

# **CEDA Submission to the Productivity Commission inquiry into Reducing Barriers to Business Dynamism in Australia**

## About CEDA

The Committee for Economic Development of Australia (CEDA) is an independent, member-based policy think tank. Our members span industry, government, community and academia. Our research and advocacy are shaped by our Progress 2050 vision for long-term, sustainable prosperity for all Australians. Progress 2050 is centred on two pillars: a strong economy and a strong social compact working together. A dynamic, competitive business environment is central to achieving this vision and will underpin the wellbeing and prosperity of future generations of Australians.

## Why should we care about business dynamism?

CEDA welcomes this opportunity to contribute to the Productivity Commission's inquiry into reducing barriers to business dynamism. We share the Commission's view that the processes of business entry, expansion, restructuring and exit are essential to productivity growth, Australia's international competitiveness and securing a prosperous future for all.

The evidence is clear that Australia's business dynamism is deteriorating. CEDA's report *Hustling, not hiring: Why fewer Australians are starting a business*, shows the rate of new employing businesses has declined over the past two decades, and the proportion of business owner-managers in the workforce hit a record low in 2025; despite strong entrepreneurial ambition.<sup>1</sup>

In the latest IMD World Competitiveness Yearbook, for which CEDA is the Australian partner, Australia ranked 17th, well down on the top 10 rankings we held throughout the late 2000s.<sup>2</sup>

Business dynamism is a core focus of CEDA research. This submission draws together the key findings and reform recommendations from that work as they relate to the Inquiry's terms of reference.

## Administrative and regulatory costs of starting a business.

### *Australia's rising regulatory burden*

Australia's regulatory environment has become more restrictive. CEDA analysis shows restrictive terms in Federal Acts have increased by around 30 per cent between 2003 and 2025, with a 39 per cent increase in regulatory restrictions that directly affect Australian industries.<sup>3</sup> The increase has been steepest in key infrastructure and service sectors, with restrictive terms rising by at least 60 per cent in electricity, gas, water and waste services and in information media and telecommunications, and by more than 50 per cent in health care, education and mining.

Our analysis does not measure the quality of regulation, and we do acknowledge that good regulation can drive better outcomes. However, the growing quantum of rules creates further cost and complexity that deters entry and expansion, and it does so most sharply for the small and new firms least able to absorb it.

### *A more seamless national economy*

Inconsistent regulation across jurisdictions compounds this burden. CEDA's report *Towards a More Seamless Australian Economy* finds that regulatory frictions preventing firms from operating seamlessly across state borders restrict competition, raise costs, reduce choice and constrain labour mobility.

The 2009 to 2013 Seamless National Economy agreement delivered considerable progress on 22 of 27 deregulation priorities, with estimated benefits of more than \$6 billion per year. Unfinished reforms offer benefits of a similar magnitude that should be addressed. For example, better data sharing alone could boost Australia's economy by up to \$10 billion.<sup>4</sup>

#### **Box: Productivity in the Construction Industry**

In the notoriously weak productivity of the construction sector, firm size is a critical and overlooked driver. Productivity has been stagnant for three decades, and a key reason is the dominance of small firms. 98.5 per cent of Australian construction firms have fewer than 20 employees, and 91 per cent have fewer than five, up sharply from 43 per cent in 1988/89.

CEDA's analysis shows larger firms are markedly more productive, generating 86 per cent more revenue per worker than firms with five to 19 employees. If construction matched the size distribution of manufacturing, it would produce 12 per cent, or \$54 billion, more revenue per year without any additional labour. This is equivalent to gaining 150,000 workers in a sector already short of labour.

Smaller firms capture fewer gains from scale, innovation and investment, and have weaker management capability. In 2021/22 fewer than 7 per cent had a written strategic plan and just 12 per cent actively sought digital technologies. Regulatory settings reinforce this. Australia has the most decentralised land-use system in the OECD, deepening geographic segmentation, while complex state-based licensing rules limit interstate expansion and volatile work pipelines discourage the investment that scale requires.

Source: [CEDA](#)

#### **Recommendations:**

- *Deliver a renewed Seamless National Economy agreement between the Commonwealth and states and territories, building on the 2024 agreement to revitalise National Competition Policy.*  
*The below areas should be prioritised:*
  - *National occupational licensing*
  - *Harmonised and efficient environmental assessments*
  - *Payroll tax harmonisation*
  - *Data sharing across jurisdictions by default*
  - *More streamlined and consistent land-use planning regulation*
  - *Reforms to deliver best practice procurement.*
- *Under the agreement payments to states and territories should occur only after reforms are implemented.*

## Human capital and management capability

The capabilities of managers and owners shape whether firms can start, grow and adapt. CEDA research has found that managers able to sense opportunities, seize them and transform when renewal is needed are more resilient, productive and profitable.<sup>5</sup>

When COVID-19 struck, the most dynamic firms innovated fastest and pulled further ahead. With heightened global uncertainty unlikely to settle down anytime soon, this ability to adapt matters more than ever.

Businesses should prioritise innovation over efficiency and take smart risks. But most cannot do it alone, as dynamic capabilities are rarely taught and smaller firms lack the resources to buy in expertise.

Overseas examples show that governments can help at low cost. New Zealand's dynamic capabilities pilot and Singapore's Scale-Up SG program show government-backed programs deliver real results, with participating firms adopting new ways of working and entering new markets. Australia does not need new programs. We should instead embed capability education in existing supports, such as the Industry Growth Program federally and business support programs at the state level.

### *Recommendations:*

- *Businesses must prioritise and build their dynamic capabilities, including through:*
  - *education and training*
  - *prioritising innovation over efficiency by investing in the people, time and money needed to take advantage of new opportunities.*
- *At both the state and federal level, dynamic capabilities education and understanding should be embedded into existing business support programs.*

## Big businesses contribution to dynamism

The role of large firms in business dynamism also warrants attention. While this inquiry focuses primarily on the role of small businesses in driving dynamism, large businesses have an important contribution to make. They account for a large share of business investment and have the capital to fund productivity-boosting innovation that smaller firms cannot. They can also generate substantial spillovers across the wider economy, creating high-skilled jobs and seeding new generations of businesses founded by former employees. There is value in the inquiry considering how policy can support these contributions as well.

## Conclusion

Australia's declining business dynamism is a structural challenge that no single reform or level of government can solve alone. The barriers identified in this submission compound across the business lifecycle, and addressing them will require coordinated, cross-jurisdictional action sustained over time. Restoring dynamism is essential to ensuring we continue to be a country that prospers for all.

## **Attachments**

**Attachment A** *Hustling not Hiring: Why Fewer Australians are Starting a Business*

**Attachment B** *Tracking the Rise of Industry Regulation.*

**Attachment C** *Towards a more seamless Australian economy*

**Attachment D** *Dynamic Capabilities: How Australian firms can survive and thrive in uncertain times.*

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- <sup>1</sup> Committee for Economic Development of Australia. (2026). *Hustling not Hiring: Why Fewer Australians are Starting a Business*. <https://www.ceda.com.au/research-and-policy/research/economy/hustling-not-hiring-why-fewer-australians-are-starting-a-business>
- <sup>2</sup> IMD (2026). IMD World Competitiveness Yearbook 2026. <https://www.ceda.com.au/research-and-policy/research/economy/imd-world-competitiveness-yearbook-2026>
- <sup>3</sup> Committee for Economic Development Australia. (2025). *Tracking the Rise of Industry Regulation*. <https://www.ceda.com.au/research-and-policy/research/government-regulation/tracking-the-rise-of-industry-regulation>
- <sup>4</sup> Committee for Economic Development Australia. 2025. *Towards a more seamless Australian economy*. <https://www.ceda.com.au/research-and-policy/research/economy/towards-a-more-seamless-australian-economy>
- <sup>5</sup> Committee for Economic Development of Australia. (2023). *Dynamic Capabilities: How Australian firms can survive and thrive in uncertain times*. <https://www.ceda.com.au/research-and-policy/research/economy/dynamic-capabilities-how-australian-firms-can-surv>



# HUSTLING, NOT HIRING: WHY FEWER AUSTRALIANS ARE STARTING A BUSINESS

2026

## HUSTLING, NOT HIRING: WHY FEWER AUSTRALIANS ARE STARTING A BUSINESS

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*Hustling, not hiring: Why fewer Australians are starting a business* explores the latest trends in business formation in Australia. It identifies measures to improve the operating environment for emerging businesses and calls for a refresh of supporting programs and policies in four key areas: regulation, finance, skills & culture and competition.

Building a strong, dynamic pipeline of new businesses that can invest and grow is critical to maintaining a vibrant, resilient and diversified economy. Ensuring Australia's businesses are amongst the most competitive and dynamic in the world, and that all Australians have the opportunity to live a productive, connected and meaningful life are key goals of CEDA's Progress 2050 vision for a better, more prosperous future for the next generation of Australians.

CEDA's objective in publishing this report is to encourage constructive debate and discussion on matters of national economic importance. Persons who rely upon the material published do so at their own risk.

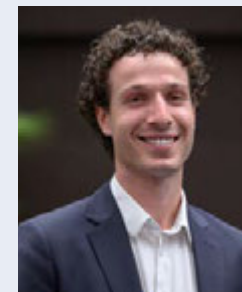
# ABOUT THIS PUBLICATION

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# HUSTLING, NOT HIRING: WHY FEWER AUSTRALIANS ARE STARTING BUSINESSES

## Second jobs and some business pathways have grown in popularity

**6.5%** of the workforce held more than one job in 2025

**178,500** people engaged in platform work in 2024-25

**27%** of adults earned money through a side hustle in 2025

But these pathways rarely become growing businesses with employees

Historically, Australia has had a relatively high rate of new and young **employing** businesses, compared to similar countries.

### New employing businesses:

- Create a vibrant economy
- Are often risk takers & innovators
- Offer new jobs and new types of jobs

**13%** of adults aspire to business ownership

**8%** of adults involved with side hustles they hope to grow

Desire and intention don't appear to be barriers

## New employing businesses have decreased in all states over the two decades to 2024-25

VIC	NSW	QLD	SA	WA
13.3% to <b>9.9%</b>	14.7% to <b>11.2%</b>	16.4% to <b>11.3%</b>	12.1% to <b>9.2%</b>	13.7% to <b>11.1%</b>

## Business entry rate over past two decades to 2024-25

New businesses without employees **increased to 19.8%**



New businesses with employees **decreased to 10.7%**



## To encourage business entries we need to:

Reduce the administrative burden of running and growing a business

Expand access to finance and risk protection for new businesses

Strengthen entrepreneurial capability and management skills

Address structural barriers to entry and competition

# THE ROAD TO STARTING A BUSINESS WITH EMPLOYEES

Barriers and detours on the journey to starting a business



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# EXECUTIVE SUMMARY

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Business formation and entrepreneurialism are key measures of business dynamism and ultimately, of economic growth, productivity and prosperity. While not all founders expect their business to grow, compete and innovate, those that do play an important role in building a resilient and vibrant economy. For many people, business formation also provides a unique pathway to fulfilling and meaningful work.

This report examines the latest trends in business creation in Australia across all business types, from solo owner-operators to those with aspirations to be the next tech unicorn, and identifies measures to improve the operating environment for emerging businesses.

Our analysis confirms that many Australians still want to start their own business. If anything, this interest has grown over time. We find up to 13 per cent of adults aspire to business ownership as part of their career journey and around eight per cent are already involved in 'side hustles' that they hope to grow into viable self-employment or their own business. Desire and intention don't appear to have become a barrier to business formation.

Despite this, we find the proportion of business owners as a share of the workforce has declined steadily over the past two decades, hitting a record low in 2025. The decline is particularly pronounced for owner-managers with employees and less steep for solo owner-operators. It is evident across all age cohorts, including younger workers.

In line with these trends, there has been a long-term decline in the rate of new businesses with employees. This is concerning because a healthy rate of employing-business entries is an important component of business dynamism. Entry rates provide good insight into dynamism trends because they mark the birth of businesses that have made a commitment to growth.

In contrast, there has been an increase in the number and entry rate of new businesses without employees over the last decade. This has coincided with a steady rise in the proportion of workers with multiple jobs. These second jobs can include 'side hustles' and 'digital platform' work such as deliveries and ridesharing. The majority of these second jobs

are undertaken primarily to supplement income, however, rather than as part of a plan to start a business. Many involve low-income activities that may not scale up well into a viable business.

We also find that since the disruptions of COVID-19, the recovery path for business formation rates has varied across states and industries. Victoria has had a weaker and slower recovery in the establishment of "employing businesses" than the other large states, taking it from amongst the leaders to a laggard on this measure.

The broad decline in business creation has coincided with a range of trends that are likely to be collectively discouraging business formation by self-employed owner-managers, including costly access to external finance, insufficient entrepreneurial skills and culture, rising regulatory costs and barriers, and increased market concentration.

Australia is not alone in this experience – long-term business creation rates have declined globally. However, our barriers appear to be worsening compared to international peers.

In Australia, new business supports are provided by all three levels of government plus education, non-profit, professional and industry organisations. Collectively, they have so far been insufficient to reverse the decline.

The challenge requires action by all stakeholders. The varying post-COVID trajectories across states – in particular Victoria's weaker recovery – demonstrate the need for a holistic approach that goes beyond national-level settings. Now is the time to review and revise these supports, based on the best local and global evidence.

As a priority, we must: remove as many barriers to starting a new business as possible; design and implement effective, sustainable supports; and remove or mitigate the global and structural factors that are restricting the operating environment for new businesses and ultimately keeping them from growing and prospering.

# PRIORITIES FOR ACTION

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The evidence in this report suggests that the decline in business formation is not driven by lack of entrepreneurial ambition, but by structural barriers that make starting and growing a business increasingly difficult. Regulatory complexity, financing constraints, capability gaps and market concentration are discouraging the formation and growth of new firms and having an impact on our productive capacity.

## **Policy priorities to strengthen business formation**

### **1. Reduce the administrative burden of running and growing a business**

The evidence shows that Australia performs well on the technical steps required to start a business, but ongoing administrative and compliance requirements impose significant costs that disproportionately affect small and new firms. Governments should prioritise simplifying regulatory processes and reducing duplication across jurisdictions.

This includes streamlining licensing and reporting requirements, improving coordination between federal, state and local systems and reviewing restrictions such as non-compete clauses that limit labour mobility and entrepreneurship.

Further analysis should identify which regulatory requirements impose the greatest burden on new businesses and where simplification would have the largest impact to encourage scale.

### **2. Strengthen entrepreneurial capability and management skills**

A lack of knowledge, experience and support often prevents entrepreneurial intentions from translating into viable enterprises. Improving access to practical business skills and management capability is critical to converting interest into business formation.

Governments and industry should strengthen the reach and impact of existing programs that support entrepreneurial capability, including training, mentoring and information services.

### **3. Expand access to finance and risk protection for new businesses**

Limited access to external finance and affordable insurance is a significant barrier to business formation and growth. Rising household debt, collateral requirements and tightening financial conditions have reduced the ability of many prospective entrepreneurs to secure funding.

Policy should focus on broadening financing pathways for start-ups and growth-oriented small businesses. This includes improving the accessibility and visibility of existing grant programs, encouraging greater competition in lending and financial markets and addressing barriers that restrict access to domestic and international sources of capital.

More detailed analysis and research should be conducted to evaluate which policy instruments would be best suited to achieving this.

### **4. Address structural barriers to entry and competition**

Rising industry concentration and the market power of large incumbent firms discourage new entrants and limit the growth of emerging businesses. A dynamic economy requires competitive markets where new firms can enter and scale.

Competition regulators should continue to strengthen enforcement against anti-competitive conduct and undertake targeted market studies in sectors where barriers to entry appear high.

# WHY DO NEW BUSINESSES MATTER?

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New business formation is an essential ingredient in Australia's business dynamism, economic growth, productivity and prosperity. New and young businesses are strongly associated with innovation, sustainability and resilience. This is not necessarily due to their smaller size, but more to their novelty, adaptability, risk appetite and enthusiasm.

Regardless of their intentions or growth potential, new businesses can provide meaningful jobs and valuable learning opportunities, both for self-employed business owners and for their employees.

## **Economic dynamism**

At their best, new businesses push the technology frontier, bringing new products to market, commercialising novel production methods and laying the foundations for new supply chains, ecosystems and industries. These new solutions can bring long-lasting economic benefits. For example, Australian graphic design startup and tech unicorn Canva has quickly grown to employ more than 4000 employees, with large knock-on benefits for the Australian business environment (Case study).

Growth-minded new and young businesses are also crucial for strengthening economic resilience, diversity and vibrancy. Greater flexibility allows these businesses to adapt faster, which is particularly valuable at times of heightened technological, cultural, environmental or geopolitical change, such as the current period.

Historically, Australia has had a relatively high rate of new and young businesses compared to similar countries. To ensure Australian businesses are amongst the most competitive and dynamic in the world, we must address the decline in business formation and entrepreneurialism.

## **Meaningful employment**

Self-employment is a career goal for a significant portion of Australia's workforce. Autonomy, meaning, flexibility and creativity are all commonly sought by entrepreneurs, alongside financial reward. For those who do not want to be entrepreneurs, new businesses often create new sources of employment.

Not all new businesses will grow, compete and innovate over the long term. However, even short-lived, small or failed businesses can provide important training and skills development along the way. Aggregate business formation rates provide an important indicator of dynamism by documenting all new businesses across this spectrum of intentions and success. By studying these data in detail, we can identify meaningful trends and design pathways to support the more growth-oriented new businesses.

# CASE STUDY: CANVA'S CONTRIBUTION TO A DYNAMIC BUSINESS ENVIRONMENT

Technology start-ups valued at more than \$1 billion are known as unicorns. Australia's largest unicorn, the graphic design software company Canva, provides a useful case study of the broader economic value that high-growth start-ups can generate. While most new businesses will not grow to Canva's level, its trajectory highlights how such businesses can drive innovation, employment and wider spillover benefits across the economy.

Founded in 2013, Canva already had more than 4000 direct employees and was valued at \$65 billion in 2025.<sup>1,2</sup> This rapid growth is a function of its highly innovative culture. New product lines have challenged market incumbents and driven industry change globally. It was a first mover in the use of AI to assist in the design process. These products are now used in 190 countries.

While a portion of its employees are located overseas, a large majority are in Australia, providing a large boost to employment in high-skill, high-value technology occupations.

Moreover, dynamic workplaces such as Canva often instil entrepreneurial spirit and skills amongst their workforces. This can have large long-term spillover effects, with employees leaving to start their own new businesses and continue the entrepreneurial cycle.

Australian startups Adora, Human Health and Index are just three examples of businesses started by ex-Canva employees.<sup>3,4,5</sup> In 2025 they were valued at over \$10 million each and are growing their own new workforce, with potential to spawn a further generation of tech-related startups. This growing 'family' of firms demonstrates the benefits of high growth start-ups to business dynamism.

The rarity of unicorns like Canva means they are hard to replicate, but reversing the decline in business formation will make it easier to find and nurture the next one.



# AUSTRALIANS' INTEREST IN STARTING A BUSINESS IS HIGH

Not everyone wants to start a business as part of their career journey, but those who do play an important role in creating and growing a dynamic business culture that contributes to the nation's economic growth, productivity and prosperity. As a starting point, we need a strong cohort of individuals who are keen to take on this challenge and the associated risks.

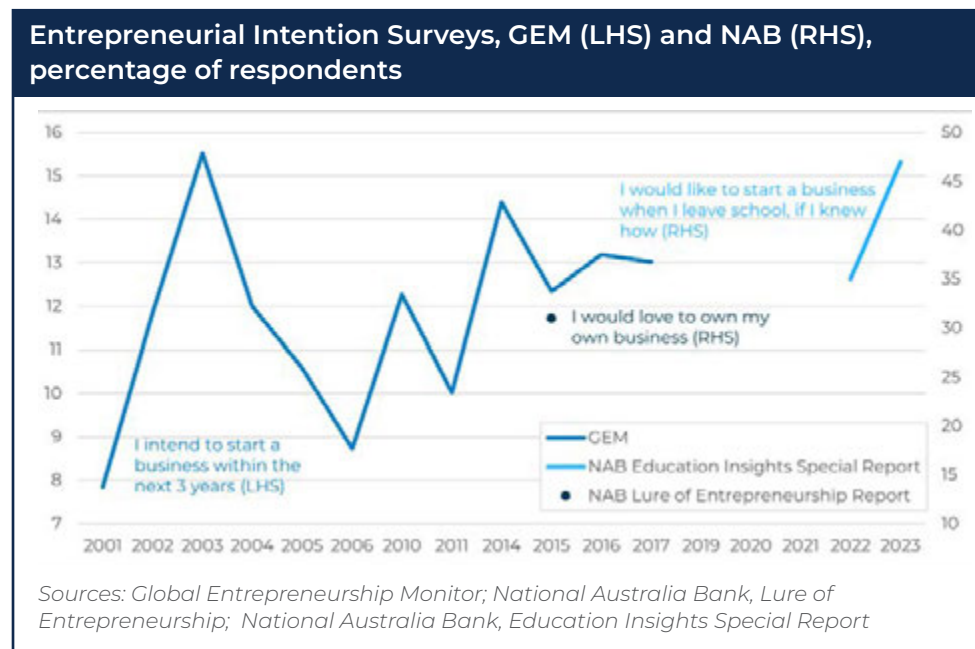
No single data source directly tracks Australians' entrepreneurial intentions over time. However, a collection of historical time series and more recent snapshots shed some light on this question.

Collectively, they suggest interest in starting a business has, if anything, increased over time (Figure 1). They indicate strong interest in future self-employment and business ownership, particularly among younger Australians.

- The Global Entrepreneurship Monitor (GEM) indicates the percentage of working age Australians who intend to start their own business within the next three years grew from 7.8 per cent in 2002 to 8.7 per cent in 2010 (immediately after the GFC) to 13 per cent in 2019;<sup>6</sup>
- A 2016 NAB survey found that around 30 per cent of all working-age people said they would prefer to own their own business instead of being an employee. Intentions to own a business were highest among men (35%) and people aged 18 to 29 years (45%);<sup>7</sup>
- In a 2024 survey by Small Business Loans Australia, 17 per cent of adults said they wanted to start a new business as their primary income source within the next five years and 38 per cent said they wanted to do so as a 'side hustle' (secondary income);<sup>8</sup> and
- Most recently, NAB's Life After School survey of secondary school students found that 47% "would like to start a business when they leave school, if they knew how" in 2024, up from 35% 2023. 19% of students in 2024 said their own future success would include running their own business or being self-employed at some stage in their career (See Appendix).<sup>9</sup>

The motivations behind these intentions are multifaceted. NAB's 2016 survey of aspiring entrepreneurs indicated that autonomy, personal

**Figure 1:** Australians' interest in starting their own business is high and rising



satisfaction and quality of life were large motivations, while potential remuneration and reward also polled highly. In 2024 however, Small Business Loans Australia found money had become the main motivation, with 68 per cent of people who wanted to start a business nominating 'better income' as their main reason, followed by 'create work that I enjoy' (56 per cent) and 'work-life balance' (47 per cent).<sup>10</sup>

While some aspiring business founders might intend to develop large growing businesses to rival established companies, others wish to capitalise on lifestyle trends. The latter type of business may not be an immediate and direct driver of significant business dynamism, but is still important over the longer term, because it provides a valuable real-life training ground for entrepreneurial skills that will contribute to future endeavours.

# STARTING OUT: SECOND JOBS, 'SIDE HUSTLES' AND THE 'GIG' ECONOMY

There are many routes to founding a new business. In recent years, second jobs including 'side hustles' and gig work have grown in popularity. Depending on their structure, these activities can be included in aggregate business data (for example, if a 'gig' worker registers an Australian Business Number (ABN) for tax purposes).

These springboard activities often provide excellent hands-on learning opportunities for individuals, but the evidence suggests that few will grow into independent businesses that can sustain longer-term business growth, innovation and dynamism.

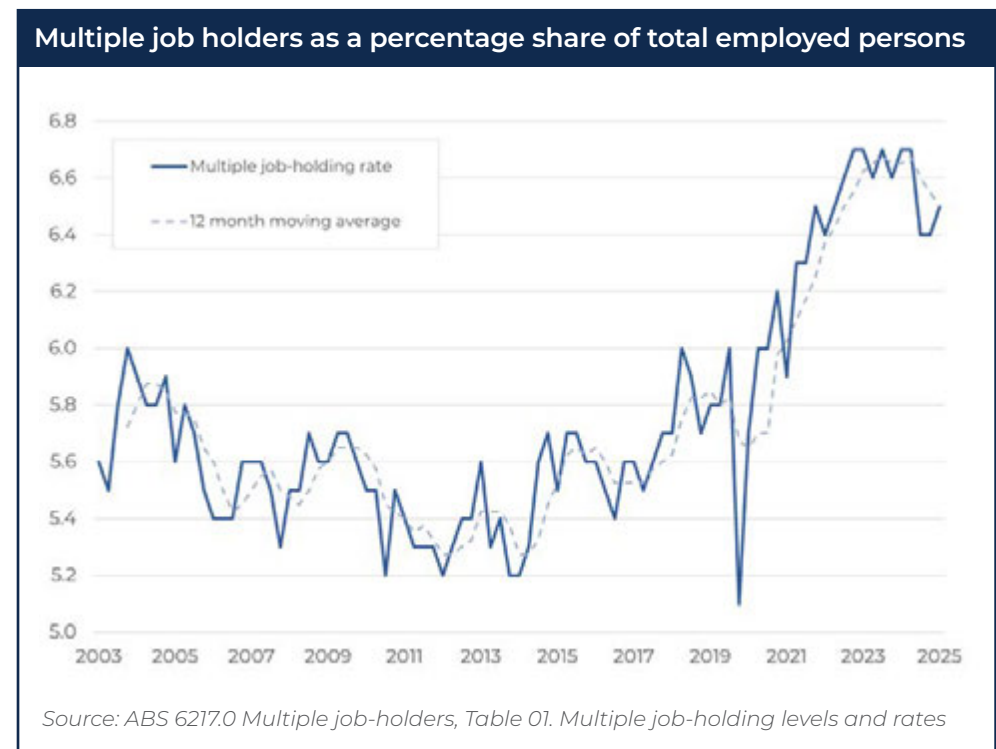
## The rise of second jobs

Over the decade from 2015 to 2025, the proportion of Australia's workforce with more than one job grew steadily to a peak of 6.7 per cent in early 2024 (Figure 2). As of September 2025, 6.5 per cent of the workforce held more than one job, with the largest numbers working a second (or subsequent) job in the largest employing industries of healthcare, education and hospitality. The highest rates of multiple job holders as a share of each industry's workforce, however, were in administrative services (8.9%), agriculture (8.7%), arts (8.7%) and hospitality (7.5%).

Across age groups, multiple job holdings were most common for 20-24 year-olds in every time period. Eight per cent of workers in this age group had more than one job in September 2025. Higher rates were also reported in regional locations (e.g. in agriculture and hospitality).

Second jobs capture many types of non-standard work, including 'side hustles' and gig workers. Some of these activities have the potential to be pathways to starting a business.

**Figure 2:** The share of multiple job holders has grown over the past decade



### Pathway one: The 'side hustle'

A recent version of the old 'garage-business' route to self-employment and business ownership is the concept of a 'side hustle', in which people start a micro-business, perhaps based on a craft, hobby or personal interest, while still employed elsewhere.

A recent Westpac survey on side hustles found 27 per cent of adults earned money through a 'side hustle' at some stage during 2025 and a further 28 per cent said they wanted to start one in the next 12 months.<sup>11</sup> In total, this is a higher level of interest than a similar survey by ING in 2021, which found that 48 per cent of adults "either have or are planning to start a side hustle", and a slightly higher level of active 'side-hustles' than the NBN's survey in 2017, which found 25 per cent of Australian adults were already deriving income from a side-hustle (half of which were operating online).<sup>12,13</sup>

While these numbers sound high, the most popular activity in 2025 was 'In-person retail and e-commerce' (30%), which included ad hoc and occasional selling of new and second-hand goods, followed by 'creative content' (20%). Most side hustles generated revenue of less than \$500 per month and the average generated just \$8800 annually.

More importantly for identifying pathways to future businesses, only 30 per cent of side hustlers aspired to grow their business into a part-time or full-time job. The majority - 62 per cent - said they would always keep their venture as a small supplementary income stream.

This implies 30 per cent of 27 per cent – or eight per cent of working-age adults in 2025 were engaged in a side hustle that they wanted to grow into a small business one day (see Appendix).

### Pathway two: Digital-platform worker in the gig economy

Another relatively new pathway to self-employment is the 'gig' economy or digital platform work, in which people are contracted to provide services on digital platforms. The most visible platforms are rideshare and delivery services such as Uber, Panda and Didi.

The ABS estimates that 178,500 people or 1.2 per cent of Australia's total workforce of 14 million people engaged in platform work at some stage during 2024-25, down slightly from 1.4 per cent of the workforce in 2024, but up from 0.9 per cent in 2022-23 and 0.8 per cent in 2020. In 2024-25, half of gig workers provided food-related delivery services, 39 per cent provided personal transport services and just 7 per cent sold professional services (see Appendix).<sup>14</sup>

This indicates that at best, digital platform work is forming a meaningful pathway to viable business ownership for only a small group of people. For the majority of gig workers, it provides only a *flexible source of supplementary income*.

The common themes that emerge from these pathways are:

- Most people take these opportunities to find immediate additional income;
- Their popularity has most likely risen in response to cost-of-living pressures and the emergence of new income-earning opportunities online and elsewhere;
- Few are pursued with the intention of creating a viable new business; and
- The resources and effort that individuals are directing into their supplementary activities might be detracting from the resources available to establish viable new businesses, particularly in a climate of tight labour markets and rising household cost pressures.

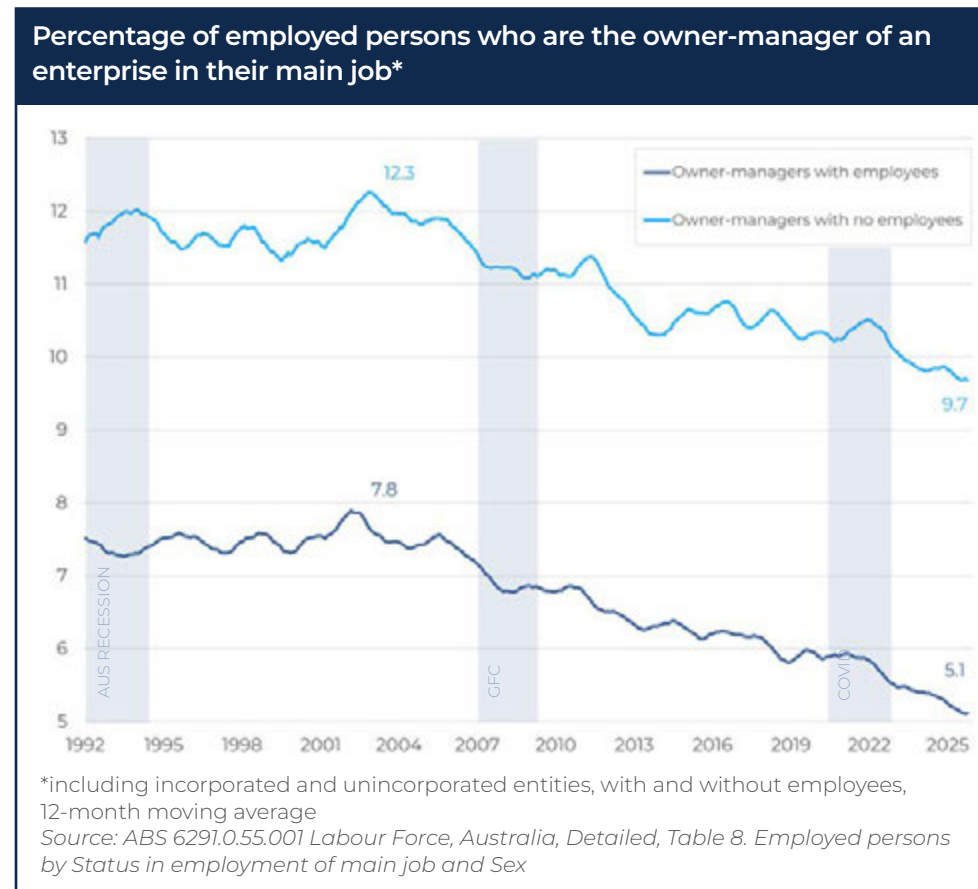
# BUSINESS OWNER-MANAGERS ARE IN DECLINE

There has been a long-term structural decline in the proportion of Australian workers who are employers rather than employees over the past two decades (Figure 3). Owners of an enterprise with employees peaked at 7.8 per cent of the total workforce in 2002 and hit an all-time low of 5.1 per cent in June 2025. Owners with no employees peaked at 12.3 per cent in 2002, declining to a record low of 9.7 per cent in 2025.

Interestingly, the steepest declines occurred after periods of significant economic disruption such as the GFC and COVID-19. This is likely related to government support measures and/or to changes in total employment during these periods. During COVID, government supports for small business stemmed the usual flow of people out of business ownership and kept the net number of owners stable. This indicates that the COVID-19 business supports temporarily slowed, but did not halt, this long-term decline.

Australia's ageing population does not appear to be the key driver of this trend. Our analysis shows employment as an owner-manager consistently increases with age, in raw numbers and relative to the size of each age cohort (Figure 4). That is, a worker in their 50s or 60s is far more likely to own a business than a younger worker.

**Figure 3:** Owner-managers have declined as a share of the workforce



This is true globally and reflects the fact that older workers are more likely to have the capital, credit, experience and confidence to establish or buy a business. Older business owners are also less likely to retire early than older employees, so they progressively make up a larger share of those in their age group who remain in the workforce.

In every age cohort however, Australians were far less likely to be an owner-manager of their own business in 2025 than in 2019 or earlier. This suggests a rise in barriers that are affecting all age groups, rather than age-specific factors or the aggregate impact of ageing.

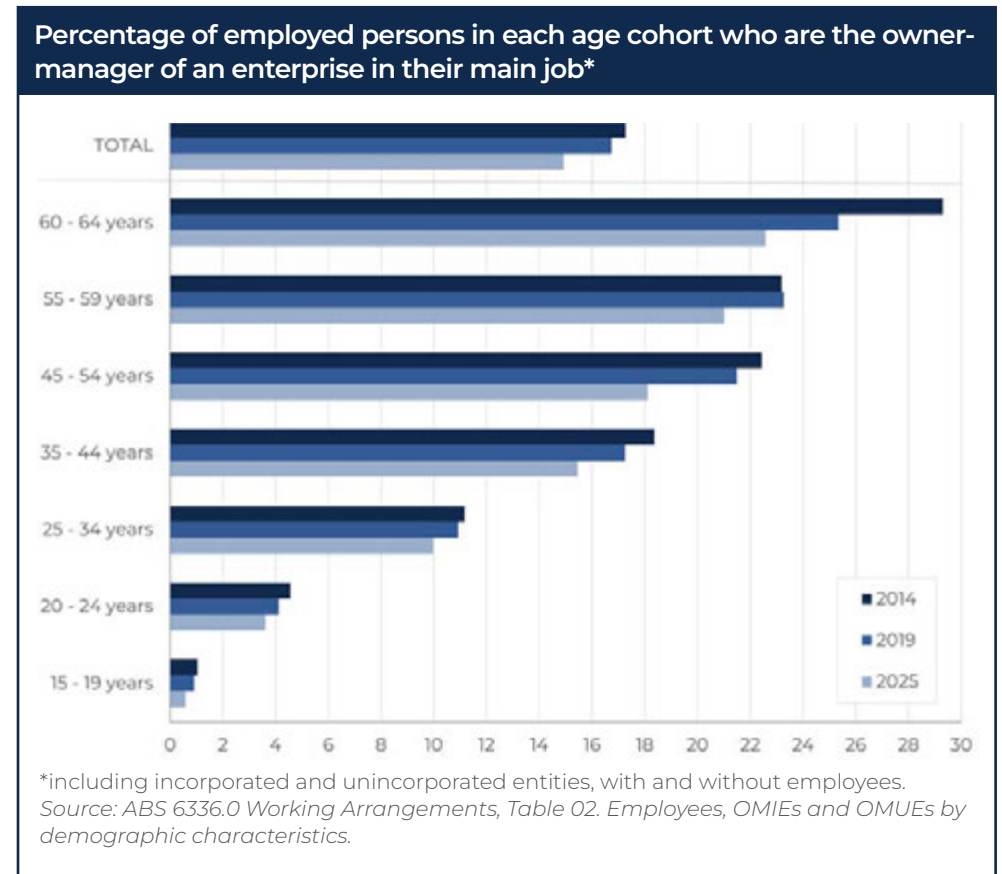
#### Fewer Australians are switching into business ownership

Ultimately, business dynamism requires constant movement in and out of businesses. Looking beyond point-in-time numbers or rates of owner-managers, the flows in and out of self-employment tell us how many people are taking the leap into starting a business, or jumping out of one.

This flow – or mobility – into self-employment has declined over the past decade. The most recent national data show 1.1 million people changed jobs in the 12 months to Feb 2025, but only 293,000 moved into or out of an owner-manager role. This meant only 26 per cent of all job moves included a move into or out of an owner-manager role and only two per cent of the workforce made such a move that year, down from 31.6 per cent of all moves and 2.5 per cent of the workforce one decade earlier (see Appendix).

This indicates not only that there are fewer owner managers in total, but also that fewer people are moving into and out of owner-manager self-employment each year. It confirms that this personal form of business dynamism has declined over the decade.

**Figure 4:** The share of business owner-managers is down in every age group



# EMPLOYING BUSINESS ENTRIES ARE IN STRUCTURAL DECLINE

The number of active businesses tracks roughly to the number of business owner-operators in each year. Some businesses have more than one owner, while some individuals own and operate more than one business. At an aggregate level, the total business formation rate has grown modestly over the past decade. However, this headline result hides important underlying dynamics.

Firstly, the recent growth in entry rates is almost entirely driven by businesses without employees (Figure 5). The expansion of the gig economy, flexible contracting models and low-barrier digital platforms have contributed to this trend, with entry rates for businesses without employees rising from a two-decade low of 12.4 per cent in 2012-13 to 19.8 per cent in 2024-25.

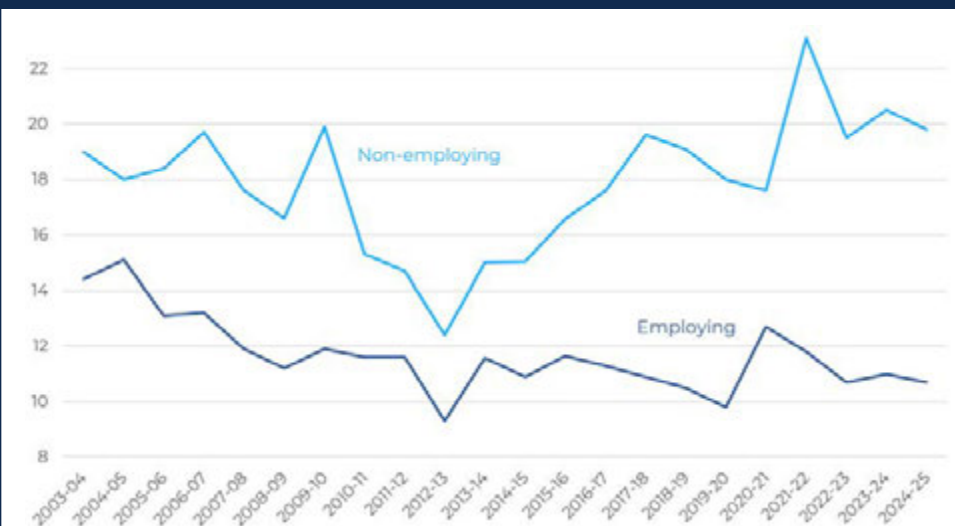
In contrast, the entry rate for businesses with employees declined steadily through the 2000s and has since been relatively flat, falling from a 2004-05 high of 15.1 per cent to 10.7 per cent in 2024-25. This suggests a structural weakening in the creation of such businesses.

This is concerning because solid rates of employing-business entries are an important pre-requisite to business dynamism. Tracking this rate provides a more accurate assessment of dynamism trends as it pinpoints the businesses that have made a commitment to growth.

Further, some businesses without employees are started for reasons that are unlikely to directly contribute to a more productive and dynamic business environment over the longer term. For example, a graphic designer might resign, register their own ABN and return to the same business as a contractor, as part of a business restructuring round. Or a delivery driver might register their own ABN and cover all their own vehicle costs, while providing delivery services on contract to a single company or through a single delivery platform.

**Figure 5:** Entries for employing and non-employing businesses have diverged

## Entry rates for employing and non-employing businesses percentage, financial year



Source: ABS 8165.0 Counts of Australian Businesses. Including Entries and Exits. Table 13, Businesses by Annualised Employment Size Range, CEDA filtering for employing businesses

Note: It is unclear what drove the low points in 2012-13. One potential explanation is data definition changes that year.

Employing business creation rose during the initial 2020-21 COVID disruption, reflecting temporary shifts in labour demand and government support. In contrast, non-employing business entries did not peak until 2021-22, likely due to border closures constraining migration, which appears to be correlated with new sole-trader activity. Both have now largely normalised, with entry rates sitting slightly above their pre-COVID levels.

**Figure 6:** Entry rates for employing businesses vary by state

**Employing business entry rates by state, percentage, financial year**



Source: ABS 8165.0 Counts of Australian Businesses, Including Entries and Exits, Data Cube 2, Businesses by Main State by Industry Class by Annualised Employment Size Ranges

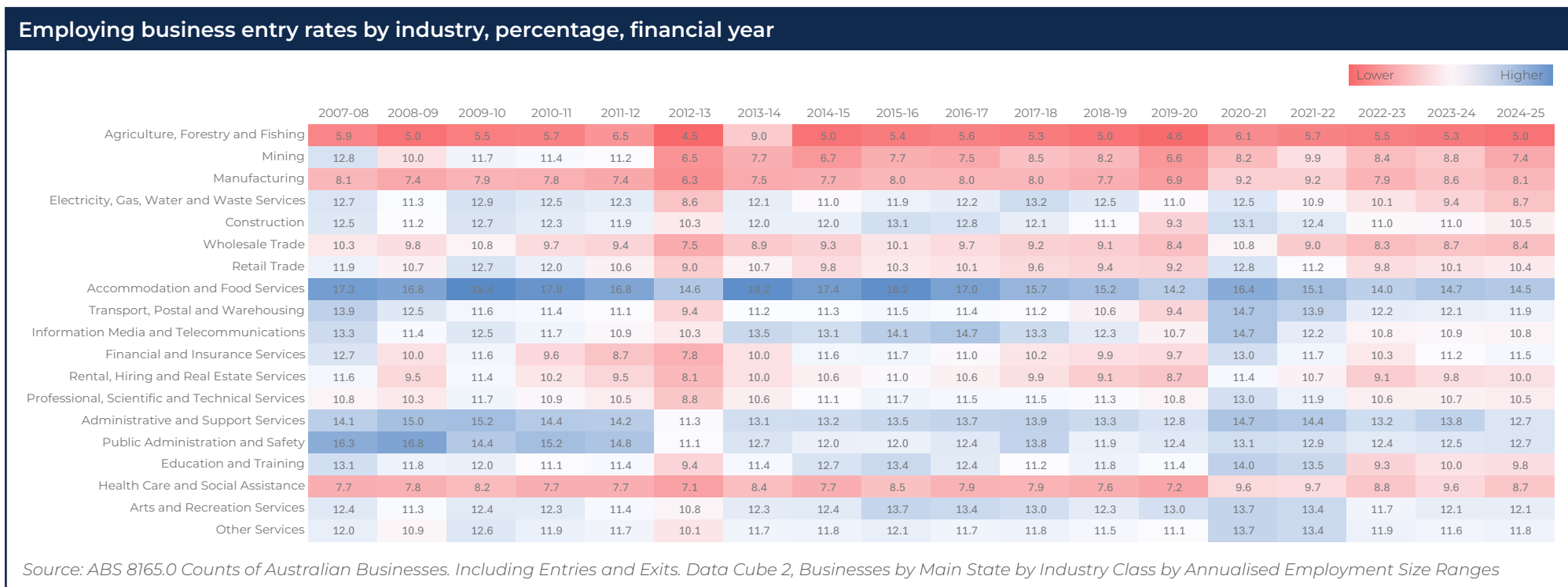
**Business creation has declined in all states**

Examining business creation trends by state shows that the five largest states all experienced a decline in entry rates over the last two decades (Figure 6).

Structural differences in entry rates reflect state differences in industry composition, demographics and income levels. Rates are consistently weakest in South Australia, whilst prior to the pandemic, New South Wales, Queensland and Victoria typically exhibited the highest – and broadly similar – levels of business creation.

As of 2025, entry rates have risen to above pre-pandemic levels in all mainland states except for Victoria, which has continued to see lacklustre creation of employing businesses. This could be related to Victoria’s longer, deeper COVID-19 activity restrictions, its larger exposure to international education (which was hit harder than many other industries), and/or to the subsequent increases in business-related state taxes and charges, which may have dampened local business recovery and entry.

**Figure 7:** Entry rates for employing businesses vary significantly across industry and time



**Business entry rates are lower in most industries**

Not all industries are equally conducive to new businesses, but our analysis shows the rate of employing-business creation has declined or remained stable in almost all industries over the last two decades (Figure 7).

Likely driven by the introduction of the NDIS, ‘health care and social assistance’ was the only industry to experience an increase in 2024-25 (8.7%) compared with 2007-2008 (7.7%).

There was a significant decline in mining, which fell by more than 5.4 percentage points from the peak of the mining boom in 2007-08. There was a similar drop in ‘electricity, gas, water and waste’, which predominantly fell post-COVID, while education has also failed to recover from the pandemic.

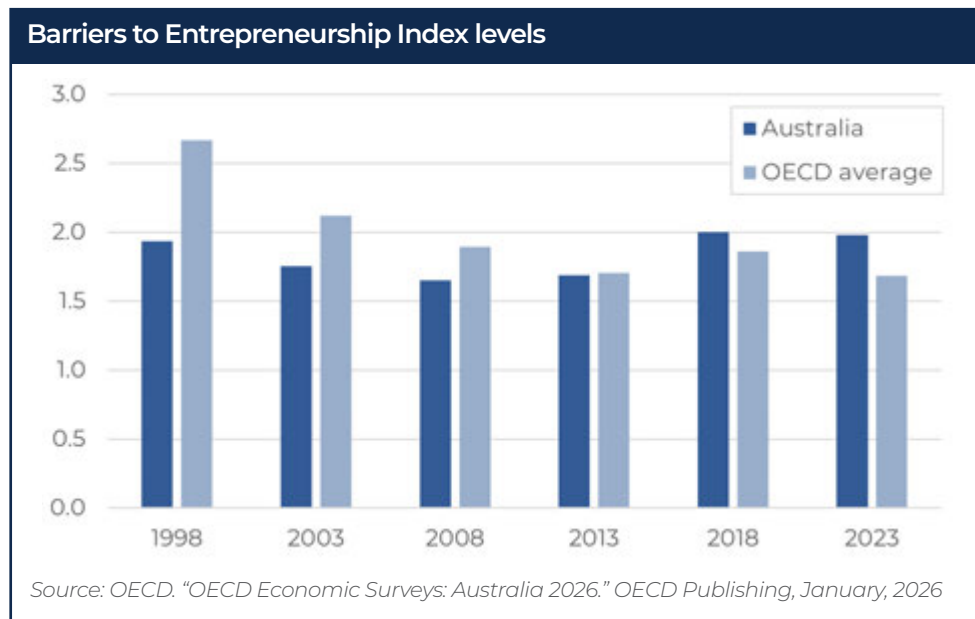
This broad-based decline suggests structural barriers beyond industry composition are responsible for the aggregate decline in employing-business entries.

# BARRIERS TO NEW BUSINESS ARE COMPLEX AND LAYERED

The decline in business entries is not unique to Australia – it has also been observed internationally.<sup>15</sup> A broad range of structural and policy barriers can impede business entry rates and entrepreneurialism in an economy. The barriers felt in Australia appear to be worsening when compared to other countries.

The OECD's Product Market Regulation (PMR) indicators suggest Australia's entrepreneurial barriers have remained flat over the past 25 years, while the OECD average has fallen from far above to below Australia (Figure 8). This means barriers to entrepreneurship have become more restrictive in Australia than in other economies. Elsewhere, the most recent IMD World Competitive Yearbook ranked Australia 68th out of 69 countries for Entrepreneurship.<sup>16</sup>

**Figure 8:** Australia's barriers to entrepreneurship are above OECD averages



Entrepreneurial barriers can be broadly grouped into structural characteristics of the economy, and institutional and policy frameworks that constrain new businesses. Structural characteristics influence the underlying environment in which new businesses are formed.

One such barrier is the level of market concentration. Australian industries are increasingly concentrated amongst a select few large firms.<sup>17</sup> Such firms wield greater market power, raising the cost to compete for smaller players. Research in Australia has linked high market concentration to lower business entries in subsequent periods.<sup>18</sup> Globalisation reinforces these effects. Exposure to large international competitors can disproportionately disadvantage small and new firms that lack scale and expertise.<sup>19</sup>

A lack of entrepreneurial skills, knowledge and culture also influences entry rates. Many individuals cite lack of knowledge as a key barrier to starting a business or side hustle.<sup>20</sup> Moreover, formal education programs are underutilised, with many entrepreneurs instead relying on informal networks and social media to develop the skills to start and run a business.<sup>21</sup>

Beyond these structural factors, institutions and frameworks shape the constraints felt by new business. The regulatory burden facing Australian businesses is often cited as a leading barrier to business dynamism and firm entry.

Although registering for an ABN is free and the World Bank ranked Australia 7th for "ease of starting a business" in 2020 (see Appendix), once the first steps have been taken to start a business, obstacles arise in the form of ongoing administrative reporting and requirements, which CEDA has found to have grown in amount and restrictiveness.<sup>22,23</sup> This heightened complexity is reflected in compliance costs, which have grown from 4.2 per cent of GDP in 2013 to 5.8 per cent in 2025.<sup>24</sup> While all businesses must meet these obligations, small and new businesses often lack the resources and expertise to do so. This means higher costs as a percentage of revenue when compared to larger incumbents.<sup>25</sup>

Beyond government regulation, employment contracts and non-compete clauses can limit workers' ability to change jobs, including using their skills and industry expertise to go solo. Around one-in-five workers are subject to non-complete clauses in Australia.<sup>26</sup> In recognition of this, the Federal Government committed to ban non-compete clauses for low-and-middle-income workers in its 2025-26 Budget. This reform is welcome and should help to limit this barrier.

Access to affordable external finance is another challenge often cited by small and medium businesses.<sup>27</sup> This is partially reflected in the total value of loans to small businesses, which has been in decline in inflation-adjusted terms over the past five years.<sup>28</sup>

Many factors could be at play here. The requirement to provide residential property or other physical assets as collateral for a business loan has become more difficult for small businesses.<sup>29</sup> Declining rates of home ownership may mean fewer people – particularly young people – have a home they can use as collateral for a business-related loan.

Australian households also hold some of the highest levels of debt in the world.<sup>30</sup> High debt levels can raise risk aversion and lower credit ratings for potential entrepreneurs, potentially resulting in lower appetite and greater difficulty in accessing funds to start a business.<sup>31</sup>

At the same time, small business insurance premiums have risen by up to 60 per cent since 2019.<sup>32</sup> These rises reflect elevated risks and costs related to extreme weather events, crime, inflation and regulation.<sup>33</sup> The Federal Government's inquiry into small business insurance is a welcome step to address this growing cost.<sup>34</sup>

Finally, while far less prevalent amongst small business, private equity financing has also failed to grow. The number of venture capital deals, which are particularly attractive to tech start-ups, has been declining since the pandemic.<sup>35</sup> This could partially reflect Australia having the most stringent Foreign Direct Investment (FDI) restrictions in the OECD.<sup>36</sup> With a relatively small local non-bank financing sector, this leaves fewer options.

In anticipation of these large and ongoing obstacles, many would-be entrepreneurs may choose not to start a business in the first place.

# IMPROVING AUSTRALIA'S ENTREPRENEURIAL ECOSYSTEM

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Current policies and programs have not been sufficient to reverse Australia's structural decline in business formation. The evidence in this report points to several areas where reforms could strengthen Australia's entrepreneurial ecosystem and improve the environment for new firms.

Business entry is relatively low-cost in Australia (see Appendix), so most policy levers across all levels of government focus on supporting the post-entry phase. Effective supports can improve expected business outcomes and reduce perceived risks, which in turn encourages more people to start and grow a business.

More efficient and coordinated business regulation should be a priority for both federal and state governments. Administrative compliance costs fall disproportionately on small firms, and differences in state regulation and tax settings may contribute to varying business formation rates. State governments must ensure their processes and regulation are not excessively hindering business entries or growth.

Previous CEDA research has advocated for more seamless regulation across state borders, including standardised and simplified occupational licensing.<sup>37</sup> Harmonising regulation to be more efficient, targeted and coordinated will reduce compliance costs, which are disproportionately felt by small business. Banning non-compete clauses in some industries should also be considered to reduce barriers to entrepreneurship.

Access to government grants and support programs should be simplified. Access to federal grants through *Business.gov.au* and the *Industry Growth Program* are largely sector and/ or location specific, and each has its own eligibility criteria and selection process. State and local support is equally complicated and is often poorly integrated across levels of government. Duplication, uneven access and limited continuity create confusion and uncertainty that limit their uptake.

Beyond grants and income supports, governments should prioritise reducing financing constraints and improving access to insurance for new businesses. Restrictions governing the banking and financial markets should be relaxed to enable greater competition from domestic and foreign players.<sup>38</sup> More detailed analysis and research should be conducted to evaluate which policy instruments would be best suited to achieving this.

Elevating Australia's entrepreneurial knowledge, skills and culture should be another key avenue to boost business creation and dynamism. Current strategies, including business hubs and the *Australian Business Licence and Information Service*, should be better promoted and expanded to increase entrepreneurial information, training, coaching and mentoring.

Previous CEDA research has highlighted the importance of incorporating stronger dynamic management training in government-run programs to boost business dynamism.<sup>39</sup> Digital tools, multilingual resources and stronger regional outreach could further reduce information barriers to starting and growing a business.

Reducing barriers to entry in concentrated industries is another important reform area. Stronger enforcement of competition rules and targeted market studies can help identify sector-specific barriers that limit new firm entry.<sup>40</sup>

Reform should build on existing supports but be guided by evidence about the barriers most affecting new firms. A more coherent and coordinated policy framework would reduce perceived risks, strengthen business capability and support higher rates of business formation over time.

## CONCLUSION

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Entrepreneurial intentions remain strong across generations, particularly amongst young Australians. Yet this is not spurring the creation of new employing businesses. Instead, the growth of side hustles, second jobs and non-employing businesses reflects a response to income pressures and flexibility preferences, rather than growth in business dynamism. While these activities provide valuable additional income, they rarely develop into scalable, long-term and productive businesses.

At the same time, Australia is experiencing a structural and broad-based decline in self-employment and in the formation of employing businesses. This is evident across all age groups, industries and states. This trend has continued since the disruptions of COVID-19 and points to deep structural and institutional barriers to business creation. Market concentration, globalisation, compliance complexity and access to finance and insurance are all collectively discouraging business formation.

Correcting this decline will require a coordinated approach. Instead of replacing current supports, policies and frameworks should be improved and streamlined. Easing access to grants, finance and insurance, and elevating skills and entrepreneurial capability, will give prospective entrepreneurs greater means with which to start a business. More broadly, reducing regulatory complexity and market concentration will reduce the cost of starting and growing a business.

Stronger rates of business formation and dynamism are essential to lifting our flagging productivity and ultimately, creating sustainable, long-term prosperity for all Australians.

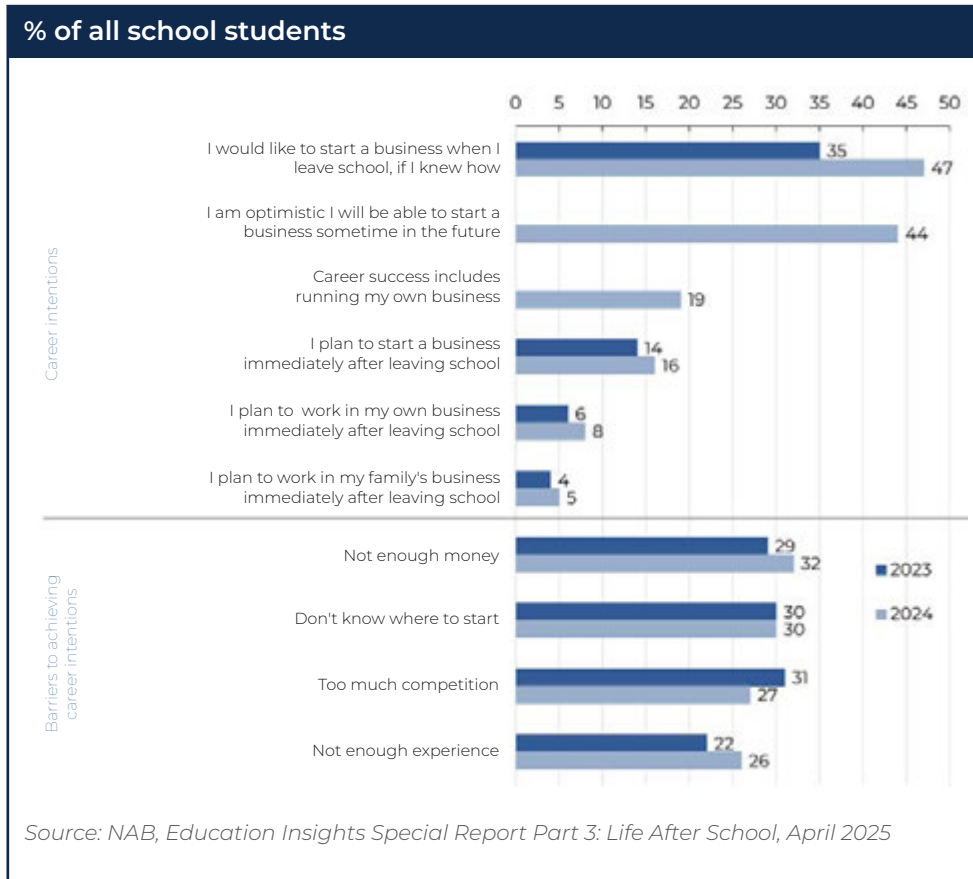


# APPENDIX: STATISTICAL DEFINITIONS AND ADDITIONAL DETAIL

## Entrepreneurial intentions of Australian school students

Among Australian secondary school students surveyed for NAB in 2024, 47% “would like to start a business when they leave school, if they knew how”, up from 35% in 2023.

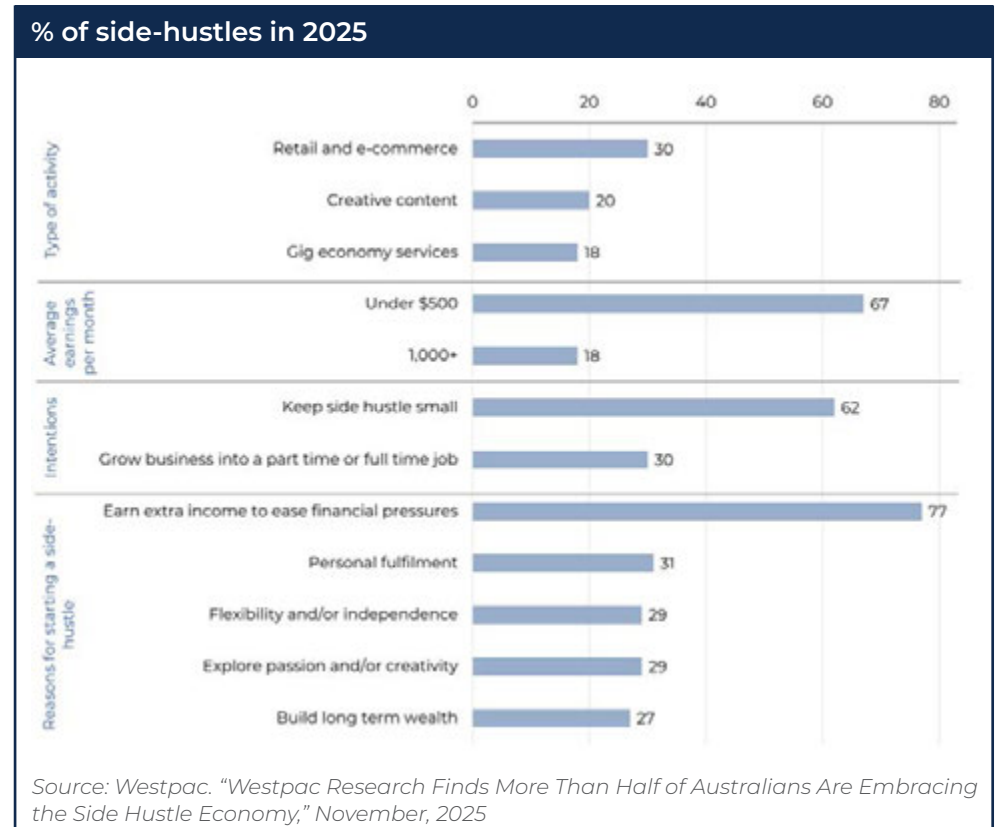
**Figure A1:** 47% of students want to start a business when they leave school



## ‘Side-hustle’ workers

‘Side hustles’ are self-initiated employment or income-earning activities outside a person’s main job. Typical side hustles include selling your services outside your normal working hours, selling and trading in new or second-hand goods, or selling creative outputs in person or online.

**Figure A2:** 27% of Australian adults earned money from a side hustle in 2025

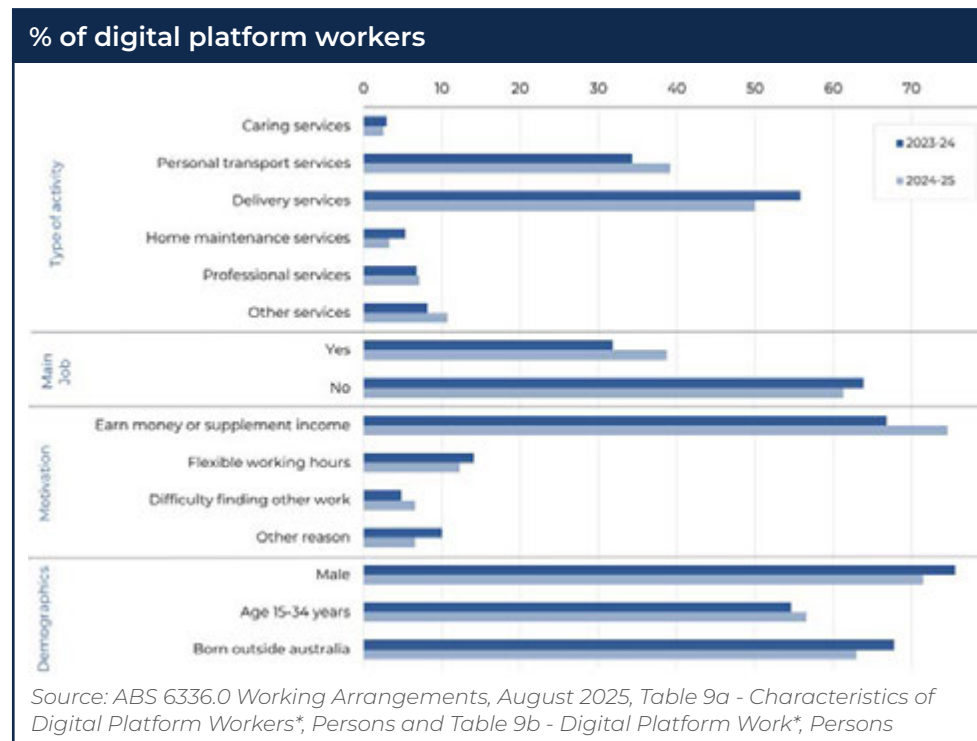


## Digital platform workers

Digital platform or 'gig' work is a form of short-term contract employment that is paid per task undertaken, rather than a pay rate per hour. This pay structure is slowly shifting, with some ride-share platforms now guaranteeing their contractors a minimum pay rate per hour.

The ABS estimates that 178,500 people engaged in platform work at some stage during 2024-25, down from 200,900 people in 2023-24. This equates to 1.2 per cent of Australia's total workforce of 14 million people in 2025, down slightly from 1.4 per cent of the workforce in 2024, but up from 0.9 per cent in 2022-23 and an estimated 0.9 per cent in 2020.<sup>41</sup>

**Figure A3:** 1.2% of the workforce earned money from digital platforms in 2024-25

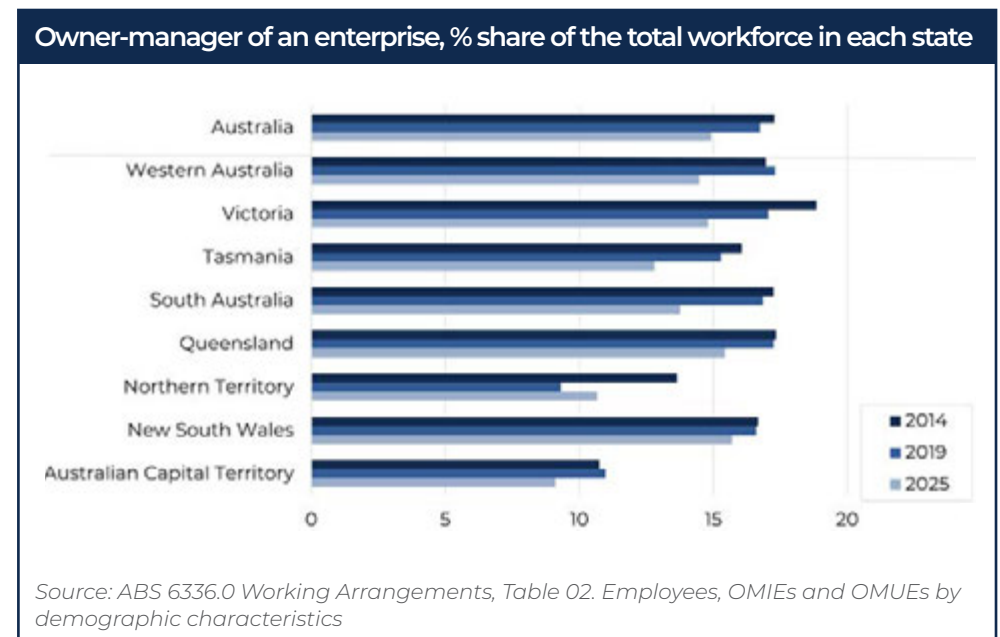


## Self-employed business owner-operators, by state

The proportion of owner-managers in each state and territory has traditionally reflected local industry compositions. Prior to COVID-19, it was usually highest by a small margin in Victoria, which had larger construction, manufacturing and wholesaling industries. It was usually lowest in the territories, both of which have larger shares of public-sector activity.

A smaller share of the workforce was employed as owner-managers in 2025 compared to 2019 in all states and territories except for the Northern Territory. Victoria showed the steepest decline, falling from a nation-leading 18.8 per cent of the workforce in 2014 to 14.8 per cent in 2025 and just 4.9 per cent for business owners with employees. In Victoria and WA, the drop in business owners with employees happened in absolute terms and not just relative to the size of the state's workforce.

**Figure A4:** Owner-managers had bigger declines in south-eastern states



### Labour mobility into and out of 'owner-manager' status in employment

The annual ABS job mobility survey shows that in the 12 months to Feb 2025:

- 1.1 million people changed jobs; and
- 293,000 people changed their employment status when they changed jobs. That is, they moved between (into or out of) an owner-manager role and an employee role.

This means that in the year to Feb 2025, 26 per cent of all job moves included a move into or out of an owner-manager role, but only two per cent of the workforce made such a move that year, down from 31.6 per cent of all moves and 2.5 per cent of the workforce one decade earlier.

The same ABS survey also asks job movers if their move was voluntary or not, and if it occurred because they were intending to start their own business. In February 2025, 2.2% of the total workforce said that in the previous 12 months, they had voluntarily changed jobs AND that this move was because they wanted to start their own business, down from 2.7% in 2015.

**Figure A5:** Job changes related to business ownership have declined



## Global rankings on ease of starting a business

In 2020, the World Bank ranked Australia 7th out of 190 countries for ease of starting a business, with a score of 96.6 points out of 100.<sup>42</sup> This was below New Zealand (1st) and Canada (3rd) but above the UK (18th) and the OECD average for high-income countries.

This score is based on four metrics:

1. The number of procedures required to start a business, which in Australia is three, compared to a global best of one.
2. The number of days needed to start a business, which is two in Australia and 0.5 in the global best.
3. The cost of starting a business as a share of average income per capita, in Australia this is 0.7%, compared to a global best of zero.
4. The paid-in minimum capital requirements as a share of average income per capita, which is zero in Australia and 120 other economies.

In Australia, the procedures and costs required to start a business are:

1. Register for an ABN with the ATO, which is free and available same-day;
2. If starting a company, apply to register as incorporated with ASIC. This costs between \$503 and \$611 in 2026 depending on the type of company; and
3. Register for workers compensation insurance in the corresponding state or territory (compulsory for all employers) and pay the insurance premium applicable to their industry.
4. For non-employing micro-businesses, the process is even easier. Just one of these procedures is required to start a business and register for tax purposes (the ABN). The other two are only necessary if a business owner wishes to create a company and/or to employ people.

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## About CEDA

CEDA – the Committee for Economic Development of Australia – is an independent, member-based public policy think tank. Our membership base spans all sectors and every state and territory.

Our purpose is to achieve sustainable, long-term prosperity for all Australians.

For more than 60 years, CEDA has influenced Australia's public policy debate and been a catalyst for change on economic and social issues.

Led by Chair Christine Bartlett and Chief Executive Melinda Cilento, CEDA carries on the legacy of renowned economist Sir Douglas Copland, who founded CEDA in 1960.

Our work is guided by our Progress 2050 vision, which supports our purpose.

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- We welcome members who want to engage in informed debate and explore innovative policy solutions.
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- We produce rigorous research by engaging with government, business, academia and the broader community to address long-term challenges and deliver better outcomes for Australia.



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# TRACKING THE RISE OF INDUSTRY REGULATION

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There has been a rise in excessively stringent regulation across the Australian economy, creating a complex, overlapping and growing web that burdens business and hinders productivity.<sup>1</sup> Australia will need to reform these regulatory systems to meet its goals to increase housing supply and manage the energy transition.

There was widespread agreement on the need to simplify or cut regulation at the Federal Government's Economic Reform Roundtable this year, with environmental, housing and building approvals identified as priorities.

Submissions to the Productivity Commission's recent inquiry into creating a more dynamic economy documented increasing regulatory burdens across a broad range of sectors including financial services, mining and higher education (Box 1).

Meanwhile, CEDA's recent report *Towards a More Seamless Australian Economy* highlighted that regulatory frictions preventing firms from operating seamlessly across Australia restrict competition, raise costs, reduce choice, constrain labour mobility and hold back economic dynamism and productivity.

Understanding where and how regulation is affecting industry is important to ensuring

regulatory settings are fit for purpose and not a hand brake on innovation and dynamism.

In this paper we present a starting point for a new measure of regulatory restrictions by industry. This takes a similar approach to previous analysis by the Mercatus Center at George Mason University's *RegData* database of Australian federal Acts but adds new industry-level analysis.

The new analysis is enabled by advances in AI, which make coding for text scraping and analytics much more accessible and efficient.

CEDA's estimates show that the stringency of federal legislation has increased over the past couple of decades, with particularly steep increases in key infrastructure, health care and education industries. Further work would be beneficial to extend this analysis to other time periods, legislative instruments and state and territory regulation.

The analysis clearly shows the increase in rules to which organisations must adhere, which creates additional costs and complexity to produce the goods and services that Australians want and need.

The analysis does not measure the quality of regulation, and it is acknowledged that there could be net positives from the increase in regulation if it drives better outcomes for society.

## Box 1: Businesses report growing regulatory burdens

Submissions by CEDA members to the Productivity Commission reported increasing regulatory burdens across a range of sectors.

- “... Average timeframes for approvals for major mining projects have increased by 18 months over the last five years; and conditions attached to those approvals have also become significantly more prescriptive, complex and often impractical, with little additional material environmental benefit.” (Rio Tinto, p. 2)
- “A common challenge with major project[s]...is repeated requests for the same information from Commonwealth and state governments and different agencies within each jurisdiction. There is little coordination and information sharing within government and across the Federation. This presents an unnecessary drain on resources, contributes to protracted approval processes and has a detrimental impact on productivity.” (Wesfarmers, p. 16)
- “Developing [a clean metals] project...has involved Fortescue navigating a nascent state regulatory environment in the hydrogen industry. Many of the regulations applied to this project are not fit for purpose and carried over from other sectors. Governments should proactively assess regulatory needs for green industries on the pathway to net zero to ensure regulations arrive before projects to ensure they can be constructed and operated safely.” (Fortescue Metals, p. 5; see also Port of Newcastle Case Study 4 in CEDA’s *Clean Energy Precincts* Report<sup>2</sup>)
- “Australian insurers are heavily regulated, with more than 100 pieces of regulation in force across different regulators.” (Insurance Council of Australia, p. 3); “The overall regulation in financial services generally, and the insurance industry specifically, has increased significantly over time following the Royal Commission into the Banking, Superannuation and Financial Services Industry. While this regulation was an important step to address serious consumer harms, it has not always resulted in the desired outcomes for consumers. The Australian Law Reform Commission previously found that the current legislative framework for corporations and financial services regulation is overly complex and made nearly 60 recommendations to streamline financial services regulation.” (Insurance Council of Australia, questionnaire p. 1)
- “Time spent on regulatory compliance by our management and governance committees has increased by 20 to 25 per cent over the last decade.” (University of Sydney, questionnaire response p. 3)

In some areas such as financial regulation, regulatory emphasis has moved away from clearly defined ‘black letter law’ to setting regulatory principles. This can potentially streamline and simplify legislation, but can also make compliance more difficult. For example:

- “Fairness obligations [are] embedded across multiple legislative instruments including the ASIC Act, Competition and Consumer Act, Corporations Act and National Consumer Credit Protection Act. These are further layered within industry codes and state-based legislation, resulting in a fragmented regime that is difficult to interpret and comply with.” (NAB, p. 9)

### Data suggests a trend towards more restrictive regulation

Australia's ranking on the OECD Product Market Regulation index has been falling over the past two decades (Figure 1). This index assesses regulatory barriers to firm entry and competition in key market sectors. Australia's worsening ranking has mainly been driven by lower barriers in other countries and reflects poor rankings for administrative and regulatory burden (37th out of 43 countries) and the competition-friendliness of licensing and permitting arrangements (39th out of 43 countries).<sup>3</sup>

Australia's ranking in the IMD World Competitiveness Yearbook has also fallen from the top-10 globally two decades ago to 18th in 2025.<sup>4</sup>

Other sources show regulatory restrictions in Australia increasing over the past decade. US research shows 'business freedom' has declined by two per cent over the decade to 2025, while 'labour freedom' has declined by 20 per cent, based predominantly on World Bank data.<sup>5</sup>

Analysis by Australia's Office of Impact Analysis shows regulatory burdens increasing every year since 2015-16, from a starting point of an estimated 86,000 regulations with a compliance burden of \$65 billion.<sup>6</sup>

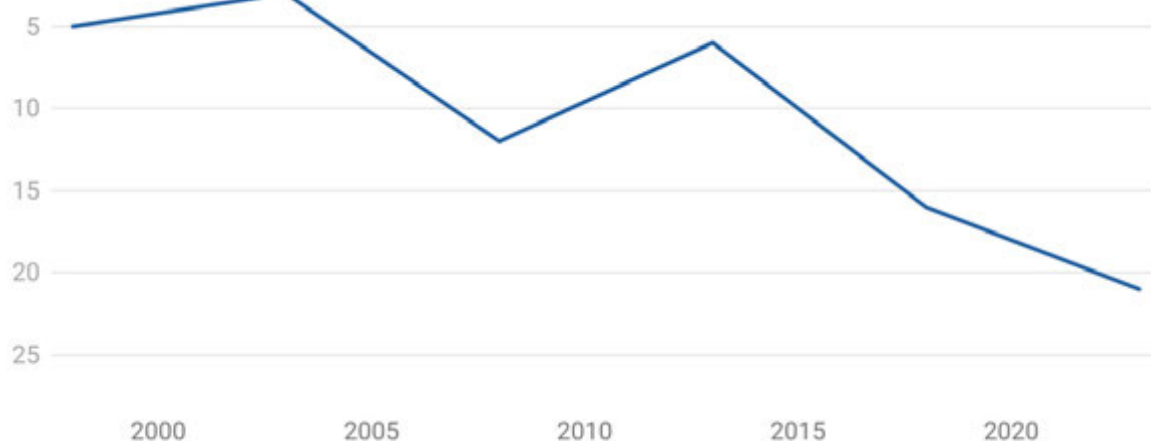
Survey-based measures of compliance burden have also increased. Regulation requirements were the fourth most cited economic challenge faced by company directors in 2025, with 25 per cent citing this factor. This is an increase from 2016, when too much regulation was the eighth-most cited factor, highlighted by 21 per cent of directors. Two-thirds of directors expect compliance requirements to increase in the next year, up from 40 per cent in 2016.<sup>7</sup>

The most direct measure of aggregate regulatory restrictions is *RegData: Australia*, which quantifies restrictive terms in Australian regulation using an approach developed to analyse US regulation by the Mercatus Center.<sup>8</sup> This source shows dramatic growth in the number of restrictive and conditional terms in federal Acts and legislative instruments in the two decades to 2020.<sup>9</sup>

To date, however, no analysis has tracked Australian regulatory restrictions by industry. *RegData* does this for the US, but a similar approach was not readily applicable to the different industry classification in Australia.<sup>10</sup> The OECD Product Market Regulation database does assess competition restrictions by industry, but only for a selected sample of mainly network industries such as transport, energy and telecommunications.

**Figure 1: Australia's ranking on regulatory barriers to competition has worsened**

Ranking for the extent of economy-wide regulatory barriers to competition, where the top ranked country has the least barriers



Source: OECD Product Market Regulation Database

### Industry-specific restrictions are growing

Taking a similar approach to *RegData* (see Appendix for methodology), new CEDA analysis of federal Acts shows restrictive terms have increased by around 30 per cent between 2003 and 2025. This is consistent with the trend in *RegData* but extended to more recent data.

The novel aspect of this analysis is the classification of each Act to one or more affected ANZSIC industries, based on keywords in the title, purpose statement and first three sections of each Act (Appendix A).

This reveals there has been a 39 per cent increase in regulatory restrictions that directly affect Australian industries (Figure 2). Acts are considered industry-relevant only if they have been classified through our analysis; unclassified Acts are therefore excluded from this value.

### Infrastructure and service sectors are particularly affected

Regulatory restrictions in federal Acts have increased most over the past two decades in key infrastructure (Electricity, Gas, Water and Waste services; and Information Media and Telecommunications) and service industries (Health Care and Social Assistance; and Education and Training) (Table 1).

The number of restrictions has increased for all industries, but the increase was more moderate in Transport, Postal and Warehousing; Manufacturing; Financial and Insurance Services (albeit starting from a high base); and Wholesale Trade.

These preliminary estimates would be improved by including additional legislative

instruments and state and territory Acts and regulations. For example, an increase in federal restrictions could represent a genuine increase in regulation, but it could also represent a centralisation of state legislation in a federal Act, as occurred when Work Choices and the *Fair Work Act 2009* centralised industrial relations law. In many other cases, however, such as the National Construction Code, nationally consistent rules continued to be given legal effect through state and territory legislation.

The lack of previous industry-level analysis of regulatory restrictions makes benchmarking difficult, but the results can be compared against the OECD's Product Market Regulation (PMR) indicators. Both our results and the PMR find relatively little change in regulatory restrictions applying to the transport sector since 2003.

However, the PMR data show no increase, or even a decrease, in regulatory barriers in the energy and telecommunications sectors.<sup>11</sup> Differences can be explained by different methodologies: PMR indices measure specific regulatory barriers to entry and competition collected through a cross-checked questionnaire of national authorities, rather than a count of the total number of regulatory restrictions.

The discrepancy suggests that many of the increased restrictions applying to the energy and telecommunications sectors are not barriers to competition, but rather regulations covering other issues such as safety and environmental issues.

## Figure 2: Federal Acts place increasing restrictions on Australian industries

Growth in restrictive regulation from 2003 to 2025 (per cent)



CEDA analysis is based on a combined count of requirement terms ('must', 'shall', 'required', 'mandatory', 'obliged', 'compulsory', 'necessary', 'duty', 'obligation', 'liable', 'responsible') and prohibition terms ('prohibited', 'forbidden', 'banned', 'unlawful', 'illegal', 'shall not', 'must not', 'cannot', 'may not', 'restricted').

Industry relevant Acts excludes all Acts that were unclassified in our analysis (337 Observations).

An important driver of increases in regulations applying to the electricity, gas, water and waste services industry is the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*, which has little effect on entry or competition within the domestic electricity and gas industries. Similarly, new

legislation such as the *Digital ID Act 2024*, the *Surveillance Devices Act 2004* and the *Data Availability and Transparency Act 2022* is relevant to the Information Media and Telecommunications industry but would have little or no effect on competition in the sector as assessed by the PMR.

**Table 1 : Key infrastructure and service industries had the biggest growth in regulation**

Industry	Count of restrictive terms in 2025 Acts	Increase in restrictive terms 2003 to 2025 (per cent)
Electricity, Gas, Water and Waste Services	43,216	65
Information Media and Telecommunications	36,189	60
Health Care and Social Assistance	47,701	57
Education and Training	32,162	56
Administrative and Support Services	39,404	54
Mining	34,577	53
Arts and Recreation Services	30,642	51
Retail Trade	31,113	50
Other Services	36,736	49
Construction	29,134	49
Public Administration and Safety	64,277	46
Accommodation and Food Services	27,324	45
Rental, Hiring and Real Estate Services	32,417	44
Professional, Scientific and Technical Services	33,312	41
Agriculture, Forestry and Fishing	31,074	40
Wholesale Trade	34,080	37
Financial and Insurance Services	49,228	37
Manufacturing	31,301	32
Transport, Postal and Warehousing	33,898	13
Unclassified	42,805	-3
<b>Total</b>	<b>192,909</b>	<b>27</b>
<b>Total affecting industries</b>	<b>150,104</b>	<b>39</b>

Source: CEDA analysis of principal Acts as stored on the Federal Register of Legislation.

## Conclusions

Our analysis shows restrictions in federal Acts applicable to Australian industries have increased by 39 per cent over the past two decades. Our count of restrictive terms in legislation does not indicate whether the quality or net benefits of regulation have changed, but it does indicate that there has been an increase in the overall quantum of regulation that firms must comply with.

This increase has been particularly steep in key infrastructure and service sectors. Restrictive terms have increased by at least 60 per cent for the Electricity, Gas, Water and Waste and Information Media and Telecommunications industries, and by more than 50 per cent for major service sectors and mining.

Further work is needed to identify solutions to improve and better target regulation. These findings support the work being undertaken by the Productivity Commission, and arising from the Economic Reform Roundtable, to

review regulatory settings across industries and look for opportunities to simplify or reduce regulatory burden where it is not contributing to better economic or social outcomes.

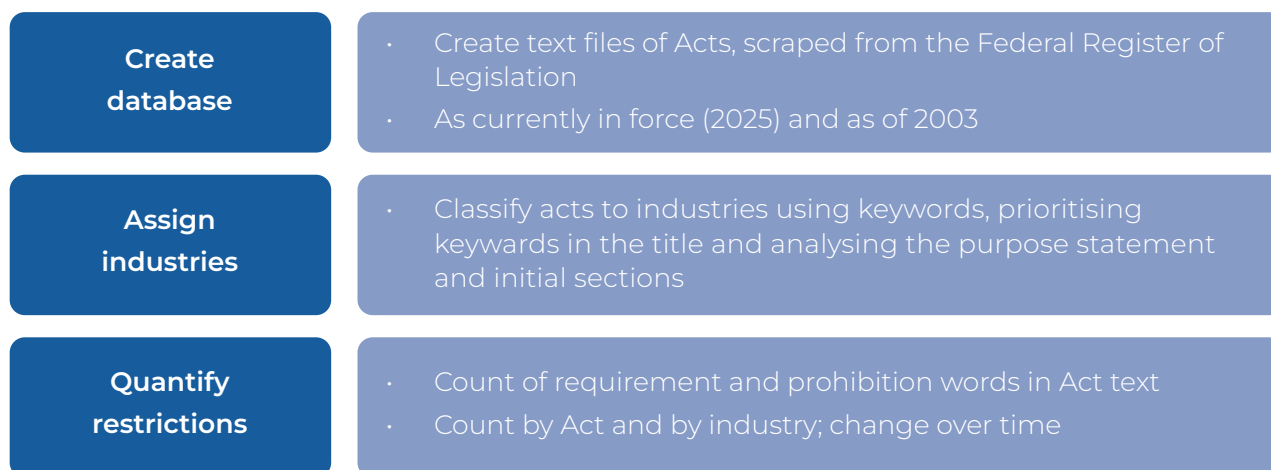
To make substantive changes to the underlying drivers of increases in regulatory barriers, this would need to go beyond reinforcing existing processes such as Regulatory Impact Statements. It could include new processes, such as creating a Senate committee that reviews regulatory burdens for one portfolio each year, similar to the oversight provided by the Joint Committee of Public Accounts and Audit.

Many areas for further work arise from this analysis, including looking at state and territory legislation, analysing enforcement of legislation and looking at the costs of compliance.

## Appendix: Method

Following the published analytical approach of *RegData*,<sup>12</sup> we used natural language processing and text analytics to classify and quantify the restrictiveness of regulation by industry (Figure A1). Text scraping and analysis were undertaken using the Python programming language, with AI used to support coding.

**Figure A1: Analytical approach to tracking regulatory restrictions in federal Acts by industry**



To compile a dataset of federal legislation, a scraping algorithm was used to download the full text of Principal Acts published on the Federal Register of Legislation website. This data source offers a comprehensive source of digitised legislation, and allows for the filtering of legislation by year, accommodating the comparison of past and present regulation.

To monitor changes in regulation over time, two snapshots were taken. First, all Acts in force as of September 2025 were downloaded and converted into text files, capturing the current stock of regulation. As a source of comparison, all Acts in effect as of January 2003 were also collected. This reference point was chosen to align with the release of the OECD Product Market Regulation indicator. The choice of comparison year was also based on concerns regarding the reliability of pre-1990 data.<sup>13</sup>

Once collected, Acts were classified by industry using a dictionary-based textual analysis model. First, a list of industry-specific keywords was developed using one-digit ANZSIC industry definitions (Table A1).<sup>14</sup> For example, for mining, key words included “mining”, “minerals” and “resources”. Second, textual analysis was used to identify the industry relevance of each Act, based first on the title, then on the purpose and first three sections of each Act.

Based on the distribution of keywords, the model assigns industries and predictive scores to each act. The predictive score captures the degree of certainty associated with the Act being relevant to that industry. From these predictive scores, each act is classified as relevant to a single industry, multiple industries, all industries or none.

Classified Acts are then analysed for their concentration of restrictive language. This technique is adapted from the approach used in *RegData*,<sup>15</sup> where for each Act, the number of requirement and prohibition words within the text is counted and totalled as a proxy for regulatory restrictiveness (Table A2). Industry values are calculated by aggregating the results of all Acts classified to each industry, providing a picture of the level and change in restrictions by industry.

The results do not change substantially when using a broader range of keywords to measure regulatory restrictions. We undertook sensitivity analysis using the list of 184 ‘constraining’ terms in

the Loughran-McDonald dictionary, which is a standard dictionary used for textual and sentiment analysis.<sup>16</sup> This showed a slightly bigger increase in restrictive terms between 2003 and 2025 (just over a 40 per cent increase for all industry-relevant restrictions).

The ordering of industries with the biggest increase in regulatory restrictions was largely maintained, with one exception being Financial and Insurance Services, which saw a substantially bigger increase in constraining terms to rank fourth highest for the increase in restrictions by industry.

**Table A1: Dictionary keywords by one-digit ANZSIC2006 code**

ANZSIC code	Keywords
A: Agriculture, Forestry and Fishing	'agriculture', 'agricultural', 'farming', 'farm', 'crop', 'livestock', 'cattle', 'sheep', 'dairy', 'poultry', 'pig', 'fishing', 'fisheries', 'aquaculture', 'forestry', 'timber', 'wood', 'rural', 'primary producer', 'horticultural', 'pastoral', 'grain', 'beef', 'wool', 'cotton', 'wheat', 'vineyard', 'orchard', 'plantation'
B: Mining	'mining', 'mine', 'mineral', 'minerals', 'coal', 'iron ore', 'gold', 'copper', 'uranium', 'petroleum', 'oil', 'gas', 'exploration', 'extraction', 'quarry', 'resources', 'geological', 'drilling', 'seismic', 'prospect'
C: Manufacturing	'manufacturing', 'factory', 'industrial', 'assembly', 'processing', 'fabrication', 'automotive', 'pharmaceutical', 'chemical', 'textile', 'food processing', 'machinery', 'equipment', 'product', 'plant', 'facility'
D: Electricity, Gas, Water and Waste Services	'electricity', 'electric', 'power', 'energy', 'gas', 'water', 'waste', 'utility', 'sewage', 'treatment', 'distribution', 'generation', 'renewable', 'solar', 'wind', 'hydro', 'nuclear', 'transmission', 'grid', 'pipeline'
E: Construction	'construction', 'building', 'residential', 'commercial', 'infrastructure', 'contractor', 'planning', 'zoning', 'architect', 'engineer', 'builder', 'project', 'site'
F: Wholesale Trade	'wholesale', 'distribution', 'supply chain', 'trading', 'import', 'export', 'dealer', 'distributor', 'supplier', 'bulk', 'inventory', 'customs'
G: Retail Trade	'retail', 'shop', 'store', 'consumer', 'sales', 'merchandise', 'customer', 'commercial', 'trade', 'market', 'shopping'
H: Accommodation and Food Services	'hotel', 'accommodation', 'tourism', 'restaurant', 'food service', 'hospitality', 'catering', 'lodging', 'tourist', 'visitor'
I: Transport, Postal and Warehousing	'transport', 'transportation', 'freight', 'logistics', 'shipping', 'postal', 'mail', 'delivery', 'warehouse', 'aviation', 'maritime', 'rail', 'road', 'airport', 'port', 'cargo', 'passenger', 'navigation', 'airlines', 'railways', 'seafarer'
J: Information Media and Telecommunications	'telecommunications', 'broadcasting', 'media', 'internet', 'communication', 'television', 'radio', 'radiocommunications', 'digital', 'technology', 'data', 'network', 'spectrum', 'mobile', 'telephone', 'broadband', 'communications'
K: Financial and Insurance Services	'banking', 'bank', 'banks', 'financial', 'insurance', 'credit', 'loan', 'investment', 'fund', 'superannuation', 'pension', 'money', 'deposit', 'prudential', 'APRA', 'ASIC', 'unclaimed money', 'ADI', 'life insurance'

L: Rental, Hiring and Real Estate Services	'rental', 'lease', 'property', 'real estate', 'land', 'estate', 'housing', 'residential', 'commercial property', 'tenancy', 'landlord'
M: Professional, Scientific and Technical Services	'professional', 'consulting', 'technical', 'scientific', 'research', 'legal', 'accounting', 'engineering', 'veterinary', 'architectural', 'design', 'advisory', 'specialist', 'expert'
N: Administrative and Support Services	'support services', 'staffing', 'recruitment', 'office', 'clerical', 'security', 'cleaning', 'maintenance'
O: Public Administration and Safety	'government', 'public', 'administration', 'civil', 'defence', 'security', 'police', 'law enforcement', 'public safety', 'emergency', 'national security', 'intelligence', 'military', 'ADF', 'AFP', 'ASIO'
P: Education and Training	'education', 'school', 'university', 'training', 'student', 'teacher', 'academic', 'learning', 'curriculum', 'higher education', 'tertiary', 'vocational', 'skills', 'qualification', 'universities'
Q: Health Care and Social Assistance	'health', 'medical', 'hospital', 'healthcare', 'patient', 'treatment', 'pharmaceutical', 'medicine', 'therapy', 'care', 'social', 'welfare', 'disability', 'aged care', 'mental health', 'public health'
R: Arts and Recreation Services	'arts', 'culture', 'recreation', 'sport', 'entertainment', 'museum', 'library', 'heritage', 'creative', 'performance', 'festival', 'gambling', 'gaming', 'lottery', 'marine park', 'national park'
S: Other Services	'repair', 'personal', 'community', 'religious', 'civic', 'union', 'association', 'organisation', 'service', 'maintenance'
All Industries	'GST', 'customs', 'tariff', 'excise', 'competition', 'consumer', 'trade practices', 'workplace', 'employment', 'fair work', 'privacy', 'corporations', 'business', 'commercial', 'regulatory', 'compliance', 'standards', 'quality', 'environmental protection', 'industrial relations'
No Industries	'electoral', 'parliament', 'referendum', 'supply act', 'appropriation', 'judicial', 'federal circuit', 'family court', 'procedural', 'administrative law', 'income tax', 'interpretation'

**Table A2: Keywords used for restrictions count**

Term	Keywords
Requirement	'must', 'shall', 'required', 'mandatory', 'obliged', 'compulsory', 'necessary', 'duty', 'obligation', 'liable', 'responsible'
Prohibitive	'prohibited', 'forbidden', 'banned', 'unlawful', 'illegal', 'shall not', 'must not', 'cannot', 'may not', 'restricted'

Note: Sensitivity analysis also undertaken using a much broader range of 'constraining' terms (184 in total) from the Loughran-McDonald dictionary of terms for textual analysis. This did not substantially change the measured increase in industry-relevant restrictions.

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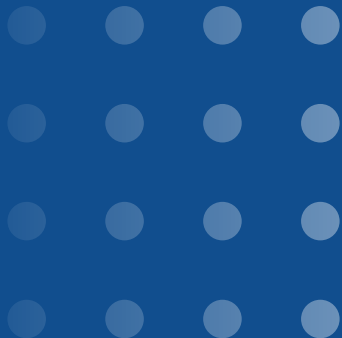
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# TOWARDS A MORE SEAMLESS AUSTRALIAN ECONOMY

2025

**TOWARDS A MORE  
SEAMLESS AUSTRALIAN  
ECONOMY**

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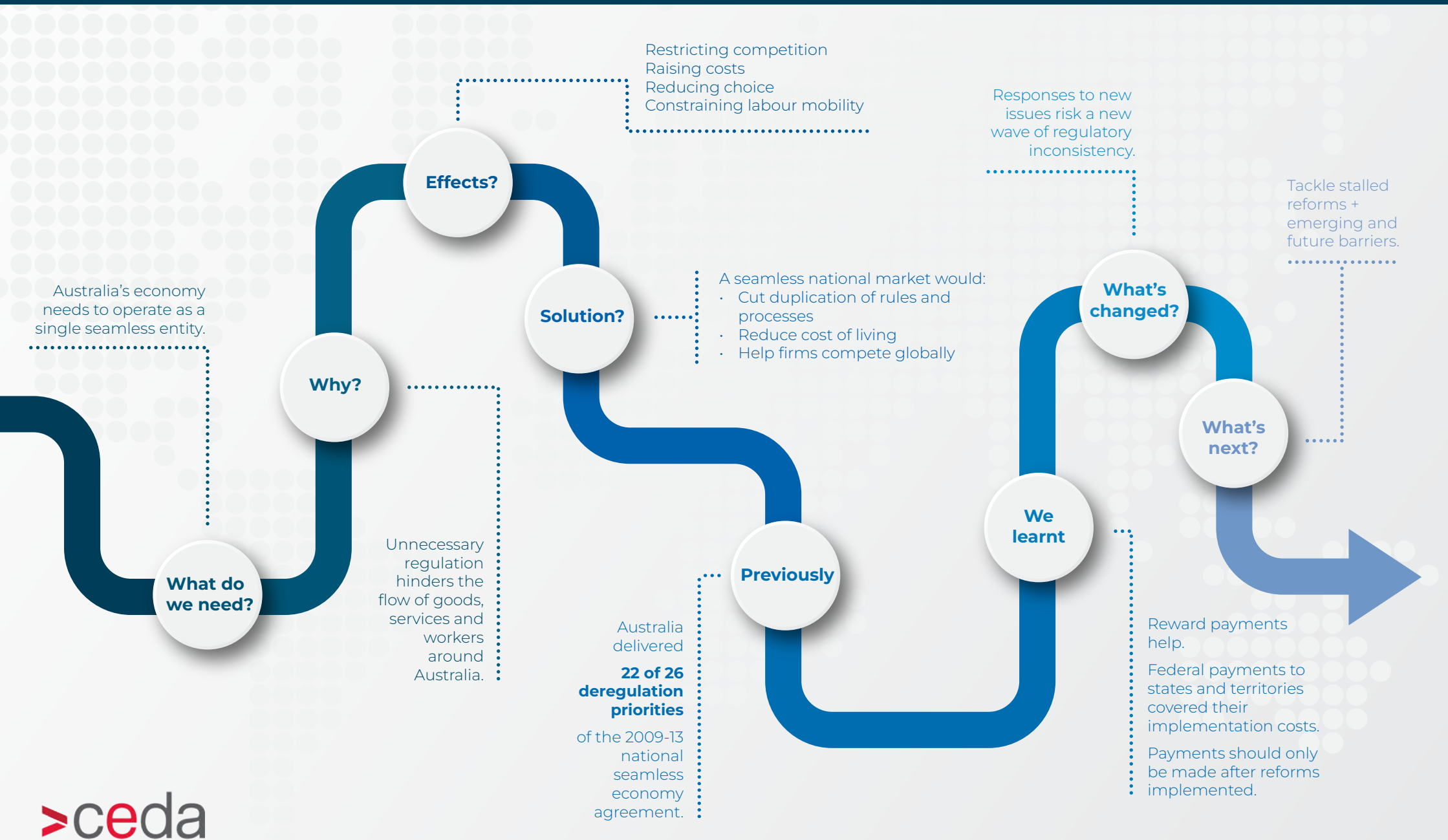
*Towards a more seamless Australian economy* makes the case for a sustained commitment to better regulation and harmonisation across Australia. It recommends a new seamless national economy agreement between the Federal Government and states and territories, identifying priority areas for reform and key steps to ensure success. This report contributes to the productivity, investment and innovation focus area of CEDA's Progress 2050 vision for a better future for the next generation of Australians.



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# TOWARDS A MORE SEAMLESS AUSTRALIAN ECONOMY



# THE NEXT STEPS IN STREAMLINING AUSTRALIA'S ECONOMY

NATIONAL OCCUPATIONAL LICENSING

ENVIRONMENTAL ASSESSMENTS

PAYROLL TAX

HEAVY VEHICLE TRANSPORT POLICY



DATA SHARING BY DEFAULT

LAND-USE PLANNING REGULATION

CIRCULAR NATIONAL ECONOMY

BEST PRACTICE GOVERNMENT PROCUREMENT

CARE WORKER SCREENING



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# EXECUTIVE SUMMARY

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The Australian economy is facing major headwinds. Productivity growth – the key long-term driver of improved living standards – has slowed, measures of global trade uncertainty are at record highs, Australia is struggling to build enough homes to meet its housing shortage and the energy transition is proceeding too slowly.

To navigate these challenges, Australia's economy needs to operate as a single seamless entity.

A well-functioning federation allows tailoring of policy to local conditions. It also enables innovation through learning from different approaches. Yet for too long, unnecessary regulatory barriers have hindered the flow of goods, services and workers around Australia.

Take the different widths of railway lines laid across the country in the 1800s. This was flagged as a problem before Federation, but took a century and a major Commonwealth-State investment project to resolve.

While they may not always be so obvious, frictions that prevent firms from operating seamlessly across Australia restrict competition, raise costs, reduce choice and constrain labour mobility. Anything that creates such friction without adding value holds back economic dynamism and productivity.

A single, seamless national market would cut duplication of regulation and processes, reducing the cost of living and helping firms compete internationally. Reducing barriers to people moving to better jobs can also boost productivity by better matching skills to jobs. To enable this, reform must occur across many sectors and activities.

Australia has worked across levels of government to develop nationally consistent policy in the past and can do so again. In this report we focus on the lessons learned from the *National Partnership Agreement to Deliver a Seamless National Economy* in effect between 2009 and 2013. These reforms were estimated to deliver over \$6 billion in annual benefits to the economy. Unfinished reforms offer a similar magnitude of benefits.

Yet a new seamless economy agenda is about much more than just completing unfinished business. The economy has changed considerably in the past 15 years. The care sector accounts for a growing share of employment. In an increasingly inter-dependent, digital and service-based economy, constraints on operating and sharing data across borders have become even more damaging. Better data-sharing alone could boost Australia's economy by up to \$10 billion.

Meanwhile, responses to new issues, such as electric vehicles, gig work and container recycling schemes, risk a new wave of regulatory inconsistency.

Internationally, Canada has already taken action, striking agreements to increase domestic integration in response to US tariffs.<sup>1</sup> It is a federation like Australia, but with much larger barriers to inter-jurisdictional trade.

We may no longer be laying down incompatible rail lines, but inconsistencies in how we regulate today's new technologies may eventually be seen in the same light. Australia should smooth the frictions in its economy to ensure it can navigate the challenges ahead.

# RECOMMENDATION

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Deliver a new seamless national economy agreement between the Commonwealth and states and territories, building on the 2024 agreement to revitalise National Competition Policy. Payments to states and territories should occur after reforms are implemented.

Starting points should include:

- National occupation licensing
- Harmonised and efficient environmental assessments
- Payroll tax harmonisation
- More consistent heavy vehicle access and design rules
- Data sharing across jurisdictions by default
- More streamlined and consistent land-use planning regulation
- Consistent materials standards and registration processes to enable a more circular national economy
- Reforms to state and local government procurement to get the best offers in Australia
- Delivery of national care worker screening.

# THE ORIGINAL SEAMLESS NATIONAL ECONOMY AGENDA

The *National Partnership Agreement to Deliver a Seamless National Economy* between the Commonwealth Government and the states and territories was in effect between February 2009 and June 2013. The agreement contained 27 deregulation priorities and eight priority areas for competition reform.

It sought to reduce the level of unnecessary and inconsistent regulation across jurisdictions, deliver agreed deregulation and competition reforms, and improve processes for making and reviewing regulation. It delivered considerable benefits to the economy.

The agreement came after a hiatus in market reforms through the early part of this century, following the drive towards a single national market that had started with the 1993 Hilmer inquiry into a national competition policy (Figure 1).

Considerable progress was made on 22 of the 27 deregulation priorities, including important reforms to deliver a single Australian Consumer Law, the National Construction Code, a national consumer credit regulation framework and a single national personal property securities register (Table 1).

**Figure 1** Efforts to streamline regulation have waxed and waned



Source: Adapted from Mandala Partners, *The Next Steps Towards a Seamless National Economy*, Presentation for CEDA Council on Economic Policy, March 2025

**Table 1** Progress on the 27 deregulation priorities

Deregulation priorities	Progress	Estimated annual benefits (if fully implemented)
Occupational Health and Safety	Several states such as Victoria still have their own occupational health and safety laws.	\$480 million
Environmental assessment	Partial progress. Full delegation of approval powers did not occur and approval agreements stalled.	Tens or hundreds of millions of dollars <sup>2</sup>
Payroll tax	Harmonisation Joint Protocol signed in 2010.	\$30 million
National trade licensing system	COAG agreed to establish National Occupational Licensing System (NOLS). This was abandoned in 2013.	Up to \$846 million <sup>3</sup>
Health workforce	Single national registration and accreditation system for health professionals since 2010.	\$160 million
Trade measurement	Single National Trade Measurement system started on 1 July 2010.	\$5 million
Rail safety	Establishment of National Rail Safety Regulator and unified national rail safety law.	\$16 million
Consumer law	From 1 January 2011 the Australian Consumer Law replaced provisions set out in 20 previous statutes.	\$880 million
Product safety	Part of establishment of Australian Consumer Law.	Part of 'Consumer Law'
Trustee corporations	Reforms completed.	\$4 million
National consumer credit (Mortgage broking, margin lending, non-deposit lending and 'other')	Establishment of national consumer credit regulation framework. State and territory powers referred to the Commonwealth.	\$45 million
Development assessment	Streamlining approvals processes largely completed.	\$225 million
Construction code	National Construction Code in 2011 brought together Building Code of Australia and Plumbing Code of Australia, but fragmentation remains.	\$1 050 million

Deregulation priorities	Progress	Estimated annual benefits (if fully implemented)
Chemicals and plastics	PC inquiry undertaken, but only 3 of 30 recommendations implemented three years after completion.	Limited quantitative evidence of costs <sup>4</sup>
Business names	Completed.	\$62.5 million <sup>5</sup>
Personal property securities	Personal Property Securities Act 2009 established unified national system to register and manage personal property securities.	\$70 million
Business reporting	Standard Business Reporting launched in 2010.	\$60 million
Food	Central interpretive advice service established, changes to voting arrangements and review of food labelling policy and law.	\$1 million
Mine safety	National Mine Safety Framework developed. Full implementation stalled by occupational health and safety harmonisation. National Mine Safety Database not feasible.	n/a
Electronic conveyancing	Electronic conveyancing national law introduced and implementation of PEXA.	\$89 million <sup>6</sup>
Oil & gas	Establishment of national bodies following PC inquiry.	Potentially billions of dollars each year <sup>7</sup>
Maritime safety	Delivery of Intergovernmental Agreement on Commercial Vessel Safety Reform, Australian Maritime Safety Authority and Navigation Act 2012.	\$103 million <sup>8</sup>
Wine labelling	National Trade Measurement Regulations 2009 provided uniform framework for wine labelling.	\$29 million
Directors' liability	Personal Liability for Corporate Fault Reform Act 2012 passed. States and territories have introduced nationally consistent directors' liability laws, albeit some passed after the agreement ended.	n/a

Note: Green shading – reforms largely completed. Orange shading – partial progress made. n/a: Quantitative estimates not available. Except where noted, benefits of reform from PC (2012).

Sources: COAG Reform Council (2013) *Seamless National Economy: Final Report on Performance, Report to the Council of Australian Governments*; Bradbury, D. (2012) 'Benefits and outcomes of the seamless national economic agenda', *Regulatory reform conference, 27 September*; Payroll Tax Australia (2022), *2010 Harmonisation Joint Protocol*; Australian Food and Grocery Council (2011), *Submission to Senate Select Committee on Australia's Food Processing Sector*; PC (2012), *Impacts of COAG Reforms: Business Regulation and VET, Research Report*; ACCORD (2011) *Submission: Regulatory Reforms Study*; Department of Industry, Science and Resources, *National Mine Safety Framework: Implementation Report*; Samuel, G. (2020), *Independent Review of the EPBC Act – Final Report, Department of Agriculture, Water and the Environment*.

These reforms had substantial payoffs for relatively little cost. The Productivity Commission (PC) estimated that the deregulation priorities could cut costs for businesses by \$4 billion per year and boost GDP by \$6 billion per year.<sup>9</sup> This was based on full implementation of 17 of the 27 reforms where the policy process was either complete or largely complete as of 2012.

Further progress on reforms to maritime safety, electronic conveyancing and business names delivered additional benefits of around \$250 million per year.

Less progress was made on the eight priority areas for competition reform (Table 2). This was in part due to their complex and challenging nature,

but also due to a lack of government commitment after the Global Financial Crisis.

Overall, the first quarter of this century has seen a lack of commitment to pro-competition policies and a nationally open market. This has coincided with, and contributed to, the collapse in productivity growth in Australia.

A small set of initiatives were put forward late last year under the revitalised National Competition Policy, which provides a framework to promote consistent competition policies. We can build on this framework to achieve a more seamless and competitive economy.

**Table 2** Progress on the eight competition priorities

Priority areas for competition reform	Progress	Estimated annual benefits (if fully implemented)
Rationalisation of occupational licences	Licensing removed for eight occupations only subject to licensing in one or two jurisdictions. Further action deferred until after commencement of the National Licensing System, which did not occur (see deregulation priorities).	\$5 to \$10 billion from rationalisation and national consistency <sup>10</sup>
Reforms to infrastructure access (changes to the national access regime)	Progress on measures to establish “a simpler and consistent national approach to economic regulation of significant infrastructure”.	n/a
Review of Australia's anti-dumping and countervailing system	PC inquiry completed in 2010. Several recommendations (e.g. the key recommendation on a public interest test and automatic annual review) not accepted by Government.	n/a
Review of parallel importation of books	2009 PC Inquiry recommended ban on parallel imports removed. Government did not implement. A later attempt as part of broader competition reforms dropped in 2016.	\$25 million
Transport policy (uniform regulation of heavy vehicles/safety laws, urban congestion)	National Heavy Vehicle Law enacted, leading to the National Heavy Vehicle Regulator (except WA and NT). Much inconsistency remains, with unnecessary carve-outs.	Initial estimate of \$12.4 billion found to be overly optimistic <sup>11</sup>
Implement previously agreed reforms in energy, transport and infrastructure (three priority areas)	Reforms dealing with energy pricing and road regulation were designated to be “off track”.	n/a

Note: Green shading – reforms largely completed. Orange shading – partial progress made. n/a: Quantitative estimates not available.

Sources: COAG Reform Council (2013) *Seamless National Economy: Final Report on Performance, Report to the Council of Australian Governments*; COAG Reform Council (2012) *Seamless National Economy: Report on Performance 2011-12, Report to the Council of Australian Governments*; Banks (2012), *Advancing the Reform Agenda: Selected Speeches*, Productivity Commission; McClintock, P. (2012), *COAG Reforms will Improve Australia's Productivity*, CEDA news; Productivity Commission (2020), *National Transport Regulatory Reform, Inquiry Report*.

# KEY STEPS TO ENSURE SUCCESS

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Lessons we can take from the original seamless economy reforms to ensure a new agenda is similarly successful include:

- **Central government departments responsible for driving reform:** The agreement was led by the Prime Minister, premiers and chief ministers and their departments, giving the reforms support from the top levels of government.
- **States and territories should be paid to implement the priorities:** Federal funding of \$550 million for states and territories over five years was critical to success. Compared with the multi-billion-dollar benefits of the reforms, it was a relatively small spend. The payments helped by covering immediate implementation costs, which can otherwise be a barrier where the longer-term fiscal benefits flow primarily to the Commonwealth. Payments also helped to boost the case for reform, as ministers choosing not to proceed could be asked to find equivalent cost savings elsewhere in their portfolio. There were no payments for the competition reforms, contributing to a lack of progress on these reforms. In total, governments completed 21 of 26 reforms with reward payments attached, but just 10 of 19 reforms without payments.<sup>12</sup>
- **Implementation should be independently assessed and verified:** The COAG Reform Council played a critical role in assessing progress on reform. Payments to states and territories were linked to these assessments. The exception was Victoria, which was not penalised for failing to fully implement all reforms because the Commonwealth transferred \$55.1 million in payments to Victorian Local Hospital Networks in 2012-13.<sup>13</sup> Payment should only be made after states and territories implement reforms.
- **First develop the evidence base and case for change:** The long list of deregulation and competition reforms under the seamless economy agenda drew from research over many years from bodies such as the PC. Conversely, for some topics such as chemicals and plastics regulation, anti-dumping and parallel importation of books, reviews were commissioned but many key recommendations were not implemented before the agreement concluded in 2013.

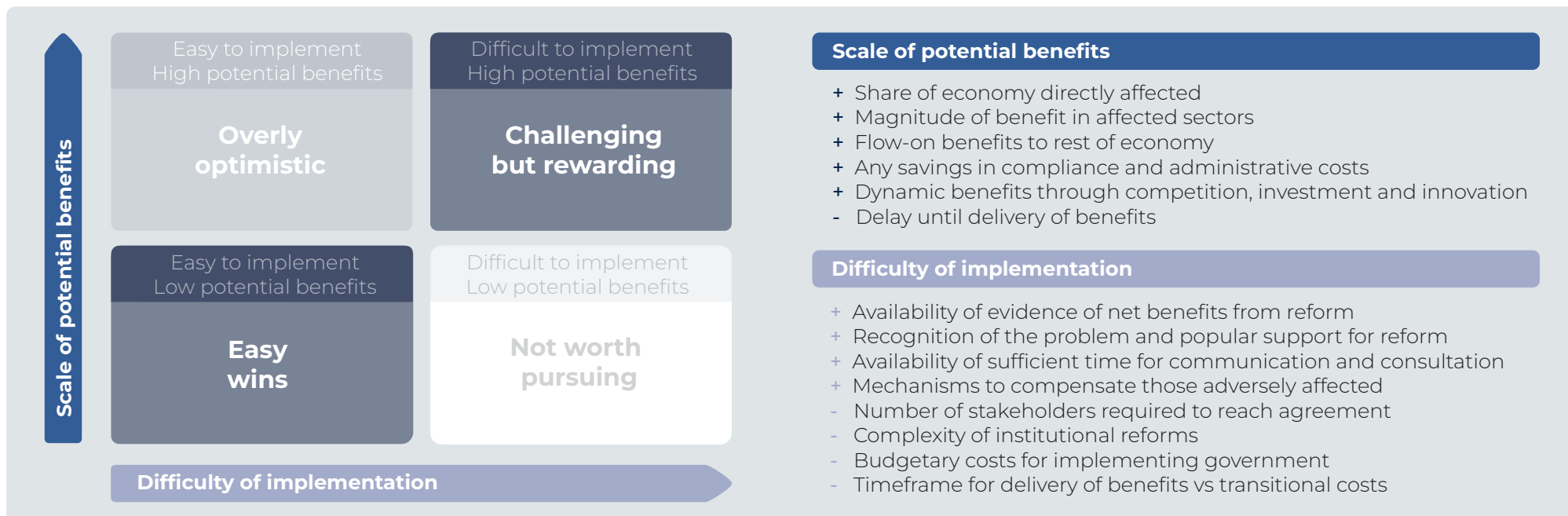
# PRIORITIES FOR A NEW ROUND OF REFORM

The 2024 National Competition Policy agreement provides a framework to advance reforms to deliver a single national economy. The priorities we have identified are based on the scale of potential benefits as well as the difficulty of implementation of each change (Figure 2).

Using this approach, two of five unfinished seamless national economy deregulation reforms on occupational licensing and environmental assessment merit a renewed effort, and further payroll tax reforms are also needed. Some other partially implemented reforms – such as changes to the anti-dumping system – could be progressed by the Federal Government alone.

Other areas where collaboration is critical, such as health and energy, are better pursued through industry-specific forums such as the Health Ministers Meeting, National Energy Transformation Partnership and the Energy and Climate Change Ministerial Council. Including energy reforms in the original seamless economy agenda did not help advance progress by the COAG Energy Council and other energy-specific bodies. Reform to improve harmonisation, for example in licensing, environmental assessments and data sharing, can nonetheless play an important complementary role to sector-specific initiatives.

**Figure 2** Easy wins and rewarding reforms should be prioritised



Source: CEDA framework based on Productivity Commission, *National Competition Policy: Modelling Proposed Reforms, Study Report*; IMF (2024), 'Chapter 3: Understanding the Social Acceptability of Structural Reforms', *World Economic Outlook*; Wilkie, J. and Grant, A. (2009), 'The Importance of Evidence for Successful Economic Reform', *Economic Roundup*; and Ball, J. (2023), 'To Boost Australia's Productivity, Pay the States to Drive Reform', *CEDA Opinion Article*.

# NATIONAL OCCUPATIONAL LICENSING



REIGNITING  
STALLED  
REFORMS

Occupational licensing is specific training or work experience needed in jobs such as nursing and plumbing, which can be important to protect safety. Different regimes across the country prevent Australians from moving to similar jobs elsewhere, constraining worker mobility and productivity without necessarily improving safety.

National licensing has worked for nurses and pilots. Yet many other occupations, particularly trades, are still regulated state-by-state. Heavy vehicle drivers face varying competency, medical and licence progression requirements<sup>14</sup> and engineer licensing has become less consistent over the past decade (Box 1).

Unnecessarily stringent and inconsistent licensing impedes progress on key issues including construction productivity<sup>15</sup>, the energy transition<sup>16</sup> and making better use of migrants' skills.<sup>17</sup>

Rationalisation of and national consistency in licensing offers potential annual benefits estimated by the PC at \$5 billion to \$10 billion, based on international comparison, and increased Commonwealth Government revenue of \$600 million to \$1.2 billion per year<sup>18</sup>.

Evidence also suggests Australia's overly stringent licensing reduces productivity through lower business entries and exits and making it harder for the most productive businesses to expand.<sup>19</sup> Licensing could be removed in relatively low-risk occupations only licensed in some jurisdictions, such as hairdressing in NSW and South Australia.<sup>20</sup>

Work has been announced to develop a national licence for electricians. National licensing of all high-risk licensed occupations – without rationalisation – could bring estimated benefits of up to \$846 million per year.<sup>21</sup>

Automatic Mutual Recognition of licences has made some progress, but this does not resolve inconsistencies between licensing and training.<sup>22</sup> There are many carve-outs and Queensland has not signed up.

Two key issues have held back reform: Firstly, incumbents benefit from greater restrictions and less competition. International research consistently finds stringent licensing drives higher prices and wages, while generally failing to find quality improvements.<sup>23</sup>

Secondly, state and territory regulators receive substantial revenue from registration. Fees for licensed professionals such as plumbers, nurses, architects and lawyers average a few hundred dollars per year.<sup>24</sup> Excluding professions already regulated nationally, our central estimate is this brings in \$500 million per year<sup>1</sup> in revenue for regulators. While national licensing may save some costs for regulators, financial support would be needed for restructuring.

Substantial federal-to-state transfers will likely be required to share the benefits of reform and overcome these challenges.

## Box 1: Engineers in a tangle of regulation

Australian states have introduced markedly different registration rules for engineers over the past decade. Historically, only Queensland mandated professional engineer registration, but several states have recently enacted new schemes.

Victoria's 2019 Professional Engineers Registration Act now requires registration for all civil, structural, electrical, mechanical and fire-safety engineers. New South Wales mandates registration only for engineers working on multi-storey residential buildings, shared accommodation, or care facilities. In Western Australia, a new Building Services Board scheme registers structural, fire-safety and fire-systems engineers from 2024–25, and civil/mechanical building engineers from 2025–26, with full mandatory compliance by 1 July 2027. South Australia does not require registration.

This means an engineer can be required to obtain separate qualifications or pay multiple fees to work in each state, a patchwork that Engineers Australia has warned can “undermine and limit national consistency of registration”.<sup>25</sup> Different definitions of engineering fields and registration scope add complexity and cost to the assessment and regulation of engineers practising across borders.

<sup>1</sup> This estimate is very uncertain as there is no count of the total number of workers covered by state and territory licensing, nor a public record of all registration fees. It is based on published estimates of registration fees per worker where available, on the basis that state and territory regulators are responsible for registering about half of the 20 per cent of Australian workers covered by licensing.

# ENVIRONMENTAL ASSESSMENTS



While there was some progress on reform to environmental assessment and approval,<sup>26</sup> full harmonisation and delegation of powers was not achieved. An independent review in 2020 found that the Environmental Protection and Biodiversity (EPBC) Act that underpins federal environmental assessments is complex and cumbersome, with duplication of state and territory approval processes.<sup>27</sup> These frictions and the prioritisation of unwieldy processes over outcomes increase costs for business, often with little benefit to the environment.

For renewable energy projects in particular, delay, financial impost and procedural impediments arise.<sup>28</sup> The EPBC Act has been identified as the single biggest barrier to timely, environmentally responsible renewable energy development. It takes more than 500 days on average for finalised projects to receive a decision.<sup>29</sup>

There is a need to establish clearer and legally enforceable national environmental standards to be adhered to by states, territories and the Commonwealth.<sup>30</sup> Clear and consistent standards can underpin a cross-jurisdictional framework for monitoring, evaluating and reporting on the effectiveness of environmental management to understand where a change of course is needed.

Better environmental assessment also requires better access to high-integrity data and evidence to inform decision making. The review of the EPBC Act found that decision-makers, developers and the community do not have access to the best available data.<sup>31</sup>

New technologies, including AI, have the potential to support faster and lower-cost assessments – particularly for low-risk proposals – but this requires access to high quality data. In WA alone, reducing the time and effort involved in sourcing data could save proponents \$1 million per year, but much bigger savings of tens or even hundreds of millions of dollars could be made through reducing assessment times.<sup>32</sup>



# PAYROLL TAX

Payroll tax harmonisation was one of the 27 deregulation priorities under the seamless economy agenda. In 2010, all states and territories other than WA signed a joint harmonisation protocol, while WA enacted similar provisions in 2012.

Harmonisation was intended to enable consistency of business practices, taxpayer information and administrative and compliance requirements. In effect, this meant consistency in the base of activity subject to taxation, while allowing states and territories to set their own tax rates.

Full harmonisation was not achieved, however, as differences remained in the treatment of groups such as apprentices, exempt organisations and contractors, and in the thresholds at which payroll tax becomes payable.<sup>33</sup> Business groups have pointed out the costs from inconsistent payroll tax systems, raising particular concern about states that levy the highest rates.<sup>34</sup>

Regulatory inconsistency has increased in recent years following a 2023 NSW Supreme Court ruling that established that health professionals such as General Practitioners are subject to payroll tax.<sup>35</sup> In part due to concerns over whether gig workers such as rideshare drivers should be subject to payroll tax, the responses of states and territories have diverged. SA has determined that most payments to practitioners are assessable for payroll tax and Victoria has pursued medical practices for payroll tax, whereas Queensland, WA and Tasmania have said independent practitioners are not in general subject to the tax.<sup>36</sup>

Further agreement is needed to achieve greater consistency in the payroll tax base, while allowing states and territories to choose a rate that meets local needs.

REIGNITING  
STALLED  
REFORMS

**Figure 3:** Summarising the differences in payroll taxes takes more than four pages

Source: NSW Treasury (2025) *Interstate Comparison of Taxes 2024-25*, Research Paper, <https://www.nsw.gov.au/sites/default/files/hoindex/2025-05/trp25-01-interstate-comparison-of-taxes-2024-25.pdf>

# HEAVY VEHICLE TRANSPORT POLICY

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While progress was made with the establishment of the National Heavy Vehicle Regulator, inconsistencies in vehicle access and design standards across states and territories continue to impose costs for national operators and hold back productivity.

The Australian Logistics Council<sup>37</sup> has pointed out a number of areas where progress under the original seamless economy agenda offers a proven model for further regulatory alignment.

Issues ripe for reform include:

- Inconsistencies in axle load limits, bridge assessments and local permit requirements;
- No formal mechanism to benchmark vehicle access and design rules against international frameworks;

- Lack of interoperability with international data and software standards for digital systems that support vehicle access, routing and compliance;
- A nationally consistent approach to conformity assessments; and
- Inconsistent metadata and signalling protocols across jurisdictions, which hampers investments in smart infrastructure including digital twins, predictive maintenance systems and urban freight analytics.

These reforms would help to unlock productivity gains and facilitate the deployment of advanced low- and zero-emission freight vehicles.



# REFORMS TO ADDRESS NEW FRAGMENTATION

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Emerging issues have raised new inconsistencies in regulation across states and territories.

Service and installation rules for electric vehicle chargers were developed inconsistently across jurisdictions, and connection processes for high-power chargers also vary.<sup>38</sup> This inconsistency has become increasingly important over the past five years as electric vehicles have gone from less than 1 per cent of light vehicle sales to more than 10 per cent. While connections reforms should be progressed in energy forums, as noted below there is also a need to harmonise approaches to end-of-life for electric vehicle batteries.

The rise of the gig economy, mentioned above in relation to payroll tax inconsistencies, has also driven new areas of duplication on workplace

relations, where federal and state legislation (for example, provisions for courier drivers in Queensland's Industrial Relations and Other Legislation Amendment Bill 2022) both cover minimum pay and conditions.

These emerging issues raise a tension between enabling governments to take different approaches to new challenges and learn from each other, and harmonised approaches that prevent unnecessary differences and frictions between jurisdictions.

A pragmatic approach would enable innovative approaches in different states but converge to a harmonised regime within a few years.<sup>39</sup> This means it is now time for convergence on the key issues outlined below. All new regulation should consider what is happening in other jurisdictions to avoid unnecessary inconsistencies.

*'... Our real concern should be the rights and needs of citizens, not as, say, Queenslanders or Tasmanians, but as Australians ... How sensible is it to shrink what is already a relatively small Australian market into separate state markets?'*

**Bob Hawke, 'Towards a Closer Partnership', speech to the National Press Club, 1990.**

# DATA SHARING BY DEFAULT

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Data has become much more important to the economy since the original seamless economy agenda. A mature data-sharing regime could add up to \$10 billion to Australia's economic output.<sup>40</sup> Yet there remain restrictions on the sharing of data across states and territories.

For example, use of de-identified Commonwealth government administrative data has become normalised in linked datasets such as the Person Level Integrated Data Asset (PLIDA) and Business Longitudinal Analysis Data Environment (BLADE). This has enabled a wealth of new analysis and evidence on crucial policy topics such as productivity, housing, migration, income distribution and access to healthcare.

Meanwhile, states and territories hold critical data on births, hospitals, courts and corrections. While work is underway to incorporate some data, including through the Life Course Data Initiative between the ABS, the ACT and SA Governments, data sharing is not yet the norm.

There is also considerable duplication, with most states and territories developing their own linked-data assets.<sup>41</sup> They are often reticent to provide researchers with access to integrated data, even when there is a desire to link it to national datasets. With digital technologies increasingly driving economic growth, blocking the flow of data is akin to cutting off the fuel supply for productivity growth.

A coordinated, consistent, national approach and linked-data asset is needed, with an

assumption that if public funding has supported data collection and linkage it should be seen as a public asset. This should start with human services data, as this area has the most state and territory data available and there is an urgent need to use insights from linked data to address major policy issues such as entrenched disadvantage and poverty.

As the current review of the Data Availability and Transparency Act 2022 has recommended, Australia should work towards a national data-sharing framework that achieves full interoperability across jurisdictions and provides standardised pathways to access any public sector data.<sup>42</sup>

Governments should encourage the sharing and linking of de-identified data by reforming the Intergovernmental Agreement on Data Sharing to require data custodians who refuse to share data to demonstrate why this is in the national interest, and fast-tracking the development of interoperability frameworks for de-identified and anonymised health data.<sup>43</sup> The latter may require funding from the Commonwealth Government to enable the adoption of interoperability frameworks and data sharing.

Shared data and digital technologies, including artificial intelligence, are also important to enable an efficient and contemporary seamless economy. They offer opportunities to better identify problems, help firms with compliance and help governments monitor compliance and progress with implementation.



# MORE STREAMLINED AND CONSISTENT LAND-USE PLANNING REGULATION

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As recognised in the National Housing Accord, Australia needs more social, rental and owner-occupied homes. The accord also acknowledges work is needed across all levels of government to deliver land-use planning reform.

Australia stands out among OECD countries for a highly decentralised system of land-use regulation, combined with involvement of multiple levels of government.<sup>44</sup> While in theory this can enable tailoring to meet local needs, in practice it leads to geographically segmented regulation that makes it hard for successful construction firms to expand into new areas.<sup>45</sup>

Planning approval processes are often excessively bureaucratic, slow, confusing and duplicative, with limited accountability for local governments.<sup>46</sup> Scaled up to a national level, this contributes to a national housing shortage.

Broad-scale upzoning and development approval 'by-right' when block size and environmental requirements are met can deliver more housing as well as greater consistency across jurisdictions. A consistent push for more effective land-use planning regulation is necessary to meet national goals for safe, stable and affordable housing, as well as better housing choices.



# CONSISTENT STANDARDS AND PROCESSES TO ENABLE A MORE CIRCULAR NATIONAL ECONOMY

The PC's circular economy inquiry has uncovered how differences in container deposit schemes have led to complexity and duplication of registration processes.

All states and territories have introduced container deposit schemes on drink containers in a bid to increase recycling rates. They involve a 10-cent deposit for each container, paid for by beverage suppliers, which is refunded to the consumer when they return the container to a collection depot. This increases recycling rates and reduces littering.<sup>47</sup>

The patchwork of regulations has created hurdles for businesses operating across multiple states and has stifled efforts to develop uniform industry partnerships.

Drink manufacturers are required to register their products separately with each scheme. This creates unnecessary duplication and complexity across a range of administrative processes. Work is now underway to harmonise these functions.

Container Exchange (Queensland) argues that the Commonwealth should drive national harmonisation by:<sup>48</sup>

- Streamlining product registration, scheme contracting, reporting, invoicing and charging methodologies to ease participation for businesses across all states and territories.

- Leading the creation of national industry partnerships to enhance supply chain circularity across retail, logistics and manufacturing sectors.
- Providing strategic oversight to guide the long-term direction of the schemes, ensuring alignment with broader sustainability and circularity objectives.

Australia also needs nationally harmonised performance-based materials standards, rather than prescriptive specifications such as those that exclude waste or recycled materials from bitumen for pavements.<sup>49</sup> Dangerous goods regulations and guidelines also should be harmonised to establish a common approach for lithium-ion batteries. This can help establish a robust end-of-life electric-vehicle battery industry.

More generally, in a poll of CEDA Environmental, Social, Governance (ESG) Community of Best Practice members, more than two-thirds of 37 ESG leaders identified that “regulatory alignment and harmonisation” and “remove regulatory barriers to innovation” should be priority actions for Australian governments to expand circular economy practices such as reuse, repair and recycling.<sup>50</sup>



# BEST PRACTICE GOVERNMENT PROCUREMENT

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Most states have procurement policies that give preference to local suppliers, such as Victoria's Local Jobs First Policy, Queensland's Buy Queensland Policy and WA's Buy Local Policy. These policies potentially sacrifice value for money by limiting competition and may prevent access to new products and innovative solutions, while creating unnecessary lobbying risks.<sup>51</sup> They also prevent successful businesses from scaling up by serving governments in another state.

There is a lack of robust evidence that government procurement can deliver substantial regional development benefits.<sup>52</sup> All Australians would benefit from the removal of policies that discriminate based on the location of a supplier rather than the quality of their products or services.



# CARE WORKER SCREENING

Australia's care sector has become increasingly important, growing from 10 per cent of national employment when the original seamless economy agenda was negotiated in 2008 to 16 per cent today.<sup>53</sup> In recent years there have been concerns around the quality of care and workforce issues across aged, disability and child care. Anything that can be done to increase the efficiency of service provision and quality of care would be valuable.

Work is underway on a National Worker Screening Check as part of the 2024 National

Competition Policy Agreement. Proceeding with a national system would deliver substantial time and cost savings (estimated at \$10 million per year for disability workers alone<sup>54</sup>) for firms and employees in this critical sector, while safeguarding due process to uphold safety and care quality. Organisations operating in the sector would like more transparency on progress and timelines (Box 2).



## Box 2: Closing gaps in care-worker screening

Australia's care sector depends on rigorous worker screening to uphold safety and care quality, but fragmented processes across states create delays, duplication and inefficiencies, hindering workforce entry and worsening skills shortages.

Currently, individuals seeking roles in aged care, disability services and other care sectors must navigate multiple screening processes, varying eligibility criteria and jurisdiction-specific requirements, resulting in:

- Delays in workforce onboarding, exacerbating critical staff shortages;
- Duplicated checks, requiring workers to undergo multiple assessments for different care settings; and
- Unnecessarily inconsistent standards, creating gaps in safeguarding measures.

This imposes costs on care sector workers and providers. Rather than improve safety, inconsistent standards and processes can instead create gaps that undermine the overall quality of screening processes compared with a truly national system.

As part of the 2024 Intergovernmental Agreement on National Competition Policy, the Commonwealth Government is leading development of a business case for a National Worker Screening Check. Key organisations in the sector, such as UnitingCare, support the government's intent, but would like more transparency and sector engagement on timelines, scope and implementation.

Source: UnitingCare Australia, individual consultation based on Submission to Productivity Commission Inquiry into Delivering Quality Care More Efficiently.

# CONCLUSIONS

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Australia must enhance the mobility of workers, firms, products and capital across the economy to respond effectively to the challenges and opportunities we face. Where our regulatory systems are conflicting and fragmented across states and territories, these frictions make it difficult for productive businesses to start up and expand nationally. This is costly and burdensome, and prevents Australian businesses from being among the most competitive and dynamic in the world.

Fortunately, there is a template for success. Australia delivered billions of dollars from higher productivity growth through the seamless national economy agenda between 2009 and 2013. While not all reforms were delivered, considerable progress was made on 22 of 27 deregulation priorities. These changes have stood the test of time and continue to deliver benefits.

Some unfinished business should be prioritised in a new round of reform:

- Occupational licensing, building on national occupational licensing for electricians announced in early 2025;
- Harmonised and efficient environmental assessments;
- Payroll tax harmonisation; and
- More consistent heavy vehicle access and design rules.

But this is about far more than unfinished business. A more seamless approach to emerging issues would deliver benefits critical to Australia's success in the energy transition, tackling its housing crisis, digital transformation and artificial intelligence, and increasing demands on the care sector. Priority areas include:

- Data sharing across jurisdictions by default;
- More streamlined and consistent land-use planning regulation;
- Consistent materials standards and registration processes to enable a more circular national economy;
- Reforms to state and local government procurement to get the best offers in Australia; and
- Delivery of national care-worker screening.

Key lessons from the first seamless economy agenda should be incorporated into a new agreement. These include first developing the evidence base and case for change, as well as having central agencies driving progress. Payments from the Australian Government to the states and territories, following independent verification of implementation, are also important to overcome implementation challenges.

The National Competition Policy framework agreed by Treasurers in late 2024 might provide a framework to progress seamless national economy reforms. It includes public commitment to a single national market from jurisdictions, modelling by the PC to inform priorities, assessment of implementation by the National Competition Council, and payments upon successful implementation.

However, the scale of funding needed to progress these reforms is likely to exceed the \$900 million available under the Federal Government's new National Productivity Fund. Reform to occupational licensing alone is likely to require hundreds of millions of dollars to smooth the path for state and territory regulators.

In prioritising reforms, it is important not only to focus on potential economic benefits but also on implementation challenges and how to overcome them. This includes considering the number of stakeholders required to reach agreement, the complexity of institutional reforms, the time needed for communication and consultation, and mechanisms to compensate those adversely affected.

A reinvigorated seamless approach won't solve all the issues in Commonwealth-State relations. There is need for further review and reform, industry-specific collaboration in key sectors such as energy and health, and a whole-of-Federation approach to addressing growing pressures on service provision, complexity in delivery and budget sustainability.

A sustained commitment to better regulation and harmonisation can deliver achievable, evidence-based reforms that will reduce friction in the economy and ultimately help lift Australia's productivity growth.

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- Amit Singh and Adam Triggs (Mandala Partners)
- Jason McDonald (Treasury Competition Taskforce)
- Council members in attendance.

## Consultations

- Craig Emerson (former Minister for Competition Policy and Consumer Affairs)
- Cross Border Commissioner of South Australia
- Engineers Australia
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- Uber Australia
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CEDA is Australia's leading member-driven think tank. Our purpose is to achieve sustainable long-term prosperity for all Australians.

Our trusted independence, and a deep and broad membership base that extends across all sectors, states and territories, enables us to bring diverse perspectives and insights to guide and advance policy debate and development in the national interest.

We aim to influence future economic, social and environmental outcomes by:

- Promoting public discussion of the challenges and opportunities facing Australia;
- Enabling members to shape future outcomes through policy and their own actions;
- Partnering and collaborating to tackle emerging opportunities and entrenched challenges; and
- Advocating for policy change based on our independent research insights.
- Our work is overseen by our independent Board of Directors and our research is guided and approved by an independent Research and Policy Committee whose members are leading economists, researchers and policy experts.

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# DYNAMIC CAPABILITIES:

How **Australian** firms  
can survive and **thrive**  
in **uncertain** times

2023



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CEDA's objective in publishing this report is to encourage constructive debate and discussion on matters of national economic importance. Persons who rely upon the material published do so at their own risk.

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**About CEDA**

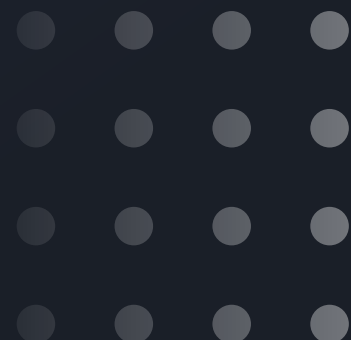
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# CEDA **IMPACT** STATEMENT: BUSINESS DYNAMISM AND INNOVATION

CEDA has a proud history of research and advocacy on innovation and capability.

In 2007, we considered the role of a national innovation system in transforming knowledge and resources into dynamic capabilities within firms, to contribute to innovation at the national level.

In 2022, our *Science x Technology* report found we need to step up Australia's industrial and innovative capability if we want to pursue an innovative economy and tackle critical megatrends.

This report takes the conversation a step further, by enhancing our understanding of capabilities within firms through the first broad survey of the dynamic capabilities of Australian businesses.

The outcomes we are seeking from this report include:

- Businesses must understand their firm's capabilities, where they are lacking and how to improve, including through education and training.
- More firms need to prioritise innovation over efficiency. They need to find the people, time and money to take advantage of new opportunities and position for the future.
- Australian businesses must get better at transforming. Leaders need to embrace renewal and change and take smart risks in the face of uncertainty.
- We need more diverse leadership at executive and board level.
- Governments should ensure that regulations are well-designed and do not stifle innovation, especially for small businesses.

Business, governments and the broader community all have a stake in better outcomes in this space.



# Dynamic capabilities

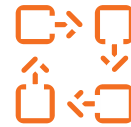
Firms with stronger dynamic capabilities are more resilient, productive and profitable, enabling them to support more innovative cultures. They can:



**Sense** opportunities, threats, and customer needs



**Seize** opportunities to satisfy customers, shape markets and capture value



**Transform** themselves when renewal is needed

**CEDA's survey of 149 business leaders revealed significant differences between the most dynamic quarter of firms and least dynamic quarter:**

**63%** of top firms had higher productivity

compared with

**54%** of the weakest firms

**85%** of the top firms had higher net profits

compared with

**61%** of the weakest firms

*After June 2020*

**54%** of top firms innovated by overhauling their management processes

compared with

**26%** of the weakest firms

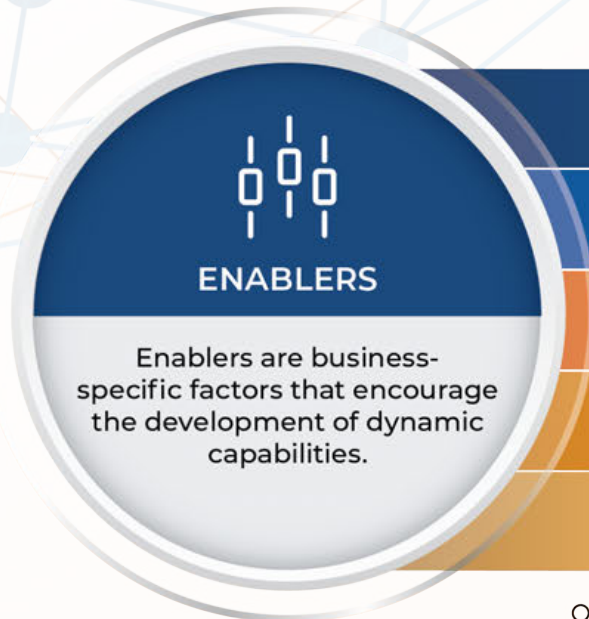
*In the first few months of the pandemic*

**81%** of top performing companies with a board had at least one **director that was female**, at least one that had **science and technology expertise** and at least one with **international experience**

compared with

**26%** of the weakest firms

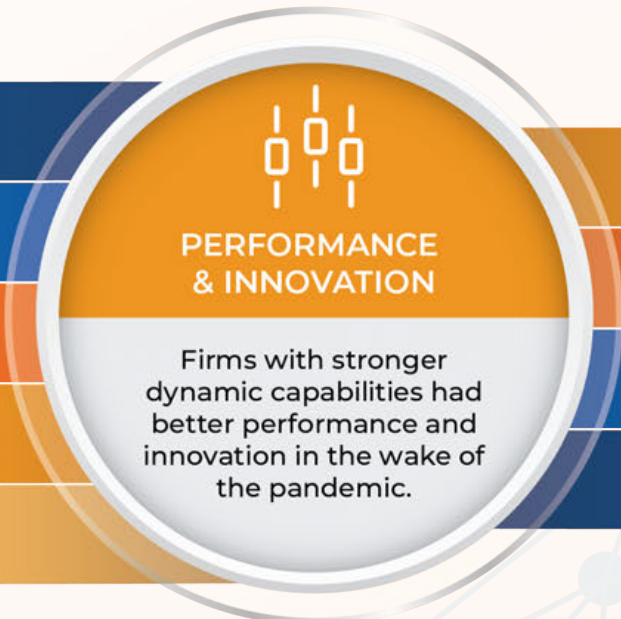




- WILLINGNESS TO CANNABALISE  
• An organisational culture that recognises pursuing new opportunities may involve shifting the focus away from current resources
- CONSTRUCTIVE CONFLICT  
• The rigorous debate of ideas, beliefs and assumptions within a firm
- TOLERANCE FOR FAILURE  
• Firms see failure as an inevitable, and even beneficial, consequence of exploration
- SCANNING  
• Monitoring and analysing the environment for opportunities in new markets and new technologies
- SLACK AND AGILITY  
• Labour and financial resources that are not taken up by 'business as usual'



- SENSING  
• Sense opportunities, threats and customer needs
- SEIZING  
• Seize opportunities to satisfy customers, shape markets and capture value
- TRANSFORMING  
• Transform themselves when renewal is needed



- CUSTOMER-RELATED PERFORMANCE
- FINANCIAL PERFORMANCE
- EMPLOYEE-RELATED PERFORMANCE
- DOMESTIC MARKET PERFORMANCE
- EXPORT MARKET PERFORMANCE
- GOODS OR SERVICES
- OPERATIONAL PROCESSES
- ORGANISATIONAL/MANAGERIAL PROCESSES
- MARKETING METHODS

PERFORMANCE

INNOVATION



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# EXECUTIVE SUMMARY

Australia has a productivity problem.

It has been critical to our rising prosperity and living standards, contributing more than 80 per cent of our growth in real gross national income per capita over the past 30 years.

But labour productivity growth has fallen to a 60-year low, and the gap between Australian firms and the global frontier is widening.

Climate change, heightened global tensions, a large and growing services sector and an ageing population are now all major challenges. Heightened inflation, capacity constraints and slow wages growth across the economy are compounding these difficulties.

Businesses need to know how to survive and thrive in this uncertain environment. What happens within businesses – or firm-level capabilities – is more important than ever. Their capabilities are critical not just for their own success, but also for our economic growth, productivity and innovation.

There are two types of firm-level capabilities.

- **Ordinary capabilities** are the basic skills needed to run a business in normal times. They are largely operational and focused on efficiency.
- **Dynamic capabilities** are more forward looking and strategic. In environments that are highly volatile, uncertain, complex and ambiguous, these capabilities help businesses to maximise their chances of long-run survival and success.

*"This cycle of **sensing**, **seizing** and **transforming** is essential for ongoing viability and **success** in a world of **changing customers, markets, technologies** and a **dynamic environment**."*

Firms with strong dynamic capabilities can:

- **Sense** opportunities, threats and customer needs;
- **Seize** opportunities to satisfy customers, shape markets and capture value; and
- **Transform** themselves when renewal is needed.

This cycle of sensing, seizing and transforming is essential for ongoing viability and success in a world of changing customers, markets, technologies, and a dynamic environment. Firms with stronger dynamic capabilities are more resilient, productive and profitable, enabling them to support more innovative cultures.

Little is currently known about the dynamic capabilities of Australian businesses. That's why CEDA, with the University of Technology Sydney (UTS), has conducted the first broad survey of dynamic capabilities of Australian businesses.





*"We found firms need spare capacity to build their capabilities and pursue long-term opportunities. Yet their consistent message is that they lack bandwidth beyond business-as-usual."*

## Key lessons

For business leaders, this survey shows that dynamic capabilities help to drive firm performance, resilience and decision-making under uncertainty. Firms with stronger dynamic capabilities were more innovative in the early months of COVID-19, introducing new marketing methods and overhauling organisational processes. As the pandemic continued, they had better net profits, productivity, customer satisfaction and employee outcomes.

We also found almost all businesses need to strengthen their capabilities. Managers need to critically assess their firm's capabilities, identify gaps and take steps to fix them.

Australian businesses must also get better at transforming. Renewal and change are hard. But without these, firms can fall victim to structural inertia and cultural lock-in, which can ultimately be their demise.

We found firms need spare capacity to build their capabilities and pursue long-term opportunities. Yet their consistent message is that they lack bandwidth beyond "business as usual".

Carving out space to look to the future is particularly challenging in the current economic environment, and something that smaller firms often struggle with. Yet if they can't lift their eyes and devote resources to growth and new opportunities, Australia's innovation and productivity growth will continue to suffer.

Diversity in leadership is critical. Firms with stronger dynamic capabilities had more diverse boards, with more directors who are female, have science, technology and engineering expertise, or have international experience. Enhancing diversity can therefore bring quick wins.

Yet boards are often made up of compliance-oriented professionals and are focused on onerous regulations. This often comes at the cost of capability building and long-term strategic planning.

*"Building dynamic capabilities could be one of the most practical and effective ways of boosting our flagging productivity, our innovation and the resilience of Australian businesses."*

Finally, the top-performing firms in our survey were more interested in receiving feedback. This is consistent with international evidence, and suggests firms that are more interested in their own capabilities are also more likely to build those capabilities.

Building dynamic capabilities could be one of the most practical and effective ways of boosting our flagging productivity, our innovation and the resilience of Australian businesses.

Education is one way to achieve this. This could include a combination of embedding dynamic capabilities in business courses and MBAs, broad-reaching micro-credential programs and programs that target specific firms, such as the frontier firms training program in New Zealand. Deeper engagement with the research community would also help businesses to unlock innovative potential.

Many of Australia's largest sectors are highly regulated. Governments need to recognise that, despite good intentions, poorly designed and onerous regulations can have big opportunity costs, particularly for small businesses. Regulation must be used wisely. This would also encourage a shift in culture and incentives from compliance to innovation.

Migration can also increase diversity of experience and skills, particularly on boards and in leadership roles. Attracting both skilled migrants and expats back to Australia can be a strategic way to supplement domestic capabilities.

Australia has a long and enviable history of economic prosperity and high living standards. We must boost productivity, innovation and resilience amid increasing uncertainty to ensure this continues. This cannot be done without dynamic businesses.

Building the capabilities of Australian businesses today will be critical to our success and prosperity tomorrow.



# INTRODUCTION

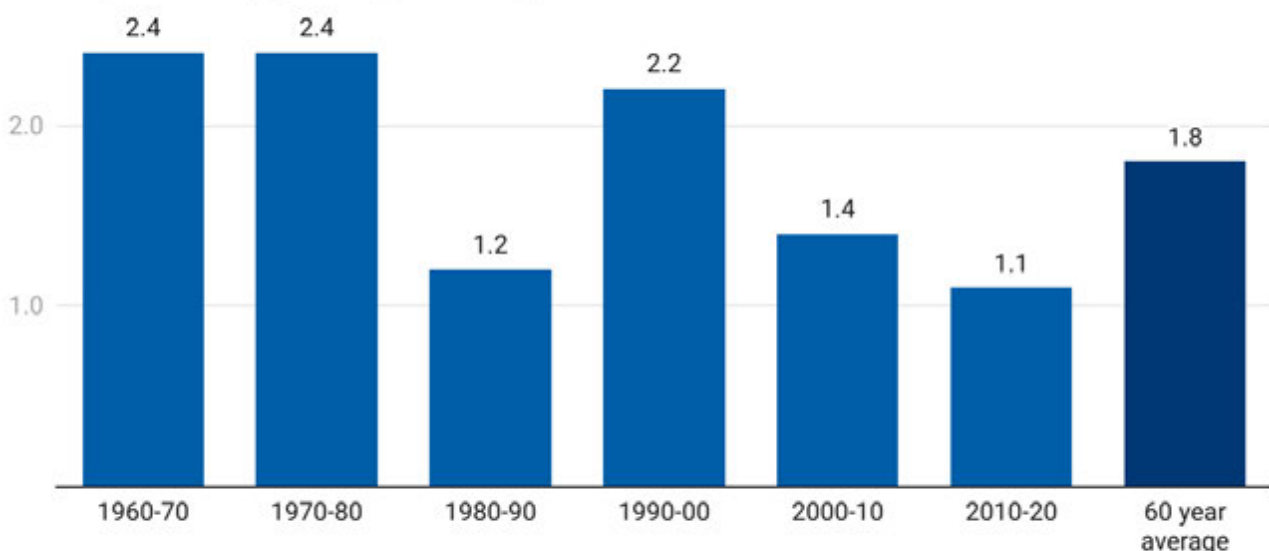
Productivity is the key driver of rising prosperity and living standards. In Australia, labour productivity growth has contributed more than 80 per cent of the growth in real gross national income per person over the past 30 years.<sup>1</sup>

But we are falling behind – both relative to history and compared with other countries. The Productivity Commission’s recent five-year review found productivity is growing at its slowest pace in 60 years (Figure 1).<sup>2</sup> Treasury research has also revealed a widening productivity gap between Australian firms and the best of the rest of the world over the past two decades.<sup>3</sup>

FIGURE 1

## Labour productivity growth is at its slowest pace in 60 years

Labour productivity growth by decade (%)



Labour productivity calculated as GDP per hour worked. GDP data sourced from the ABS between 1959-60 and 2021-22. Hours worked data from Penn World Tables for between 1959-60 and 1973-74 and from the ABS between 1974-75 and 2021-22.

Source: Productivity Commission 5-year Productivity Inquiry Report • Created with Datawrapper

The Federal Government has reduced the productivity growth assumption in its annual economic forecasts from 1.5 per cent to 1.2 per cent. This implies that in 40 years' time, the average Australian will be 20 per cent poorer than they otherwise would be.<sup>4</sup>

Little is currently known about dynamic capabilities within Australian firms. Public debate about investment, innovation and productivity is often focused on the policy levers that governments can pull. But businesses also play a critical role.

Economic analysis has traditionally treated firms as homogeneous black boxes, but more economists are now recognising that what happens within business can drive differences in the wealth of nations.<sup>5</sup> International research shows that management practices matter for business performance, and ultimately for productivity and prosperity at the national level.



"Differences in ordinary management capabilities may explain up to half of the productivity gap between Australia and the United States."

There are two types of firm-level capabilities: ordinary and dynamic.

*Ordinary capabilities* are largely operational and focused on efficiency or “doing things right” in normal times. Firms with strong ordinary capabilities are good at running their day-to-day operations, setting targets, and managing staff performance. Improving these capabilities has benefits both for individual firms and for the economy as a whole.

Differences in ordinary management capabilities may explain up to half of the productivity gap between Australia and the United States.<sup>6</sup> Improving management practices could therefore be an extremely effective way for firms – and whole economies – to boost their productivity.<sup>7</sup>

But ordinary capabilities are for normal times when the operating environment is stable, which is a far cry from today. The megatrends of the past few years – including pandemics, climate change, rapid technological change, an ageing population and geopolitical shifts – are not going away. Businesses must be prepared if they want not only to survive, but also thrive, in an increasingly uncertain and rapidly changing world.

This is where *dynamic capabilities* are critical. They are forward-looking and strategic, concerned with “doing the right things” and focused on effectiveness and innovation to sustain competitive advantage.<sup>8</sup>

The framework of *sensing, seizing* and *transforming*, first conceptualised by David Teece, aims to explain differences in the long-run growth, survival and failure of firms; in other words, business dynamism. It examines how particular firms can be better or worse at identifying new opportunities, managing competitive threats, using their resources and making necessary transformations.

These capabilities contribute to business dynamism and national productivity by ensuring that even mature firms respond to competitive threats and economic shifts by transforming rather than standing still.

FIGURE 2

## What are dynamic capabilities?<sup>9</sup>



### SENSING

- Sensing is about continuously seeking to identify threats, opportunities and customer needs. Firms that sense well can manage their current business profitably while also exploring whether it's the right business model for the future. These firms are good at acquiring strategic information including market trends, best practices and competitors' activities.

### EXAMPLE

**Apple's** realisation of latent demand for a smaller .mp3 player.<sup>10</sup>



### SEIZING

- Seizing is about innovating and implementing a business model to satisfy customers, shape markets and capture value. This involves recognising valuable information, then selecting and developing opportunities that best fit the firm's environment, strengths and weaknesses. Market opportunities are exploited and threats are avoided. It is closely linked with strategic decision-making, especially investment decisions.

### EXAMPLE

**Nokia** missed the smartphone revolution because unlike Apple it was not well equipped for seizing.



### TRANSFORMING

- Transforming is about periodic, strategic renewal through adapting resources, structures and processes as markets and technologies change. Renewal may be required when there are new opportunities to pursue or organisational rigidities have developed. Transforming involves taking action on new business models, products or process innovations.

### EXAMPLE

**Apple's** shift from a focus on computers to broader consumer electronics.

This cycle of sensing, seizing and transforming is essential for a firm's ongoing viability and success in a world of changing customers, markets and technologies. Firms with stronger dynamic capabilities are more resilient, productive and innovative. While stronger ordinary capabilities can bring firms closer to the productivity frontier, stronger dynamic capabilities can expand this frontier.

## BOX 1

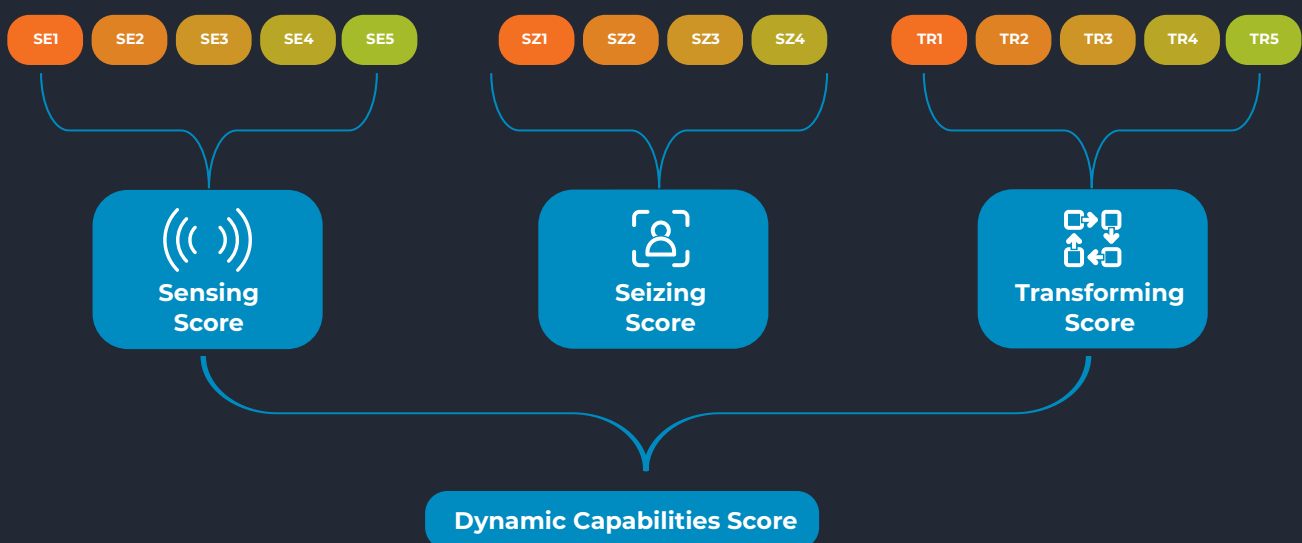
### SURVEY DESIGN

CEDA, with experts from UTS, has developed and conducted the first broad survey of the dynamic capabilities of Australian businesses.

We surveyed 149 managers of businesses of all sizes and a range of sectors around the country.

- Respondents were mostly experienced senior leaders involved in strategic decision-making, making it a high-quality sample.
- The survey drew on existing, already-validated surveys in the literature.
- Questions were tested and refined based on feedback from CEDA members with relevant business and research experience.
- CEDA conducted the survey via SurveyMonkey. It was launched in late 2021 and was open for approximately 12 months.
- Each respondent was asked to rate their business on a scale from 1 to 6 across 14 dimensions in the categories of sensing, seizing and transforming.
- Respondents were asked questions about their business's innovation and performance during the pandemic and a range of business characteristics.
- They were also asked about five cultural, structural and other business-specific factors that encourage the development of dynamic capabilities, which we termed "enablers".
- We calculated the simple average of the three sensing, seizing and transforming scores to determine each business's overall dynamic capabilities score.

(For more detail, see Appendix 1.)





# KEY FINDINGS

## 1. Dynamic capabilities yield big economic dividends, especially in uncertain times

Firms with strong dynamic capabilities are resilient and can successfully navigate unexpected events with minimal disruption, rather than resorting to crisis management.<sup>11</sup> For example, there is evidence that firms with stronger dynamic capabilities were more resilient during the Global Financial Crisis.<sup>12</sup>

We analysed the link between dynamic capabilities and innovation during the pandemic, a recent period of deep uncertainty. We found that, all else equal, **firms with stronger dynamic capabilities were more innovative in the first few months of COVID-19** (Figure 3; for detailed results, see Appendix 3.)

FIGURE 3

## Dynamic capabilities contributed to more innovation during the pandemic

Impact of a one point increase in dynamic capabilities scores on innovation.

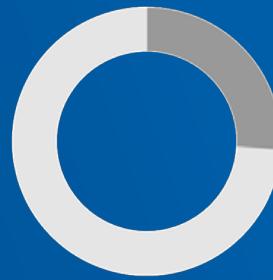
	Dynamic Capabilities	Sensing	Seizing	Transforming
<b>First few months of COVID-19</b>				
Operational processes		0.5		0.44
Organisational/managerial	0.71	0.62	0.4	0.48
Marketing methods	0.82	0.48		0.77
Goods or services				0.46
<b>Post June 2020</b>				
Operational processes				
Organisational/managerial				
Marketing methods	0.6		0.63	0.42
Goods or services				

Statistically significant logit regression coefficients; see appendix for full regression results. Capabilities are measured on a scale of 1 to 6. Innovation dummy variable equal to 1 if the firm undertook any innovation during the period.

Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper



54 per cent of top performers overhauled their management processes in the first few months of the pandemic



Only 26 per cent of the weakest firms overhauled their management processes in the first few months of the pandemic

The most dynamic 25 per cent of firms also undertook more innovation in the wake of COVID-19 than the least dynamic 25 per cent of firms across all areas of innovation in the survey (Figure 4). Specifically:

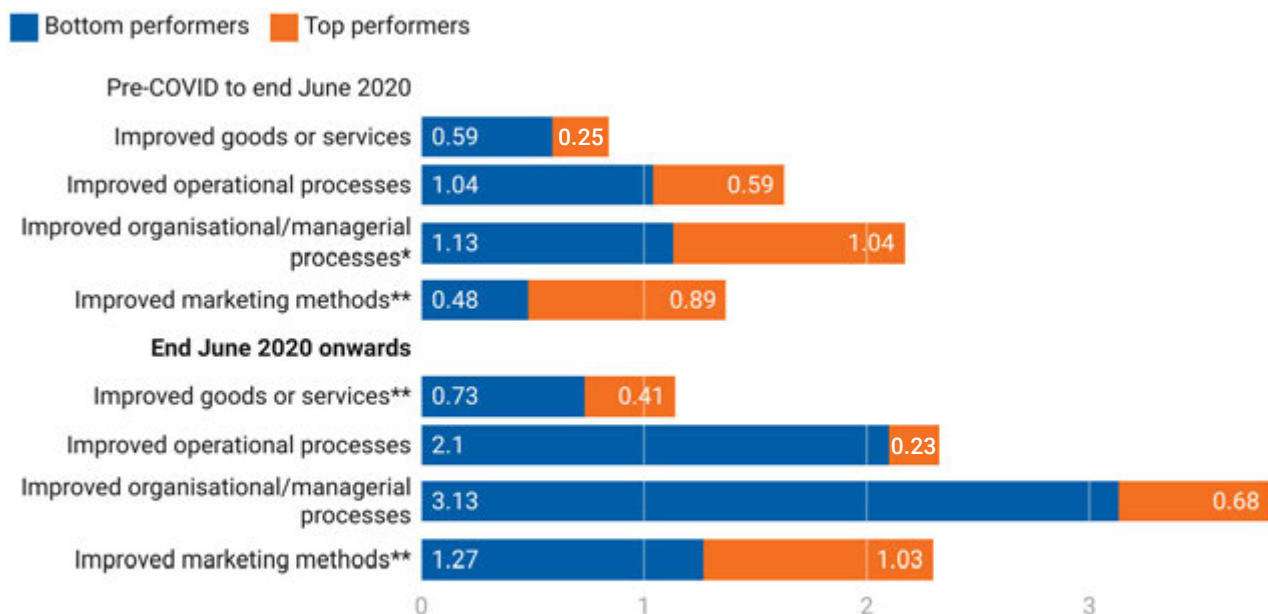
- 54 per cent of top performers overhauled their management processes in the first few months of the pandemic, compared with 26 per cent of the weakest firms.
- 46 per cent of top performers introduced new or better marketing methods in the first few months of the pandemic, compared with 19 per cent of the weakest firms.

The most dynamic firms were better able to adapt and innovate in the highly uncertain COVID-19 environment. Sensing was particularly useful early in the pandemic, while transforming was most valuable across multiple forms of innovation. Given that transforming is a weakness for most Australian firms, lifting capabilities in this area could help to improve innovation.

FIGURE 4

## Firms with stronger dynamic capabilities are more innovative

Average innovation scores

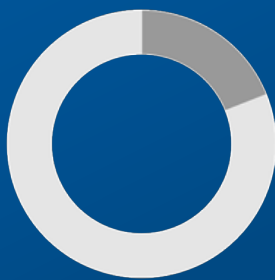


Firms in the bottom 25 per cent versus the top 25 per cent of dynamic capabilities scores. Innovation scores are a count of innovations undertaken and not directly comparable to performance scores. Asterisks denote significance at the \*\*\* 1%, \*\* 5% and \* 10% level.

Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper



46 per cent of top performers introduced new or better marketing methods in the first few months of the pandemic



...compared with 19 per cent of the weakest firms

We also found that **firms with stronger dynamic capabilities performed better in the wake of the COVID-19 pandemic**, especially from June 2020 onwards. This suggests that the innovations made early in the pandemic set firms up for success later on, and that dynamic capabilities were crucial in adapting to this shock.

All else equal, firms with higher scores had significantly better customer, financial and employee-related performance after June 2020. They also had significantly better employee-related performance in the first few months of COVID-19. Employee-related performance was measured across a range of metrics, including number of employees, as well as implementation of strategies to reduce employee turnover, and improve staff skills, satisfaction and commitment. (For detailed results, see Appendix 3.)

Results for export and domestic market performance were not significant, possibly because larger trends (such as the sudden shift in demand to goods rather than services) dominated the effects of dynamic capabilities during this period.

FIGURE 5

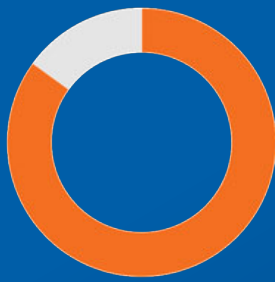
## Dynamic capabilities contributed to improved firm performance during the pandemic

Impact of a one point increase in dynamic capabilities scores on performance

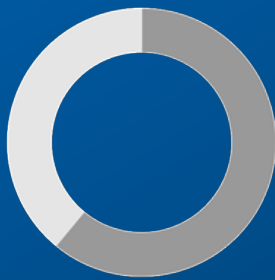
	Dynamic Capabilities	Sensing	Seizing	Transforming
<b>First few months of COVID-19</b>				
Customer performance				
Financial performance				
Employee-related performance	0.13	0.09		0.14
<b>Post June 2020</b>				
Customer performance	0.22			
Financial performance	0.29	0.22	0.24	0.18
Employee-related performance	0.31	0.23	0.21	0.23

Statistically significant OLS regression coefficients; see appendix for full regression results. Capabilities are measured on a scale of 1 to 6. Performance measured on a scale of 1 to 5.

Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper



85 per cent of top performers had higher net profits after June 2020



61 per cent of the weakest firms had higher net profits after June 2020

Comparing the most dynamic 25 per cent of firms with the least dynamic 25 per cent, we found:

- 85 per cent of top performers had higher net profits after June 2020, compared with 61 per cent of the weakest firms.
- 63 per cent of top performers had higher productivity after June 2020, compared with 54 per cent of the weakest firms.
- 70 per cent of top performers introduced strategies to reduce employee turnover after June 2020, compared with 46 per cent of the weakest firms.
- 78 per cent of top performers introduced strategies to improve employee satisfaction after June 2020, compared with 46 per cent of the weakest firms.

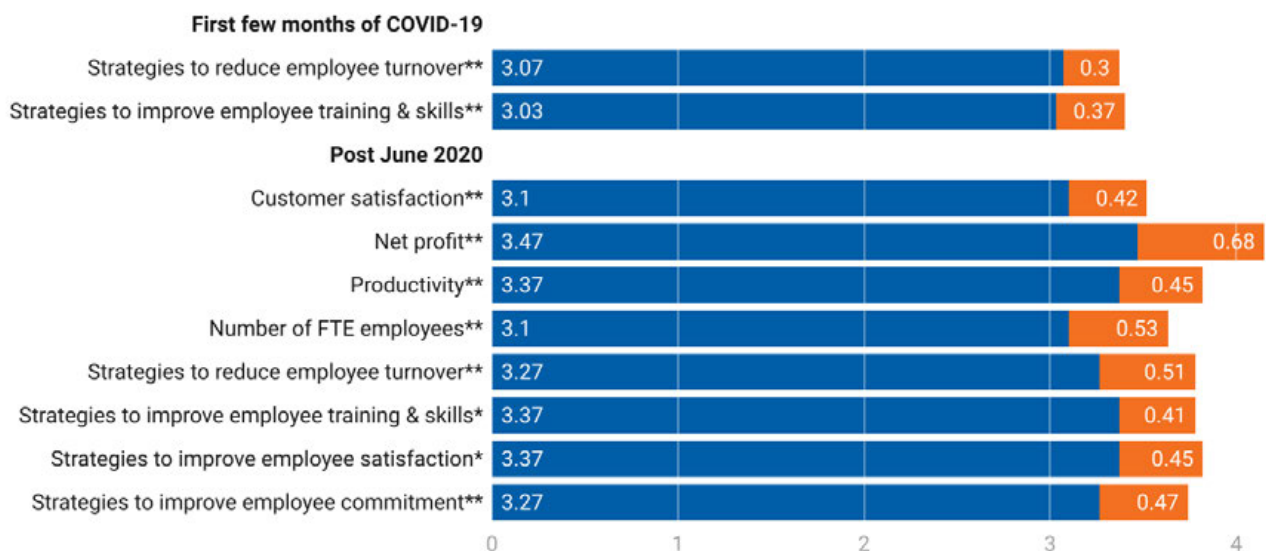
Sensing, seizing and transforming all helped improve employee-related outcomes and net profits after June 2020. Sensing and seizing were particularly important for customer satisfaction, while transforming was particularly relevant for productivity.

FIGURE 6

## Firms with stronger dynamic capabilities perform better

Average performance scores

Bottom performers Top performers



Firms in the bottom 25 per cent versus the top 25 per cent of dynamic capabilities scores. Selected performance measures only. Asterisks denote significance at the \*\*\* 1%, \*\* 5% and \* 10% level.

Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper

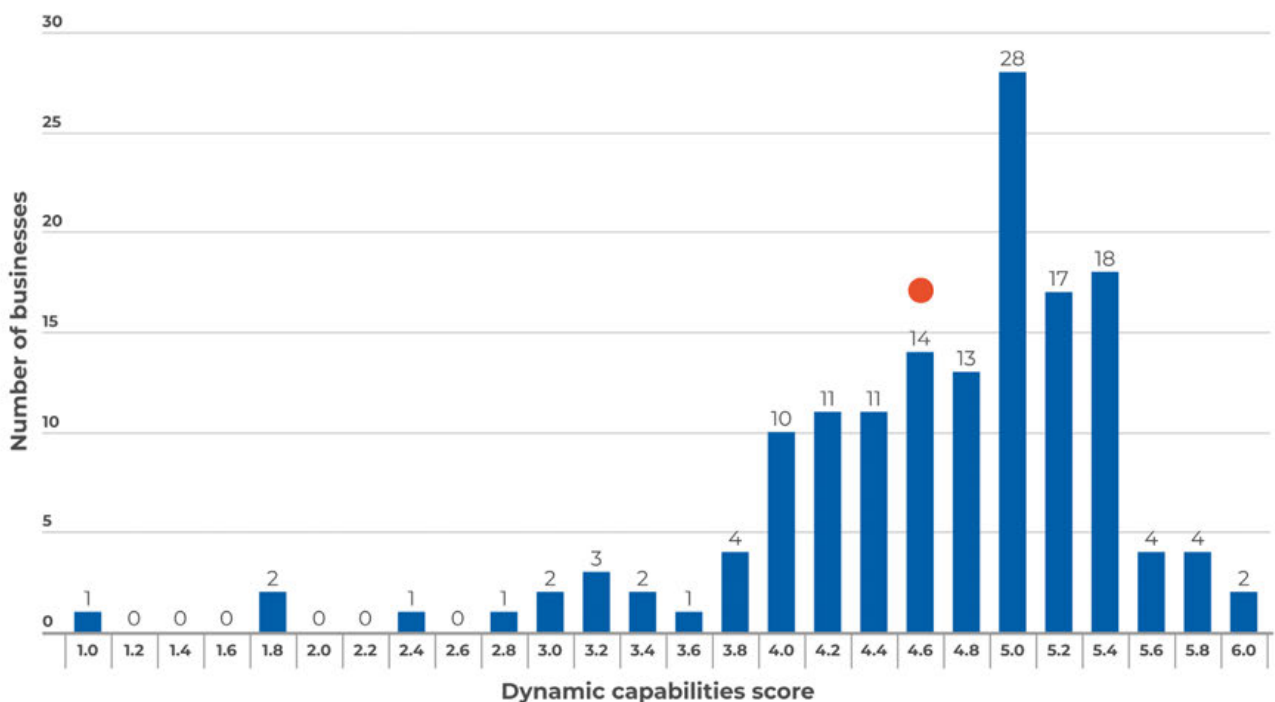
## 2. Australian businesses have significant room for improvement

**Some firms had stronger dynamic capabilities than others, but almost all had room for improvement.** Firms scored across the full range of possible outcomes (from an average response of 1 or “strongly disagree” to 6 or “strongly agree”) but were clustered around 4 to 5 (“slightly agree” to “agree”), with a mean score of 4.6. Almost 60 per cent of firms scored above the mean (Figure 7).

FIGURE 7

### Most firms have room to improve their dynamic capabilities

Distribution of dynamic capabilities scores



Source: Dynamic capabilities survey, CEDA

● Average DC score

There was a tail of weak performers, with around eight per cent of firms scoring below 3.5. Almost all firms had room for improvement, with only two reaching the maximum score of 6.

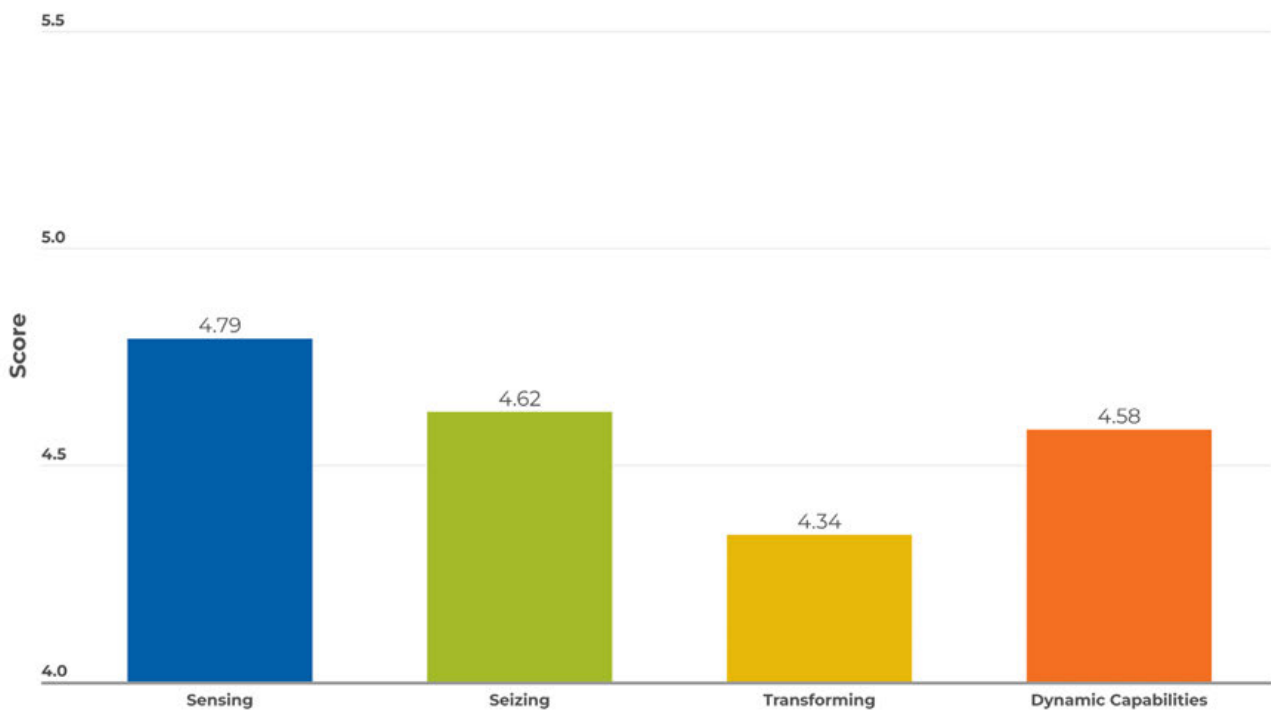
**Australian businesses were strongest at sensing and weakest at transforming.** By category, sensing had the highest average score in our sample (4.8), followed by seizing (4.6), while transforming had the lowest average score (4.3). These scores are broadly similar to those of Kump et al's (2019) survey of Austrian businesses, on which our survey is based.<sup>13</sup>

Sensing, seizing and transforming were positively related to one another (correlation coefficients of 0.6 to 0.7), consistent with the theory that sensing, seizing and transforming are interrelated capabilities.

FIGURE 8

### Transforming is a key area of weakness

Average dynamic capability scores

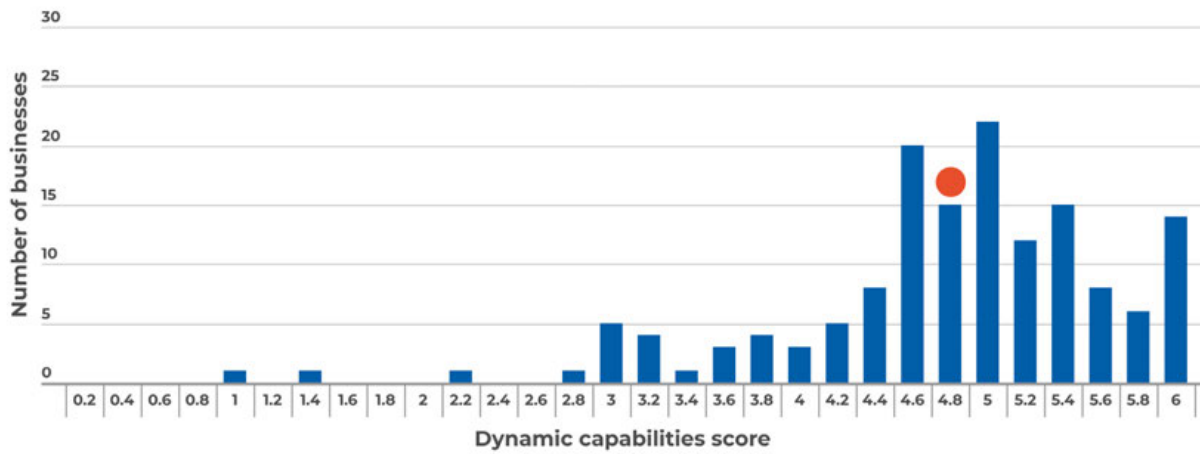


Source: Dynamic capabilities survey, CEDA

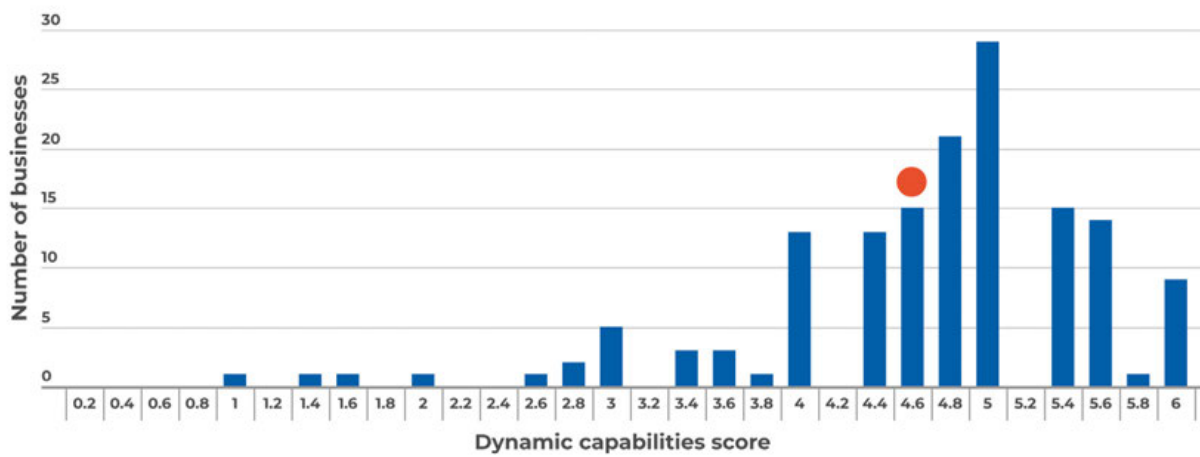
FIGURE 9

### There is a broad range of capabilities across firms

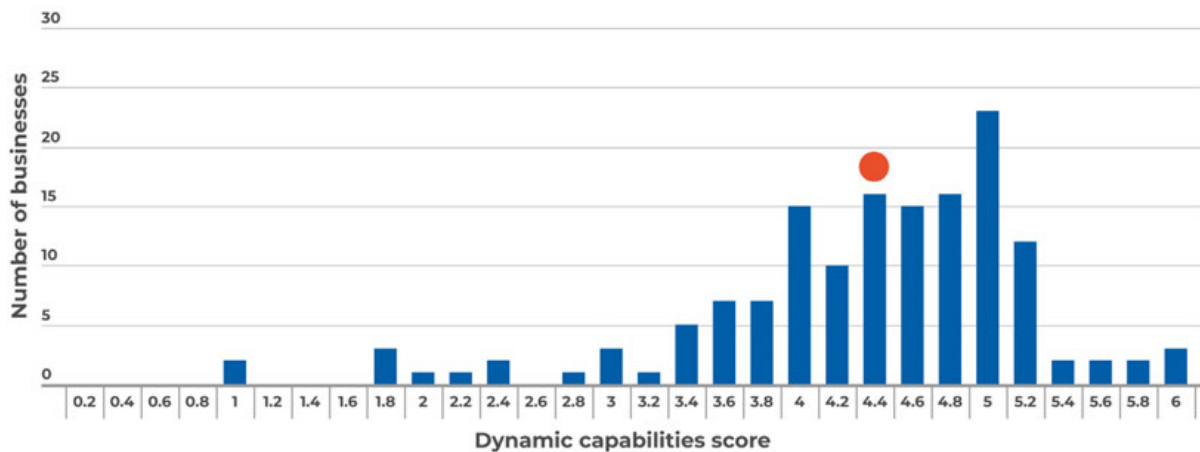
Sensing distribution



Seizing distribution



Transforming distribution



Source: Dynamic capabilities survey, CEDA

● Average score

Within each category, differences between firms were also significant (Figure 10). The top 25 per cent of firms in each category had an average score of around 5.0 to 5.4 (“agree” or a bit higher). This was 1 point higher than the bottom 25 per cent in each category, which had an average score of around 4.0 to 4.6 (“slightly agree” or a bit higher). These differences point to considerable room for improvement and learning.

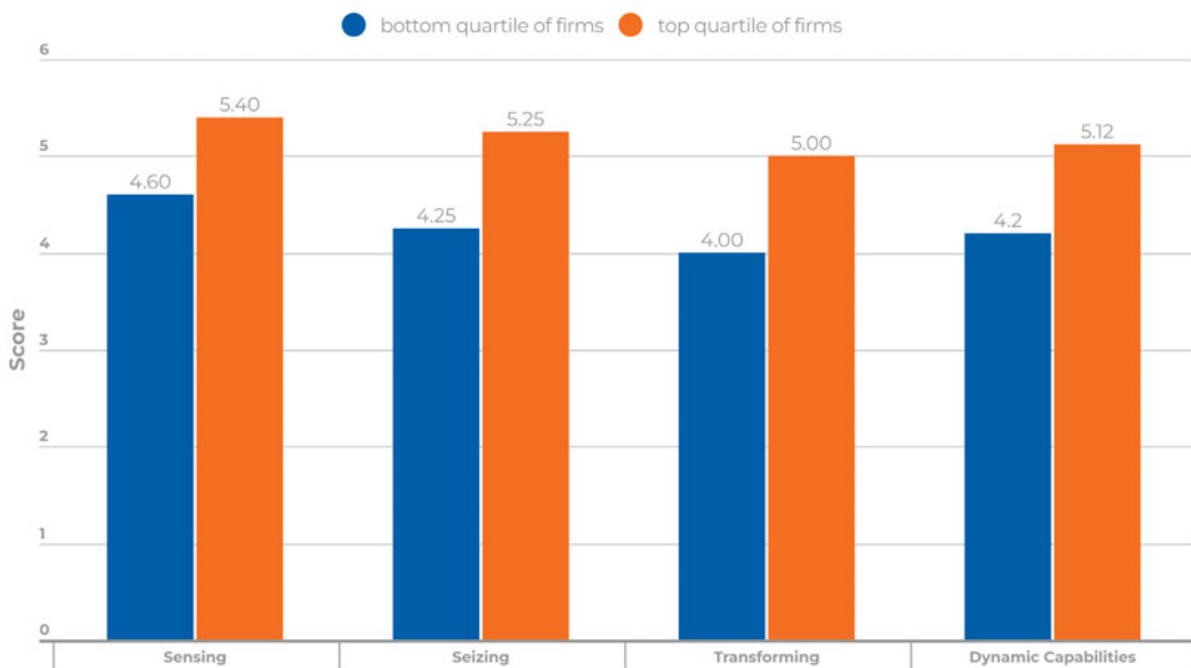
**Transforming is hard. Firms must focus their efforts here.** Previous research has shown almost one in three Australian CEOs believe their company won’t exist 10 years from now if they continue down the same path.<sup>14</sup> The things that make a business successful today make it more difficult to change for tomorrow.

Business leaders are often reluctant to take assets and capabilities from an existing part of the business to grow a new part of the business, but ultimately this can be their downfall.<sup>15</sup> Transforming requires managers to be bold and take smart risks to build competitive advantage.<sup>16</sup>

FIGURE 10

### Differences in capabilities between top and bottom performers are statistically significant

Average capabilities scores of firms in top quartile versus firms in bottom quartile



Source: Dynamic capabilities survey, CEDA



## BOX 2

### Transformation fails

Without renewal and shifts in strategy, firms can fall victim to inertia and cultural lock-in.<sup>17</sup>

- Australia's oldest newspaper publisher, Fairfax Media, was a high-profile victim of this phenomenon when it failed to foresee the end of its "rivers of gold" in revenue from classified advertising amid the shift to digital advertising. It was eventually taken over by broadcasting company Nine Entertainment in 2018.<sup>18</sup>
- The US coffee chain Starbucks also failed to adapt when faced with challenges in Australia. It expanded rapidly from its arrival in 2000 to have 90 stores by 2008. That year, it closed 70 per cent of its Australian outlets. Its failure was driven by underestimating existing competition, a failure to adapt to local customers' tastes and the rapid pace of expansion.<sup>19</sup>
- Finnish company Nokia held more than 40 per cent of global market share in mobile phones in 2008. Just six years later, in 2013, it sold its mobile phone business to Microsoft<sup>20</sup> after it failed to properly adapt to the rise of apps, and Apple's iOS and Google's Android smartphone operating systems.
- Finally, despite inventing the world's first digital camera in 1975,<sup>21</sup> the US camera and film-maker Kodak went on the defence with the rise of the new technology<sup>22</sup> and instead diverted resources to emerging markets. It filed for bankruptcy protection in 2012.<sup>23</sup>

### 3. Firms need to make space for capability building and exploration

We asked about the cultural, structural and other business-specific factors that might encourage the development of dynamic capabilities (see Box 3). We found all five of these factors, which we termed enablers, had a strong relationship with dynamic capabilities.

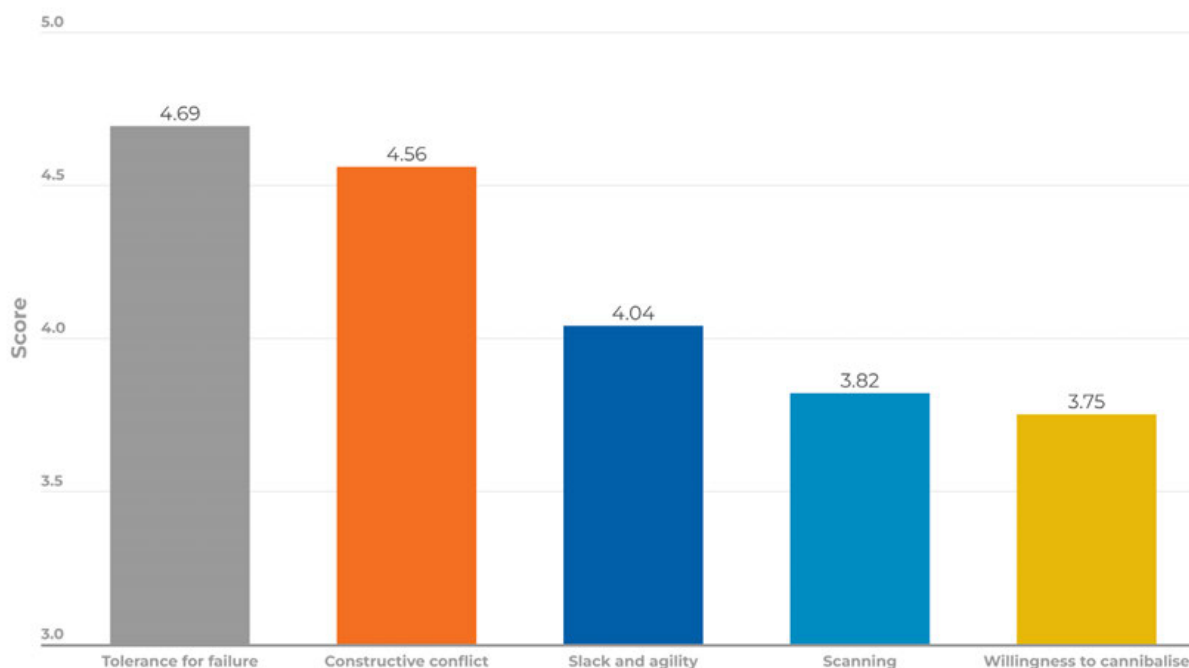
Australian businesses were relatively good at constructive conflict and tolerating failure (Figure 11), but relatively poor at willingness to cannibalise, scanning and slack & agility.

- 89 per cent of firms agreed or strongly agreed their business understood that learning from failure is a necessary part of success.
- Only 57 per cent of firms were very willing to sacrifice sales of existing products to improve sales of new products.
- Only 42 per cent of firms agreed they had extensive and highly effective engagement with researchers at universities.

FIGURE 11

#### Firms scored highly on constructive conflict and tolerance for failure

Average Enabler scores



Source: Dynamic capabilities survey, CEDA

**Slack & agility was the enabler with the strongest relationship to dynamic capabilities.**

This is about firms having access to labour and financial resources that are not tied up in “business as usual” to build competencies and pursue longer-term opportunities as they arise. Slack & agility is an important enabler for all three capabilities, but particularly for transforming.

**Yet businesses are under pressure and spare capacity is hard to come by.** The ABS innovation survey found lack of access to funds and skills are the most significant barriers to innovation.<sup>24</sup> GHD’s Innovation Imperative survey found that globally, business leaders see a lack of investment resources and lack of skills/capabilities as the biggest barriers to their innovation priorities over the next few years.<sup>25</sup> There is strong and consistent anecdotal evidence about burnout and a lack of bandwidth among businesses of all sizes post-COVID-19.

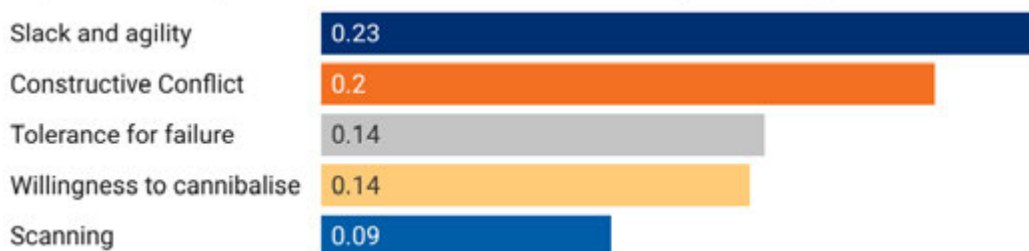
We asked about the availability of resources for growth or exploration projects. Firms were more comfortable about being able to access finance than workers. This is perhaps unsurprising given the low cost and high availability of finance and government support during the pandemic, which enabled businesses to build a substantial savings buffer.

Interest rates have risen significantly since then, and finances are also under pressure from high inflation. There is also a tight labour market and broad-based skills shortages. On top of this is a growing regulatory burden, which takes

FIGURE 12

## Slack & agility is particularly important

Impact of a one point increase in enabler score on dynamic capabilities scores.



*OLS regression coefficients; see appendix for full regression results. Enablers and capabilities are all measured on a scale of 1 to 6.*

Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper

*"To be successful over the long run, firms need to run their core business while simultaneously **planning and positioning** for the **future**. Currently, firms are so tied up with the former that they are neglecting the latter."*

increasing amounts of time and effort away from long-term value-building activities.

This is not to say that large amounts of idle capacity would be good for the economy. The scarring effects of economic downturns and recessions, and the detrimental effects of long-term unemployment are clear. Tight labour markets can encourage firms to pay higher wages and introduce labour-saving productivity improvements. What the survey shows us is that running businesses lean to the bone is not a recipe for long-term success.

To be successful over the long run, firms need to run their core business while simultaneously planning and positioning for the future. Currently, firms are so tied up with the former that they are neglecting the latter. If this continues, there will be negative consequences for Australia's innovation and productivity growth well into the future.

On other enablers:

Being **willing to cannibalise**, or to scale up new areas of the business at the expense of existing sources of revenue, is particularly important for seizing new opportunities. Experts agree this is where a lot of firms fall short.<sup>26</sup> Our results confirm this is very difficult for businesses to do.

**Scanning** the environment is particularly important for identifying new opportunities and threats. The weakest score in the scanning category was on effective engagement with researchers at universities. There has been a lot of focus on the relationship between businesses and universities in recent years, particularly through the Federal Government's University Research Commercialisation Action Plan. Previous CEDA research identified collaboration between industry, academia and government as a key barrier to unlocking our innovation potential.<sup>27</sup> Our results support this ambition.

**Tolerance for failure** is important for transforming capabilities. Firms scored relatively highly on this enabler, which is at odds with the common narrative of a growing culture of risk aversion among Australian businesses.<sup>28</sup> At face value, this result suggests that risk aversion is not currently our biggest impediment, at least from a dynamic capabilities perspective.



Alternatively, this score could reflect the high proportion of CEOs and other senior leaders who answered the survey. Previous research has found that CEOs tend to be relatively risk-neutral, while middle managers tend to demonstrate extreme loss aversion even in relation to relatively small investments.<sup>29</sup> These inconsistencies in risk choices can be large, with the result that companies are foregoing smart investments and leaving significant value on the table.<sup>30</sup>

Firms with more educated leaders tend to have stronger ordinary capabilities.<sup>31</sup> **But the link between education and dynamic capabilities is less clear.** Dynamic capabilities ‘must be built because they cannot be bought’.<sup>32</sup> They are partially embedded in a firm’s culture and history, strategy and processes. This makes them difficult to imitate or replicate from one business to another.

We were unable to test the relationship between dynamic capabilities and education due to a lack of variation in our sample – more than 80 per cent of firms had a principal manager with a bachelor’s degree or higher and only 8 per cent had an education level of year 12 or below.

It seems likely, however, that current education offerings have limited direct benefits for building dynamic capabilities. Dynamic capabilities are a relatively new area of research. Business schools and MBAs typically focus on ordinary capabilities, and therefore have limited value for business leaders looking for ways to boost dynamic capabilities. Cost-benefit analysis and other traditional financial analysis tools focus on efficiency rather than innovation, and are not useful in a deeply uncertain environment (where probabilities cannot be assigned to potential outcomes).<sup>33</sup>

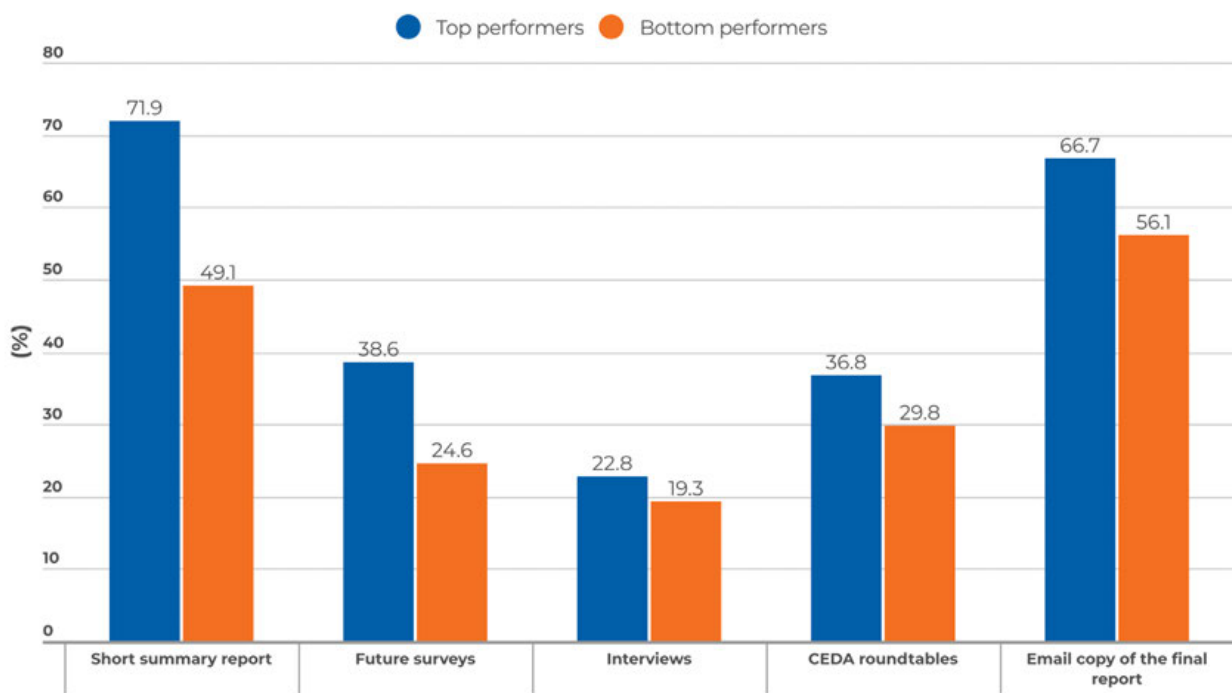
Instead, new micro-credential programs could help to kickstart dynamic capability building. Over time, more business schools should include these capabilities as part of their curriculums. Eventually, they could be a useful “overarching paradigm” for teaching in business schools.<sup>34</sup> Australia could also learn from capability-building programs in other countries, in particular the frontier firms training program in New Zealand.

**Managers from high capability firms were more engaged with feedback** than managers from low capability firms. More than 70 per cent of managers from high capability firms requested a short report comparing their business to the overall results, compared with only 50 per cent of managers from low capability firms (Figure 13).

FIGURE 13

### Firms with stronger dynamic capabilities are more engaged with feedback

Per cent of respondents requesting feedback



Source: Dynamic capabilities survey, CEDA

"More than  
**70%**

of managers from high capability firms requested a short report comparing their business to the overall results, compared with only 50 per cent of managers from low capability firms."

"In theory, firms with stronger dynamic capabilities are more resilient and better equipped to identify and respond to competitive threats."

Managers of high capability firms were also more interested in all other forms of feedback and engagement offered in the survey. On average, they ticked 2.4 feedback boxes each, compared with 1.8 for managers of low capability firms. These results are consistent with evidence from the UK that better-managed (and more productive) businesses are more engaged with feedback.<sup>35</sup> Firms with greater interest and insight into their own capabilities are more likely to improve. This is particularly important given that managers are typically unaware of their own firm's capabilities or how to improve them.<sup>36</sup>

The survey did not find any difference in the average dynamic capabilities of internationally exposed versus domestic firms. Firms that are foreign-owned, are part of a multinational company, or who export or import all had similar scores to firms that are domestically owned or operated.

While foreign exposure is a driver of ordinary capabilities,<sup>37</sup> helping firms to adopt best practice and move closer to the productivity frontier, this result suggests that dynamic capabilities are developed through different channels. International exposure of the firm is not a necessary condition for fostering dynamic capabilities. In contrast, having leaders who can bring international *experience* to the boardroom can make a difference – see Finding 4 on board diversity.

We did not find any evidence of a clear relationship between dynamic capabilities and firm age or the level of competition a business faces. This is likely due to a lack of variation among the firms surveyed.<sup>i</sup> Young firms are key drivers of employment growth in the economy, and robotic surgical training firm IMRA (Case study 1) demonstrates that they can be very dynamic.

Competition is also likely to be very important. In theory, firms with stronger dynamic capabilities are more resilient and better equipped to identify and respond to competitive threats. Other researchers have found that the effects of dynamic capabilities depend on how well they fit the competitive environment in which firms operate.<sup>38</sup>

<sup>i</sup> Firms in the sample tended to be older and well established – the average firm was 36 years old and only one firm was less than a year old. Similarly, almost three quarters of firms had '10 or more' competitors, which limits the variation – and therefore usefulness – of the competition measure captured in the survey.

#### 4. Diversity matters for dynamism

Greater diversity within firms can help foster dynamic capabilities. Leaders' experience is instrumental in setting firm strategy, structure and processes, which are all crucial for providing an environment in which dynamic capabilities are developed and maintained.<sup>39</sup>

We found that **firms with stronger dynamic capabilities had more diverse boards.**

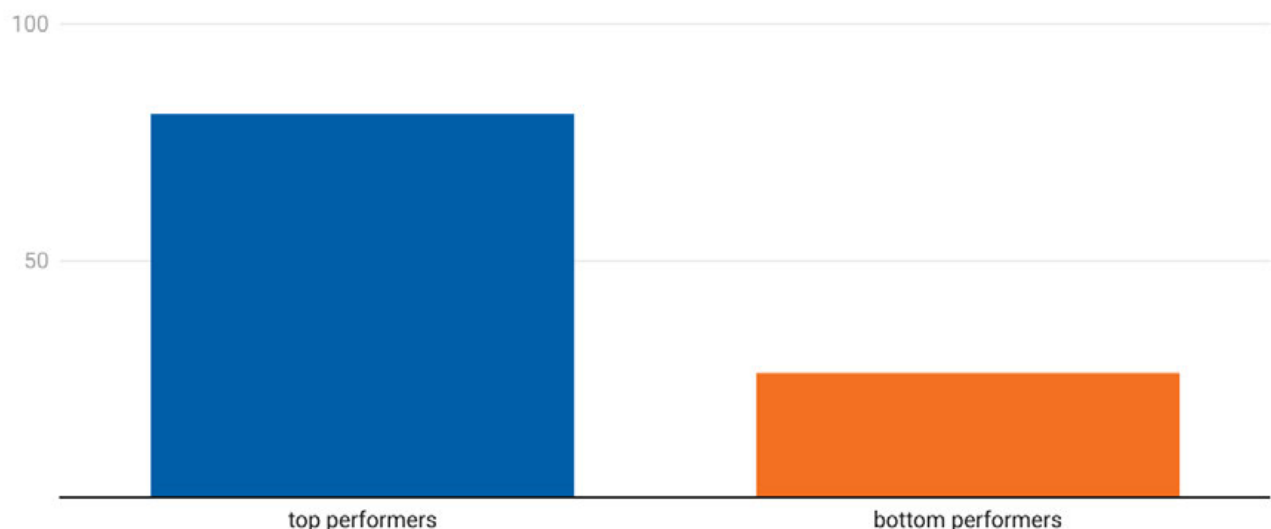
Specifically, 81 per cent of top performing companies with a board had at least one director that was female, at least one that had science and technology expertise and at least one with international experience, compared with just 26 per cent of the weakest firms (Figure 14).

All three of these categories of diversity (female, science/technology experience and international experience) were related to a company's sensing abilities. Having gender and professional diversity on their board was also related to a company's ability to transform.

FIGURE 14

### Firms with stronger dynamic capabilities have more diverse boards

Per cent of firms with at least one director who is female, has science/technology/engineering expertise, and has international experience.



Source: Dynamic Capabilities Survey, CEDA • Created with Datawrapper



*"In Australia, around 40 per cent of board directors have financial or legal experience, compared with just seven per cent having technology experience."*

While company boards are becoming more gender diverse, there is much less emphasis on functional or professional diversity. Yet this may be more critical for driving innovation. A lack of such diversity "limits the board's ability to sense and evaluate new opportunities in deep uncertainty".<sup>40</sup>

In Australia, around 40 per cent of board directors have financial or legal experience, compared with just seven per cent having technology experience.<sup>41</sup> In New Zealand, Teece & Brown (2020) have emphasised the need for directors with strategy, technology and international experience to complement traditional, compliance-oriented professions such as legal and accounting.<sup>42</sup> In the UK, a study of FTSE350 firms also found that more functionally diverse boards are better equipped to deal with deep uncertainty and complexity.<sup>43</sup>

Enhancing diversity can therefore bring quick wins for Australian firms. Deeper cross-border business networks and international mentoring programs could also play a role.<sup>44</sup> Boosting STEM knowledge is also crucial for decision-making in an increasingly complex digital world.<sup>45</sup> Firms may be able to do this in creative ways, including by recruiting across industries or hiring external expertise, rather than increasing headcount.

Attracting both skilled migrants and talented expats back to Australia can be a strategic way to supplement domestic capabilities. From a productivity and innovation perspective, the skills and experience that these people bring are invaluable.<sup>46</sup>

The migration system review and the Federal Government's response to date have recognised that the system needs to change if we are to attract the best global talent that will ultimately assist in growing Australia's pool of dynamic managers. As CEDA has previously recommended, key to this is the implementation of a three-tiered temporary skilled migration system to provide a fast track for highly skilled executives. It will also be important to pursue reforms to permanent migration that have been suggested by the review, as CEDA research has found that one quarter of permanent skilled migrants are working in roles beneath their skill level.<sup>47</sup>



Increased regulatory burdens, personal liability obligations and public scrutiny are taking up vital bandwidth and making it harder than ever for boards to devote time to supporting innovation and building long-term competitive advantage. In a CSIRO survey more than half of surveyed board members admitted that innovation has never, or only rarely, been a board agenda item.<sup>48</sup> Yet this is exactly what is currently needed to lift Australia's productivity.

It is important that new regulations are well designed and well targeted, otherwise they simply add to the growing burden on businesses, particularly small- and medium-sized businesses. The opportunity cost of this is too great in the current environment. Now more than ever, business leaders need support from regulators and investors to better balance their focus between short-term profitability and risk mitigation, and long-term strategy and innovation.



## 5. Areas with strong capabilities partly reflect economies of scale and Australia's narrow industrial base

Both small and large businesses are vital to Australia's economic success. Most businesses in the Australian economy are small-to-medium-sized enterprises (SMEs), making them the drivers of employment and productivity growth, while larger firms have a bigger impact on business investment. Dynamic capabilities are relevant to firms of all sizes, though particularly when management is shared across a team.<sup>49</sup>

### On average, larger businesses (with at least 200 full-time equivalent employees) had stronger dynamic capabilities than SMEs

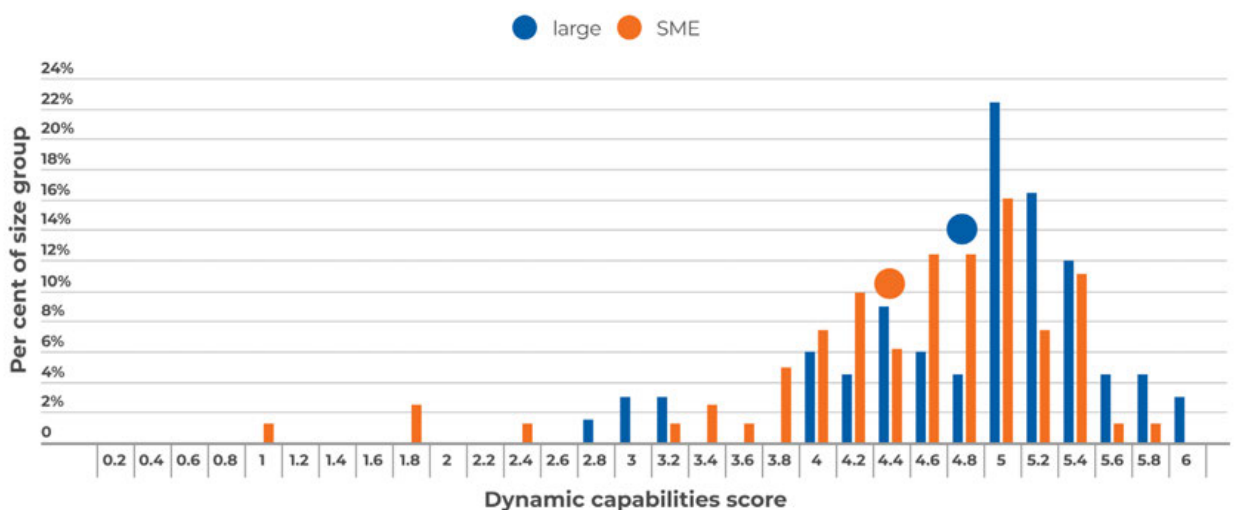
(average score of 4.8 versus 4.4).<sup>ii</sup> Similarly, national firms (operating across all states and territories) scored higher than firms operating in a single state or territory (4.8 versus 4.5).

Small- and medium-sized firms had significantly lower average scores for both sensing and transforming than their larger counterparts. This may reflect that they are more resource constrained, as evidenced by relatively low scores for the slack & agility and scanning enablers.

FIGURE 15

### Large firms have stronger average capabilities than smaller firms

Distribution of dynamic capabilities scores by size



Source: Dynamic capabilities survey, CEDA

Per cent of firms in each size category

Average score

ii Almost 55 per cent of firms in the sample are SMEs, while the rest are large firms with 200 or more employees.

SMEs often have trouble accessing finance in particular, especially for riskier, longer-term investments that would be transforming.

While SMEs had lower average scores, not all had weak capabilities. The laggards in our sample were SMEs, but many also had strong capabilities – 40 per cent scored above the median (compared with two-thirds of large firms).

FIGURE 16

### Larger firms have stronger dynamic capabilities

Average dynamic capabilities scores by firm size

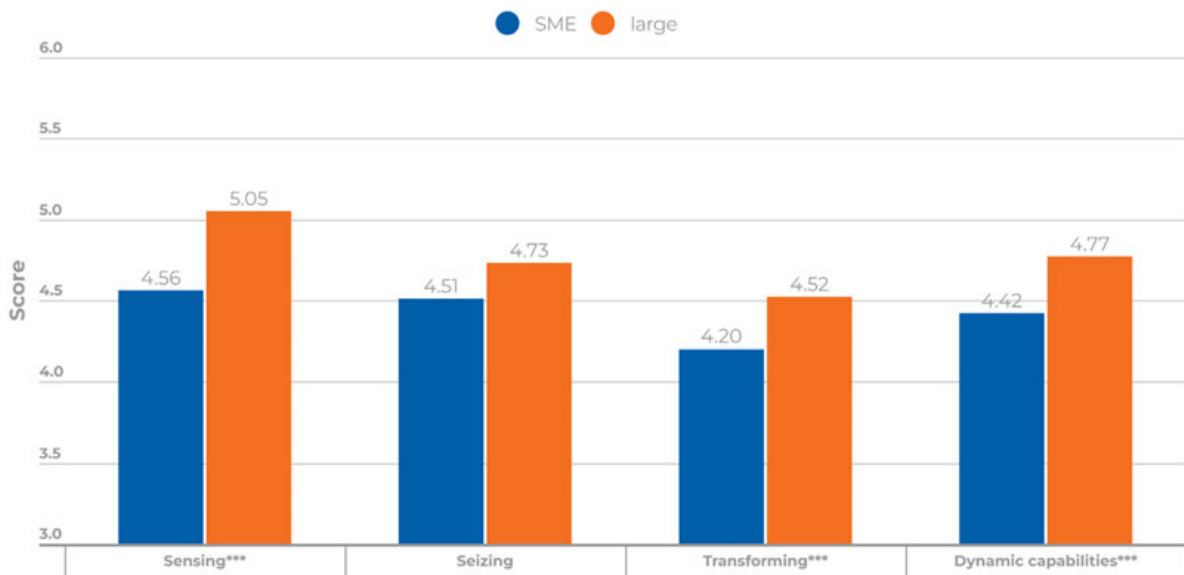
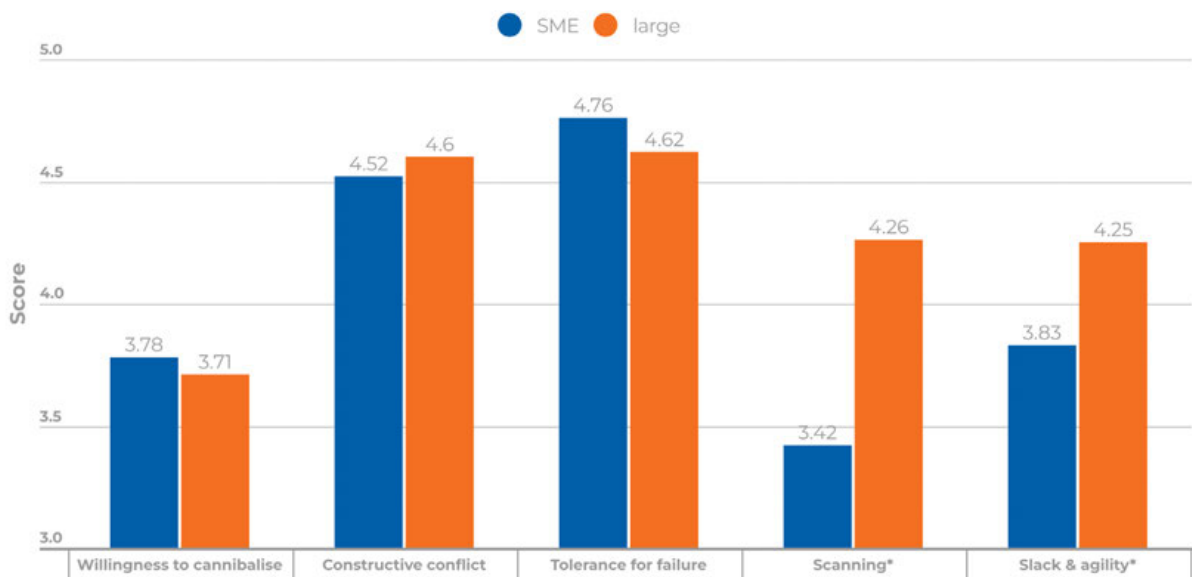


FIGURE 17

### SMEs have less slack than larger firms

Average enabler scores by firm size



Source: Dynamic capabilities survey, CEDA

\* indicates the difference between average scores for large firms versus SMEs is significant at the 10% level.

Small- and medium-sized firms are a diverse group. Many are family-owned businesses operating in traditional industries and not focusing on growth. At the other end of the spectrum, as Case study 1 demonstrates, many – particularly high-growth start-ups – are very agile and have strong dynamic capabilities.

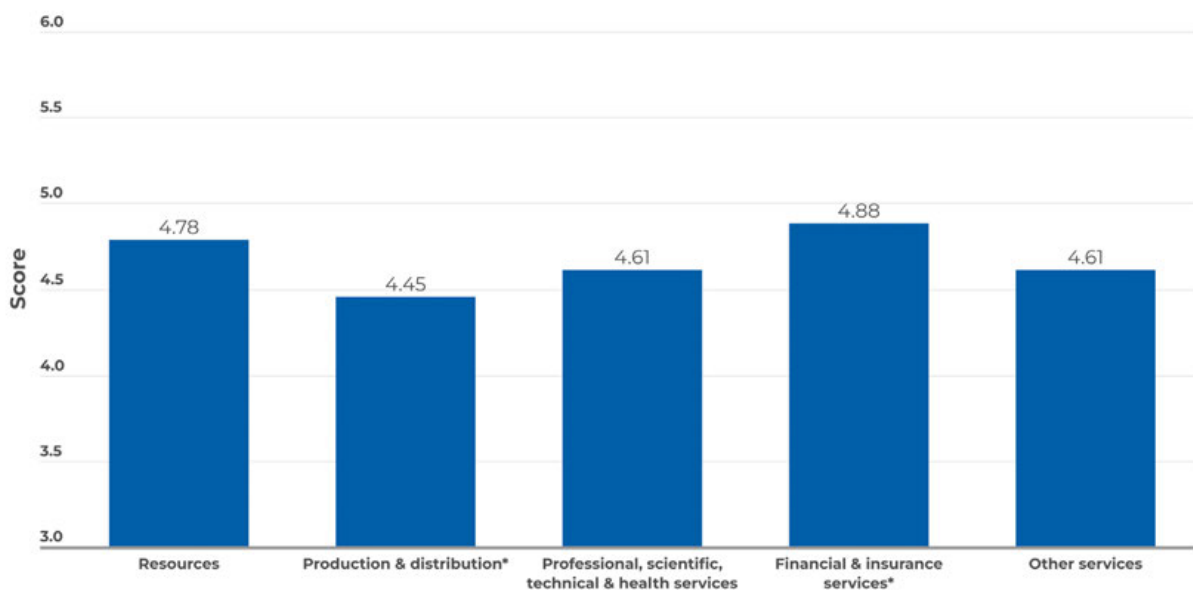
**The industries with the highest average scores were finance & insurance services and mining** (Figure 18). This is consistent with Australian research on ordinary capabilities in which finance & insurance services and mining were among the industries with the highest share of firms in the top level of strategic management.<sup>50</sup>

In contrast, **the weakest average score was for the production & distribution industry group**, which includes manufacturing; construction; transport, postal & warehousing; wholesale trade and retail trade. Again, this is broadly consistent with the Australian research on ordinary capabilities showing manufacturing, construction, and transport, postal & warehousing were among the lowest tiers of strategic management capability.<sup>51</sup>

FIGURE 18

### Financial & insurance services firms have stronger dynamic capabilities

Average dynamic capability scores by industry group



Source: Dynamic capabilities survey, CEDA

Resources includes agriculture, forestry & fishing and mining.

Production & distribution includes manufacturing; construction; transport, postal & warehousing; wholesale trade and retail trade.

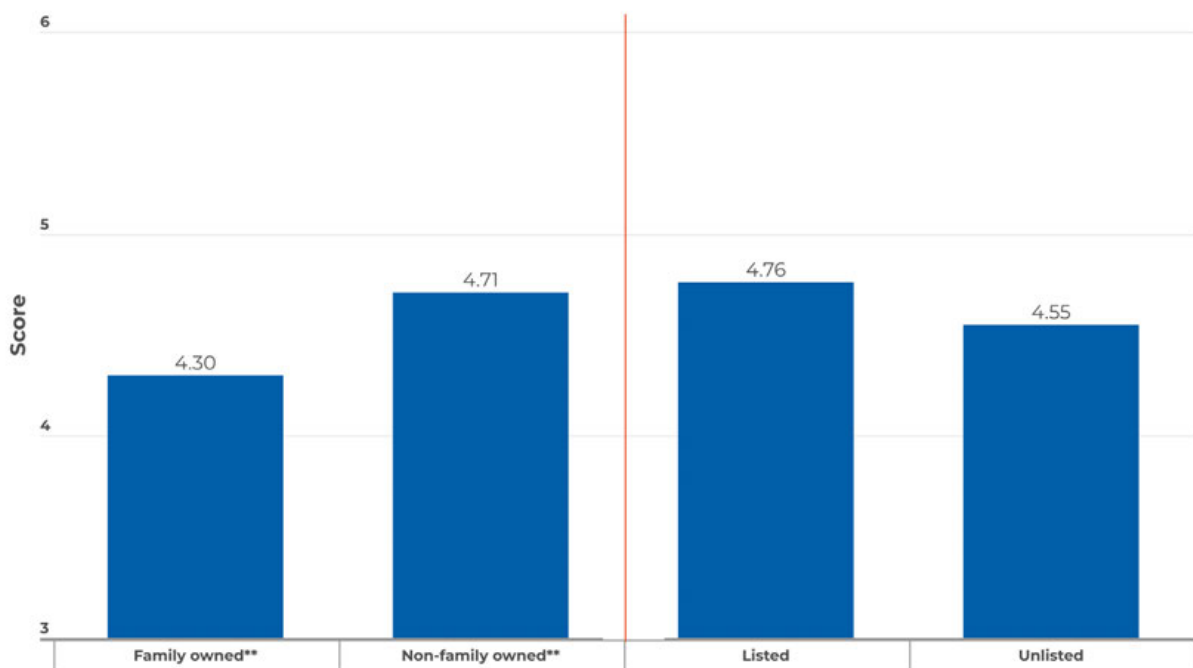
Difference between categories with \* is statistically significant at the 10% level.

**Family-owned businesses have weaker dynamic capabilities than businesses with other ownership structures** (Figure 19). This is consistent with Australian research on ordinary capabilities, which also found that family-owned businesses have weaker capabilities.<sup>52</sup> Publicly listed companies had a slightly higher average score than unlisted firms on our survey, but the difference was not statistically significant.

FIGURE 19

### Family-owned firms have weaker dynamic capabilities

Average dynamic capabilities scores by ownership status



Source: Dynamic capabilities survey, CEDA

Difference between categories with \*\* is statistically significant at the 5% level.

“

*"Family-owned businesses have weaker dynamic capabilities than businesses with other ownership structures."*

## CASE STUDY 1

### International Medical Robotics Academy

*“You don’t need to do it all on your own”*

International Medical Robotics Academy (IMRA) was founded in 2021. The start-up’s vision is to drive widespread use of advanced robotic surgical procedures and synthetic training products to increase patient safety and ethical training for doctors and lower costs for healthcare systems.

IMRA provides in-person, online and virtual reality training for complex robotic surgical procedures. More recently, it has developed and is starting to manufacture and export advanced synthetic human tissue models for trainee surgeons. IMRA is now doing advanced manufacturing in both Victoria and New South Wales.

This is a good example of all three dynamic capabilities sensing, seizing and transforming in action, in particular, IMRA scored very high on seizing capabilities in the survey.

- The company’s founder, surgeon Professor Tony Costello, **sensed** there was an unmet need for this product as standard methods of training on animals, cadavers or real patients, are increasingly viewed as unethical. There was an opportunity for an alternative that was both ethical and cost effective.
- IMRA was able to **seize** this opportunity through collaboration and partnerships with a range of stakeholders. IMRA’s strong sense of purpose, the importance placed on continuous learning and values of diversity and providing opportunity, have all been key ingredients to its success.
- The company was solely focused on providing robotic surgery training but **transformed** to take advantage of the new manufacturing opportunity. The firm’s clear mission and sense of purpose gave it the confidence to dedicate resources to product development and manufacturing.

IMRA has just 18 staff. A key ingredient to its rapid success has been not trying to do everything itself.

“You don’t need to do it all on your own,” says IMRA Chief Executive Adam Clark.

“For start-ups, the biggest killer is your cash burn rate and the amount of time it takes to get things done. If you try to do it all yourself it can take a really long time because there is so much to learn, and the learning process is slow and expensive.”

Instead, IMRA has developed partnerships with experts in science and surgery. It uses consultants or subcontractors in areas such as logistics and marketing.

Staff have a strong sense of purpose and believe in the company’s mission to improve ethical and safety standards in surgery. They meet regularly to reflect on and learn from their experience.

Diversity and inclusion are also key. In addition to expertise in science, engineering and medical devices, the firm has staff with backgrounds in the military, environmental science, archaeology and the film industry. IMRA is also not afraid to provide younger staff with opportunities. Its chief hydrogel scientist is in her mid-20s.

Board members also have experience in areas ranging from surgery and law to banking, construction and artificial intelligence.

## CASE STUDY 2

### Google

#### *A capabilities journey in reverse*

Global tech business Google performed extremely highly on all three areas of sensing, seizing and transforming in the survey. From day one, Google has recruited staff with strong ordinary and dynamic capabilities. It prioritised dynamic individuals early on and fostered specific ordinary capabilities later as the business grew.

- As a technology business, Google can access a lot of real-time data for **sensing**. This is aided by the fact that most of its revenue comes from advertising, helping it to understand its customer base. During the COVID-19 pandemic, it used this data to help other businesses and governments understand how people's behaviour was changing, such as providing reports on mobility and health-related search terms.
- The 2015 restructure of the business into the Alphabet holding company has helped Google strengthen its capacity for **seizing**. Google is also driving many technological changes that create new markets. For example, while it conducted much of the foundational research on Artificial Intelligence (AI), Google is now facing as much disruption from AI as other businesses, given the recent tectonic shifts in the technology.
- The establishment of Alphabet was also an example of Google's ability to **transform**. This restructure created separate units that report individually. Being smaller, these units often have a sharper focus and are more agile, especially if allowed to succeed or fail on their own merits.

Google has demonstrated that dynamic capabilities do not always follow the standard sequence of sensing, then seizing and finally transforming. Instead, it has created feedback loops between capabilities. For example, Google seizes opportunities by making internal technological innovations. It then considers how to make money from them, rather than the standard process of sensing customer demand for a product as a first step.

Since its inception, Google has aimed to take advantage of spare capacity to drive innovation, while also being accepting of failure, says Google's Public Policy and Government Affairs Manager, Alex Lynch.

*"Everyone aims to use 20 per cent of their time on a passion project that is meaningful to the company ... this is how Gmail started out, and now it's a multibillion user product," Mr Lynch said.*

But over time, Google has had to strike a balance between fostering autonomous units and establishing a centralised bureaucracy that can empower and help these smaller units to make better decisions.

Key to its success has been having a data-centric culture and the willingness to respond to data-driven insights.

## Key lessons

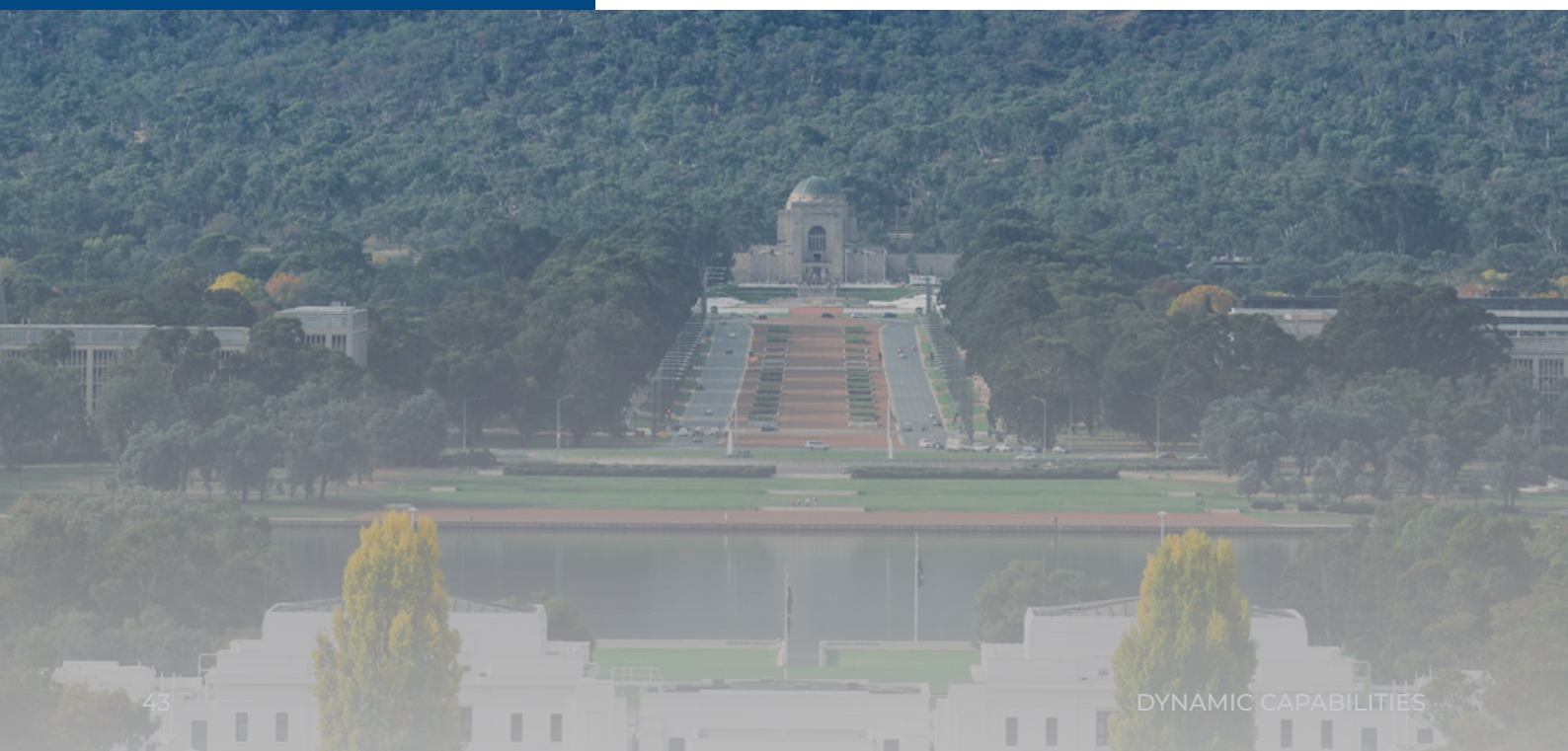
### For business leaders

1. Dynamic capabilities help companies perform better in uncertain environments. Business leaders need to be open to feedback and understand their firm's capabilities, where they are lacking and how to improve.
2. Businesses must build their dynamic capabilities, including through education and training. New micro-credential programs could help in the short term. Over time, more business schools should teach dynamic capabilities.
3. More firms need to prioritise innovation over efficiency. To do this, businesses need to find the people, time and money to build their capabilities, take advantage of new opportunities and position for the future.
4. Australian businesses must get better at transforming. Leaders need to embrace renewal and change and take smart risks in the face of uncertainty.
5. We need more diverse leadership at executive and board level.



## For governments

1. Innovation policy should encourage businesses to build dynamic capabilities. For example, Australia should learn from overseas programs such as the frontier firms training program in New Zealand.
2. Onerous compliance regimes can hinder the development of dynamic capabilities. While regulations are important, governments should ensure they are well-designed and that the level of burden they're imposing does not stifle innovation, especially for small businesses.
3. Attracting both skilled migrants and talented expats back to Australia can strengthen domestic capabilities. The Federal Government should provide a fast-track visa for highly skilled executives, as CEDA has previously recommended.
4. Governments will need to adopt dynamic capabilities in the delivery of services such as aged care, disability services and welfare as they increasingly face similar demands as for-profit businesses amid rapid digital transformation, rising community expectations and funding pressures.
5. Building dynamic capabilities is an investment in resilience in the economy. Dynamic firms are adaptable and can navigate unexpected events with minimal disruption, reducing the need for crisis management.



## Conclusion and future work

Australia has a long and enviable history of economic prosperity and high living standards. We must boost productivity, innovation and resilience amid increasing uncertainty to ensure this continues.

Despite rising interest rates, a tight labour market and chronic skills shortages, businesses must prioritise dynamism. Building dynamic capabilities at the heart of each Australian business, in particular, improving their ability to transform, could be one of the most practical and effective ways of ensuring our continued economic success.

This survey has significantly advanced our understanding of the dynamic capabilities of Australian businesses. The results have also revealed key opportunities for future work.

In particular, while this initial study identified links between enablers, dynamic capabilities and firm performance, we intend to undertake more sophisticated statistical analysis to better understand how enablers help businesses develop their capabilities, and how these capabilities improve a company's performance.

It is hard to draw many conclusions at the industry level from this survey, which has breadth but not depth across industries. Deeper dives into particular industries is another area for future work. In particular, we hope to conduct deeper analysis of the dynamic capabilities of the care economy and the public sector – which were beyond the scope of our survey. These sectors are under increasing pressure to deliver better customer outcomes amid growing community expectations, an ageing population and funding and productivity challenges.

More must be done to find practical ways to boost the dynamic capabilities of Australian businesses. We must learn from capability-building programs overseas and case studies of best practice, and work to develop more micro-credential programs in this area.

## Appendix 1: Survey details

### *Survey design*

CEDA, alongside experts from UTS, designed this survey drawing heavily on existing, already-validated surveys in the literature. The questions were tested and refined based on feedback from select CEDA members with relevant business and research experience, in particular members of the CEDA Business Dynamism & Competitiveness Member Advisory Committee and the CEDA Research & Policy Committee.

Survey measures, despite their limitations, are the most direct way of assessing capabilities and therefore play a key role in dynamic capability research.<sup>53</sup> Self-reported measures that ask respondents to rate their firm's competences relative to competitors are well-accepted in the literature.<sup>54</sup>

The survey questions were organised into seven broad categories:

#### **1. Screening**

The first questions in the survey were designed to ensure that the businesses responding were for-profit entities operating in Australia. Respondents were unable to proceed any further if they did not satisfy these criteria. (The survey began asking for businesses with a minimum of 50 full-time equivalent employees, but this criterion was subsequently dropped, and the survey opened up to businesses of all sizes.)

#### **2. Dynamic capabilities**

The dynamic capabilities framework of 'sensing, seizing and transforming', first conceptualised by David Teece, is now widely used in the strategic management literature.

There is currently no single, broadly accepted measure of dynamic capabilities. The dynamic capabilities questions in the survey were based on Kump et al (2019) (the 'Kump scale').<sup>55</sup>

The Kump scale is a 14-item scale measuring dynamic capabilities at the firm level using David Teece's well-established dynamic capability framework. It was developed based on a comprehensive review of the dynamic capabilities literature and existing dynamic capabilities scales published up to January 2018, using a rigorous empirical scale-development procedure. The Kump scale focuses on outcomes, rather than frequencies, of dynamic capabilities activities. It shows high reliability and validity and has also been shown to be a good predictor of business and innovation performance.

Respondents were asked to rank their business across 14 items (5 for sensing, 4 for seizing, 5 for transforming) on a 6-point Likert scale ranging from 'strongly disagree' to 'strongly agree'. Changes were made to the wording of some items, based on feedback, to maximise the clarity and relevance of each item.

#### **3. Enablers**

Questions about potential enablers of dynamic capabilities were adapted from the 'organisational antecedents' in Danneels (2008).<sup>56</sup> This includes questions about cultural, structural and other business-specific factors that might enable or encourage the development of dynamic capabilities within an organisation. As these enablers are to some extent within managerial control, this suggests that managers can use these levers to increase their firm's ability to develop new capabilities.

Many of the questions covered areas that were identified in CEDA roundtables and other preliminary scoping work as potentially important drivers of business dynamism. Some items were edited, deleted or added to the original Danneels (2008) scale based on this scoping work and other feedback.

The 21 items in this category were grouped into five broad characteristics (i) willingness to cannibalise, (ii) constructive conflict, (iii) tolerance for failure, (iv) scanning and (v) slack and agility. Respondents were asked to rank their business on each item on a 6-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

### BOX 3

<b>Enablers<sup>57</sup></b>		
<b>Category</b>	<b>Description</b>	<b>Example survey item</b>
Willingness to cannibalise	Willingness to cannibalise reflects an organisational culture that recognises that pursuing new opportunities may involve shifting the focus from current resources to new ones, even if this means sacrificing current sources of profit. This process of 'internal creative destruction' involves letting go of routines and assets associated with past, rather than future, success.	We support projects even if they could potentially take away sales from existing products.
Constructive conflict	Constructive conflict involves the rigorous debate of ideas, beliefs and assumptions within a firm. It provides 'psychological safety', where debate is focused on challenging issues and ideas, rather than people. This facilitates a richer discussion and more careful consideration of available options.	In our business serious consideration is given to alternative viewpoints and ideas.
Tolerance for failure	Firms that are more tolerant of failure see failure as an inevitable, and even beneficial, consequence of exploration. In failure-tolerant firms, advocates of failed projects do not carry the entire burden of failure and do not become scapegoats. This creates a culture where employees are more likely to feel emboldened to propose and explore new ideas.	In our business it is understood that learning from failure is a necessary part of success.
Scanning	Scanning involves monitoring and analysing the environment for opportunities in new markets and new technologies. Scanning can increase firm knowledge, identify new opportunities and allow the firm to enter new domains.	We have extensive and highly effective engagement with researchers at universities.
Slack and agility	Slack resources are labour and financial resources that are not taken up by 'business as usual'. Firms with slack and agility are better able to build competencies, explore and exploit longer-term opportunities than more resource-constrained firms.	We have sufficient discretionary financial resources or can raise funds if required.

#### **4. Business performance**

The business performance questions were adapted from Kump et al (2019).<sup>58</sup> Respondents were asked to rate the performance of their business on 18 dimensions under the categories of customer-related performance, financial performance, employee-related performance, domestic market performance and export market performance. These ratings were presented on a 5-point Likert scale ranging from 'decreased significantly' to 'increased significantly'. Our regression analysis used the average score in each of these categories.

The performance measures in the survey are self-assessed, but where possible we adapted the original questions to make them more objective. Kump et al (2019) points out that 'previous research has found high correlations between self-assessed and objective performance data'.<sup>59</sup> Analysis using more objective performance measures could nevertheless be a useful area for future work.

Business performance was measured over the COVID-19 pandemic. Dynamic capabilities are a useful framework to aid decision-making under deep uncertainty, which is amplified by events including pandemics and geopolitical rifts.<sup>60</sup> For example, there is evidence that firms with stronger dynamic capabilities were more resilient during the Global Financial Crisis.<sup>61</sup>

The business performance questions were asked for two time periods (i) pre-COVID to June 2020 and (ii) June 2020 to the time of completing the survey. This enabled us to examine business performance under both the immediate and more prolonged impact of the pandemic.

#### **5. Innovation performance**

Questions on innovation performance were drawn from the ABS Management Capabilities Module.<sup>62</sup> Respondents were asked whether they had introduced any new or significantly improved (i) goods or services, (ii) operational processes, (iii) organisational or managerial processes and (iv) marketing methods over the same two periods as the business performance questions. A firm was classified as having undertaken innovation activity if it had engaged with any type of innovation during the period.

#### **6. Business characteristics**

The business characteristics questions were designed to identify what types of firms have better dynamic capabilities. The survey included questions about the firm's age, industry, states/territories of operation, ownership structure, international exposure, board of directors, number of competitors and education of the principal manager. Many of the questions were adapted from the ABS Management Capabilities Module.<sup>63</sup>

#### **7. Respondent characteristics and feedback**

The final section of the survey asked about the respondent's level of seniority, years of experience in the business and industry and level of involvement in strategic decision-making. This ensures that the survey has collected high-quality responses from well-qualified individuals.

As an incentive to complete the survey, respondents could choose to receive a custom report outlining how their business compared to the aggregate results. They were also able to nominate to receive an email copy of the final report, and to participate in future surveys, interviews or CEDA roundtables on the topic of dynamic capabilities.

### *Survey implementation*

The survey was conducted by CEDA via SurveyMonkey.

It was promoted through multiple channels, including the CEDA membership base, broader CEDA network, LinkedIn posts and paid advertising, and advertising through business membership organisations. Participants were also encouraged to share more broadly with their own business networks, in line with the 'snowballing' sampling technique adopted by Kump et al (2019) and others.<sup>64</sup>

The survey was launched in late 2021 and remained active for approximately 12 months.

### *Sample size*

We collected 149 usable survey responses – that is, responses that had satisfied the screening criteria and completed the dynamic capabilities questions as a minimum. See Appendix 4 for detailed characteristics of businesses and respondents. We anonymised all responses before conducting any data analysis.

### *Calculation of dynamic capability scores*

We asked each respondent to rate their business on a scale from 1 to 6 across 14 dimensions within the categories of sensing, seizing and transforming. For each business, the sensing, seizing and transforming scores were calculated as the simple average of the items within each category. We then calculated the simple average of the three sensing, seizing and transforming scores to determine each business's overall dynamic capabilities score.

## Appendix 2: Biases and limitations

The Kump survey on which ours is based has been rigorously tested and shows high reliability and validity.<sup>65</sup> Previous research also indicates that subjective performance measures can accurately reflect objective performance measures.<sup>66</sup>

The survey was deliberately designed to minimise any bias in the results. To reduce the potential for social desirability bias, the introduction to the survey emphasised that all businesses do things differently and place emphasis on different capabilities, and respondents were explicitly instructed to reflect the actual situation in their firm (i.e. how things really are rather than how they wish they were).<sup>67</sup>

Respondents could also choose to remain anonymous. On self-reporting bias, Danneels (2008) notes that self-reported measures of firms' competencies have become well accepted in the literature.<sup>68</sup> Similarly, we have endeavoured to reduce the impact of response fatigue by limiting the length of the survey and front-focusing the dynamic capabilities questions.

Self-selection bias will be investigated more fully in future analysis of early versus late respondents. Survivor bias is difficult to measure or mitigate but should also be acknowledged as a potential limitation.

Other limitations include the longer-than-expected timeframe for sample collection, and that much of our analysis is based on correlations or simple regression models. Further research will undertake more sophisticated structural equation modelling to help identify causal relationships.

The survey only captures dynamic capabilities at one point in time, and therefore can't offer any insights on how capabilities are built over time. Capturing and analysing dynamic capabilities over time could also be a fruitful avenue for future research.

## Appendix 3: Regression results

Impact of dynamic capabilities on firm performance<sup>i</sup>

### OLS regression analysis: Dynamic capabilities and performance

Performance category	First few months of COVID-19					Post June 2020				
	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance
<b>Dynamic capabilities</b>	0.016 (0.048)	-0.056 (0.079)	<b>0.125**</b> (0.048)	-0.027 (0.065)	-0.020 (0.056)	<b>0.219*</b> (0.126)	<b>0.286**</b> (0.137)	<b>0.307**</b> (0.12)	0.140 (0.148)	0.085 (0.18)
<b>Number of states</b>	-0.012 (0.017)	0.009 (0.027)	-0.009 (0.014)	0.007 (0.023)	-0.029 (0.023)	-0.009 (0.022)	0.023 (0.024)	0.012 (0.019)	0.031 (0.026)	0.052 (0.049)
<b>SME dummy</b>	0.16 (0.117)	0.063 (0.174)	0.058 (0.089)	0.08 (0.155)	0.16 (0.167)	-0.15 (0.125)	-0.295* (0.175)	-0.076 (0.137)	-0.22 (0.156)	-0.072 (0.354)
<b>Age (years)</b>	0 (0.002)	0.001 (0.002)	0.001 (0.001)	-0.001 (0.002)	-0.004 (0.003)	0 (0.002)	0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.006)
<b>Industry group dummy: primary industries</b>	-0.07 (0.168)	-0.574** (0.265)	-0.092 (0.15)	-0.316 (0.213)	-0.579*** (0.208)	0.105 (0.154)	0.29 (0.27)	0.122 (0.221)	0.124 (0.231)	0.387 (0.308)
<b>Industry group dummy: manufacturing</b>	0.038 (0.095)	0.047 (0.154)	-0.075 (0.092)	-0.013 (0.121)	-0.184 (0.15)	-0.03 (0.143)	-0.157 (0.163)	-0.201 (0.122)	-0.171 (0.172)	0.341 (0.306)
<b>Constant</b>	2.994*** (0.241)	3.272*** (0.416)	2.601*** (0.248)	3.328*** (0.306)	3.231*** (0.285)	2.738*** (0.621)	2.657*** (0.66)	2.273*** (0.58)	3.275*** (0.72)	2.502** (1.034)
<b>Observations</b>	117	117	117	103	49	117	117	117	102	51
<b>F-statistic</b>	0.0	1.0	2.0	1.0	2.0	1.0	2.0	3.0	1.0	0.0
<b>p-value</b>	0.9	0.3	0.2	0.8	0.1	0.5	0.1	0.0	0.3	0.9
<b>R-square</b>	0.0	0.1	0.1	0	0.2	0.1	0.1	0.2	0.1	0.1
<b>Loglikelihood</b>	-74.7	-130.6	-60.7	-87.3	-28.2	-101.2	-127	-99.9	-101.9	-60.6

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

<sup>i</sup> As a robustness check, ordered logistic regressions yielded similar results to ordinary least squares regressions.

### OLS regression analysis: Sensing and performance

Performance category	First few months of COVID-19					Post June 2020				
	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance
<b>Sensing</b>	0.024 (0.043)	-0.104 (0.067)	<b>0.087**</b> (0.043)	-0.042 (0.06)	-0.020 (0.056)	0.164 (0.116)	<b>0.220*</b> (0.124)	<b>0.234**</b> (0.111)	0.100 (0.139)	0.076 (0.161)
<b>Number of states</b>	-0.012 (0.017)	0.011 (0.027)	-0.008 (0.014)	0.007 (0.022)	-0.029 (0.023)	-0.008 (0.022)	0.024 (0.025)	0.014 (0.02)	0.033 (0.026)	0.052 (0.05)
<b>SME dummy</b>	0.158 (0.116)	0.073 (0.173)	0.056 (0.09)	0.086 (0.155)	0.16 (0.167)	-0.155 (0.126)	-0.302* (0.176)	-0.084 (0.142)	-0.219 (0.156)	-0.067 (0.355)
<b>Age (years)</b>	0 (0.002)	0.002 (0.002)	0.001 (0.001)	-0.001 (0.002)	-0.004 (0.003)	0 (0.002)	0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.006)
<b>Industry group dummy: primary industries</b>	-0.071 (0.168)	-0.569** (0.258)	-0.083 (0.153)	-0.311 (0.208)	-0.579*** (0.208)	0.119 (0.153)	0.306 (0.259)	0.14 (0.226)	0.147 (0.233)	0.387 (0.306)
<b>Industry group dummy: manufacturing</b>	0.038 (0.096)	0.042 (0.156)	-0.082 (0.091)	-0.015 (0.121)	-0.184 (0.15)	-0.042 (0.141)	-0.171 (0.161)	-0.216* (0.121)	-0.175 (0.169)	0.337 (0.305)
<b>Constant</b>	2.963*** (0.231)	3.479*** (0.402)	2.762*** (0.222)	3.393*** (0.314)	3.231*** (0.285)	2.971*** (0.591)	2.935*** (0.621)	2.581*** (0.551)	3.430*** (0.707)	2.536** (0.987)
<b>Observations</b>	117	117	117	103	49	117	117	117	102	51
<b>F-statistic</b>	0.0	2.0	1.0	1.0	2.0	1.0	2.0	3.0	1.0	0.0
<b>p-value</b>	0.9	0.2	0.4	0.7	0.1	0.6	0.1	0.0	0.3	0.9
<b>R-square</b>	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.1
<b>Loglikelihood</b>	-74.7	-130.1	-61.8	-87.2	-28.2	-102.5	-128.3	-102.2	-102.3	-60.6

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

**OLS regression analysis: Seizing and performance**

Performance category	First few months of COVID-19					Post June 2020				
	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance
<b>Seizing</b>	0.003 (0.042)	-0.068 (0.07)	0.039 (0.044)	-0.028 (0.053)	-0.002 (0.048)	0.173 (0.107)	<b>0.236**</b> (0.115)	<b>0.208**</b> (0.103)	0.109 (0.125)	0.046 (0.15)
<b>Number of states</b>	-0.011 (0.017)	0.01 (0.027)	-0.007 (0.013)	0.008 (0.023)	-0.029 (0.023)	-0.009 (0.022)	0.022 (0.024)	0.014 (0.02)	0.03 (0.026)	0.053 (0.049)
<b>SME dummy</b>	0.162 (0.118)	0.055 (0.174)	0.071 (0.092)	0.077 (0.155)	0.154 (0.164)	-0.124 (0.128)	-0.259 (0.173)	-0.04 (0.138)	-0.2 (0.157)	-0.06 (0.356)
<b>Age (years)</b>	0 (0.002)	0.001 (0.002)	0.001 (0.002)	-0.001 (0.002)	-0.004 (0.003)	0 (0.002)	0.002 (0.002)	0 (0.002)	-0.002 (0.002)	-0.001 (0.006)
<b>Industry group dummy: primary industries</b>	-0.068 (0.17)	-0.573** (0.266)	-0.077 (0.16)	-0.316 (0.217)	-0.587*** (0.212)	0.115 (0.16)	0.301 (0.252)	0.14 (0.239)	0.143 (0.231)	0.394 (0.301)
<b>Industry group dummy: manufacturing</b>	0.036 (0.096)	0.04 (0.152)	-0.084 (0.091)	-0.015 (0.121)	-0.188 (0.147)	-0.023 (0.147)	-0.146 (0.171)	-0.199 (0.127)	-0.17 (0.175)	0.35 (0.312)
<b>Constant</b>	3.052*** (0.248)	3.344*** (0.415)	2.960*** (0.238)	3.342*** (0.286)	3.157*** (0.26)	2.885*** (0.574)	2.805*** (0.619)	2.635*** (0.544)	3.380*** (0.67)	2.660*** (0.975)
<b>Observations</b>	117	117	117	103	49	117	117	117	102	51
<b>F-statistic</b>	0.0	1.0	1.0	1.0	2.0	1.0	2.0	2.0	1.0	0.0
<b>p-value</b>	0.9	0.2	0.7	0.7	0.1	0.5	0.1	0.0	0.3	0.9
<b>R-square</b>	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1
<b>Loglikelihood</b>	-74.8	-130.5	-63.1	-87.3	-28.3	-101.9	-127.5	-103.1	-102.1	-60.7

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

**OLS regression analysis: Transforming and performance**

Performance category	First few months of COVID-19					Post June 2020				
	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance	Customer performance	Financial performance	Employee-related performance	Domestic market performance	Export market performance
<b>Transforming</b>	0.011 (0.04)	0.033 (0.079)	<b>0.139***</b> (0.05)	0.008 (0.072)	0.089 (0.092)	0.144 (0.088)	<b>0.175*</b> (0.093)	<b>0.228**</b> (0.096)	0.092 (0.1)	0.082 (0.155)
<b>Number of states</b>	-0.011 (0.017)	0.006 (0.027)	-0.008 (0.013)	0.006 (0.023)	-0.029 (0.023)	-0.005 (0.022)	0.029 (0.025)	0.018 (0.02)	0.034 (0.026)	0.054 (0.049)
<b>SME dummy</b>	0.16 (0.118)	0.052 (0.174)	0.047 (0.087)	0.074 (0.156)	0.11 (0.174)	-0.153 (0.13)	-0.296 (0.18)	-0.084 (0.143)	-0.217 (0.158)	-0.084 (0.358)
<b>Age (years)</b>	0 (0.002)	0.001 (0.002)	0.001 (0.001)	-0.001 (0.002)	-0.003 (0.003)	0 (0.002)	0.001 (0.002)	0 (0.002)	-0.002 (0.002)	-0.001 (0.006)
<b>Industry group dummy: primary industries</b>	-0.07 (0.167)	-0.590** (0.27)	-0.099 (0.145)	-0.332 (0.213)	-0.625*** (0.216)	0.112 (0.152)	0.301 (0.269)	0.126 (0.222)	0.136 (0.227)	0.388 (0.311)
<b>Industry group dummy: manufacturing</b>	0.036 (0.095)	0.057 (0.154)	-0.081 (0.091)	-0.01 (0.123)	-0.205 (0.149)	-0.049 (0.143)	-0.183 (0.161)	-0.225* (0.123)	-0.181 (0.171)	0.335 (0.305)
<b>Constant</b>	3.022*** (0.194)	2.899*** (0.385)	2.586*** (0.248)	3.188*** (0.321)	2.794*** (0.38)	3.104*** (0.465)	3.188*** (0.468)	2.684*** (0.46)	3.502*** (0.51)	2.540*** (0.865)
<b>Observations</b>	117	117	117	103	49	117	117	117	102	51
<b>F-statistic</b>	0.0	1.0	2.0	1.0	2.0	1.0	2.0	2.0	1.0	0.0
<b>p-value</b>	0.9	0.2	0.1	0.8	0.1	0.5	0.1	0.0	0.3	0.9
<b>R-square</b>	0.0	0.1	0.1	0.0	0.3	0.1	0.1	0.2	0.1	0.1
<b>Loglikelihood</b>	-74.7	-130.7	-58.2	-87.4	-27.6	-102.6	-129	-101.2	-102.2	-60.6

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

## Impact of dynamic capabilities on firm innovation

### Logit regression analysis: Dynamic capabilities and innovation

Type of innovation	First few months of COVID-19				Post June 2020			
	Operational processes	Organisational/ managerial	Marketing methods	Goods or services	Operational processes	Organisational/ managerial	Marketing methods	Goods or services
<b>Dynamic capabilities</b>	0.478 (0.298)	<b>0.712**</b> (0.314)	<b>0.820**</b> (0.413)	0.372 (0.288)	0.316 (0.357)	0.228 (0.454)	<b>0.600**</b> (0.288)	0.328 (0.279)
<b>Number of states</b>	0.067 (0.076)	0.03 (0.084)	0.155* (0.087)	0.016 (0.079)	0.159 (0.099)	-0.06 (0.132)	0.151* (0.083)	0.152* (0.09)
<b>SME dummy</b>	0.304 (0.503)	0.291 (0.521)	0.138 (0.511)	-0.012 (0.488)	-0.205 (0.581)	1.238 (1.032)	0.279 (0.491)	-0.76 (0.567)
<b>Age (years)</b>	0.001 (0.008)	0.003 (0.009)	-0.004 (0.007)	-0.009 (0.007)	-0.008 (0.01)	-0.014 (0.011)	-0.011* (0.007)	-0.013* (0.007)
<b>Industry group dummy: primary industries</b>	1.247 (0.91)	-1.684* (0.946)	-0.482 (0.934)	-1.142 (0.797)	1.016 (1.179)	0 (.)	-0.151 (0.697)	-1.862*** (0.641)
<b>Industry group dummy: manufacturing</b>	0.661 (0.491)	0.238 (0.494)	0.11 (0.517)	0.717 (0.465)	0.128 (0.605)	0.212 (0.754)	0.328 (0.479)	-0.237 (0.536)
<b>Constant</b>	-3.179** (1.477)	-3.787** (1.489)	-5.388*** (1.942)	-1.726 (1.346)	0.068 (1.802)	-0.133 (2.598)	-2.856** (1.45)	0.599 (1.453)
<b>Observations</b>	104	102	108	108	117	105	117	116
<b>Loglikelihood</b>	-68	-65	-61	-70	-50	-38	-71	-64
<b>Chi-squared</b>	7.1	9.8	11.4	10	3.6	1.9	10.3	15.8
<b>p-value</b>	0.3	0.1	0.1	0.1	0.7	0.9	0.1	0.0

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

### Logit regression analysis: Sensing and innovation

Type of innovation	First few months of COVID-19				Post June 2020			
	Operational processes	Organisational/ managerial	Marketing methods	Goods or services	Operational processes	Organisational/ managerial	Marketing methods	Goods or services
<b>Sensing</b>	<b>0.495*</b> (0.277)	<b>0.624**</b> (0.271)	<b>0.479*</b> (0.284)	0.198 (0.256)	0.199 (0.339)	0.283 (0.431)	0.241 (0.238)	0.128 (0.266)
<b>Number of states</b>	0.062 (0.078)	0.03 (0.082)	0.158* (0.089)	0.018 (0.078)	0.159 (0.098)	-0.066 (0.136)	0.156* (0.08)	0.154* (0.088)
<b>SME dummy</b>	0.269 (0.504)	0.249 (0.511)	0.186 (0.512)	0.01 (0.483)	-0.201 (0.578)	1.218 (1.029)	0.28 (0.488)	-0.733 (0.562)
<b>Age (years)</b>	0.001 (0.007)	0.002 (0.009)	-0.005 (0.007)	-0.009 (0.007)	-0.008 (0.01)	-0.015 (0.011)	-0.011 (0.007)	-0.013* (0.007)
<b>Industry group dummy: primary industries</b>	1.29 (0.917)	-1.692* (1.001)	-0.405 (0.956)	-1.103 (0.815)	1.02 (1.162)	0 (.)	-0.099 (0.699)	-1.797*** (0.645)
<b>Industry group dummy: manufacturing</b>	0.641 (0.484)	0.194 (0.48)	0.095 (0.51)	0.685 (0.458)	0.099 (0.594)	0.197 (0.72)	0.243 (0.46)	-0.27 (0.528)
<b>Constant</b>	-3.272** (1.384)	-3.419** (1.328)	-3.958*** (1.528)	-1.005 (1.251)	0.549 (1.771)	-0.36 (2.466)	-1.293 (1.195)	1.431 (1.438)
<b>Observations</b>	104	102	108	108	117	105	117	116
<b>Loglikelihood</b>	-67	-65	-62	-71	-50	-38	-72	-64
<b>Chi-squared</b>	7.8	8.8	9.5	8	3.7	2	7.8	15.1
<b>p-value</b>	0.3	0.2	0.1	0.2	0.7	0.9	0.3	0.0

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

### Logit regression analysis: Seizing and innovation

Type of innovation	First few months of COVID-19				Post June 2020			
	Operational processes	Organisational/ managerial	Marketing methods	Goods or services	Operational processes	Organisational/ managerial	Marketing methods	Goods or services
<b>Seizing</b>	0.116 (0.24)	<b>0.400*</b> (0.241)	0.409 (0.287)	0.126 (0.241)	0.249 (0.298)	0.424 (0.32)	<b>0.632**</b> (0.256)	0.253 (0.251)
<b>Number of states</b>	0.073 (0.075)	0.032 (0.081)	0.158* (0.089)	0.022 (0.079)	0.157 (0.098)	-0.073 (0.134)	0.149* (0.083)	0.151* (0.09)
<b>SME dummy</b>	0.392 (0.497)	0.427 (0.507)	0.25 (0.528)	0.045 (0.479)	-0.152 (0.581)	1.308 (1.089)	0.372 (0.488)	-0.709 (0.563)
<b>Age (years)</b>	0.002 (0.008)	0.004 (0.009)	-0.003 (0.007)	-0.008 (0.008)	-0.007 (0.01)	-0.014 (0.011)	-0.011 (0.007)	-0.013* (0.007)
<b>Industry group dummy: primary industries</b>	1.31 (0.959)	-1.505* (0.908)	-0.394 (0.906)	-1.099 (0.824)	1.008 (1.159)	0 (.)	-0.155 (0.701)	-1.831*** (0.64)
<b>Industry group dummy: manufacturing</b>	0.618 (0.485)	0.234 (0.489)	0.084 (0.518)	0.686 (0.465)	0.146 (0.614)	0.31 (0.787)	0.4 (0.496)	-0.223 (0.547)
<b>Constant</b>	-1.677 (1.294)	-2.597** (1.28)	-3.707** (1.55)	-0.726 (1.26)	0.26 (1.658)	-1.099 (2.124)	-3.202** (1.414)	0.839 (1.468)
<b>Observations</b>	104	102	108	108	117	105	117	116
<b>Loglikelihood</b>	-69	-66	-63	-71	-50	-37	-70	-64
<b>Chi-squared</b>	5.1	7.8	9.4	7.3	3.7	3.1	12.7	16.2
<b>p-value</b>	0.5	0.3	0.2	0.3	0.7	0.7	0.0	0.0

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

### Logit regression analysis: Transforming and innovation

Type of innovation	First few months of COVID-19				Post June 2020			
	Operational processes	Organisational/ managerial	Marketing methods	Goods or services	Operational processes	Organisational/ managerial	Marketing methods	Goods or services
<b>Transforming</b>	<b>0.444*</b> (0.244)	<b>0.478*</b> (0.26)	<b>0.772**</b> (0.343)	<b>0.457*</b> (0.253)	0.244 (0.303)	-0.238 (0.394)	<b>0.420*</b> (0.241)	0.315 (0.225)
<b>Number of states</b>	0.076 (0.076)	0.04 (0.082)	0.173** (0.087)	0.02 (0.08)	0.164 (0.101)	-0.049 (0.128)	0.161* (0.082)	0.159* (0.091)
<b>SME dummy</b>	0.271 (0.505)	0.295 (0.52)	0.062 (0.524)	-0.081 (0.491)	-0.207 (0.587)	1.311 (0.957)	0.266 (0.491)	-0.786 (0.574)
<b>Age (years)</b>	0.002 (0.008)	0.004 (0.009)	-0.004 (0.007)	-0.008 (0.007)	-0.008 (0.01)	-0.013 (0.011)	-0.011 (0.007)	-0.013* (0.007)
<b>Industry group dummy: primary industries</b>	1.226 (0.92)	-1.589* (0.95)	-0.457 (0.903)	-1.184 (0.778)	1.021 (1.179)	0 (.)	-0.147 (0.684)	-1.891*** (0.635)
<b>Industry group dummy: manufacturing</b>	0.62 (0.491)	0.179 (0.49)	0.054 (0.52)	0.703 (0.474)	0.11 (0.603)	0.13 (0.729)	0.27 (0.48)	-0.252 (0.537)
<b>Constant</b>	-2.900** (1.268)	-2.640** (1.275)	-4.965*** (1.618)	-1.913 (1.19)	0.444 (1.482)	1.785 (2.23)	-1.948 (1.235)	0.761 (1.184)
<b>Observations</b>	104	102	108	108	117	105	117	116
<b>Loglikelihood</b>	-67	-65	-60	-69	-50	-38	-71	-64
<b>Chi-squared</b>	7.5	7.4	11.6	12.7	3.6	3.6	8.8	16
<b>p-value</b>	0.3	0.3	0.1	0.0	0.7	0.6	0.2	0.0

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

## Impact of enablers on dynamic capabilities<sup>i</sup>

OLS Regression Analysis: Enablers and Dynamic Capabilities

Enablers and control variables	Dynamic capabilities	Sensing	Seizing	Transforming
<b>Willingness to cannibalise</b>	<b>0.136**</b> (0.057)	0.087 (0.087)	<b>0.256***</b> (0.079)	0.066 (0.077)
<b>Constructive conflict</b>	<b>0.195***</b> (0.069)	0.161 (0.11)	<b>0.172**</b> (0.084)	<b>0.252***</b> (0.085)
<b>Tolerance of failure</b>	<b>0.141*</b> (0.073)	0.126 (0.13)	0.084 (0.087)	<b>0.214***</b> (0.075)
<b>Scanning</b>	<b>0.092**</b> (0.043)	<b>0.174***</b> (0.059)	<b>0.122**</b> (0.06)	-0.02 (0.076)
<b>Slack &amp; agility</b>	<b>0.228***</b> (0.051)	<b>0.172**</b> (0.08)	<b>0.202***</b> (0.066)	<b>0.311***</b> (0.081)
<b>Number of states</b>	0.003 (0.015)	0.007 (0.02)	0.013 (0.019)	-0.01 (0.023)
<b>SME dummy</b>	0.103 (0.094)	0.103 (0.148)	-0.025 (0.116)	0.231 (0.149)
<b>Age (years)</b>	0.001 (0.001)	0.003 (0.002)	-0.001 (0.002)	0 (0.002)
<b>Industry group dummy: primary industries</b>	0.121 (0.141)	0.049 (0.198)	0.066 (0.13)	0.249 (0.218)
<b>Industry group dummy: manufacturing</b>	0.15 (0.092)	0.139 (0.13)	0.113 (0.138)	0.197 (0.136)
<b>Constant</b>	1.048***	1.493***	1.258***	0.394
<b>Observations</b>	-0.3	-0.496	-0.37	-0.443
<b>F-statistic</b>	117	117	117	117
<b>p-value</b>	24	8	18	11
<b>R-square</b>	0	0	0	0
<b>Loglikelihood</b>	0.7	0.5	0.6	0.5
<b>Chi-squared</b>	-58.2	-102.7	-90.6	-106.6

Asterisks denote significance at the \* 10%, \*\* 5% and \*\*\* 1% levels

Standard errors in parentheses

Primary industries group includes mining and agriculture, forestry & fishing

Source: Dynamic Capabilities Survey, CEDA

## Appendix 4: Sample characteristics

### BUSINESS CHARACTERISTICS

<b>Age (years)</b>		count	per cent
up to	10	20	13.4
	20	26	17.4
	30	24	16.1
	40	11	7.4
	50	12	8.1
	60	4	2.7
	70	5	3.4
	80	2	1.3
	90	5	3.4
90 or more		9	6.0
unknown		31	20.8
<b>Total</b>		<b>149</b>	<b>100.0</b>
Average age (yrs)		36	

<b>Size: number of FTE employees</b>		count		per cent	
		pre-covid	current	pre-covid	current
Less than 5		5	2	3.4	1.3
5 to 19		24	28	16.1	18.8
20 to 49		15	15	10.1	10.1
50 to 99		14	13	9.4	8.7
100 to 149		12	17	8.1	11.4
150 to 199		4	6	2.7	4.0
200 to 299		5	5	3.4	3.4
300 to 399		4	5	2.7	3.4
400 to 499		6	3	4.0	2.0
500 or more		49	54	32.9	36.2
unknown		11	1	7.4	0.7
<b>Total</b>		<b>149</b>	<b>149</b>	<b>100.0</b>	<b>100.0</b>
<20	Small	29	30	19.5	20.1
20 to 199	Medium	45	51	30.2	34.2
200 or more	Large	64	67	43.0	45.0
	unknown	11	1	7.4	0.7
<b>Total</b>		<b>149</b>	<b>149</b>	<b>100.0</b>	<b>100.0</b>

<b>Size: revenue</b>	count		<i>per cent</i>	
	pre-covid	current	<i>pre-covid</i>	<i>current</i>
Less than \$2m	13	11	8.7	7.4
\$2m to less than \$5m	17	10	11.4	6.7
\$5m to less than \$10m	13	14	8.7	9.4
\$10m to less than \$50m	23	33	15.4	22.1
\$50m to less than \$500m	30	26	20.1	17.4
\$500m or more	42	44	28.2	29.5
unknown	11	11	7.4	7.4
<b>Total</b>	<b>149</b>	<b>149</b>	<b>100.0</b>	<b>100.0</b>

<b>Industry</b>	count	<i>per cent</i>
Agriculture, Forestry and Fishing	2	1.3
Mining	10	6.7
Manufacturing	16	10.7
Electricity, gas, water and waste services	4	2.7
Construction	9	6.0
Wholesale trade	1	0.7
Retail trade	5	3.4
Accommodation and food services	4	2.7
Transport, postal and warehousing	2	1.3
Information media and telecommunications	2	1.3
Financial and insurance services	14	9.4
Rental, hiring and real estate services	3	2.0
Professional, scientific and technical services	23	15.4
Administrative and support services	1	0.7
Education and training	2	1.3
Health care and social assistance	9	6.0
Arts and recreation services	0	0.0
Other services	12	8.1
Unknown	30	20.1
<b>Total</b>	<b>149</b>	<b>100.0</b>

<b>State</b>	count	per cent
ACT	53	35.6
NSW	76	51.0
NT	45	30.2
Qld	72	48.3
SA	62	41.6
Tas	44	29.5
Vic	77	51.7
WA	79	53.0

*\* Firms can operate across multiple states and territories*

<b>Ownership structure</b>	count	per cent
Listed	37	24.8
Unlisted	82	55.0
Unknown	30	20.1
<b>Total</b>	<b>149</b>	<b>100.0</b>
Founder	12	8.1
Family owned with family CEO	24	16.1
Family owned with external CEO	3	2.0
Private individuals	23	15.4
Managers	3	2.0
Dispersed shareholders	28	18.8
Government	5	3.4
Other	21	14.1
Unknown	42	28.2
<b>Total</b>	<b>149</b>	<b>100.0</b>

<b>International exposure</b>	count	per cent
Foreign multinational	35	23.5
Australian multinational	16	10.7
Domestic business	68	45.6
Unknown	30	20.1
<b>Total</b>	<b>149</b>	<b>100.0</b>
Less than 5% (domestically owned)	57	38.3
5% to 49% (minority foreign-owned)	14	9.4
50% to 95% (majority foreign-owned)	9	6.0
Greater than 95% (wholly foreign-owned)	21	14.1
Unknown	48	32.2
<b>Total</b>	<b>149</b>	<b>100.0</b>
export	23	15.4
import	13	8.7
domestic	106	71.1
unknown	30	20.1
<b>Total</b>	<b>149</b>	<b>100.0</b>

*\* Firms can operate across multiple markets*

<b>Education level of principal manager</b>	count	per cent
Bachelor's degree or higher	98	65.8
Advanced diploma or diploma	9	6.0
Certificate III or IV (including trade certificate)	2	1.3
Year 12 or equivalent	7	4.7
Year 11 or below	3	2.0
Did not go to school	0	0.0
Unknown	30	20.1
<b>Total</b>	<b>149</b>	<b>100.0</b>

## RESPONDENT CHARACTERISTICS\*

<b>Respondent position</b>	count	<i>per cent</i>
CEO or equivalent	35	30.7
Other senior exec or LT member	63	55.3
Board member	7	6.1
Non-leadership position	9	7.9
<b>Total</b>	<b>114</b>	<b>100.0</b>

<b>Respondent tenure in the business</b>	count	<i>per cent</i>
Less than 1 year	10	8.8
1 year or more	104	91.2
<b>Total</b>	<b>114</b>	<b>100.0</b>

**Average tenure (yrs)** **11.2**

<b>Respondent tenure in the industry</b>	count	<i>per cent</i>
Less than 1 year	4	3.5
1 year or more	110	96.5
<b>Total</b>	<b>114</b>	<b>100.0</b>

**Average tenure (yrs)** **17.9**

<b>Respondent involvement in strategic decision-making</b>	count	<i>per cent</i>
Very low involvement	1	0.9
Low involvement	9	7.9
Average involvement	14	12.3
High involvement	38	33.3
Very high involvement	52	45.6
<b>Total</b>	<b>114</b>	<b>100.0</b>

\* Not all respondents completed this part of the survey

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