a result, they might capture countries without established greenhouse gas measurement and reporting systems. Recognising this likelihood, CBAMs could be designed to allow for the use of default emissions factors, based on a sectoral emissions average for products, before moving to specific emissions factors once facilities have developed emissions monitoring and reporting processes.

While the use of default emissions factors will help to ensure that the exports of countries without established emissions measurement and reporting regimes can readily comply with a CBAM, it will be important that the chosen default emissions factors broadly align with the actual emissions generated in the production of each product. Applying a default emissions factor to all producers risks misrepresenting the actual level of emissions generated in the production of some goods from some countries.

If the emissions of competing imports are overestimated, the CBAM would tilt the playing field towards domestic producers and begin to act more as a form of trade protection than a mechanism to manage carbon leakage concerns (box 2.8). This possibility could be mitigated by allowing foreign producers, or the importers that bring their products into the CBAM imposing market, to opt-out of the default emissions factors and independently measure and report their own emissions. While this will come with higher compliance costs, so long as these costs are not markedly greater than that incurred by domestic EITEIs in the process of complying with their own domestic carbon constraints, it would not impose disproportionate costs on foreign producers. If this was not the case, however, these costs could generate a disproportionate administrative burden on foreign producers captured by a CBAM, and thereby tilt the playing field in the favour of domestic producers (figure 2.8).

Box 2.8 – Accurate measurement of emissions and effective carbon is important

Consider the importation of a shipment of 1,000 tonnes of steel from country X into an Australia with a hypothetical CBAM. The foreign steelmaker was not subject to an explicit carbon price while the steel shipment was being produced, though it was subject to emissions abatement policies that imposed an indirect carbon price of $5 per tonne. And while the foreign steelmaker measured its own emissions, its emissions reporting system was not recognised by the Australia CBAM.

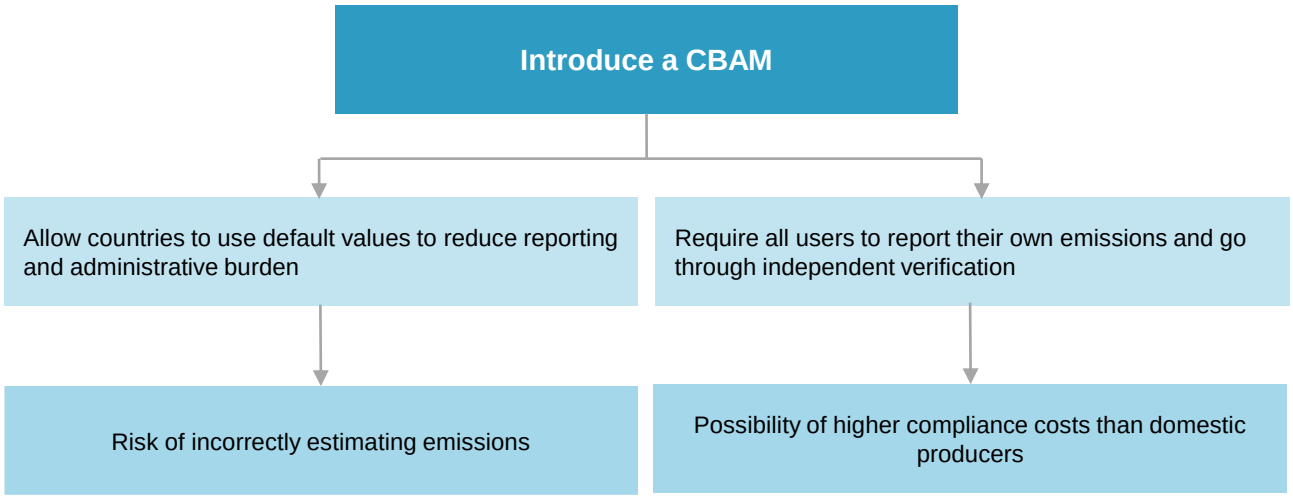
Assume that the production of the steel in country X produced 2,000 tonnes of carbon dioxide equivalent (tCO_2-e). However, because the emissions measurement and reporting system of the foreign steelmaker was not recognised by the hypothetical Australian CBAM, a default emissions factor of 2.75 tCO_2-e of emissions was applied to the shipment, based on an average emissions intensity for the sector in Australia. As a result, the 1,000 tonnes of steel was assumed to have been responsible for producing 2,750 tCO_2-e of emissions.

In calculating the CBAM liability for the shipment of foreign steel, the carbon costs for a comparable tonnage of Australian steel were estimated. The same emissions factor is used (2.75 tCO_2-e) and the prevailing Australian Carbon Credit Unit (ACCU) price of $34 per tonne was applied to derive an estimated carbon cost of $93,500 for the comparable tonnage of Australian steel. In an attempt to level the playing field, a CBAM bill for $93,500 is sent to the steel importer.

However, in this example, the importer of the foreign steel would have been overcharged by the hypothetical CBAM, for three reasons. First, because applying the full $34 carbon price to the Australian steel would have overlooked the fact that the Safeguard Mechanism only applies this carbon price to a proportion of overall emissions produced by the Australian facilities – 4.9% of the Australian steelmakers emissions in 2023-24, assuming that steelmaker did not access concessional baseline decline rates available to Australian EITEIs. While the headline price for carbon was $34 per tonne, the effective carbon price would only be $1.67 per tonne (4.9% of $34). Second, because the indirect carbon price of $5 per tonne faced by the foreign steelmaker in their home country was not recognised by the CBAM, and thirdly, because the default emissions factors overstated the emissions intensity of the foreign steel production.

This example demonstrates how key policy design choices could make any future CBAM act more as a form of trade protection than a policy mechanism to manage the risk of carbon leakage – tilting the playing field in favour of domestic producers, rather than levelling the playing field between the two countries.

Figure 2.8 – Reducing administrative burden may create other challenges



The EU is currently grappling with these considerations as it moves to establish its own CBAM. EU importers can utilise a set of published default emissions intensity values to simplify the reporting process during the current transitional period. Once this period is over, the onus is on the importer to keep records 'sufficiently detailed to enable verifiers accredited pursuant to Article 18 to verify the embedded emissions … and to enable the Commission and the competent authority to review the CBAM declaration …' (European Parliament 2023, p. 20). The EU also requires documentation of any carbon prices paid to be 'certified by a person that is independent from the authorised CBAM declarant and from the authorities of the country of origin' (European Parliament 2023, pp. 21–22). This requires importers working with foreign producers to independently verify their reported emissions, and their effective carbon price. If foreign producers do not have adequate documentation, they risk having their emissions overstated (as they will need to rely on an assumed default value) or their effective carbon price understated.

Additional considerations

A CBAM that satisfied these conditions, levelling the playing field between domestic and foreign producers, rather than tilting the playing field towards domestic producers, might still not avoid claims of trade protection from lower income countries. International climate agreements have so far allowed developing countries to set less ambitious emissions reduction targets than higher income countries. Countries with lower emissions reduction targets will tend to have lower carbon prices (direct or indirect) than countries with higher emissions reduction targets. A CBAM that then imposed higher income country carbon prices on lower income countries might attract claims of being inconsistent with the differentiated nature of multilateral climate agreements and to thereby act as a form of trade protection.

Over time this concern may gradually dissipate, to the extent that all countries ultimately achieve net zero emissions, and carbon constraints in all countries converge. Nevertheless, in the interim, claims of inconsistency with international climate agreements might emerge. Perhaps for this reason, the EU has flagged the need to 'support [developing countries] through the Union budget … to contribute to ensuring their adaptation to the obligations under this Regulation' (European Parliament 2023, para. 74).

3. Trade policy developments

Key points

- **There has been a notable expansion of behind-the-border industry policy over the past year. Internationally, over 1,800 new trade distorting industrial policy measures were introduced.**
- **This broadening of industry policy internationally, follows the marked expansion of industry policy in the United States (US) and the European Union (EU) in 2022, some of the effects of which are starting to become apparent.**
- **Formal trade dispute resolution processes of the World Trade Organisation (WTO) remained incapacitated over 2023.**
- **The absence of recourse mechanisms within the WTO may have contributed to the ongoing preference for bilateral and regional trade deals between individual countries over the period.**
- **Despite the incapacitation of the WTO trade dispute mechanisms, a number of Australian trade disputes have begun to be resolved, most notably with the lifting of trade restrictions on some Australian exports of wine, barley and beef into China.**

International trade policy developments largely followed similar themes as domestic policy settings over the past year. Behind-the-border industry policies in the major economies, and the associated move towards industry policy in a broader range of smaller economies, dominated developments in multilateral trade policy.

Nearly two years on from its passage into law, the early effects of the US Inflation Reduction Act (IRA) are starting to emerge, and a broad range of smaller economies have started to respond, implementing various forms of industry policy over 2023. Many of these policies have been judged to be trade-distorting.

At the same time, trade dispute resolution processes at the World Trade Organisation (WTO) remain constrained. This has limited the ability of countries to seek recourse for claimed violation of trade rules, potentially increasing the countries to pursue bilateral and regional trade agreements outside of the WTO.

3.1 Global industry policy developments

Recent industry policy trends have continued over the past year

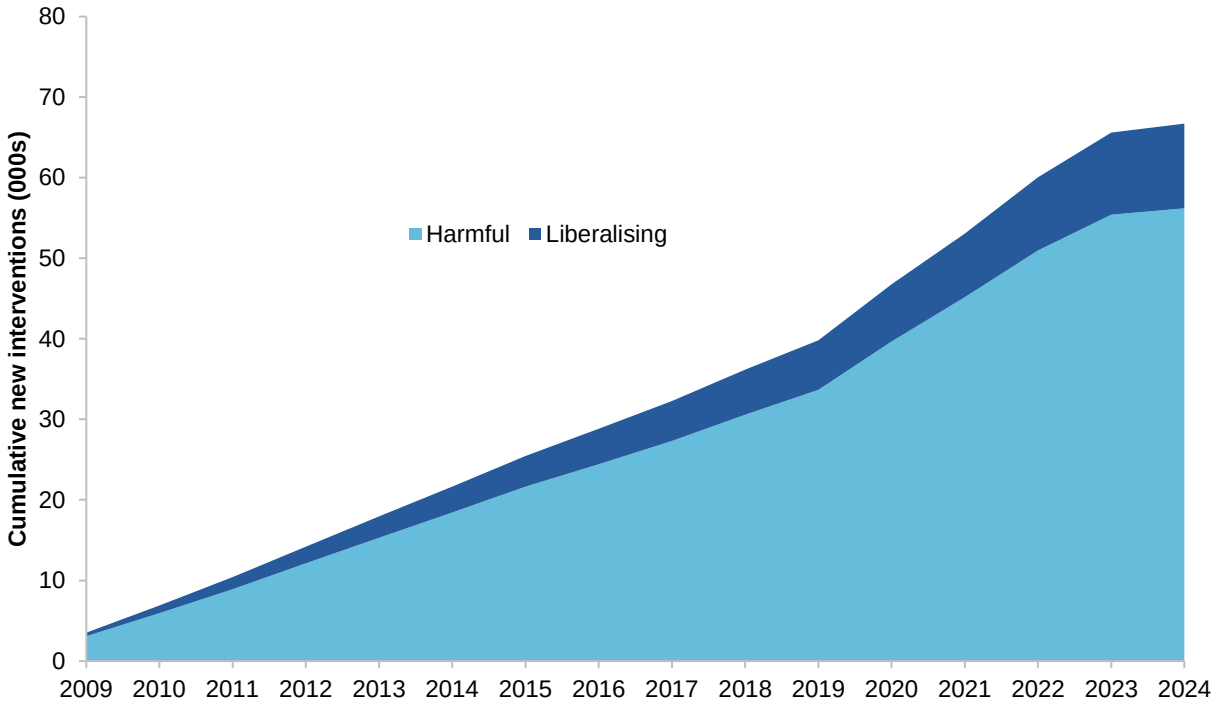
The 2021-22 Trade and Assistance Review (TAR) explored the way in which renewed strategic competition between the major economies, increased concern about supply chain resilience following the COVID-19 pandemic, national security concerns associated with ‘critical’ technologies, and a renewed focus on

decarbonising energy systems, had underpinned calls greater self-reliance in some goods and services in a range of countries. These motives were apparent in the 2022 IRA and CHIPS (Creating Helpful Incentives to Produce Semiconductors) and Science Act in the US, and in the EU's corresponding Net Zero Industry Act, Chips Act, and Critical Raw Minerals Act. The early impacts of some of these policies have begun to show, while others are still to be seen (box 3.1 and 3.2).

These trends have continued into 2024. In May, China announced the establishment of a US$47.5 billion fund to support the development of their domestic semiconductor industry (China Daily 2024; *Reuters* 2024); the US announced a range of tariff increases on US$18 billion worth of Chinese goods including steel and aluminium, semiconductors, electric vehicles (EVs), batteries, critical minerals, solar cells, ship-to-shore cranes, and medical products in May 2024. (The White House 2024b); and the EU announced plans to impose tariffs of up to 38% on Chinese manufactured EVs (European Commission 2024c).

The potential effects of renewed major economy industry policy on the policy choices of other countries has also begun to show, with a marked increase in industry policy settings being implemented in a broad range of countries, potentially reflecting the normalisation of industry policy in the minds of international policy makers, following the implementation of the US IRA and CHIPS and Science Act, and its EU counterparts (figure 3.1).

Figure 3.1 – Number of industry policy measures implemented internationally since 2009



Source: Global Trade Alert 2024a.

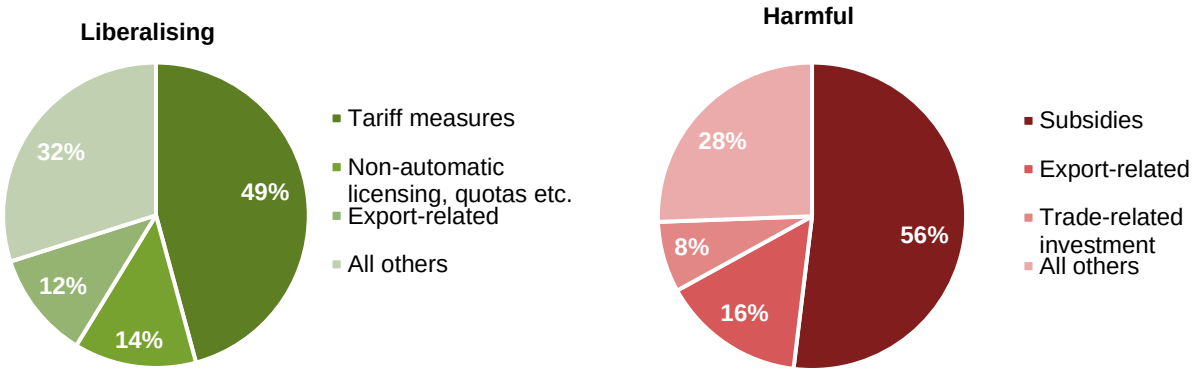
New policy monitoring processes have increased the transparency of international industrial policy developments. The International Monetary Fund recorded over 2,500 new industrial policy measures in 2023. Around 1,800 of these measures were judged to be trade distorting (Evenett 2024). The most recent G20 trade monitoring report by the WTO found that between 16 May to 15 October 2023, G20 economies introduced more trade-restrictive (49) than trade-facilitating (44) measures on goods (WTO 2023a, p. 3). The

total value of trade coverage of these trade-restrictive measures is estimated at US$246 billion, with the majority of these measures involving restrictions on imports.

These policy developments are consistent with the broader growth in the importance of behind-the-border industry policy settings as at-the-border trade restrictions have been progressively liberalised over recent decades. Of the trade and industry policy measures introduced since 2008, 49% (5,190) of 'liberalising' policy choices related to reductions in tariffs measures, while 56% (31,553) of trade-distortive policy instruments involved the introduction of subsidies (excl. export subsidies) (figure 3.2).

Figure 3.2 – Liberalising and harmful interventions by instrument (2008–2023)

Liberalising instruments typically reduced tariff measures, while new harmful interventions typically involved subsidies.



Source: Global Trade Alert 2024a.

Box 3.1 – Two years on from the US IRA and CHIPS and Science Act

The US IRA celebrated its one-year anniversary in August 2023. To mark the occasion, the White House announced that it had driven $US110 billion in new investment in clean energy manufacturing, including over $US70 billion in the electric vehicle supply chain, and over $US10 billion in solar photovoltaics (The White House 2023).

The fiscal risks associated with the uncapped nature of tax credits under the Act have also become apparent. IRA policies generally provide rebates to individuals through clean vehicle tax credits ($7500 vehicle credit) and to businesses through tax credits for qualifying investments in wind, solar, energy storage, and other renewable energy projects (up to 40% of the investment). Initial estimates by the Congressional Budget Office anticipated the fiscal costs of the bill's climate provisions would be roughly $360 billion (Congressional Budget Office 2022, p. 1; US Democrats Senate 2022).

A range of institutions including Credit Suisse, Brookings, Goldman Sachs have since estimated the fiscal costs of the IRA's climate and energy policies fiscal to be around $US800 billion – $1.2 trillion over 10 years (Levinson et al. 2024). In the most recent Budget, there were substantial 'technical revisions' to the calculations of these projections, with new fiscal estimates now 'roughly in line with these outside projections' (Levinson et al. 2024). One revision to clean vehicle and energy-related tax credits projections saw a technical revision increasing the cumulative deficit across 2024–2033 by $US428 billion. These revisions were mainly driven by changes to 'vehicle emissions standards' which resulted in increased projected claims for clean vehicle tax credits and reduced projected revenues from excise taxes on gasoline (Congressional Budget Office 2023, p. 86).

Additionally, revisions in forecasts of revenue and outlays in 'other energy-related tax provisions' (likely referring to manufacturing and business tax credits) added $US204 billion to the projected fiscal costs of the IRA. $US153 billion of this came from reduced revenue projections while $US51 billion was from increased projected outlays (Congressional Budget Office 2023). This increase in forecasts was attributable to a 'greater than anticipated' investment in battery manufacturing capacity and wind and solar power generation in August 2022 (Congressional Budget Office 2023, p. 87).

Together, these revisions represent a $US632 billion increase in the projected fiscal cost of the climate and energy related provisions alone, bringing the estimated fiscal cost of the IRA to around $US1 trillion.

The US CHIPS and Science Act also celebrated its 1-year anniversary in 2023. While there is yet to be detailed industry activity data on its economic impact, current tracking of semiconductor investments found over 80 new semiconductor manufacturing projects were announced between 2020 and April 2024. These announcements have a total estimated investment of almost $US450 billion, and an estimated job creation of over 56,000 (Semiconductor Industry Association 2024). An earlier study also from the Semiconductor Industry Association found that a single worker employed in the semiconductor industry creates an additional 5.7 jobs are supported in the wider US economy (Semiconductor Industry Association and Oxford Economics 2021). Earlier modelling of the CHIPS and Science Act suggested all up, the semiconductor components of the Act would contribute to over half a million jobs and over $US60 billion to GDP over the next five years (Mazewski and Flores 2022).

Box 3.2 – One year on from the EU's Chips Act, and the start of the EU's Critical Raw Minerals and Net Zero Industry Acts

The 2023 European Chips Act set the ambitious goal of doubling the EU's global market share in semiconductors from 10 to 20% by 2030. This Act, working in concert with the existing Strategic Technologies for Europe Platform, aims to support large-scale innovation, through increased investment, supply chain monitoring and coordinated EU action (European Union 2024).

The Chips Act is anticipated to attract over €43 billion in public and private investments with €3.3 billion of this being directly funded from the EU's budget. Since the final approval of the Chips Act on 25 July 2023, a number of measures have been announced to support semiconductor capability in the EU.[1] These include the €4.2 billion 'Chips Joint Undertaking' between EU member countries and industrial associations, which aims to support the development and adoption of advanced nano-electronic chip technologies in the EU (European Union 2023).

Other notable measures include Italy's €3.3 billion support for a domestic semiconductor capacity along with additional measures for the development of an advanced semiconductor, artificial intelligence, and quantum technology capability (Dipartimento per il programma di Governo 2024; Global Trade Alert 2024b, 2024c). The European Investment Bank also committed €750 million towards a semiconductor fabrication plant in France (European Investment Bank 2024).

The EU's Critical Raw Minerals Act received final approval in March 2024, and the Net-Zero Industry Act followed in May 2024. The former aims to reduce the EU's dependence on other countries for its supply of critical minerals, while the latter aims to further expand the EU's manufacturing capability in low and zero emissions technologies.

3.2 Developments in trade disputes

The WTO's appellate body remains incapacitated

The WTO, established in 1995, has the broad task of assisting with trade negotiations, dispute resolution and overall trade development and monitoring. When member countries of the WTO are not able to resolve trade disputes between themselves, they can ask to receive a WTO panel judgment. If they are not satisfied with this panel report findings, they can go to the WTO's appeals tribunal – the Appellate Body. However, this Appellate Body has not been in operation since 2019.

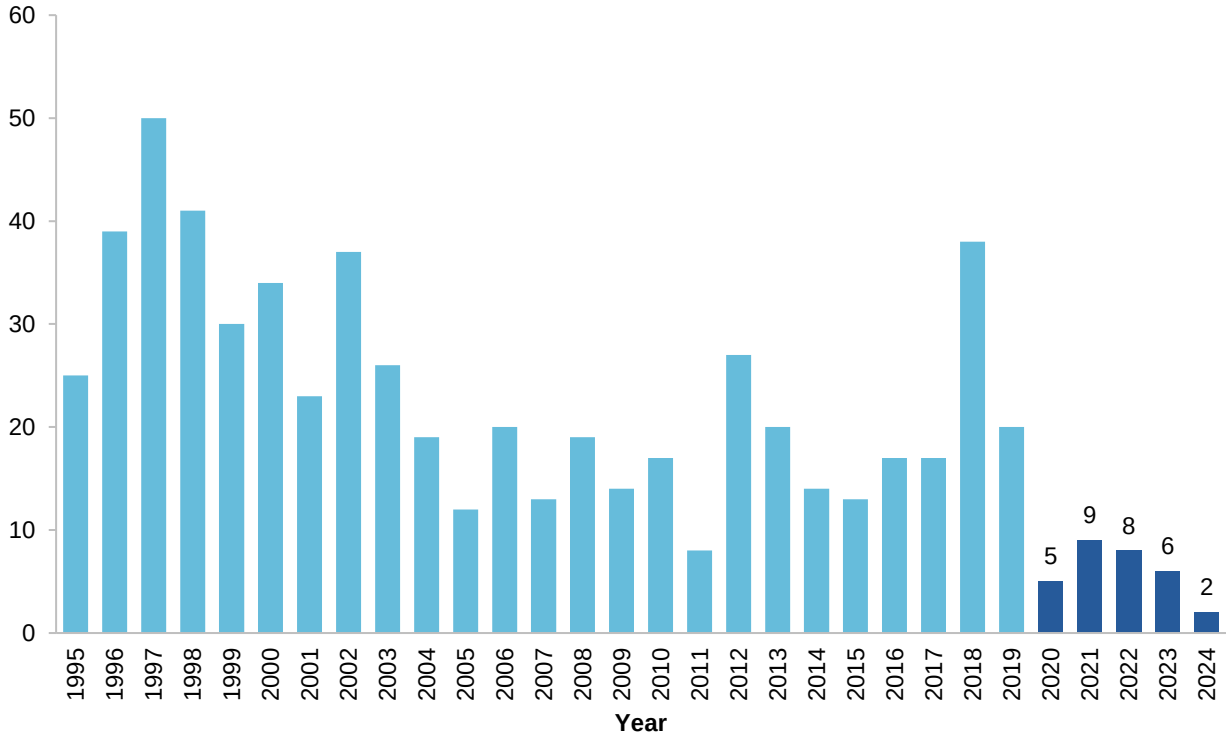
The Appellate Body can have up to seven Members, operating on four-year terms, with each appeal requiring three members per case. Disagreement on the appointment of new members, however, meant that the body eventually failed to have the minimum number of members to function, leaving it unable to adjudicate over trade dispute appeals (WTO 2024c). This unwillingness to appoint new body members reflected United States' concerns about the way in which the process functioned (Office of the US Trade Rep and Ambassador

[1] Announced measures that relates to HS product codes, 8541: Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light emitting diodes; mounted piezoelectric crystals, and 8542**:** Electronic integrated circuits.

Lighthizer 2020). Requests for consultation, the first stage of the dispute resolution process[2], have largely come to a halt since 2020, reflecting the ceasing of Appellate Board functions (figure 3.3).

Figure 3.3 – WTO Appellate Body requests for consultations [a]

Requests for consultations have stagnated since 2019.



a. A dispute counts as "one" instance regardless of its complexity or how many members are involved.
Source: WTO 2024d.

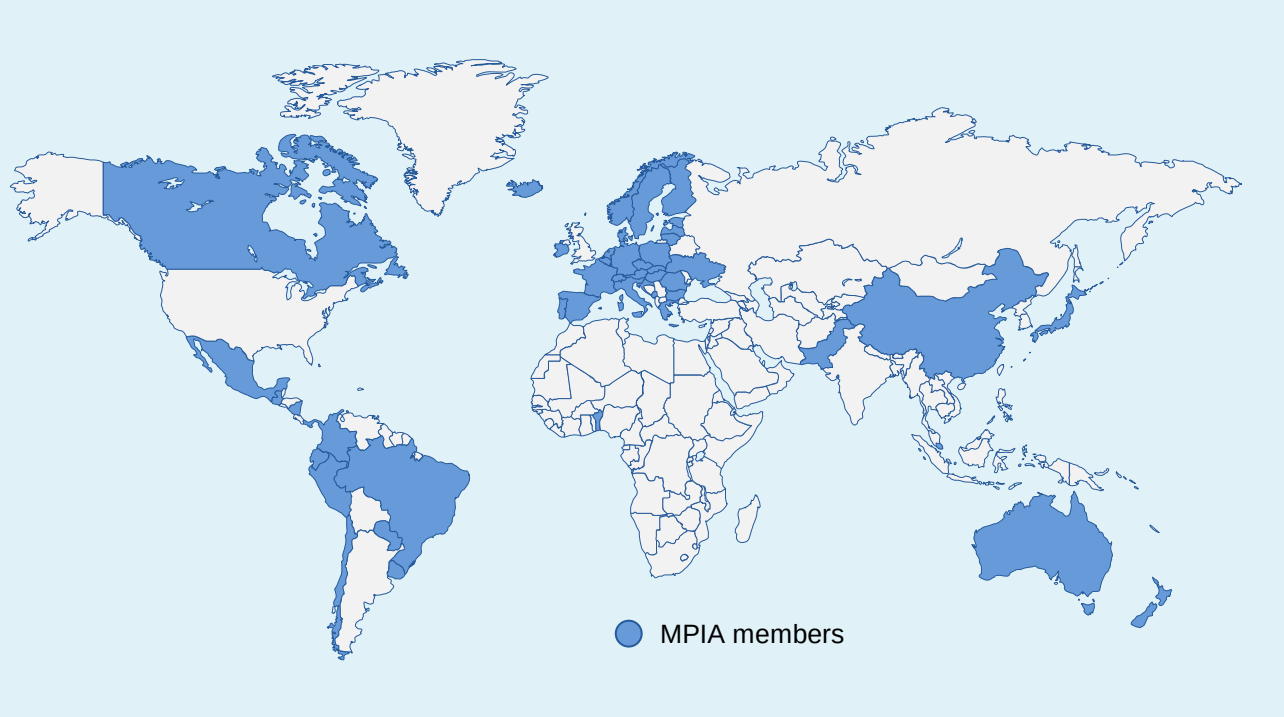
In response to the ceasing of Appellate Body functions, select WTO members established the Multi-Party Interim Appeal Arbitration Arrangement (MPIA) in 2020. The MPIA acts as a temporary substitute for the Appellate Body, allowing members to resolve their disputes through arbitration (WTO 2023b).[3] However, the MPIA is not a comprehensive solution. It does not include the US, which remains the largest trading partner for many WTO members, it lacks the formal authority of the Appellate Body, and it does not prevent countries from appealing cases to the non-functioning Appellate Body.

Appealing a case to the non-functioning Appellate Body places the case on the backlog of existing cases that are yet to be heard. This was most recently seen in a concern raised by the EU regarding an EU-India tariff dispute. The dispute, which has been ongoing since 2019, was appealed for panel ruling by India on 8 December 2023. The EU has objected, stating that India's appeal to the defunct Appellate Body means that the EU is deprived of its right to have the dispute resolved through adjudication.

2 Disputes are initiated by a request for consultations addressed to the member whose measures are being challenged. These are first instance disputes, which are typically followed by a panel judgment which can then be appealed.
3 The current 26 MPIA participants are: Australia, Benin, Brazil, Canada, China, Chile, Colombia, Costa Rica, Ecuador, EU, Guatemala, Hong Kong, Iceland, Japan, Macao, Mexico, Montenegro, New Zealand, Nicaragua, Norway, Pakistan, Peru, Singapore, Switzerland, Ukraine, and Uruguay (MPIA 2021) – figure 3.4.

At its February 2024 Ministerial Conference (MC13), the WTO reaffirmed its commitment to having a fully and well-functioning dispute settlement system accessible to all members by 2024 (WTO 2024e). At the same conference, however, the US reaffirmed its lack of support for any recommencement of the Appellate Body, while its long-standing concerns with WTO dispute settlement remain unaddressed (WTO 2024a).

Figure 3.4 – Current MPIA members



Source: (MPIA 2024)

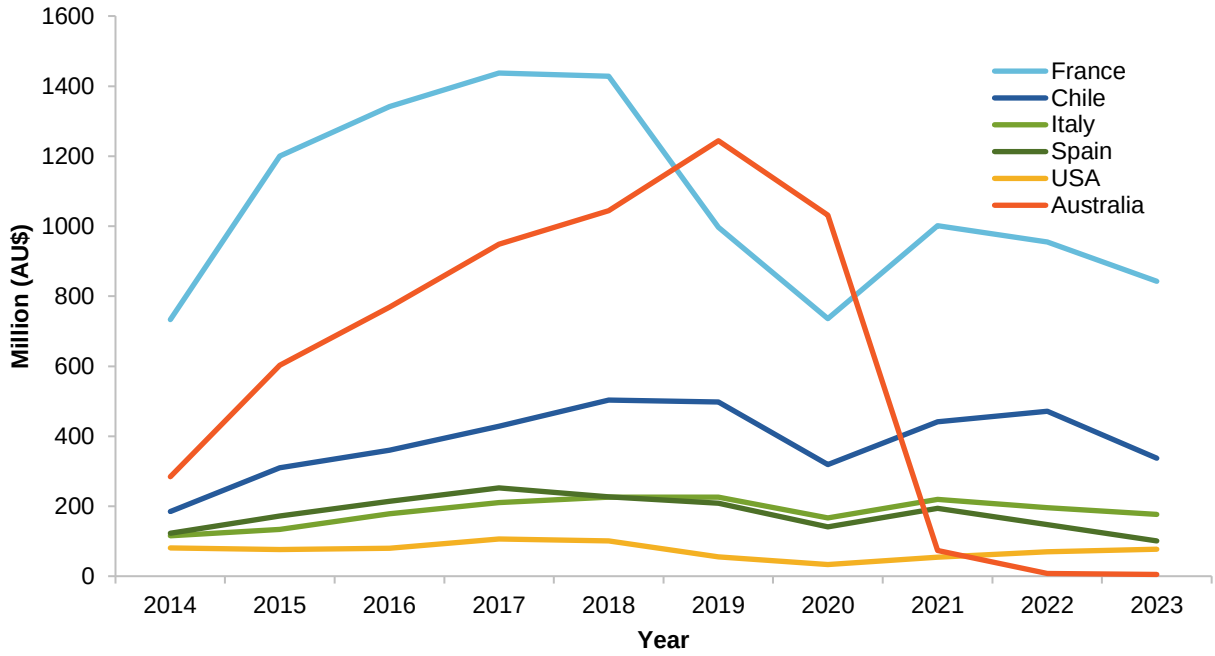
Nevertheless, Australia has made some progress on trade disputes

Despite the inoperable Appellate Body, two of Australia's four WTO disputes explored in TAR 2021–22 have since been resolved. The barley-duties dispute (DS598) was resolved after China removed these duties in August 2023. And the wine-duties dispute (DS602), which involved duties on Australian wine ranging from 116.2% to 218.4% (Gleeson, Addai and Cao 2021), saw duties removed in March 2024. The removal of these duties followed a 'mutual agreement' between the parties. In addition, China announced it was lifting its suspension on imports from five major Australian meat processing establishments in May 2024, effectively leaving lobsters as the last major agricultural product facing trade restrictions from China (Watt 2024).

The removal of these duties and trade restrictions represent steps towards the normalisation of Australia's trade relationship with China (figure 3.5), though likely not a marked change to the global export opportunities for these industries. As explored in TAR 2021–22, many Australian exports impacted by Chinese trade restrictions were able to find alternative international markets during the period (PC 2023).

Figure 3.5 – Largest annual wine exports to China 2014 - 2023

Tariffs on Australian wine reduced exports to China across 2020 – 2023

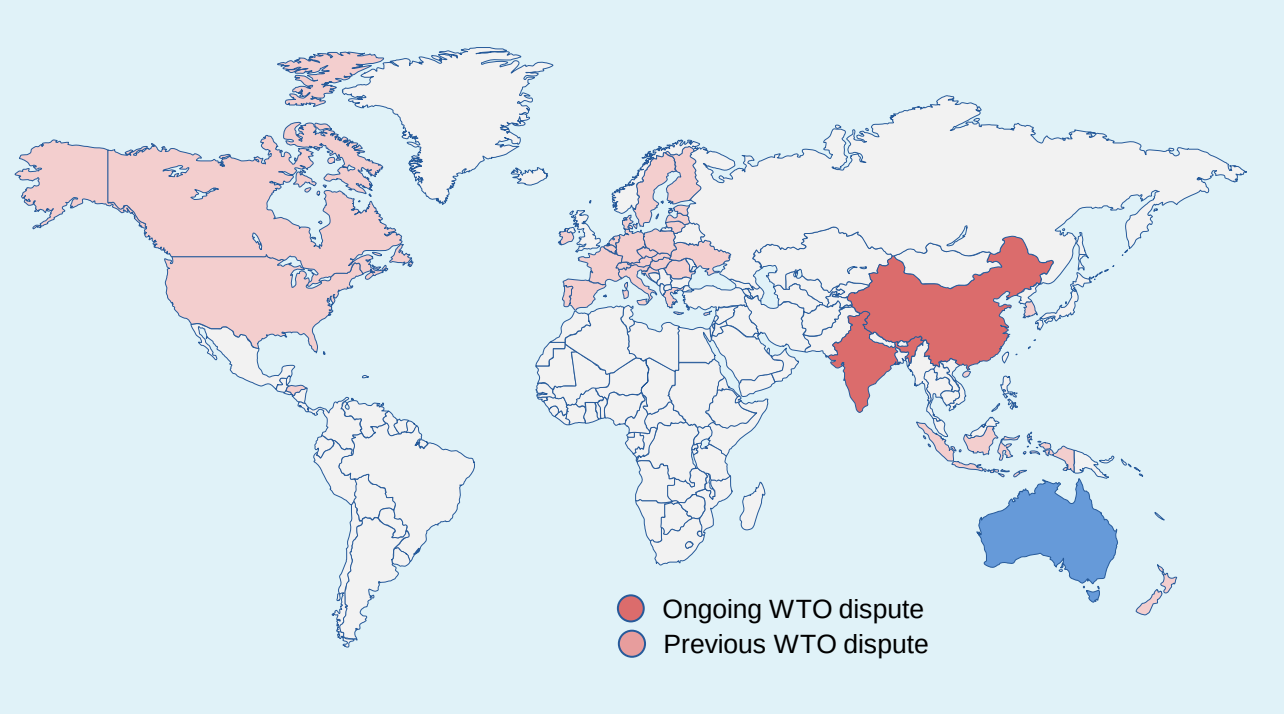


Source: (International Trade Centre 2023)

This leaves Australia with two active disputes in the pipeline, one as a complainant and one as a respondent (figure 3.6):

- India (*DS580*) – Australia as a complainant towards India's sugarcane and sugar policies. As reported in the previous TAR, the dispute's most recent status was the release of a panel report in 2021 which found that India had provided domestic support and export subsidies that were inconsistent with WTO trade rules. India notified the WTO of their decision to appeal to the Appellate Body, which effectively stalls the dispute resolution process until the Appelate Body resumes operation.
- China (*DS603*) – Australia as a respondent to China's anti-dumping and countervailing measures claims surrounding certain steel products. A panel report issued 27 March 2024 found technical issues with the way in which Australia's Anti-Dumping Commission (AADC) calculated the duties originally imposed on the relevant products in 2014, 2015 and 2019 respectively. The Government has committed to implementing the panel's findings and assessing the AADC's calculations (Farrell 2024).

Figure 3.6 – Countries with an ongoing or previous WTO dispute with Australia [a]



a. Excludes disputes to which Australia is a third party. WTO reporting on disputes also leaves some disputes technically 'active' despite having lapsed or not yet continued, for example dispute numbers DS270 and DS271 regarding importation of fresh fruit and vegetables from the Philippines.

Source: (DFAT 2024c; WTO 2024b)

3.3 Developments in regional trade agreements

Australia has also been active in negotiating and implementing a variety of trade agreements. Some bilateral trade negotiations have continued, some have stalled, and the membership of multilateral trade agreements that Australia is party to have expanded.

Australia has made progress on a number of trade agreements

Indonesia and the Philippines joined the *Regional Comprehensive Economic Partnership* (RCEP), following their entry into force on 2 January and 2 June 2023 respectively (RCEP 2023). This brings the number of countries that are party to the partnership to 15 in the Asia-Pacific region, continuing its status as the world's largest free trade agreement (FTA) according to members' GDP (DFAT 2024b).

Indo-Pacific Economic Partnership (IPEF) partners also signed the Supply Chain Agreement and announced substantial conclusion of the negotiations of the Clean Economy Agreement and Fair Economy Agreement on 16 November 2023. The 'Trade' pillar of these negotiations has made significant progress, with negotiations to continue in 2024 (DAFF 2024).

In addition, the United Kingdom was granted accession to the *Comprehensive and Progressive Trans-Pacific Partnership* (CPTPP) in late 2023, becoming the 12th member country and first new member following two years of negotiations (Ayres and Farrell 2023). Potential future members of the CPTPP include China, Thailand, Taiwan, and South Korea (Commonwealth of Australia 2022, pp. 55–56).

Negotiations have continued on a number of bilateral agreements

Negotiations continued between Australia and India on the Comprehensive Economic Cooperation Agreement (CECA). Negotiations re-commenced in late 2022 after the signing of the earlier Economic Cooperation and Trade Agreement (ECTA). The Department of Foreign Affairs and Trade is currently inviting submissions from stakeholders to inform the CECA negotiations (DFAT 2024a).

Negotiations between Australia and United Arab Emirates (UAE) also commenced on the Comprehensive Economic Partnership Agreement (CEPA) over 2023, with Australia targeting increased exports of alumina, meat, oil seeds, and education services to the UAE (Farrell 2023).

But have stalled on others

Australia and the EU have so far been unable to conclude negotiations of an FTA. The Australian Government has said it needs to see a higher level of ambition from the EU on Australia's key agricultural market access requests to move forward. Australia and the EU have agreed that negotiations will continue. On 9 July 2023 New Zealand and the EU signed an FTA, which entered into force on 1 May 2024 (MFAT (NZ) 2024), and which caused some discontent amongst the New Zealand agricultural sector.

New forms of trade liberalisation also emerged

A notable form of trade liberalisation occurred between Australia and the United States. This occurred outside of the existing US-Australia FTA when Australia was added to the definition of 'domestic source' for the purposes of the *United States National Defence Authorisation Act.* This classification provides an exemption that means most Australian acquisitions of, and collaboration on, specific military productions are no longer subject to US export licence processes (Conroy 2023).

4. Foreign investment policy developments

Key points

Australia's net foreign liability position with the rest of the world declined in 2023.

- Net foreign liabilities declined to 31.9% of GDP at the end of 2023 from 38% at the end of 2022, a continuation of the reduction of Australia's net financial liability position over recent years.
- Australia's overall net liability position is driven by a net liability position in debt. However, Australia has a growing net asset position in equity, which increased from 9.7% to 14.1% of GDP over 2023.

Superannuation and other pension funds, a key component of Australian investment abroad, are recovering from a fall in late 2022.

- From 2022 to 2023, the total value of assets held by super and pension funds increased by 11.4% in nominal terms, and 6.3 percentage points as a proportion of GDP.

The sources and sectoral allocation of foreign direct investment (FDI) have remained steady.

- The top source countries continued to be the United States, the United Kingdom, Japan, Canada and China. FDI from these sources was equivalent to 24% of GDP.
- The top destination sectors continued to be Mining, Finance and insurance, and Property and business services. FDI in these sectors was equivalent to 25.9% of GDP.

Fees for FDI in Australia continued to rise, building on fee increases and increased screening regimes introduced in 2021

- In 2022-23, foreign investment application fees doubled (from 29 July 2022), residential land penalties doubled (from 1 January 2023), and monetary screening thresholds for certain investments for United Kingdom investors increased (from 31 May 2023).
- In 2022-23, the total value of foreign investment applications fell to $179 billion, down from $338 billion the previous year. However, year-to-year volatility in FDI means that it is too early to attribute this decline solely to the fee increases and the increased screening regimes introduced in 2021.

The government announced reforms to strengthen and streamline Australia's foreign investment framework.

- The reforms are designed to protect Australia's national interests; and to streamline consultation and assessment processes for foreign investment proposals, to attract investment and enable low-risk capital to flow quickly.

Foreign investment is an important source of economic and productivity growth. It allows for greater investment than would be possible using domestic savings alone, increasing the stock of capital available to workers and promoting growth in labour productivity, employment and real wages. Foreign investment can also promote productivity growth through the transfer of knowledge and methods between countries. Some foreign investors are at the international frontier of technology and innovation and transfer many of their advantages to their affiliated firms, with spillovers to the rest of the local economy (PC 2020, p. 58).

Despite the positive contributions foreign investment can have on Australia's economy, it is not without its policy challenges. Foreign direct investment (FDI) – that is, investment that allows foreign investors some degree of influence over the management of domestic firms – can sometimes raise competition policy concerns. Foreign control of assets or infrastructure with strategic value can also raise national security concerns.

These challenges have led the Australian Government to require that foreign investors wishing to make direct investments in Australian companies seek, and be granted, government approval. This foreign investment screening process has included an explicit national interest test since 1986 and a national security test since 2021. The fees associated with these screenings and the range of investments which are subject to them have increased in recent years. In May 2024, the Treasurer announced further reforms to Australia's foreign investment framework, designed to strengthen the foreign investment framework and streamline the approval process (Treasury 2024c). These reforms are intended to focus scrutiny on high-risk investments to protect Australia's national interest, while streamlining low-risk investments to allow capital to flow into Australia quickly (Treasury 2024a).

Since 2021, the Trade and Assistance Review (TAR) has reported on the trends, drivers and effects of foreign investment. In much the same way that the TAR seeks to shed light on policy settings that affect the free flow of goods and services into Australia, and which act as industry assistance more generally, it also seeks to shed light on impediments to the free flow of investment into Australia. This chapter focuses on key developments in foreign investment flows, FDI applications and the foreign investment policy landscape.

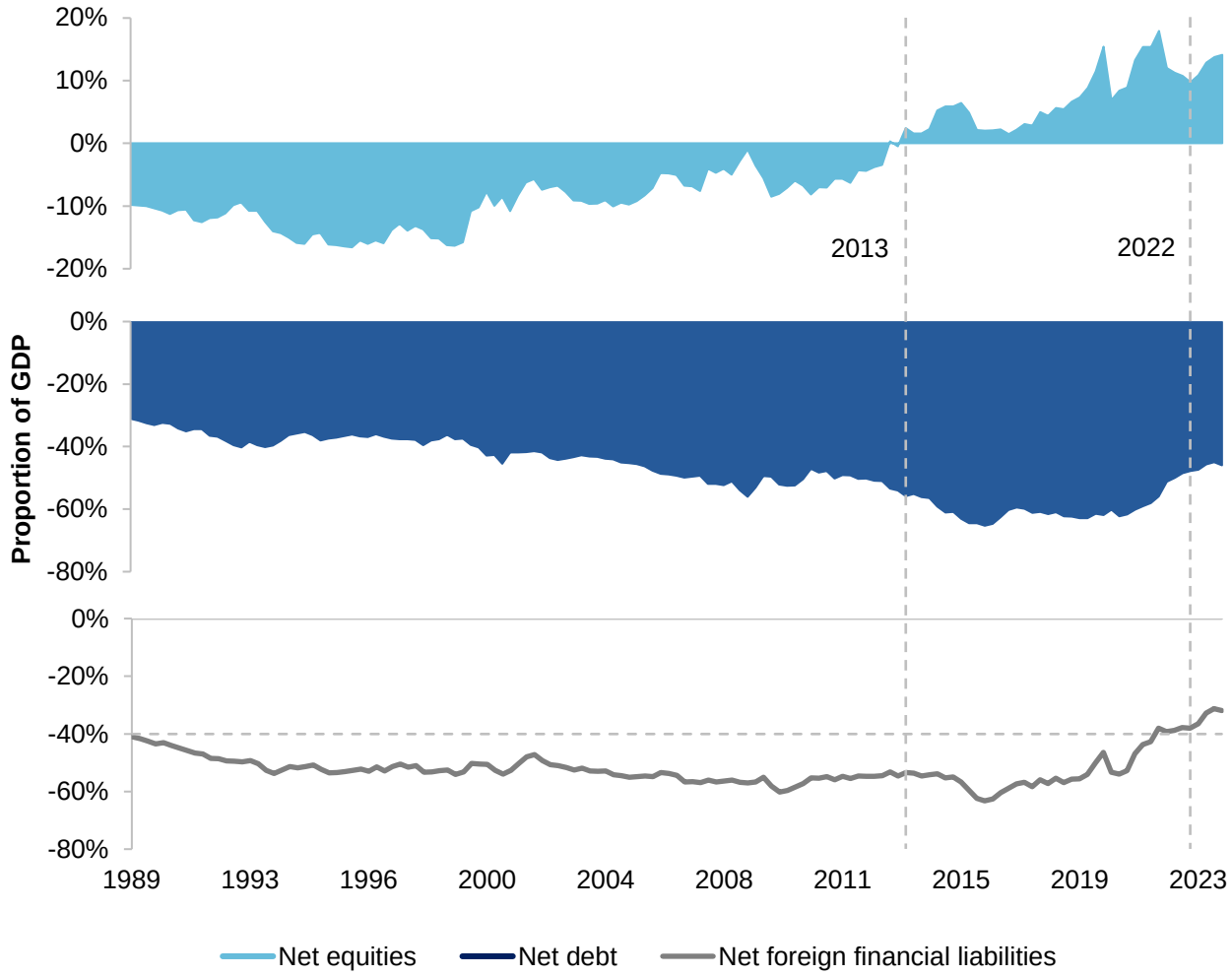
4.1 Developments in foreign investment

Australia is a net debtor, with more foreign liabilities than assets (figure 4.1). In other words, there has been more investment into Australia from overseas than investment overseas by Australians. This reflects that historically there have been more investment opportunities in Australia than domestic savings. Australia's net financial liability position, comprised of both net debt and net equity holdings, reduced to 31.9% of GDP at the end of 2023 from 38% at the end of 2022, continuing its trend decline since 2015.

Although Australia continues to hold a net financial liability in debt, it has held a net asset position in equities since 2013. Australia's net equity position increased to 14.1% of GDP at the end of 2023, up from 9.7% at the end of 2022. Australia's net debt position was 46% of GDP at the end of 2023, down from 47.8% of GDP at the end of 2022.

Figure 4.1 – Australia's net investment position continued to increase

Net foreign liabilities as a proportion of GDP, to 31 December 2023[a]



a Net foreign financial liabilities is the sum of net equities and net debt.

Sources: Productivity Commission estimates based on ABS (*Australian National Accounts: National Income, Expenditure and Product, December 2023*, Cat. No 5206.0; *Balance of Payments and International Investment Position, Australia, December 2023*, Cat. No. 5302.0).

Australia's growing net asset position in equities partly reflects the growth of superannuation over recent decades. Australian superannuation was the world's fourth largest pool of managed funds as a proportion of GDP and the fifth largest in United States dollar terms at the end of 2023 (Marissa et al. 2024, p. 15). A large proportion of it has been invested in equities (figure 4.2), with the proportion of funds invested in international equity increasing gradually over the past 15 years to its highest level (23.3% as a proportion of GDP) since 1989.

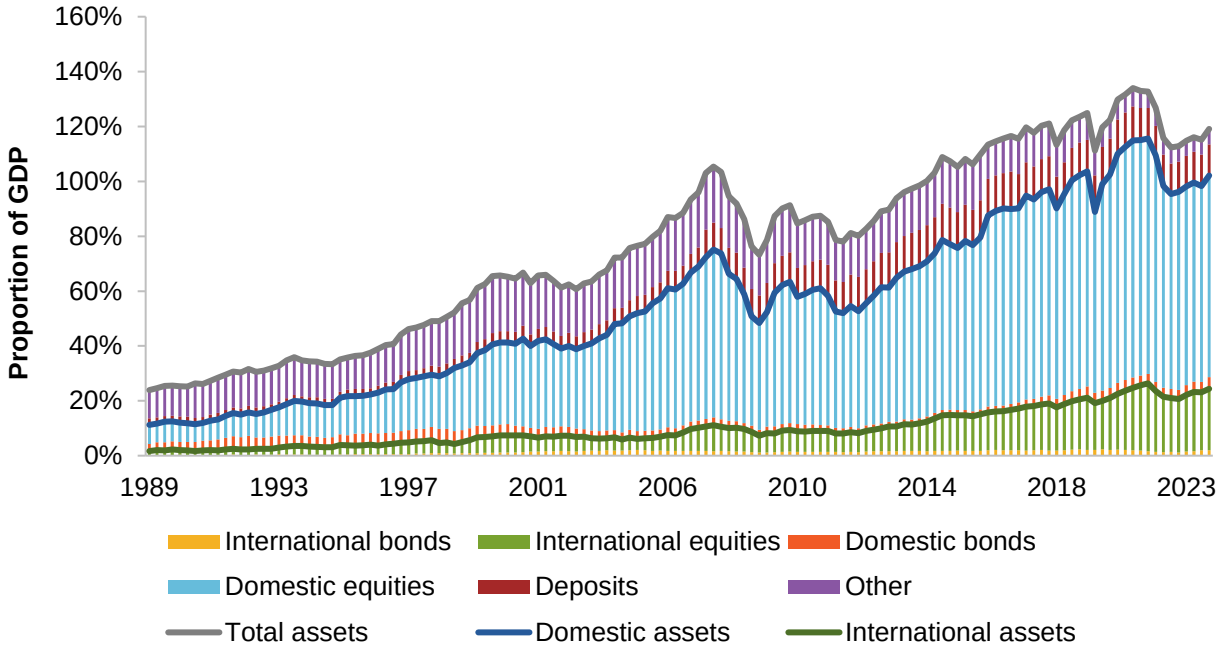
Over the course of 2023, the total value of assets held by super funds increased by 11.4% in nominal terms, and 6.3 percentage points as a proportion of GDP.[1] The rise in the value of assets held by super funds

[1] Given relatively large increases in nominal GDP over the past three years (partly driven by inflationary pressures), increases in nominal values of economic variables have been moderated when measured relative to GDP, while decreases in the nominal values of economic variables have been intensified. Nominal GDP grew 5.6% over the course of 2022, 12.5% over the course of 2021 and 11.5% over the course of 2020 (ABS 2024a).

partially reversed the decline witnessed over the course of 2022, when the value of assets fell by 4.3% in nominal terms and 19.9 percentage points as a proportion of GDP.

Figure 4.2 – Australian pension funds are recovering from a fall in late 2022

Gross assets as a proportion of GDP, to 31 December 2023



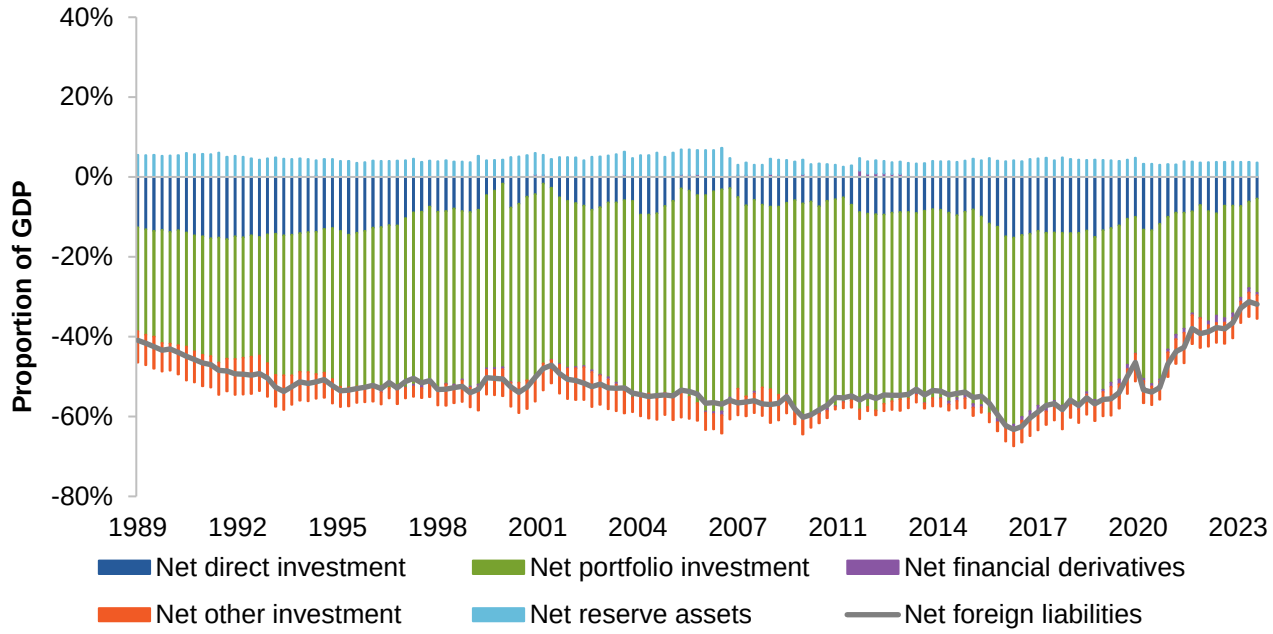
Sources: Commission estimates based on ABS (*Australian National Accounts: National Income, Expenditure and Product, December 2023*, Cat. no. 5206.0; *Australian National Accounts: Finance and Wealth, December 2023*, Cat. no. 5232.0).

Australia's net financial position can be broken down between portfolio investment (investment that does not come with a controlling interest in firms or assets) and direct investment (investment that grants the foreign investor a significant degree of influence over their management) (box 4.1). The bulk of investment in Australia comes from portfolio investment (figure 4.3).

Net portfolio investment and net direct investment in Australia both fell as a proportion of GDP. Net portfolio investment fell to 23.7% at the end of 2023, down from 28.2% of GDP at the end of 2022, while net direct investment fell to 5.4% – its lowest proportion of GDP since 2010, and down from 7.2% over the same period. Both fell in nominal terms and as a proportion of GDP. Only around one-third of the fall in portfolio investment and one-fifth of the fall in direct investment as a proportion of GDP can be attributed to the denominator effect of nominal GDP growth.

Figure 4.3 – Foreign investment in Australia fell in both portfolio and direct investment

Net foreign liabilities as a proportion of GDP, to 31 December 2023



Source: Productivity Commission estimates based on ABS (Australian National Accounts: National Income, Expenditure and Product, December 2023, Cat. no. 5206).

Box 4.1 – Forms of foreign investment

Foreign direct investment (FDI) is investment in an enterprise or asset where the foreign investor has control, or a significant degree of influence, over its management. Generally, investment is considered to be direct investment when an investor holds at least 10% of the voting power in an organisation but can also involve situations where the foreign investor has the ability to affect the decisions of the enterprise, for example, if they were granted a seat on the company's board.

FDI is normally of more interest to policymakers than other types of foreign investment, because it entails some degree of direct control by a foreign investor. FDI provides an investor with more scope to influence the operations of the business (and gives them greater access to potentially sensitive information) than other forms of investment. FDI is generally believed to offer a range of additional benefits to that offered by portfolio investment — it generally has a long-term focus, with the most direct effects on capital formation and with the greatest scope for the transfer of technology, innovative management practices and other valuable knowledge.

Portfolio investment is investment in an enterprise or asset where the investor does not have a controlling interest. This might include a foreign investor purchasing shares or bonds issued by an Australian company, but not in a sufficiently large quantity to gain a controlling interest in the company. While FDI is assumed to provide economic benefits through the transfer of technology and knowledge, portfolio investment flows provide economic benefits by acting as an additional source of investable funds than would otherwise be available through domestic savings alone. By providing access to a

Box 4.1 – Forms of foreign investment

deeper pool of investable funds, portfolio investment can support the efficient pricing of assets and reduce the perceived risk of making investments through primary markets, in so far as deeper secondary markets increase the perceived likelihood of subsequently being able to on-sell those assets. All else equal, these characteristics should reduce financing costs.

While FDI and portfolio investment constitute the main forms of foreign investment, there are other investment types. For example, foreign investment may occur through financial derivatives, which are financial instruments whose value is linked to the value of other financial instruments, indicators or commodities. Investment in derivatives is often undertaken to manage (or hedge) risks but can also be undertaken by financial market traders, seeking to position themselves to profit from price movements in linked asset markets. The ABS also measures investment involving reserve assets (that is, assets controlled by the RBA), and other investment (which is a residual category for foreign investment that does not readily fit into the other categories).

Source: PC (2020, pp. 25–26).

Most inbound portfolio investment continued to originate from the United States, Belgium, the United Kingdom, Luxembourg and Japan.[2] An increase in portfolio investment from the rest of the world offset small falls in investment from the United States and the United Kingdom (figure 4.4).[3]

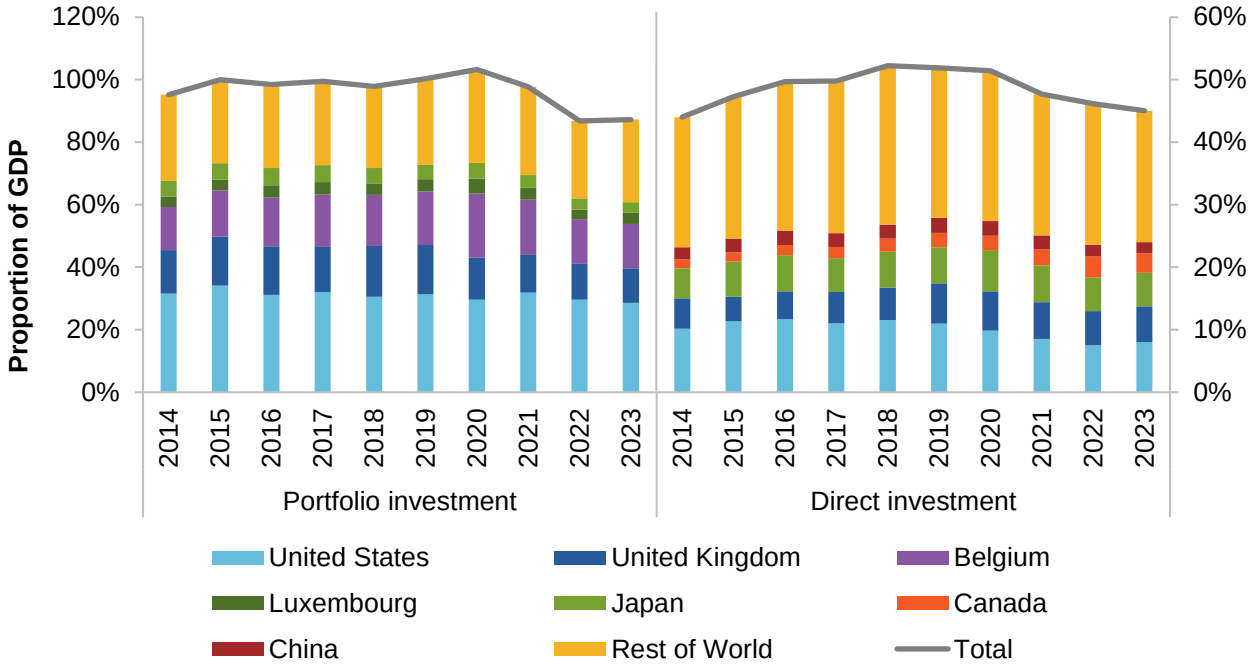
Most inbound direct investment continued to originate from the United States, the United Kingdom, Japan, Canada and China. Direct investment from the United States and United Kingdom increased in nominal terms and as a share of GDP. Investment from Japan increased only in nominal terms and investment from Canada and China remained stable.

2 Belgium hosts Euroclear, a major clearing house and depository for euro-denominated bonds and other securities (Euroclear 2023).

3 This data reflects the immediate source country of the invested funds which, in some circumstances, may differ from the ultimate source (beneficial ownership source) of those funds.

Figure 4.4 – Portfolio investment and direct investment in Australia remained stable

Outstanding stock of portfolio investment (LHS) and direct investment (RHS) in Australia as a proportion of GDP, by source country

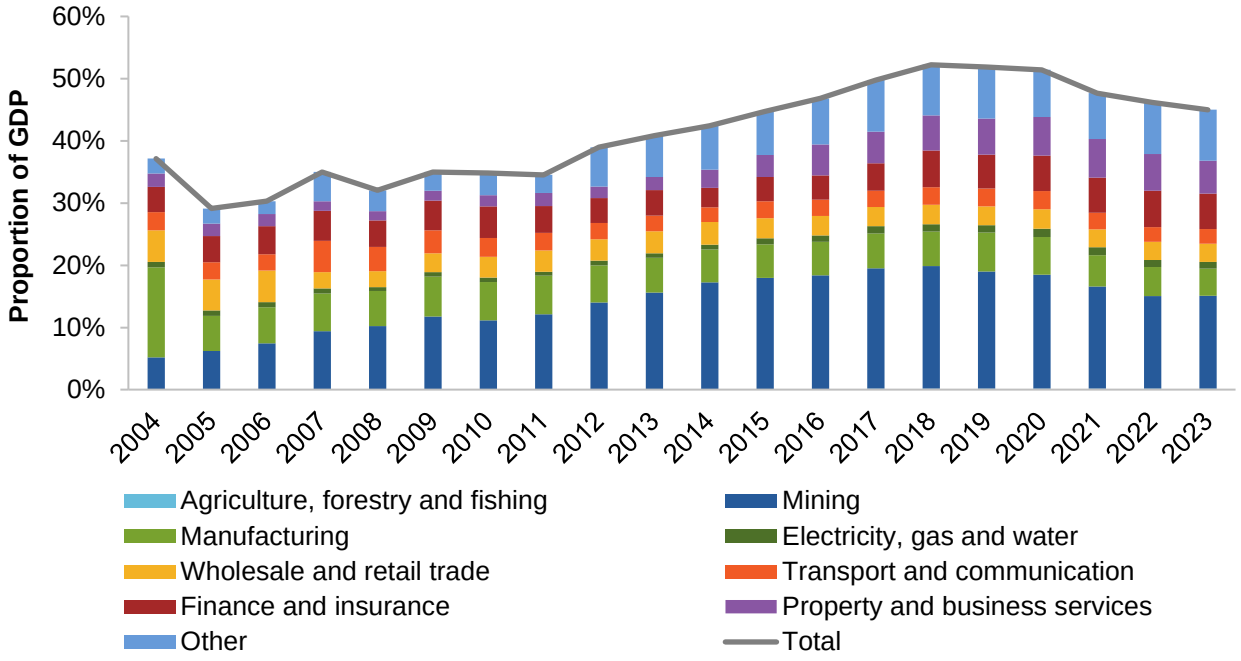


Source: Productivity Commission estimates based on ABS (*International Investment Position, Australia: Supplementary Statistics, 2023,* Cat. No. 5352).

Direct investment in Australia remained stable across industries relative to 2022 (figure 4.5). The largest increase was in mining (6.1% in nominal terms but only 0.1 percentage points as a share of GDP), which remained the largest investment destination. The largest fall was in property and business services (5.2% in nominal terms and 0.6 percentage points as a share of GDP).

Figure 4.5 – Direct investment across Australia's industries also remained stable

Direct investment in Australia as a proportion of GDP, by sector[a]



a Other includes direct investments not allocated to one sector (5.5% of GDP in 2023) and those allocated to healthcare and social assistance (0.3%), administrative and support services (0.2%) and other sectors with data not available for publication.

Source: Productivity Commission estimates based on ABS (*International Investment Position, Australia: Supplementary Statistics, 2023,* Cat. No. 5352).

4.2 Developments in foreign investment policy

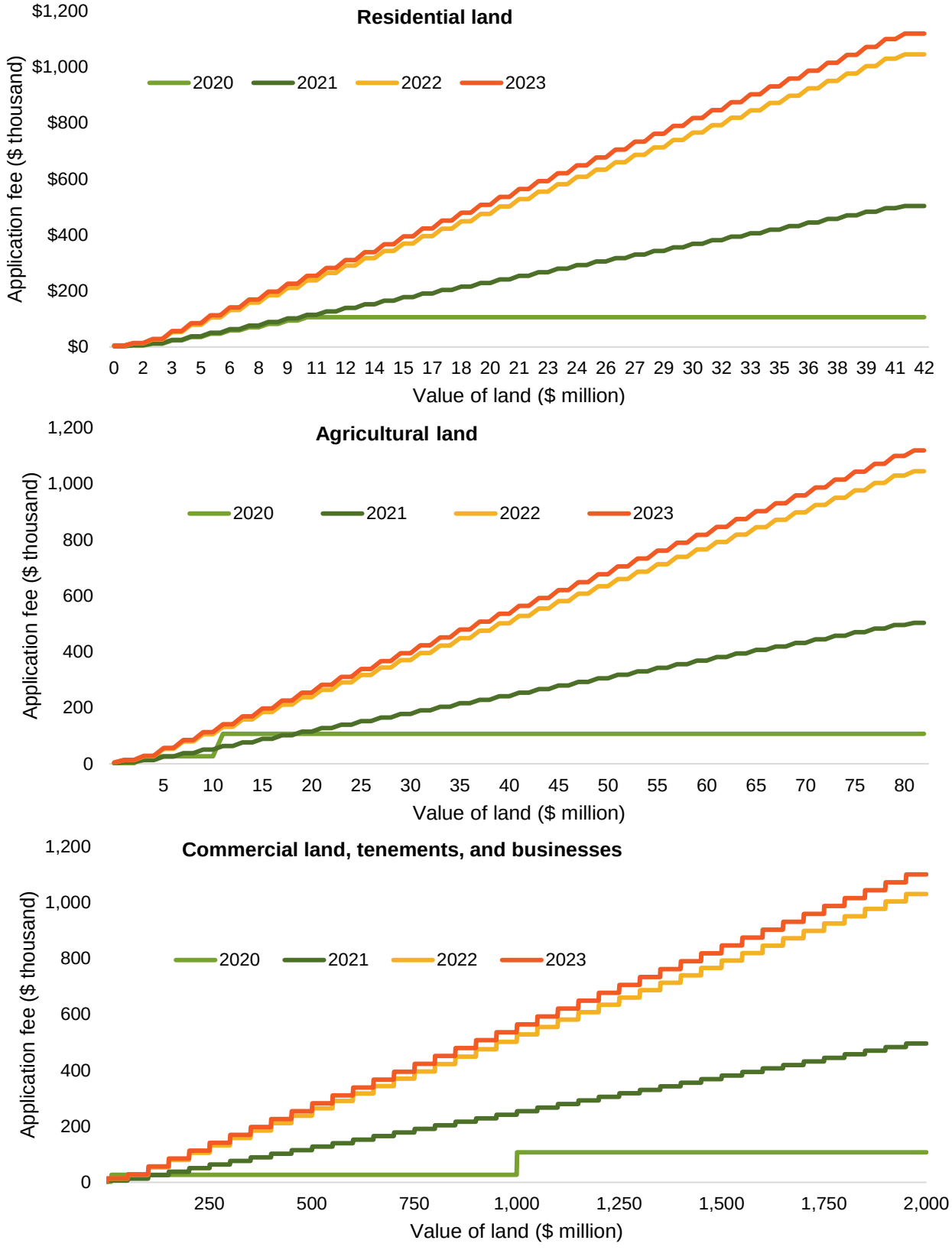
TAR 2021–22 examined changes to Australia's foreign investment screening regime, which were motivated by national security concerns, and were operational from 1 January 2021. These changes increased the level of screening that foreign investors face in at least three ways.

1. They expanded the range of sectors for which proposed investments require approval
2. They lowered the threshold at which investment approval requirements are triggered
3. They increased the powers that the Treasurer has over proposed investments, and over investments that have been approved in the past.

TAR 2021–22 also explored the way in which foreign investment fees (particularly on the acquisition of land) have increased markedly over recent years and have come to raise more revenue than is required to cover the costs of the foreign investment screening process – thereby amounting to a tax on foreign investment intentions and, by extension, a tax on foreign investment itself (figure 4.6).

Figure 4.6 – Foreign investment application fees have increased significantly

Acquisition of land, single action fees (current dollars)



Source: Foreign Investment Review Board (FIRB, 2020-2024).

Changes to foreign investment policy

Some of these trends continued, with another doubling of foreign investment application fees from 29 July 2022 (FIRB 2023) and a further increase in fees from 9 April 2024, including:

- tripling foreign investment fees for the purchase of established homes
- doubling vacancy fees for all foreign-owned dwellings purchased since 9 May 2017
- enhancing the ATO's compliance regime to ensure foreign investors comply with the rules (ATO 2024).

Other changes included the doubling of residential land penalties from 1 January 2023 (for contraventions of provisions in the Foreign Acquisitions and Takeovers Act 1975), an increase in monetary screening thresholds for certain investments for United Kingdom investors (following the Australia–United Kingdom Free Trade Agreement entering into force on 31 May 2023) (Treasury 2024b), and applying the commercial fee schedule to foreign investment applications for eligible build to rent projects from 14 December 2023 (ATO 2024).

Reforms to strengthen Australia's foreign investment framework

Similarly, on 1 May 2024, the government announced further reforms to Australia's foreign investment framework (Treasury 2024c) The reforms are intended to strengthen and streamline Australia's foreign investment framework by introducing a two-tiered, risk-based approach to reviewing foreign investment proposals. They will focus on investments that are judged to pose potential high risks to Australia's national security interests, while streamlining low-risk investment proposals to allow capital to flow into Australia quickly. Foreign investment proposals, and their risk profile, will be assessed on a case-by-case basis with respect to the investor, the target of their investment and the structure of the transaction (Treasury 2024a).

Strengthening the foreign investment framework

The Australian Government will dedicate greater resources and apply more scrutiny, in terms of assessing the economic benefits and security risks of foreign investment proposals in sensitive sectors of Australia's economy. These sectors include critical infrastructure, critical minerals, critical technology, investments in close proximity to defence sites and those that involve sensitive data sets. Additional scrutiny may also be applied to foreign investment proposals in the agricultural sector, in residential land and with tax arrangements that pose a risk to fiscal revenues (Treasury 2024a).

The Australian Government will also dedicate greater resources to Treasury's foreign investment compliance team, which is responsible for monitoring and enforcing compliance with conditions imposed on high-risk foreign investment. This includes increasing Treasury's capacity to undertake on-site visits and to respond to the Treasurer's 'call-in' power to review investments that may pose a national security concern (Treasury 2024a).

Streamlining the foreign investment framework

The government will streamline consultation and assessment on foreign investment proposals that are deemed low-risk. Treasury has set out that proposals by investors who are well known to Treasury, have a good compliance record, are investing in non-sensitive sectors and investing under a clear ownership structure are more likely to be deemed low-risk. Low-risk applications will have their consultation timeframes shortened, in line with a new target for Treasury to process 50% of investment proposals within 30 days starting from 1 January 2025 (Treasury 2024a).

Other elements of the reforms seek to attract low-risk foreign investment and direct capital to national priority areas. These include (Treasury 2024a):

- reducing requests for duplicate information from repeat investors whose ownership information has not changed since their previous foreign investment application
- providing refunds of application fees for foreign investment proposals that do not proceed because investors are unsuccessful in a competitive bid process
- allowing foreign investors to buy established build to rent developments and lowering the application fees for this type of investment
- implementing an exemption from mandatory notification requirements for passive or low-risk interfunding transactions,[4] such as routine transactions by large institutional investors.

By dividing foreign investment proposals into two groups – low-risk proposals with lower application costs, and higher-risk proposals with higher application costs – the reforms have the potential to improve the efficiency of the foreign investment application process by better directing screening resources to their best use. While the proposed foreign investment framework is non-discriminatory with respect to source countries, it is not with respect to industries, and it is plausible that it will ultimately impact the composition and quantum of foreign direct investment applications into Australia. Given the volatility of year-to-year foreign investment applications, the potential impact of these reforms (as well as the impact of other recent policy and fee changes) may only become observable over time.

4.3 Foreign direct investment applications

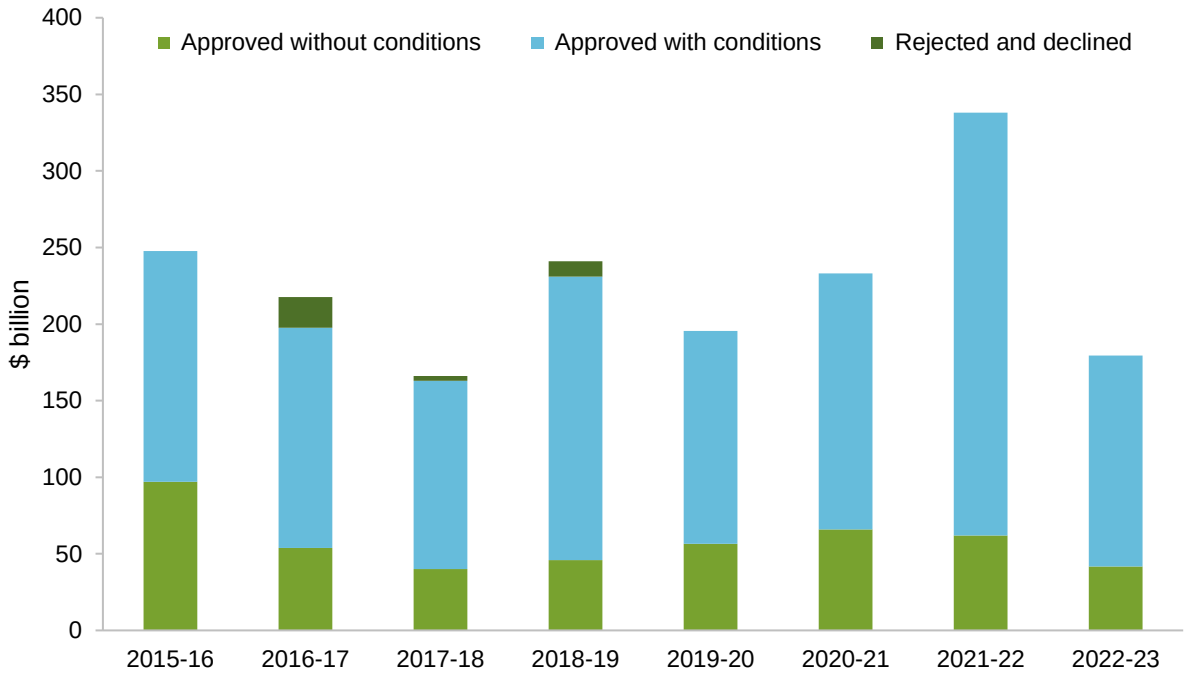
In 2022-23, the total value of approved foreign investment applications fell to $179 billion, down from $338 billion the previous year and $233 billion the year before (figure 4.7). This fall was due to the average size of investment proposals falling, with the *number* of approved applications increasing by 13% over the year (from 6,996 in 2021-22 to 7,886 in 2022-23) (Treasury 2023).

It would be premature to interpret the fall in the value of foreign investment applications as a preliminary sign that increased fees and a tighter screening regime are affecting foreign investment decisions. Foreign investment applications are typically volatile on a year-to-year basis, and any meaningful assessment of the effect of recent policy changes would need to be compared with a well specified counterfactual. For example, changes in broader macroeconomic conditions, such as fluctuations in exchange rates, interest rates, changes in tax treatment of assets (relative to other countries), and investor sentiment can all affect foreign investment decisions. Movements in these variables would need to be considered in any meaningful analysis of the effect of recent changes to Australia's foreign investment screening and approvals regime.

[4] Interfunding refers to transactions between investment entities that are managed by the same responsible entity or a related responsible entity (Treasury 2024a). They are generally high-volume and low-value transactions that can occur multiple times per day.

Figure 4.7 – The value of foreign investment applications is variable year-on-year

Value of foreign investment applications; $ billions; 2015-16 to 2022-23[a]



a A rejected application means that the application is prohibited from proceeding. A declined application means that an exemption to meet certain conditions associated with foreign investment was not granted. Treasury has not reported the number or value of rejected and declined applications since 2022. One application was subject to a prohibition order in 2022-23, but its value is not reported; it is therefore excluded from this figure.

Sources: Treasury (2023a), FIRB (2021), FIRB (2020).

Appendices

A. Empirically identifying comparative advantage

For this edition of the Trade and Assistance Review (TAR), the Commission has reviewed a number of existing methodologies to identify which sectors a country is likely to enjoy a comparative advantage in. Applying these methods to the Australian economy has allowed the Commission to better understand the relative merits of these empirical approaches.

Generally speaking, empirical approaches to identifying the comparative advantage of nations can be broken down into ex-ante and ex-post approaches:

- Ex-ante (theoretical) – based on the intrinsic characteristics of a country. For example, relative levels of labour productivity in each industry or the relative endowments of certain factors (labour, land, capital, natural resources etc).
- Ex-post (revealed) – based on the actual trade patterns observed between countries.

Specific empirical approaches that fall within these categories include:

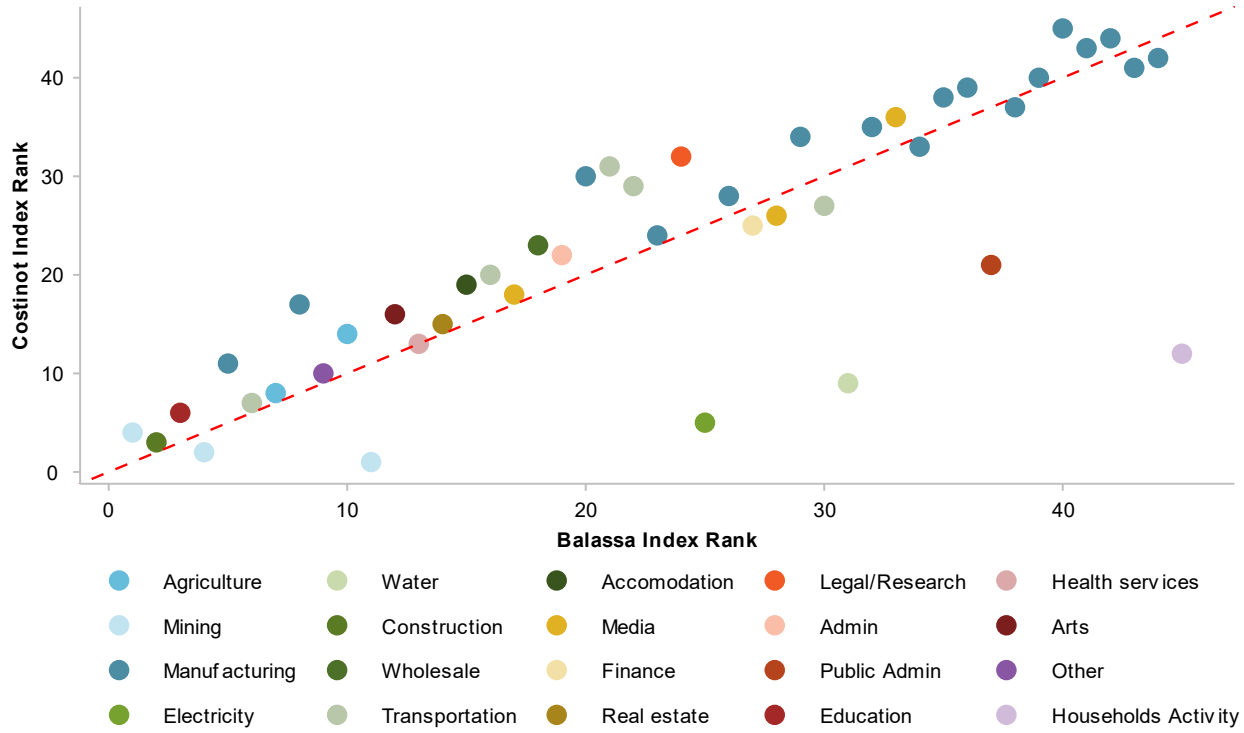
- The *Ricardian Index* compares a country's sectoral productivity with its overall productivity. Sectors in which a country is particularly productive, could be sectors in which that country is likely to have a comparative advantage.
- The *Balassa Index* compares the export intensity of each sector to the global ratio of exports to output. A high export intensity in a sector could suggest that a country has a comparative advantage in that sector. Generally speaking, this measure needs to be adjusted to account for cases where a country is a notable exporter of a good or service, not because they enjoy a comparative advantage in that good or service, but because the sector benefits from industry policy. This caveat might not directly apply to Australian export sectors, though it may well do indirectly, through the industry policy supported export sectors of other countries.
- The *Costinot Index* measures a country's revealed comparative advantage by combining these two approaches. The idea here is that the export intensity of a sector (the proportion of a sector's production that is exported) is likely to be higher for sectors with higher productivity.

Each of these empirical approaches were applied to a number of OECD datasets (box A.1) and generated a range of results, a summary of which is presented in section 2.2. As set out in section 2.2, all approaches generally agreed on key sectors in the Australian economy. For example, all three approaches agreed that Australia enjoys a comparative advantage in mining and agriculture, and potentially education. However, there was some disagreement on other sectors. While the Ricardian index generally agreed with the Balassa index and Costinot - which themselves were strongly correlated (figure A.1) - it disagreed on what countries would do poorly (the other 30 industries figure A.2).

Moreover, while the ex-ante comparative advantages themselves were generally consistent with observed trade patterns, ex-post revealed measures were generally difficult to properly adjust for the effect of industry policy and other types of trade distortions within the international economy.

Figure A.1 – Two of the comparative advantage measures provide similar resultsa

Ranking of individual industries according to the Balassa and Costinot index in 2019 (low numbers mean high comparative advantage, high numbers disadvantage)

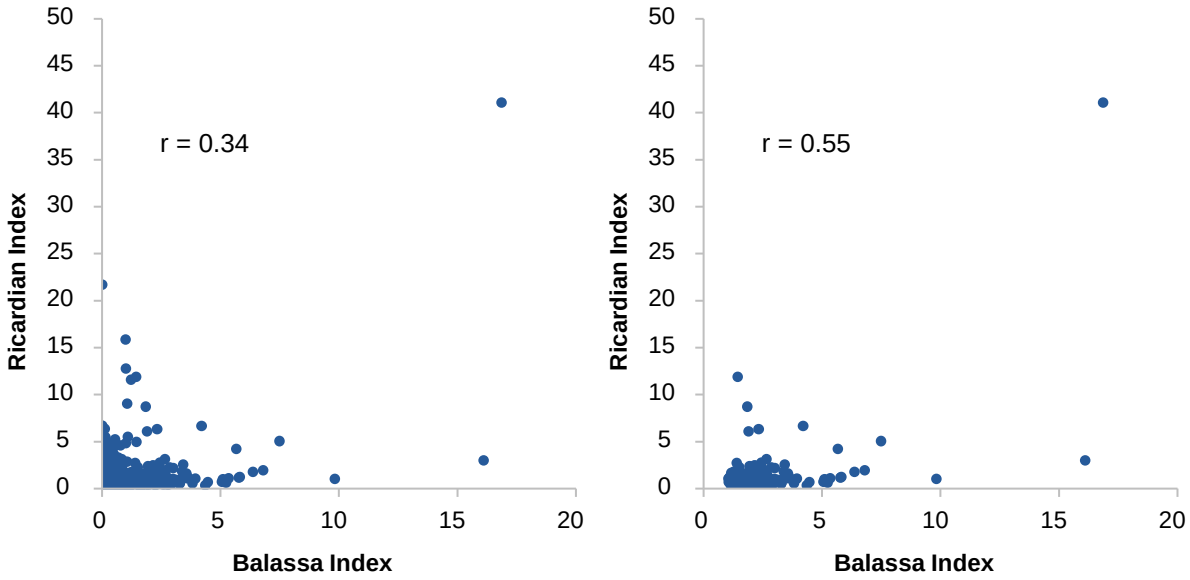


a. Individual data point represents the comparative advantage rankings of one traded commodity at the two-digit HS2017 level. The colour of the data point represents the high-level sector (one-digit HS2017 level) that the commodity falls under.

Source: Productivity Commission estimates using OECD (2024a, 2024b, 2024c).

Figure A.2 – Labour productivity data is able to predict which things a country does best but less so what a country does poorly

Ricardian and Balassa index in 2019 in Australia and trading partners (LHS: all industries, RHS: top 10 industries by Balassa index).



Source: Productivity Commission estimates using OECD (2024a, 2024b, 2024c).

Box A.1 – What data did we use?

In order to estimate the various indices of theoretical and revealed comparative advantage, the Commission required:

- Data on export flows – this was available at either a fairly aggregated level (45 industries)[a] when using the inter-country input-output tables or a very disaggregated level (about 6900 products)[b] when using the Balanced International Trade in Services and the Balanced International Trade in Merchandise datasets.
- Data on labour productivity – defined for this project as gross value added per employee (rather than per hour due to data constraints).[c] Value added was sourced from the Inter-Country Input-Output tables, while employment is sourced from the STAN Industrial Analysis dataset. The information in both datasets was available only at a fairly high level of aggregation (45 industries).

Inter-Country Input-Output tables (ICIO)

The OECD ICIO tables are a combination and harmonization of the various input-output tables produced separately by national statistical agencies of each country (OECD 2024b). This means that all industry definitions match each other (often inconsistent across countries) and import and export values match each other (total exports from one country in a product often do not match the corresponding import data of their trade partners in unadjusted datasets).

Box A.1 – What data did we use?

Using the ICIO tables to measure value added is uncontroversial (though industry level price deflators were not available)[d] but using ICIO tables to measure trade flows (as the Commission has for the 2 digit ISIC results) instead of actual trade data is slightly unconventional. This choice was made because using ICIO tables for the aggregated trade results allows for direct comparison of theoretical and revealed comparative advantage measures which would have been more difficult if using ICIO for the former and trade data for the latter.[e] The ICIO numbers themselves are also derived partially from trade statistics so should be consistent with them.

Balanced International Trade in Merchandise (BITM)

The OECD BITM dataset harmonises merchandise trade data across a large number of countries using the SITC system of trade classification (OECD 2024a). Unlike raw trade data, this data is 'balanced' so that total exports data from a country match the imports data coming from that country's trade partners. Note the very disaggregated results obtained using BITM and BITS (below) were available only for the revealed comparative advantage measures, not the theoretical comparative advantage measures.

Balanced International Trade in Services (BITS)

The OECD BITS dataset is the services counterpart of the BITM data but it is not available at the detailed level of aggregation (about 30 services)[f] of the trade data (OECD 2024a). Also note that the service categories are often not very consistent with industry classifications (there is no 'education' but instead it is rolled into 'travel' and a few other categories).

STAN Industrial Analysis

STAN is a comprehensive database containing information on industry production, employment, productivity, costs, investment and the capital stock at a fairly aggregated level of classification (45 industries).

a. 2 digit in the International Standard Industrial Classification of All Economic Activities (ISIC) system. **b.** 6 digit in the Standard International Trade Classification (SITC) system (UN 2008). **c.** The OECD data only allowed us to work with employment data but a possible alternative is to use the World Input Output Database. This dataset has the disadvantage of only going to **d.** Cross country deflators for purchasing power parity at the industry level are created only infrequently and on an ad hoc basis by academics unlike whole economy purchasing power parity deflators which are created and updated frequently by a number of reputable bodies. **e.** There are conversions available to move from the SITC codes of the trade data to the ISIC codes of the industry data but such conversions lose some information. **f.** The 2010 Extended Balance of Payments Services Classification (United Nations 2010).

B. Assistance estimates

A spreadsheet with the assistance estimates data is available online at: https://www.pc.gov.au/ongoing/trade-assistance/2022-23.

C. Industry levies stocktake

A stocktake of industry levies is available online at: https://www.pc.gov.au/ongoing/trade-assistance/2022-23.

Abbreviations

ABC	Australian Broadcasting Corporation
ABN	Australian business number
ABS	Australian Bureau of Statistics
ACCC	Australian Competition & Consumer Commission
ACCU	Australian Carbon Credit Units
ACMA	Australian Communication and Media Authority
AEMO	Australian Energy Market Operator
ANZSIC	Australian and New Zealand Standard Industrial Classification
BITM	Balanced International Trade in Merchandise
BITS	Balanced International Trade in Services
CBAM	Carbon border adjustment mechanism
CBO	Congressional Budget Office
CECA	Comprehensive Economic Cooperation Agreement
CEFC	Clean Energy Finance Corporation
CEO	chief executive officer
CEPA	Comprehensive Economic Partnership Agreement
CER	Clean Energy Regulator
CGT	Capital gains tax
CHIPS	Creating Helpful Incentives to Produce Semiconductors
CPTPP	Comprehensive and Progressive Trans-Pacific Partnership
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DFAT	Department of Foreign Affairs and Trade
DISR	Department of Industry, Science and Resources
DITRDC	Department of Infrastructure, Transport, Regional Development, Communications and the Arts
EA	executive assistant
ECTA	Economic Cooperation and Trade Agreement
EFA	Export Finance Australia
EITEI	Emissions-Intensive Trade Exposed Industry
EU	European Union

EV	electric vehicle
FDI	Foreign Direct Investment
FFA	Federal Funding Agreements
FIRB	Foreign Investment Review Board
FMIA	Future Made in Australia
FTA	free trade agreement
GCC	Gulf Cooperation Council
GDP	gross domestic product
GJ	gigajoule
GVA	Gross value added
IC	Industry Commission
ICIO	Inter-Country Input-Output tables
ICT	information and communications technology
IMF	International Monetary Fund
IPEF	Indo-Pacific Economic Partnership
IRA	Inflation Reduction Act
JKM	Japan Korea Marker
LCR	local content rule
LNG	liquid natural gas
MPIA	Multi-Party Interim Appeal Arbitration Arrangement
NAIF	Northern Australia Infrastructure Facility
NHFIC	National Housing Finance and Investment Corporation
NIF	National Interest Framework
OECD	Organisation for Economic Co-operation and Development
PJ	petajoule
PM	Prime Minister
PTA	preferential trade agreement
R&D	Research and Development
RBA	Reserve Bank of Australia
RCEP	Regional Comprehensive Economic Partnership
RIC	Regional Investment Corporation
SITC	Standard International Trade Classification
SM	Safeguard Mechanism
STAN	Structural Analysis (OECD)
TAR	Trade and Assistance Review

TCS	tariff concession system
UAE	United Arab Emirates
UK	United Kingdom
US	United States
WTO	World Trade Organisation

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