



Australian Government
Productivity Commission

Submission to the
Senate Economics References
Committee Inquiry into the
Australian Manufacturing Industry

Productivity Commission
Submission

September 2021

Key points

- Manufacturing accounts for less than 10 per cent of the Australian economy. Consistent with the pattern in other advanced economies, it continues to fall as a share of Gross Domestic Product (GDP).
- Nonetheless, manufacturing has tended to receive a disproportionately high share of government assistance.
- A number of broad enablers can help the manufacturing sector to reach its potential. However, policy should not be focused on directing resources to particular sectors, or determining the sectoral composition of the economy.
- This submission summarises some of the key messages from the Commission's past work, addressing the six aspects of the role government might play that are raised in the terms of reference. Governments should:
 - reduce impediments to research and development
 - reduce impediments to domestic and foreign investment
 - manage their own supply chains (for example, in health care) and facilitate firms' ability to manage the many risks that affect their supply chains
 - ensure that government procurement is streamlined, cost effective and maximises the wellbeing of all Australians, with governance to avoid undue influence from sectional interests
 - formulate trade policy that enables Australian trade, and fosters cooperation in promoting global trade to achieve the gains from trade
 - formulate education and training policies that foster the skills and capabilities needed for people to participate effectively in society and the economy.
- Together, the principles underlying this submission frame policy that is designed to produce a manufacturing sector that supports economic growth, national resilience and increasing living standards for the Australian community as a whole.

Introduction

The Productivity Commission (Commission) is pleased to make this submission to the Senate Economics References Committee in response to its inquiry into the Australian manufacturing industry.

The Commission is the Australian Government's independent research and advisory body on economic, social and environmental issues affecting the wellbeing of Australians. We contribute by providing quality, independent advice and information to governments, and on the communication of ideas and analysis.

The core function of the Commission is to conduct public inquiries at the request of the Australian Government on key policy or regulatory issues that affect Australia's economic performance and community wellbeing. In addition, we undertake research at the request of the Government and to support its annual reporting, performance monitoring and other responsibilities.

This submission addresses several of the matters in the Committee's terms of reference (box 1), drawing on existing work undertaken by the Commission. The Commission has focused on medium and long term issues (for example, the submission does not examine emergency COVID response measures, though it refers to some examples that have occurred during the emergency).

Box 1 **Terms of reference addressed in this submission**

This submission addresses parts of the following terms of reference:

- b) the role that the Australian manufacturing industry has played, is playing and will play in the future
- g) the role that government can play in assisting our domestic manufacturing industry, with specific regard to:
 - research and development
 - attracting investment
 - supply chain support
 - government procurement
 - trade policy
 - skills and training.

Manufacturing in the broader Australian economy

Manufacturing peaked as a share of the Australian economy in the early 1960s, when the sector grew to 30 per cent of the economy and of employment (figure 1). Since then, the shares of manufacturing in value added and in employment have declined.

In large part this reflects the shift in consumer spending from goods to services over recent decades. In addition, in an increasingly competitive and interconnected global world, Australian manufacturing has faced increased competition from imports, particularly from Asia (Banks 2010, pp. 5–8).

Like in other advanced economies, the services sector now accounts for the bulk of the economy, contributing about 80 per cent of GDP and 88 per cent of employment in Australia in 2020.

The structural shift towards services reflects changes in trade patterns, consumer preferences, innovation and productivity growth (PC 2021a, pp. 11–14). Given the similarity of this trend across developed economies, it is difficult to discern the role that Australian policy has played in this process.

However, it is likely that the reduction in trade protection and other forms of assistance contributed to the shift away from manufacturing. In addition to the gradual reduction in tariffs, other forms of assistance were reduced gradually, including \$30 billion of transitional assistance from 1997 to 2012, that was designed to slow the decline of the automotive industry as it faced increasing competition from global producers (PC 2014a).

The manufacturing sector still receives a disproportionate share of assistance. In 2019–20, when it accounted for less than 10 per cent of value added and employment, the sector is estimated to have received \$2.6 billion in net combined assistance (22 per cent of the total), of which 44 per cent came from tariff assistance (PC 2021b, p. 5).

Australia’s manufacturing sector continues to shrink despite the assistance it receives.

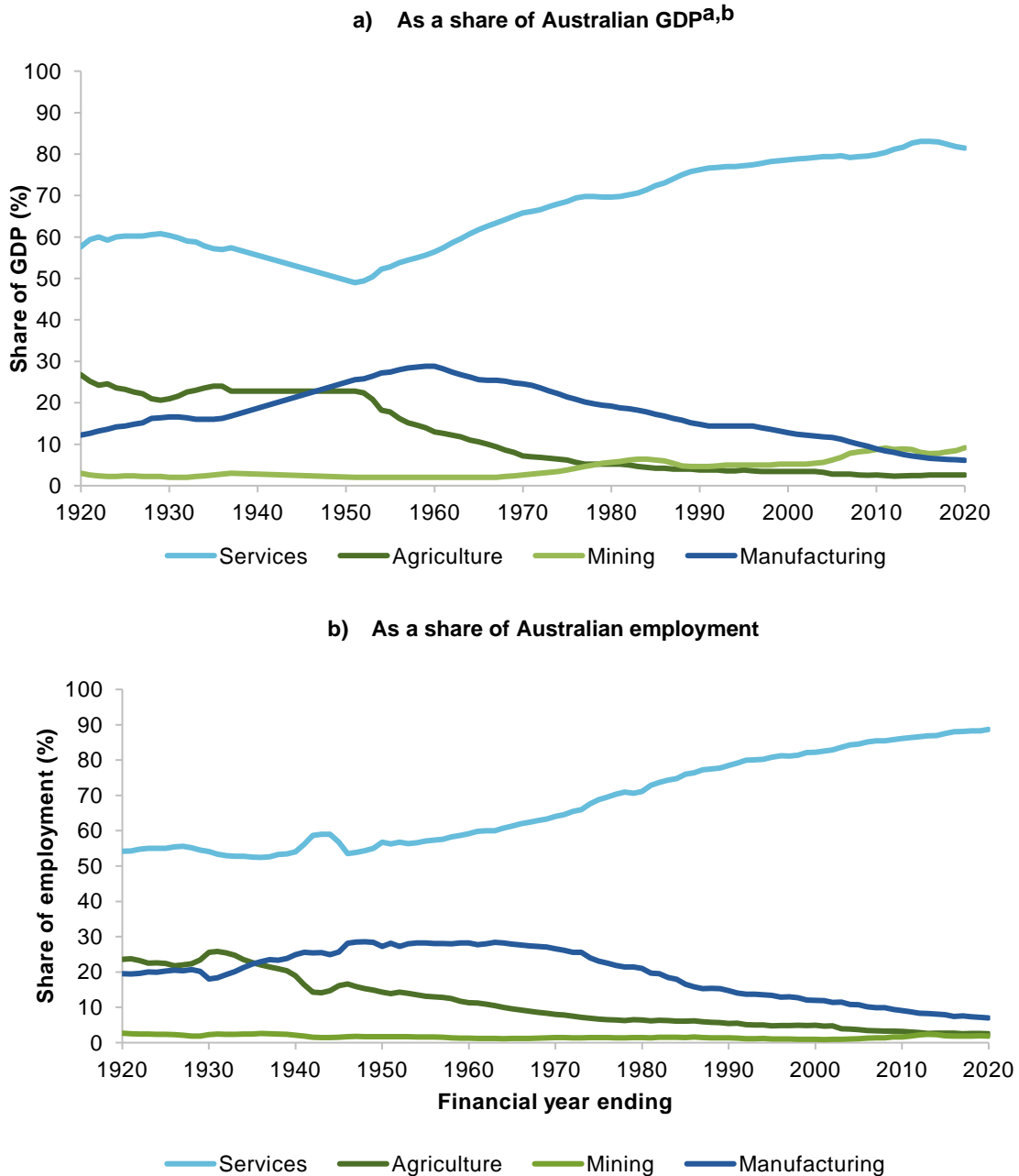
- Manufacturing value added declined about \$10 billion between 2010 and 2020; by June 2020 the sector contributed \$108.4 billion (ABS 2020a).
- Employment declined by about 100 000 workers between 2010 and 2020; by May 2020, manufacturing employed just over 863 000 Australians (ABS 2021b).

The shift towards services has led some to comment about adverse impacts on labour market outcomes and on the economy as a whole, but such fears are not SUPPORTED by evidence. Compared to workers in the manufacturing sector, workers in the services sector tend, on average, to be paid slightly higher hourly wages and work slightly fewer hours, with the net effect that total wages are roughly the same across the two sectors (PC 2021a, pp. 15–17). And considering outcomes for the economy as a whole:

... the relative decline of manufacturing has not held back living standards in Australia. On the contrary, once we began to reduce manufacturing protection, and the burden it placed on more

efficient and productive activities — within manufacturing itself, as well as other sectors — Australia’s exports took off and per capita incomes have risen faster than the average for the OECD, taking us back to 6th in world rankings from 18th in the late 1980s. (Banks 2008, p. 11)

Figure 1 The manufacturing sector has declined as a share of the economy



^a Five-year centred moving average of the shares of agriculture, mining, manufacturing and services in total GDP. ^b For the sake of consistency with early statistics, manufacturing in this chart includes private construction. Services comprise all industries other than agriculture, mining and manufacturing.

Source: PC (2021a, p. 6).

What is the role for government?

The Productivity Commission and its predecessors have a long history of pointing out the pitfalls and challenges of policies designed to grow particular industries through various forms of preferential treatment (box 2).

This does not mean that government interventions should never target particular industries but it does mean that such interventions should be sparing and generally confined to certain cases (Banks 2010, pp. 51–55; PC 2020d, pp. 15–17). These include:

- the presence of market failures (for example, benefits that accrue to firms other than those that make investments in research and development and that the original firms cannot recover in some way — that is, spillovers)
- equity concerns (for example, transitional adjustment packages that have been used to support some industries going through structural reform)
- national security (for example, seen in decisions to favour local production to ensure defence capability).

However, it should be remembered that any resources directed towards particular industries (whether in the form of fiscal support or regulated flows of income) have alternative uses. The main objective for policy should be to ensure an environment that allows resources to move to their most productive use.

The Committee’s Terms of Reference seek input on the role of government in six areas: research and development, attracting investment, supply chain support, government procurement, trade policy, and skills and training. Over the years, the Commission has commented on all of these; this submission refers to the Commission’s body of work, highlighting where and why particular government intervention are justified.

In most of the areas discussed below, there is a tendency for policy interventions to exceed the level consistent with a strong evidence-based rationale. For example, the fact that there are spillovers from research and development does not justify all forms of public funding of research and development. In some areas, more, or different, interventions are required (in relation to skills and training, for example, there are good reasons to expand the availability of income contingent loans).

Throughout the rest of this submission, the Commission focuses on tailoring government intervention to the circumstances: where markets can function well, a key role of government is to foster efficient and dynamic markets; where markets cannot function well, it can be appropriate to fund, supply or regulate in ways that enhance the living standards of the community as a whole.

Box 2**Interventions that favour one industry can make the rest of the community worse off**

The Commission has long argued that policies supporting particular industries can have large costs in that they allocate resources away from the uses that are most welfare enhancing for the community.

Government support for particular industries is only warranted if it benefits the nation as a whole. Like any assistance scheme, the benefits of the bounty to the Australian shipbuilding industry will have come at a cost to activity elsewhere in the economy. In particular, assistance for shipbuilding will have attracted resources away from other activities and thereby reduced their competitiveness. This is not to deny the possibility that the benefits of the bounty may have outweighed these costs. However, it points to the importance of the Panel adopting an economy-wide perspective when assessing the case for resurrecting bounty support, rather than simply looking at the benefits for the shipbuilding industry. (IC 1998, p. viii)

Indeed, it is widely accepted that the costs of assistance will usually outweigh the benefits to the recipient industry. That is, assistance will detract from, rather than enhance, Australian living standards. (IC 1998, p. 24)

Former Commission Chairman Gary Banks argued further:

Devising and assessing any policy obviously requires a clear understanding of what one ultimately wishes to achieve. It is particularly important when assessing policy proposals directed at particular industries or sectors. The reason for this, of course, is that what is good for a particular part of the economy or community need not be good for other parts — and in the case of industry assistance often isn't. Tradeoffs will generally be involved and the community would want some assurance that the benefits of an industry policy initiative will exceed the costs across the economy as a whole.

... in its recent auto report, the Commission spelt out that current assistance to that industry placed a burden on consumers and taxpayers of \$2 billion each year; that each job thereby 'saved' costs the community some \$300 000 annually, and that there would be a net welfare gain of some \$0.5 billion each year in perpetuity (equivalent to a much larger figure in NPV terms) from halving its tariff assistance, with gains in the mining sector alone outweighing the auto industry's losses (Banks 2010, p. 49)

... the goal [of policy] should not be to promote any particular industry or sector as an end in itself. This was what our old-style protectionist industry policy was about, which promoted manufacturing at considerable costs to our economy and community. That policy ultimately failed even on its own terms. (Banks 2008, p. 10)

Research and Development

Ongoing innovation is essential for growing Australia's living standards, creating jobs, and establishing and growing competitive businesses.

Innovation is more than just game-changing technological advances, it is the creation and adoption of any new idea, product or process. Seemingly mundane improvements, like process changes that improve teamwork or make administration tasks faster and easier are also innovations and contribute to increasing living standards (PC 2017c).

That said, research and development (R&D) is a core component of innovation because it is the antecedent to technological innovation (PC 2009). In Australia, spending on R&D as a proportion of GDP rose during the mining boom until the GFC but has been declining since (box 3).

R&D brings benefits to manufacturing businesses through three main mechanisms:

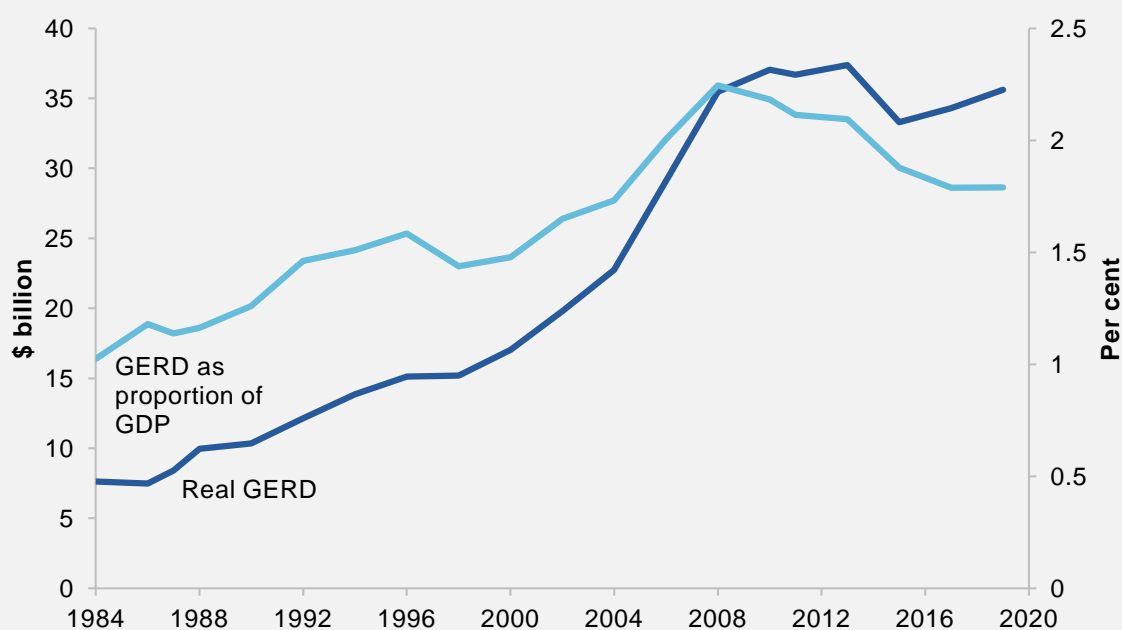
- R&D done within a firm which provides it a competitive advantage
- R&D done by other manufacturers which can spillover and be gradually adopted across the sector
- R&D investments in non-manufacturing sectors which lower costs or improve the quality of inputs to manufacturing. For example, enhancements in payroll software, whether used in manufacturing or in a services firm to which manufacturing outsources the task.

Box 3 R&D expenditure is shrinking as a share of the economy

R&D expenditure as a share of the Australian economy (R&D intensity) grew steadily between the mid 1980s and 2008-09 — growth was particularly strong in the 2000s. The main driver of this increase was business expenditure on R&D. Since 2010-11, R&D intensity has shrunk back to 2004-05 levels.

R&D spending and intensity has declined recently

Real gross expenditure on R&D (GERD, 2019 dollars) and as a proportion of GDP, 1984-2019



Data sources: ABS (*Research and Experimental Development, Businesses, Australia, 2019-20*, Cat. no. 8104.0; *Research and Experimental Development, All Sector Summary, Australia*, Cat. no. 8112.0, various issues); OECD (2021).

While innovation is driven by businesses investing and taking risks to create desirable goods or services, government plays two roles to support business innovation and R&D.

- Government can provide the policy settings and a regulatory environment where innovation is embraced.

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- Mostly, competition generates sufficient incentives for private sector innovation without government support. However, because it is hard to prevent others from using knowledge or an idea, businesses can under-invest in R&D. Therefore, there can be a valuable role for governments to support private R&D, including through financial assistance (Banks 2012, p. 12; PC 2007, pp. xviii–xix, 2017c, pp. 164–165).

That said, regulatory failure rather than market failure can constitute the greatest barrier to private sector innovation.

... for much of the innovation that needs to take place within Australian firms, there is no market failure that needs addressing (or can sensibly be addressed), once government’s regulatory failures have been rectified. This is important to emphasise, since not all government regulatory failures *have* been rectified and there is always the danger of new regulatory obstacles emerging or past reforms being reversed. (Banks 2008, p. 13)

Regulation can facilitate innovation when governments:

- set a responsive regulatory regime that enables new products to quickly meet regulatory requirements while keeping consumers confident that risks are being appropriately managed
- adopt common regulatory standards or other forms of regulatory co-operation (for example, mutual recognition) which minimise barriers to trade
- provide leadership to coordinate the adoption of strategies, standards and infrastructure needed to integrate new technologies and respond to emerging threats (for example, cyber security systems and the internet of things) (PC 2017c).

The Commission has previously found that while there is ‘little evidence to support fears of underinvestment in research with direct commercial applications, there are potential benefits from public support for more basic or strategic research, where the returns can be difficult for an organisation to adequately appropriate’ (PC 2009, p. xviii, based on PC 2007).

The main challenge for governments that want to support a nationally optimal level of R&D is the difficulty in designing ‘business support so as to generate additional R&D and associated spillovers that are worth more to society than a program’s full costs’ (Banks 2012, p. 12). As with any government intervention, government support for private R&D should generate a net benefit for the community, and should not encourage rent-seeking or crowd out private investment. Robust program evaluations are critical to ensuring government programs meet these goals (PC 2007, 2017c).

Australia does many of the essential supports for innovation well. There are also areas where substantial improvements can be made.

Australia is assessed as having good innovation infrastructure, public-sector organisations and human capital by international standards. Despite these strengths, Australia does not perform as well in terms of commercialising its ideas and innovations and in terms of diffusion as other countries. (PC 2017a)

Australian Government R&D spending

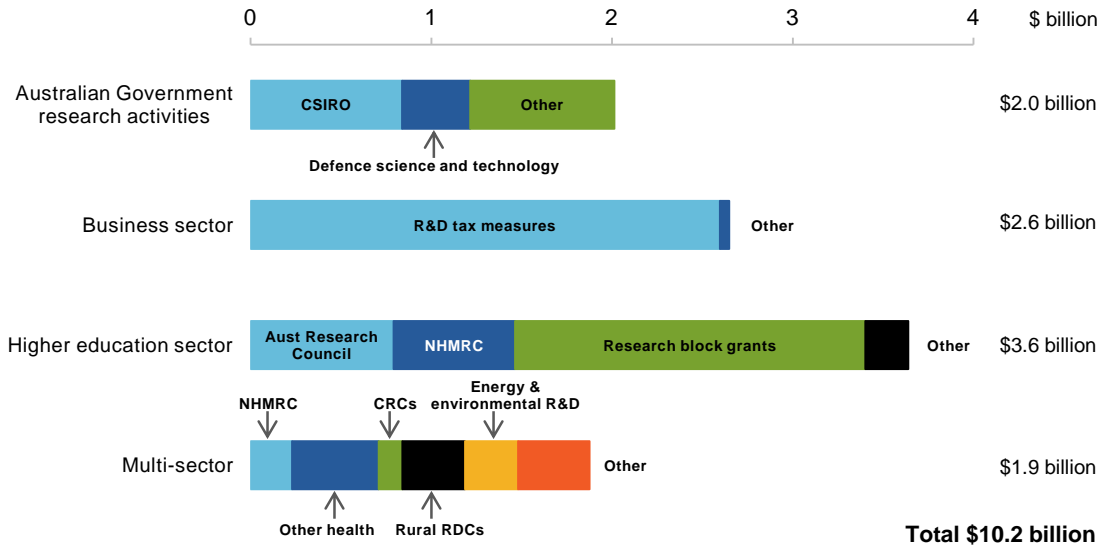
The Australian Government spent an estimated \$10.2 billion on public and private sector R&D in 2019-20, funding over 150 programs (figure 2). The largest single measure the Government funds is the R&D Tax Incentive. In contrast, a third of these programs spent under \$1 million. Note that these figures do not include R&D spending by state and territory governments (DISER 2021).

As part of its support for R&D, the Australian Government provided around \$3.8 billion in assistance for private sector R&D in 2019-20. Spending on R&D makes up around a third of all industry assistance provided by the Australian Government to the private sector.

The majority of this assistance is provided through the R&D Tax Incentive (\$2.4 billion in 2019-20). Assistance for the private sector is also delivered through part of the CSIRO’s budget (\$616 million) and Cooperative Research Centres (\$145 million) (PC 2021b).

The manufacturing sector received \$772 million in R&D assistance in 2019-20.¹ This is around 20 per cent of total assistance for R&D from the Australian Government. It is also about three times the share of manufacturing in the economy (PC 2021b, 2021a).

Figure 2 Australian Government spending on R&D, 2019-20^{a,b}



^a Estimated actual. ^b National Health & Medical Research Council (NHMRC); Cooperative Research Centres (CRCs); Rural R&D Corporations (RDCs).

Data source: Updated from PC (2017a, p. 3) using data from DISER (2021).

¹ For more information on how government assistance is allocated to each industry see the Methodological Annex to PC (2021b).

Opportunities for reform

There are reforms to R&D which the Commission has previously recommended which remain relevant today (Banks 2012, pp. 12–13; PC 2017c, pp. 164–168, 2017a, pp. 23–26). Noting that some reforms have been implemented, others could support innovation in and around the manufacturing sector further.

- While intellectual property (IP) laws are essential to R&D, they can also create barriers to entry for new businesses when IP is imbedded in the production of goods and services. The Commission has previously ‘argued that a shift in copyright law to fair use could well be a game changer by removing a barrier to innovation in Australia, and that applications of IP should not provide for an exemption from competition law’ (PC 2017a, p. 15).
- Governments should conduct rigorous evaluations of R&D programs and assess them against the criteria of achieving additionality and cost effectiveness. In particular, evaluate and consolidate the small R&D programs to reduce duplication within and across jurisdictions.
 - For example, the Ferris, Finkel and Fraser Review (2016, p. 2) of the R&D Tax Incentive found that it ‘falls short of meeting its stated objectives of additionality and spillovers. There are a number of areas where improvements could be sought in order to improve the effectiveness and integrity of the programme and achieve a stronger focus on additionality’.
- Government R&D support should focus on basic and strategic research which is more likely to be under-provided by the private sector. Commercialisation activities are more likely to be profitable and require less government support.
- Australia was ranked last in the OECD on research collaboration between businesses and public or academic institutions since at least 2013. While this has prompted a response by government and industry to improve collaboration, recent data suggest these initiatives have not yet produced improvements (PC 2016b, p. 461, OECD 2020). Cultural change such as this takes time and avoiding further policy changes may be the best path forward until an evaluation of previous policy interventions shows a clear argument for changing the approach.

There has been considerable debate on the design of the R&D Tax Incentive over recent years (box 4). The core question is still whether it is delivering net benefits to the community by encouraging additional R&D investment and widely beneficial spillovers. To design a policy that achieves these ambitions is known to be difficult.

The Ferris, Finkel and Fraser Review (2016) proposed a number of reforms to achieve these goals. That said, there is a risk that the intensity thresholds that were proposed and subsequently taken up create some undesirable outcomes. In particular, changes in a company’s structure that are independent of its R&D goals, for example an acquisition, can affect its R&D intensity. A firm’s R&D intensity can also fluctuate ‘due to factors outside the control of a firm, such as interest rates, foreign exchange rates, intermediate input prices etc.’ (BCA 2020 p. 3).

The government faces a difficult trade off to resolve some of these issues and respond to the current review of the administration of the R&D Tax Incentive by the Board of Taxation (2021) while not adding to the uncertainty that has characterised it for the past decade.

Box 4 **Uncertainty after the Ferris, Finkel and Fraser Review**

The Government proposed legislation in both 2018 and 2019 to change the R&D Tax Incentive — neither bill passed the Parliament. Both lacked widespread support from stakeholders. Changes proposed by the Government in the 2020-21 Budget have now been legislated.

Among the many changes that have increased uncertainty for businesses is the number of intensity thresholds that determine large companies' eligibility, which were reduced from four in the 2018 Bill to three in 2019 to the two enacted in 2020. Parts of the Ferris, Finkel and Fraser Review (2016) remain unaddressed. For example, neither the 2018 or 2019 bills, nor the recently enacted legislation, included the collaboration premium proposed by the Review.

Sources: Australian Government (2020); Maslaris (2020); Treasury Laws Amendment (Making Sure Multinationals Pay Their Fair Share of Tax in Australia and Other Measures) Bill 2018 (Cwlth); Treasury Laws Amendment (Research and Development Tax Incentive) Bill 2019 (Cwlth); Treasury Laws Amendment (A Tax Plan for the COVID-19 Economic Recovery) Bill 2020 (Cwlth).

Attracting investment

Foreign investment has supported Australia's economic development by increasing the stock of capital beyond the level that domestic savings would have otherwise supported. Manufacturing is a major destination for global capital in Australia; the industry regularly attracts over \$100 billion in foreign direct investment annually, second only to mining (which stands apart, regularly attracting upwards of \$350 billion) (ABS 2021a).

There are possible risks associated with foreign investment, including risks to national security and foreign tax avoidance, noting that Australia has a regulatory framework to manage those risks. The Commission has identified some instances in which regulation might impede investment and ways it could be improved, while continuing to manage the risks.

- Australia's **broad screening regime and relatively low thresholds for screening** make Australia's foreign investment policy one of the more restrictive among advanced economies [at least on paper]. (PC 2020a, p. 39)
- ... the Australian Government [should] **set application fees for foreign investment proposals to recover the screening costs** incurred by FIRB, and [...] monitor the fees so as not to over- or under-recover costs (PC 2016c, p. 566). The case for reform has not changed since that inquiry, and if anything, it has strengthened. (PC 2020a, p. 93)

From 1 January 2021, significant changes to foreign investment fees have been implemented. ... There is little to suggest that the new fee structure represents a significant shift towards cost recovery. (PC 2021b, pp. 89–90)

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- The **national interest test lacks clarity** around how it is interpreted from case to case. Tighter policy guidance and excluding risks from the test that can be mitigated through national regulations (such as competition) would lower compliance costs and lift investor certainty. (PC 2020a, p. 2)

There is some scope to **improve investor certainty and transparency** by:

- routinely publishing reasons for decisions to block proposals, recognising that national security and commercial confidentiality may limit the detail or timing of publication;
 - publishing more detailed information on the timelines for decisions each year and giving early advice to investors where standard timelines will not be met. (PC 2020a, p. 81)
- Attaching conditions to foreign investment approvals with limited enforcement capability provides only a limited means to **mitigate risks and foster community confidence**.
 - National laws and regulations, with purpose-built and adequately-resourced regulators (such as the Australian Taxation Office or the Critical Infrastructure Centre), provide a more flexible risk management capability and, where available, should be preferred.
 - If conditional approvals continue to prevail, consider whether FIRB’s monitoring resources and enforcement toolkit are adequate to ensure compliance. (PC 2020a, p. 2)

Supply chain support

The COVID-19 pandemic and trade tensions have led governments around the world to provide direct support for firms to strengthen their supply chains. In Australia, the Government has provided funding to build resilience in supply chains, including through the Modern Manufacturing Strategy and the Fuel Security Package.

Supply chain risk management is not a trivial task, but it happens most of the time, as firms constantly take pre-emptive and responsive actions to ensure the supply of goods and services is not disrupted.

The Commission’s recent report on *Vulnerable Supply Chains* (2021c, chap. 7) stressed that risks to supply chains are generally best managed by those who have direct incentives to mitigate them — typically firms — but there are some roles for governments, especially where supply chains support the supply of essential goods and services. Although the Commission focused on issues relating to the supply of essential goods and services, most of the analysis and principles in the report apply to the manufacturing sector and to the broader economy.

Government has a responsibility to:

- manage risks in supply chains that are inputs into goods and services that the public sector purchases and delivers directly (such as health services or national security)
- intervene in private sector risk management where society’s tolerance for risk is lower than that of firms’ (for example, if supply disruptions would have spillover or contagion)

effects, or affect national security) leading to underinvestment in risk management by the private sector

- ensure regulations do not hamper a firm’s ability to manage risks and are fit for purpose, which may require making temporary changes that let firms adjust to major disruptions. The Australian Government in particular also has a responsibility for maintaining and promoting a rules-based international trading system that is respected and kept up to date.

If government intervention is justified, a range of interventions are possible. And different interventions are required to manage different risks. For example, governments might provide information about risks that they are best informed about (for example, some geopolitical risks) or they might take more direct ownership of some risk management. Chapter 7 of PC 2021c develops a framework for options for government interventions. The Commission also recognised that government intervention can crowd out private investment in risk management, imposing higher costs on the community. Whatever is decided, government should ensure that the net benefit of any intervention outweighs the cost.

Onshoring and creating domestic capabilities have been proposed as strategies for creating resilience in supply chains, but these strategies do not eliminate risk (2021c, pp. 126–128). For example, the onshore industry may still rely on a critical imported input (such as crude oil), or Australia might lack the expertise to produce locally and be competitive. The costs of maintaining local capability could outweigh the cost of other risk management strategies.

The Commission argues that direct government intervention to ensure the availability of essential goods and services should not be used to support broader industry policy objectives (2021c, p. 141). Subsidies for domestic (or ‘sovereign’) manufacturing capacity:

- are not always cost-effective or suitable for mitigating most types of disruptions (for example, for fuels refined domestically when overseas crude supplies are disrupted)
- likely crowd out more profitable forms of private investment in sovereign capacity
- distort the efficient allocation of resources across the economy.

Taking these factors into consideration there is a high bar for justifying direct government intervention in the production of goods, even goods judged essential. In contrast, it is expected that governments play a significant role in the provision of the infrastructure on which supply chains depend (box 5).

Box 5 Supply chains depend on infrastructure

Underinvestment in infrastructure, or inefficient use of infrastructure, can undermine the efficiency of supply chains, creating economic and social costs for the community. For example, the Commission's inquiry into *National Transport Regulatory Reform (2020c)* found that there are significant bottlenecks on some of Australia's major freight corridors, despite improvements in road access for larger, more efficient trucks.

Investing in the *wrong* infrastructure also has costs. The Commission's inquiry into *Public infrastructure (2014b)* found an urgent need to comprehensively overhaul processes for assessing and developing public infrastructure projects, citing numerous examples of poor value for money arising from inadequate project selection, potentially costing Australia billions of dollars. The report supports reform to governance and institutional arrangements for public infrastructure to promote better decision making in project selection, funding, financing and the delivery of services from new and existing infrastructure.

Government procurement

Governments procure a wide range of goods and services on the community's behalf. In 2019-20, the Australian Government purchased nearly \$54 billion worth of goods and services (Department of Finance 2021). The Department of Defence accounted for nearly 60 per cent of this spending.

Achieving value for money is, rightly, the 'core rule' underpinning procurement undertaken by the Australian Government (Department of Finance 2020, p. 3). In general, requirements or preferences to purchase domestically produced goods and services are a constraint on achieving value for money. There is no inherent reason that domestically produced goods and services will not represent value for money, but adding additional criteria beyond value for money to the procurement process introduces the risk that the community pays more than it needs to.

The requirement in the *Commonwealth Procurement Rules* that officials consider the 'economic benefit' of procurement to the Australian economy should not be an invitation to count jobs or growth in one part of the economy as a reason to favour local production. Any labour used to provide goods and services to the government is unavailable for use elsewhere in the economy.

Establishing or maintaining strategic defence capability can be a legitimate reason for favouring local production but procurement decisions should always be made within a policy framework that sets out under what conditions local production is preferable.

This is important because the 'local cost premium' can be substantial. The premium was estimated conservatively at 15 per cent for the *Future Submarine Program*, equating to over

\$10 billion dollars (ANAO 2017, pp. 24–25; PC 2020d, p. 16).² Those types of premiums can be worth paying if they deliver benefits, but this is not guaranteed.

Leaving aside the complex issues associated with defence procurement, government procurement that favours domestic manufacturing in the broad is likely to be an inefficient use of resources. This inefficiency can be compounded by requirements or preferences to buy goods and services from certain types of businesses — for example, the Australian Government’s target for non-corporate Commonwealth entities to procure 35 per cent of contracts, by value, with a value of up to \$20 million from small- and medium-sized enterprises (Department of Finance 2020, p. 14). Such targets benefit small- and medium-sized enterprises but they are a barrier to achieving value for money for the community as a whole.

Trade policy

The world trading system has been a foundation stone of Australia’s recent decades of nearly uninterrupted economic growth. It has helped to deliver employment and steadily rising living standards.

The specialisation and economies of scale that result from freer trade globally have produced access to cheaper goods and services for consumers and higher per capita incomes. This includes cheaper or higher quality inputs used by manufacturing businesses, which, in turn, make these businesses more competitive. In *Vulnerable Supply Chains* (2021c, p. 29), the Commission reported on a study in which the authors concluded, based on a set of simulations, that in the US economy:

Due to the combination of [...] competition, selection and innovation responses to trade, the present value of long-run per-capita consumption (our measure of welfare) under trade is 50% higher than in autarky. (Impullitti and Licandro 2018)

Several forces have contributed to the growth in trade, including reductions in trade barriers and technological innovations (for example, in transport and logistics, computer systems and telecommunications).

But protectionist measures remain and have escalated in some areas, reorganising or temporarily disrupting parts of global trade and Australia’s export markets. For example:

- China-US trade has been disrupted by large tariff increases on a range of goods,
- the COVID-19 pandemic brought restrictions on trade of particular goods that were in high demand, about half of which had been wound back by mid-2021 (WTO 2021, p. 3)
- some Australian exporters have had to redirect their products to new markets as a result of China introducing large tariffs and other trade impediments.

² The figure of a \$10 billion local cost premium associated with the *Future Submarine Program* was based on a project cost of \$80 billion but the project cost has grown to \$90 billion (Greene 2021). The 15 per cent local cost premium figure may be an under-estimate, with some commentators putting the figure in the order of 30 or 40 per cent (PC 2020d, p. 16).

Australia has progressed a number of multilateral, plurilateral and bilateral trade agreements (though negotiations slowed during the COVID-19 pandemic) and the average tariff is close to zero, but domestic policy has retreated in some areas. For example, Australia has one of the world's most active anti-dumping regimes (well above the global median) and while the number of measures enforced between 2019 and 2020 plateaued, Australia continues to implement new measures (PC 2021b, chap. 3).

Given the extensive benefits to trade, the Commission supports measures that reduce our barriers to trade and foster cooperation to reduce barriers globally. Importantly, the Commission has previously shown that Australians gain from reducing our own trade barriers, regardless of the actions of other countries (PC 2019, p. 52).

The Commission has found that the most important step for Australia and Australian manufacturers is to keep our borders open to trade and to continue working towards freer markets. This will relieve the burden protection places on efficient and productive businesses within manufacturing itself and across the rest of the economy, and give the opportunity for competitive, dynamic and innovative manufacturers to thrive (Banks 2008, pp. 10–11; PC 2019, chap. 3).

Australia could proceed by:

- unilaterally removing remaining tariffs, which are low and provide little assistance, lowering non-tariff barriers (such as burdensome licensing requirements), simplifying rules of origin and avoiding anti-dumping duties
- fostering public confidence in open markets through better consultation and engagement with the community on prospective trade agreements and on the rationale for free trade
- promoting and progressing the trade facilitation agenda globally and the Simplified Trade System initiative in Australia to reduce trade costs.

The Commission has also recommended that Australia work together with our international partners to reinvigorate the negotiation function of the World Trade Organization (WTO), to strengthen compliance with notification procedures and review and refresh the rules to handle issues relating, among other things, to state-owned enterprises, regulatory cooperation, digital trade and intellectual property (PC 2019, chap. 3). The Commission made similar observations in the *Rising Protectionism* report (2017b).

Anti-dumping has been the largest source of new trade barriers in Australia since 2009. The Commission's *Developments in Anti-Dumping Arrangements* (2016a) study found that the use of anti-dumping and countervailing measures is concentrated in several capital-intensive industries that produce mainly intermediate goods and particularly steel and other metals, paper and plastics. But the Commission's work found no compelling rationale for doing so and these arrangements make Australians as a whole worse off.

While anti-dumping duties are WTO-consistent and small in value when compared with general tariffs, their incidence is highly concentrated on a few firms. This makes their impact on the economy particularly harmful.

The Commission recommended a serious rethink as to whether it is in Australia's interest to retain any anti-dumping measures (PC 2016a, chap. 6). The current state of affairs reflects:

- deficient policy processes
- inadequate reporting on outcomes
- limited attention to the costs of anti-dumping protection in policy evaluation and development.

For more information on trade see the Commission's annual *Trade and Assistance Review* series.

Skills and training

Every sector relies on the availability of appropriately skilled workers; parts of manufacturing are especially reliant on the availability of workers with vocational education and training (VET) qualifications. A 2018 survey found that manufacturing workers accounted for 9 per cent of all workers whose highest qualification was in VET, third only behind construction (16 per cent) and health care and social assistance (13 per cent) (ABS 2020b, table 13).

The Commission recently reviewed the agreement that defines the framework for intergovernmental collaboration in the VET system, the National Agreement for Skills and Workforce Development (PC 2020b). The Agreement sets out governments' roles, policy aspirations, performance measures and reform directions for the formal VET system.

The Commission made 58 findings and recommendations which go to adequacy of the VET system and how it could be improved. Here, we focus on the areas of most relevance to the supply of skills to the manufacturing sector.

- **Informed choice in VET (chapter 6):** Matching the right person with the right training is crucial for the availability of appropriately skilled workers. The intimidating array of options in the VET system is an obstacle to that matching process. Governments, as funders and providers, have a responsibility to ensure that information on career opportunities, the performance of training providers, course quality and prices is easy to access and interpret. The YourCareer and myskills websites go some way towards filling these gaps, but information on the performance of training providers and course quality is still lacking.
- **Ensuring quality training (chapter 7):** There has been a gradual decline in employers' satisfaction and use of the VET system over the last decade. Common complaints include that programs do not teach relevant skills, are not sufficiently focused on practical skills or are out of date. Quality could be improved by unbundling assessment and teaching through independent assessments.
- **Income contingent loans (chapter 10):** The current VET Student Loans (VSL) program locks out many courses that deliver good student outcomes. To scale up workforce skills, governments should expand VSL to more Diploma and above courses and to most

Certificate IV courses. The current restrictions should be replaced with a ‘blacklist’ of ineligible courses that have demonstrated poor student outcomes.

- **Apprenticeships (chapter 11):** There have been persistent skills shortages in occupations for which apprenticeships are the main pathway, driven by both low commencement and low completions. The situation could be improved through:
 - better screening of prospective apprentices
 - better apprenticeship support services
 - introducing more flexible pathways into trade occupations (including greater use of competency-based wage progression)
 - adjusting the timing of employer incentives to provide more support when the risk of cancellation is greatest.
- **Lifelong learning (chapter 13):** There are a number of obstacles to lifelong learning, making it harder for workers and firms to take advantage of new opportunities. In the VET sector, expanding income contingent VSL to more Diploma and above courses and to most Certificate IV courses (chapter 7) would remove one of those obstacles. The Commission also recommends trialling a new financing instrument for mature-age Australians reskilling and upskilling. Removing barriers to recognition of prior learning, which the Australian Government shares responsibility for, would also aid lifelong learning.

References and further information

Further information is available on the Commission’s website at www.pc.gov.au.

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