RESERVE BANK OF AUSTRALIA

Speech

What Happens to the Economy as 'Intelligence' Gets Cheaper?

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29:18

I would like to acknowledge the Traditional Owners of this land, the Gadigal people of the Eora Nation. We are very lucky in Australia to have a First Nations people that take such good care of our land and culture and pass this on to future generations. I pay my respect to elders past and present and extend this respect to any First Nations people here with us today.

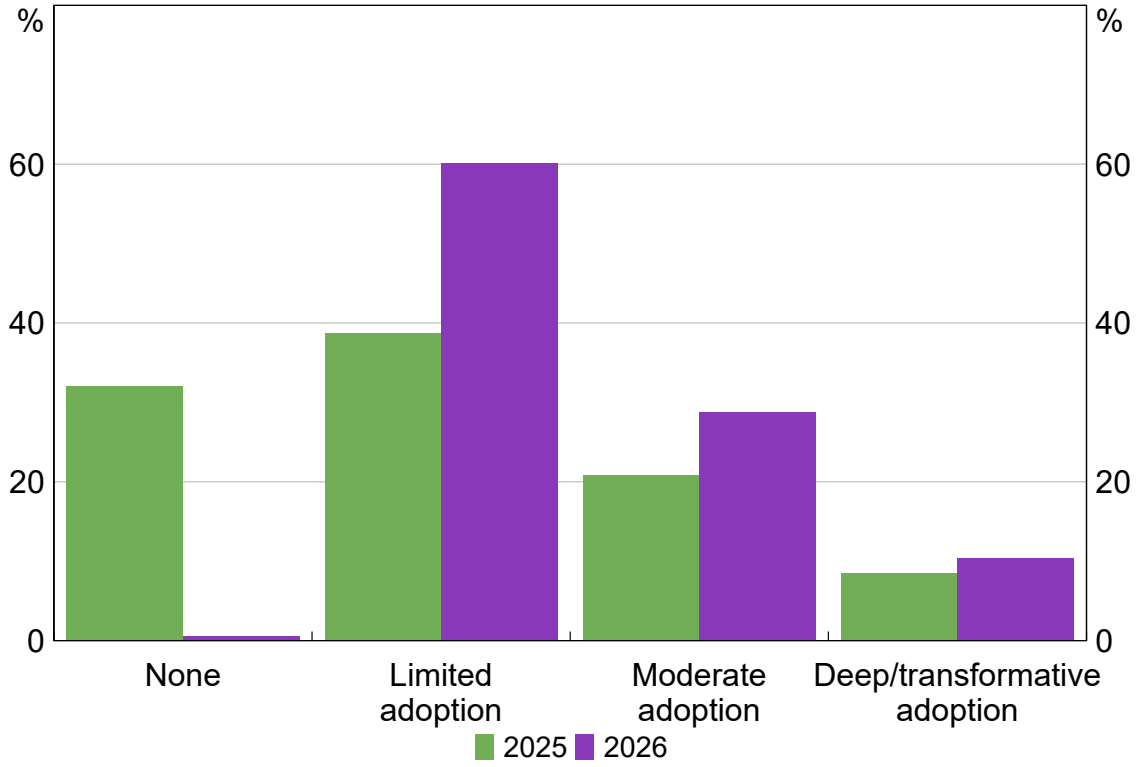
Introduction

Artificial intelligence (AI) is generating enormous interest and investment globally and here in Australia. The nature of the technology is raising important questions about security, privacy, governance and trust; the opportunities are becoming clearer, but so are the risks and uncertainties. We can see the economy and society changing as the technology diffuses across businesses and households, and the pace and spread of the technology is raising fundamental questions that societies and governments around the world are grappling with. In Australia, firms and individuals are experimenting with, and rapidly adopting, the technology (Graph 1).

Graph 1

AI Adoption*

Share of firms, by year



* Data from respondents to the AI liaison questions. Contact questions and sample differ across years. 2025 'minimal' and 'significant' map to 2026 'limited' and 'deep/transformative' respectively. 2025 data is from May to August 2025, while 2026 data is from June to October 2026.

Source: RBA.

As this continues, AI will become embedded in all parts of the economy and our day-to-day lives. It's likely that how we live and work will be fundamentally changed by the technology. These changes will affect our future productive capacity, the jobs that we do and ultimately our living standards.

Today I'll be focusing on the channels through which AI will affect the economy. But before I do this, it's important to note that AI may also be increasing risks to financial stability via operational and financial risk channels, and these issues all fit squarely within the responsibilities of a central bank.

Rapid advancements in AI could, for example, worsen the cyber threat landscape before defensive capabilities are fully developed, increasing the likelihood that underlying operational vulnerabilities are exposed. And on financial risk, exposure of financial market participants to the AI investment boom is increasing at a time when risk premia in global financial markets are low by historical standards. If the returns to AI investment disappoint, some asset prices (including equities and corporate debt) will be exposed to sharp repricing and possibly disorderly adjustments. I won't go into these issues today, but they're receiving close attention from my colleagues and are discussed in more detail in the RBA's latest *Financial Stability Review*[1] and *Statement on Monetary Policy*.[2]

To tackle the multiple channels through which AI will impact the economy, I'll set out the high-level framework we're using to analyse its adoption, and to understand the economic risks and benefits. We can already see the technology starting to reshape demand patterns across the economy, through the rapid increase in data centre building activity. And from limited usage just a few years ago, most businesses are now using AI and considering fundamental changes to systems and processes to take full advantage of the technology.

Much of what I'll say will be hypothetical and focused on possible impact channels through the real economy. It's too early to say how large the effects will be or predict precisely when they will emerge. Understanding the size and timing of the effects and the implications for monetary policy is an ongoing research and analytical priority for us. A substantial program of work is underway at the RBA, with some of the early work supporting the speech released today.[3]

A framework for the effect of AI on the economy

AI is often described as a general-purpose technology; that is, a technology with the potential to affect all parts of the economy, transforming the way businesses operate.

Previous general-purpose technologies, such as electricity and the internet, ultimately had profound economic effects. For example, the internet did much more than make existing activities faster or easier: over time, it enabled entirely new business models and industries, while fundamentally reshaping existing ones, from retail and advertising to media, banking and communications. Alongside these changes, new occupations and ways of working emerged and pre-existing roles evolved as the technology spread. But those effects took time to emerge and were often difficult to predict in advance.

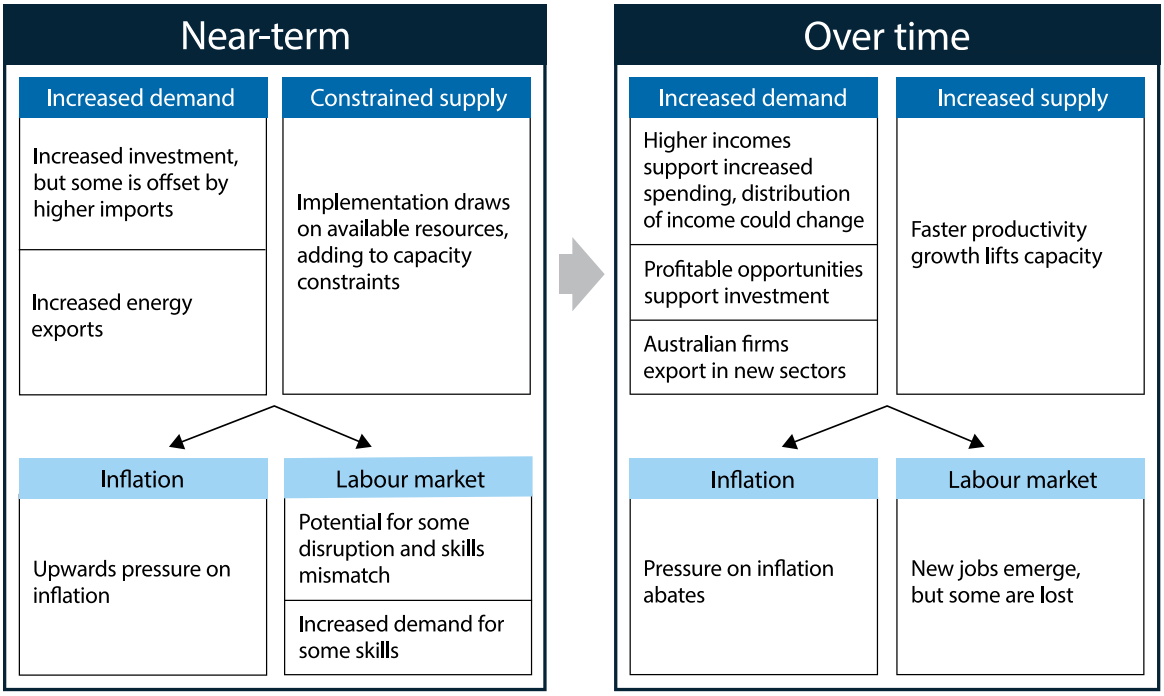
Likewise, it is difficult today to know what the new jobs and industries will be, or what overall effects AI will have on the economy. Current estimates for the impact of AI on annual productivity growth

over the next decade range from over 2 per cent per annum to just 0.1 per cent. [4]

Economic frameworks can help us think systematically about the many channels through which new technologies affect activity, inflation, labour markets and living standards.

A good place to start is by using the macroeconomists' workhorse – the aggregate supply and demand framework. Figure 1 summarises some of the ways in which we think AI will affect supply and demand, as well as how those effects might change over time.

Figure 1: Economic Impacts of AI



Source: RBA.

Aggregate supply

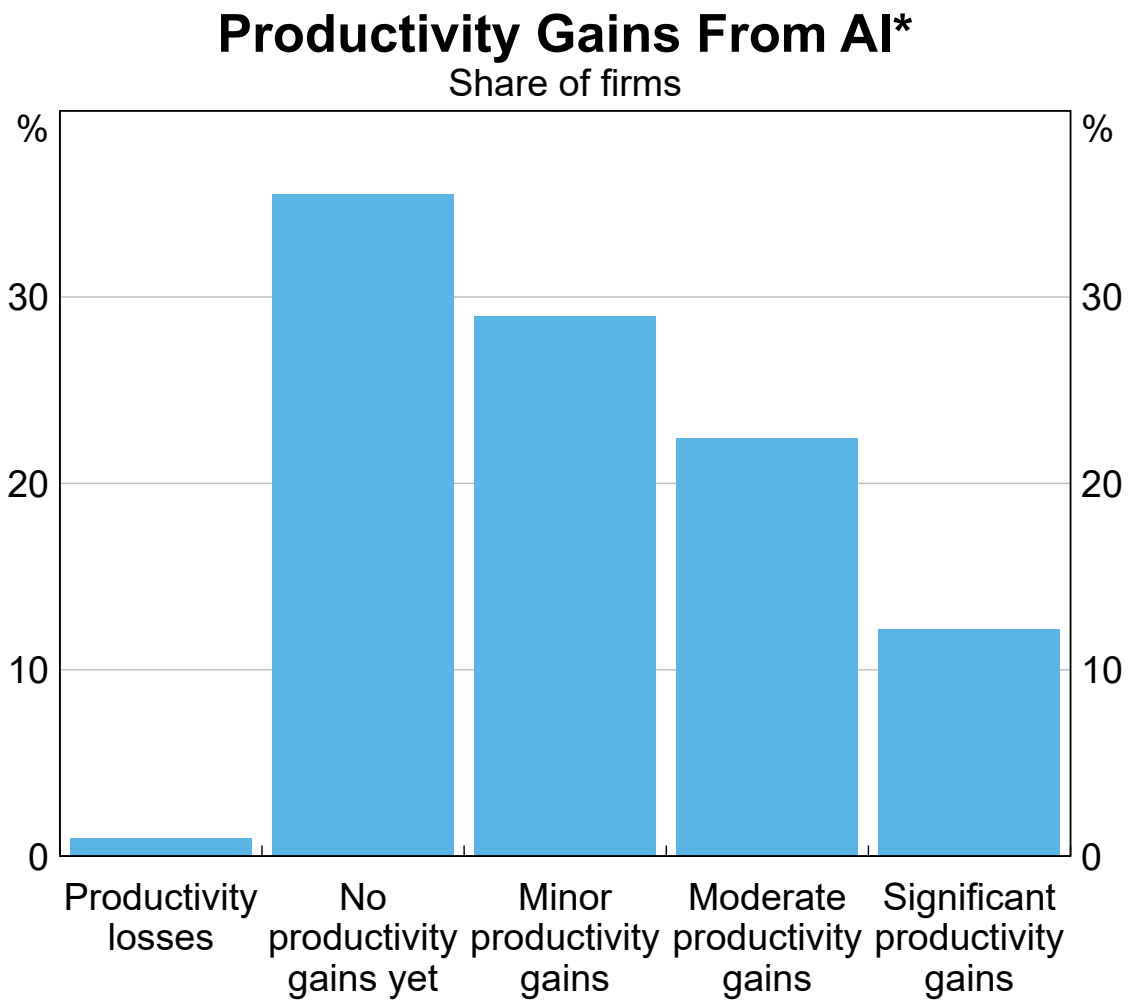
Let's start with the supply side of the economy and distinguish between what could happen in the future and what we think is happening now.

There's plenty of evidence for AI enabling people to complete some tasks faster, improve the quality of their work, or help them take on tasks that previously were not feasible. For example, lawyers are reporting that they can review and summarise large volumes of documents more quickly, and customer service workers can provide more tailored responses to clients faster.

Evidence to date suggests AI is diffusing quickly – by many measures faster than earlier general-purpose technologies. [5] Some businesses are embedding AI more meaningfully so that it transforms how parts of their systems and processes work – for example, software companies using AI agents to produce batches of code, with software engineer roles transforming to oversee the work.

So far, there is limited evidence that AI has materially lifted aggregate productivity (Graph 2).[6] Firms are taking time to invest and reorganise to realise the full benefits, while managing the new operational and resilience risks that the technology is creating. The term 'AI slop' has entered our vernacular to capture unproductive uses, and firms and institutions that provide critical services are grappling with the emergence of a new class of cyber risk.

Graph 2



* Data from respondents to the 2026 AI liaison questions; June to October 2026.

Source: RBA.

This experience mirrors that of previous general-purpose technologies. Their implementation typically led to what economists call a productivity J-curve. That is, there is an initial period of weak or falling measured productivity as firms invest time and resources into experimenting and undertaking the necessary complementary investment and organisational changes to take advantage of the technology, before productivity rises as the technology becomes embedded. One example is electricity. The largest productivity gains did not come simply from replacing steam engines with

electric motors, but from reorganising production and redesigning factory processes to best suit this new source of energy.[7]

AI could also change the nature and speed of innovation itself. By reducing the time and cost involved in research, design and experimentation, AI will allow firms to develop and commercialise new products and services more quickly, or scientists to test more hypotheses and make more breakthroughs. A recent study using US equity returns suggests that market participants expect AI will permanently raise software engineering productivity by around 30 per cent.[8] If these gains become widespread, AI will lift productivity and, over time, increase the amount the economy can sustainably produce. Ultimately, this would lead to higher aggregate incomes and living standards.

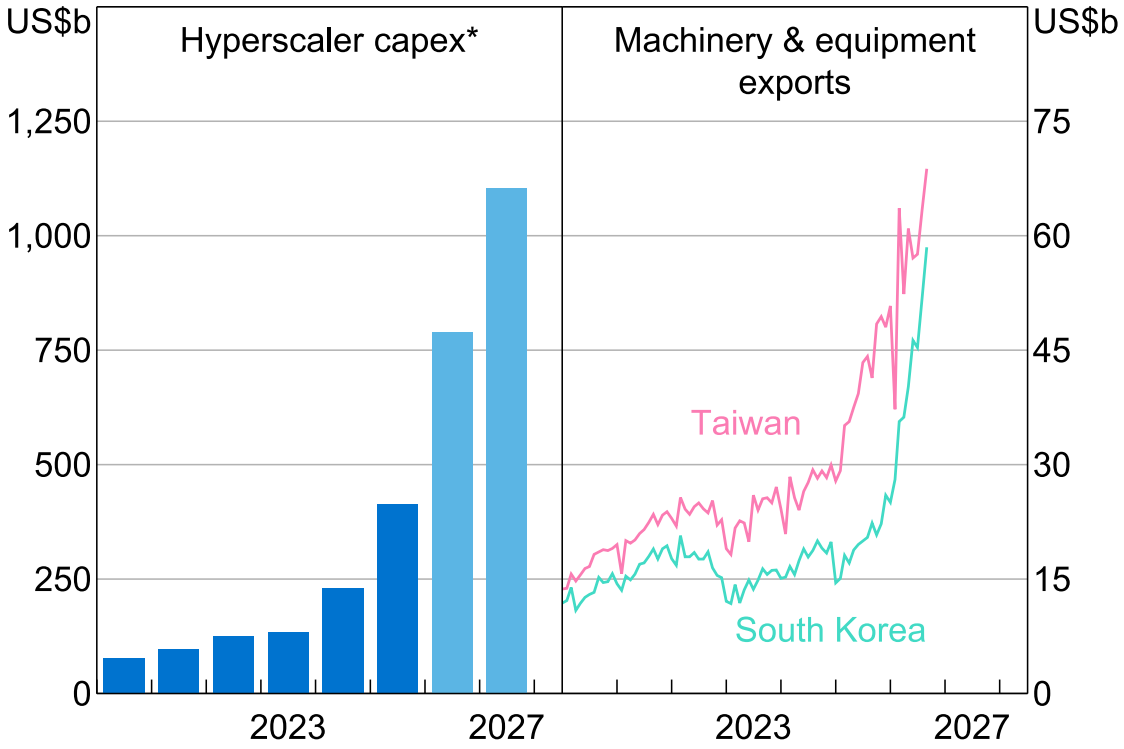
Aggregate demand

While the supply-side benefits of AI may take time to emerge, its effects on demand are already apparent around the world, including here in Australia. This is most clearly seen through the rapid build out of AI-related investment globally, and the spillovers from that activity.

A substantial amount of physical investment in data centres and utility networks is already underway to enable the technology (Graph 3).[9] These investments are directly adding to demand, supporting growth in several of Australia's major trading partners, including the United States.[10] They're also spilling over into demand for AI-enabling machinery and equipment, such as computer servers and advanced semiconductors, boosting exports growth in technology-intensive economies such as Taiwan and South Korea (Graph 3).[11]

Graph 3

Hyperscaler Capex and Exports



* Lighter blue bars show Bloomberg forecasts for 2026 and 2027.

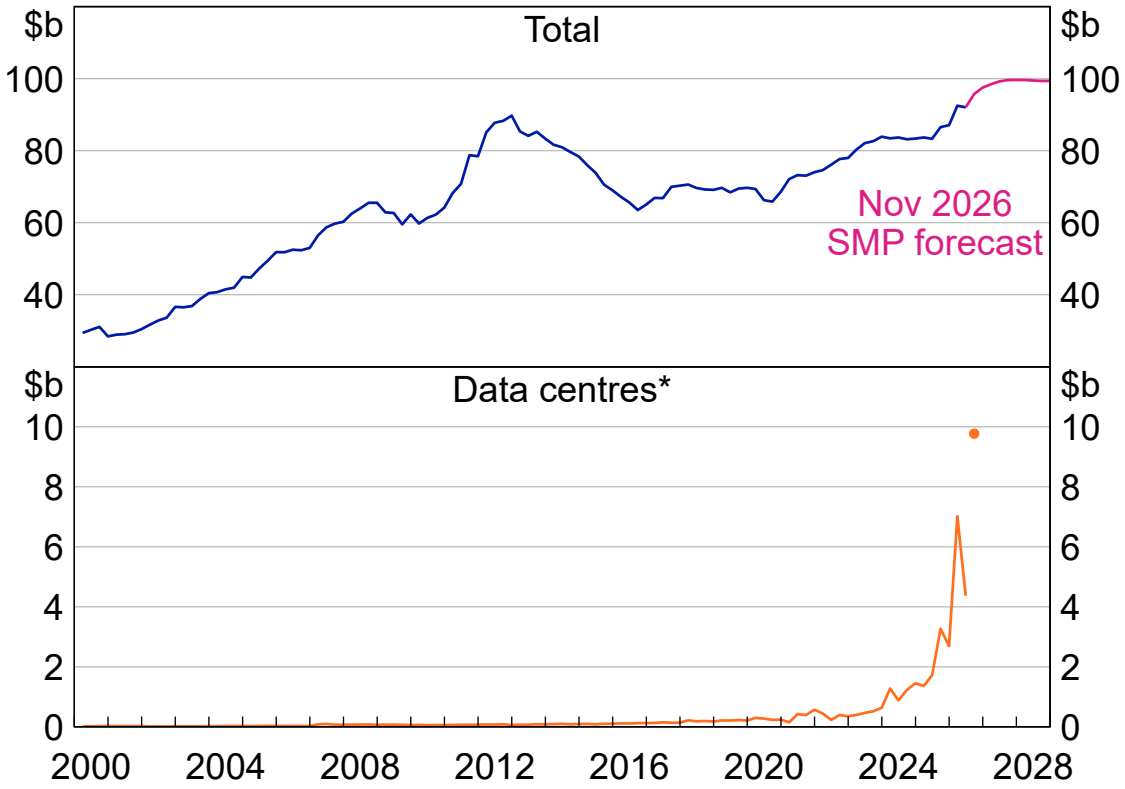
Sources: Bloomberg; CEIC Data; RBA.

This investment cycle is visible in Australia, most notably in the rapid expansion of data centres; our estimates for realised data centre investment have increased 10-fold (from a very low base) over the past three years (Graph 4). Much of the spending is on imported machinery and equipment, particularly IT equipment manufactured overseas, which dampens the net contribution to GDP. But through our business and community liaison program, and in the data we track, we're hearing and seeing evidence of modest indirect spillovers to supporting industries, including construction and engineering services and infrastructure (particularly energy generation and transmission).[12]

Graph 4

Business Investment

Chain volume, quarterly



* Estimate of data centre investment is derived from information media & telecommunications capital expenditure and is subject to assumptions. Dot represents nowcast at November 2026 SMP, informed by capex expectations and trade data.

Sources: ABS; RBA.

The build-out of AI infrastructure is also likely to affect commodity markets, increasing demand for electricity, energy resources and some critical minerals. For now, these effects are difficult to separate from the broader energy transition, but AI-related investment is becoming an increasingly important source of commodity demand.

And trade patterns are also likely to shift. Australia's imports of IT services have grown rapidly in recent years, and it's possible that over time Australian-based data centres may be used to export compute to overseas customers, particularly for training new AI models where proximity to users and the associated latency is less important.

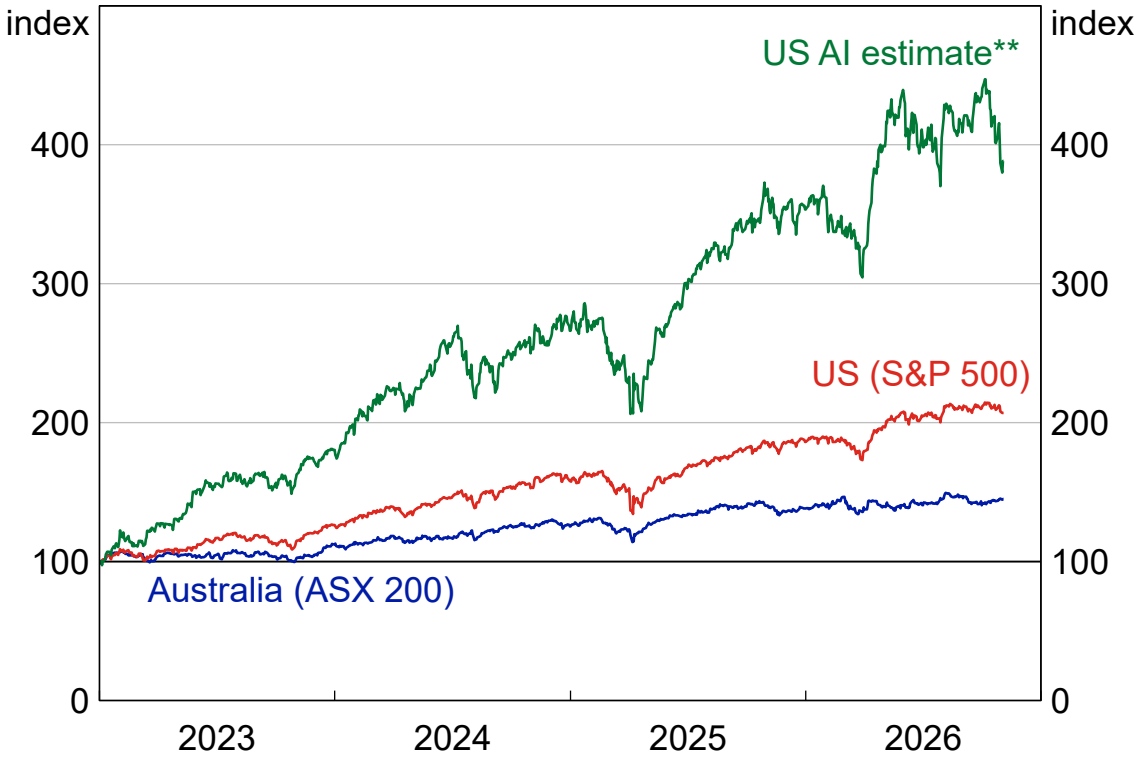
AI may also impact on peoples' consumption, through increases in productivity and national income, which could lift aggregate consumer spending. Anticipating this, some households may start consuming more today or in the near future, before the impact of AI on the economy's potential growth is fully realised, by saving a bit less or borrowing a bit more to bring forward spending. In part, this channel could come through wealth effects. In the United States, the share prices of AI-

related companies have roughly quadrupled since the end of 2022 (Graph 5). Staff estimates suggest that around 5 per cent of Australian households' financial wealth is invested in the equity of AI-related companies, both directly and through superannuation. [13]

Graph 5

Equity Prices*

2 January 2023 = 100



* Total return basis. Updated to 4 November 2026.

** AI index is estimated as a market-cap-weighted index of selected 'hyperscalers' (Alphabet, Amazon, Microsoft, Meta and Oracle) and a subset of larger US semiconductor companies (those that were in the Philadelphia Semiconductor Index and the S&P 500 as of December 2022).

Sources: LSEG; RBA.

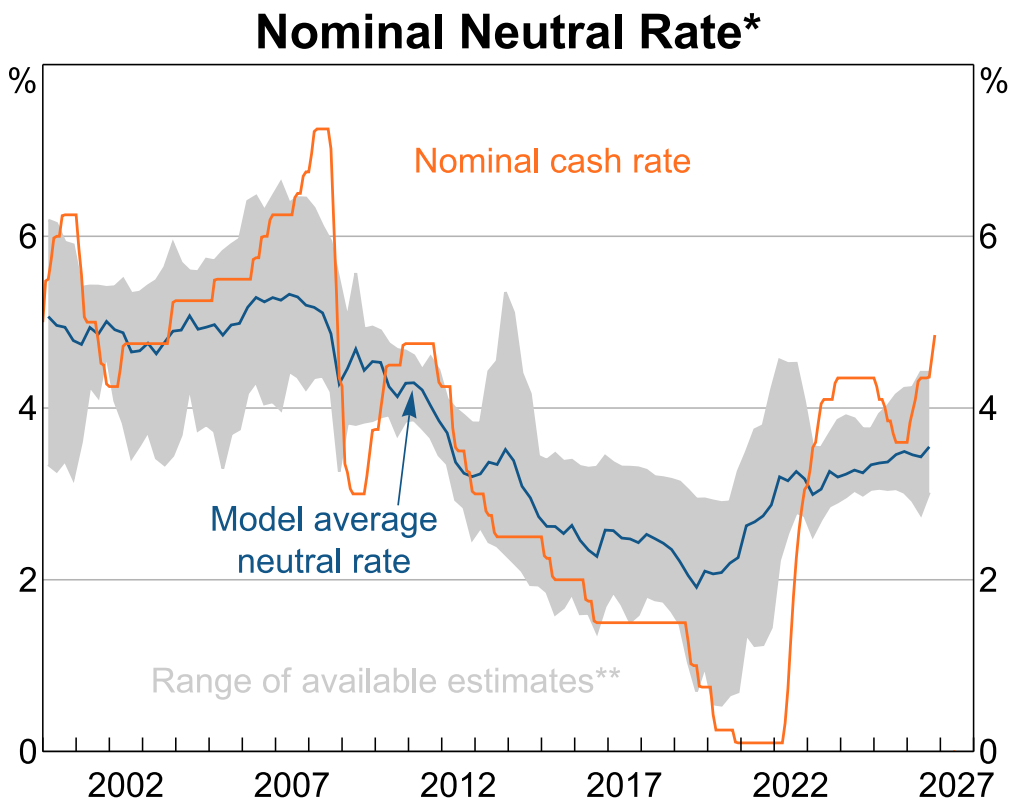
That said, the benefits of AI are unlikely to be distributed evenly. The financial returns have so far been concentrated among a relatively small number of firms and their owners or equity holders. Some workers may face a difficult period of adjustment as demand for particular roles or tasks decline, which will weigh on income and spending by some households. The strength of the consumption response will depend not only on the overall increase in income, but also on how broadly the gains are shared across the economy and the pathway for integrating the technology into our daily lives.

The increase in demand for investment, potentially at the same time as global savings falls, could push up the neutral rate of interest – the rate that balances demand and supply of savings globally.

Firms want to invest to take advantage of the new technology and to expand their capacity to meet faster future growth. Given this is happening globally, they'll be competing for scarce savings, pushing up interest rates.

Such dynamics would be consistent with previous periods of strong productivity growth associated with past general-purpose technologies. One example is the late 1990s and early 2000s, when the internet spread across the world. This period was characterised by robust economic growth and higher interest rates globally. There is tentative evidence of this happening with AI; our estimates for the neutral rate have risen in recent years (Graph 6), and bond yields have increased over the past couple of months with market participants citing strong demand for capital as a key driver.[14] But as with all aspects of AI's impact, the extent of the increase is hard to quantify at this stage, and we will continue to assess the economic implications of these moves in yields.

Graph 6



* Nominal neutral rates are defined using trend inflation expectations. Latest estimates as of September 2026 for market-based models, other models held at June 2026 value.

** Range of central estimates corresponding to available models; this range does not reflect considerable uncertainty around the central estimates.

Source: RBA.

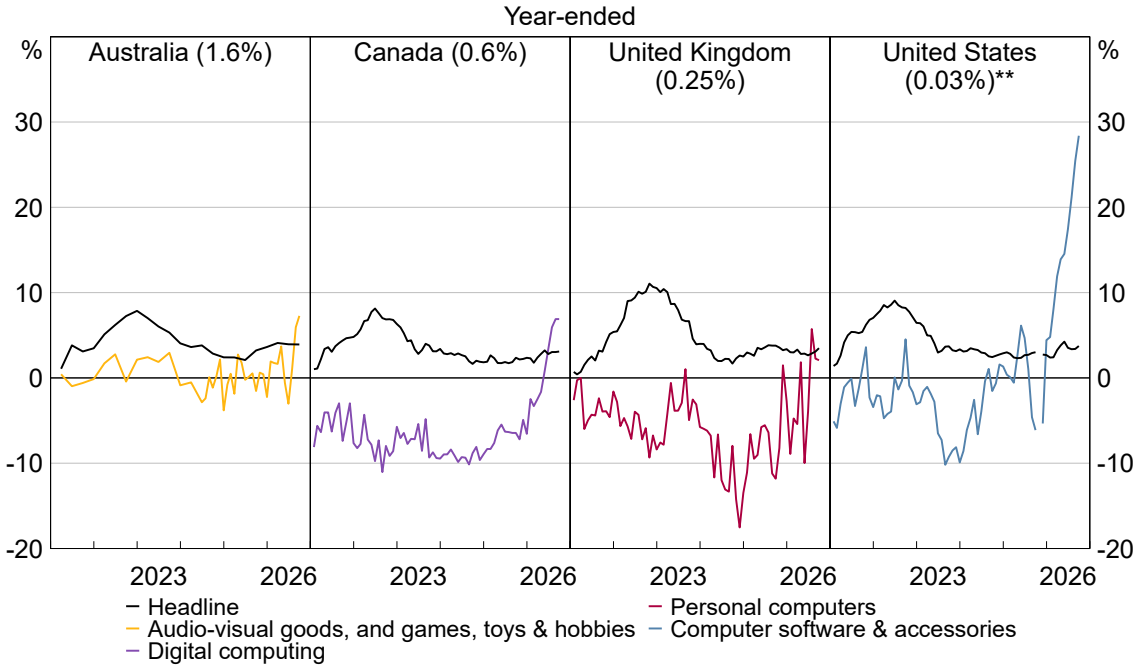
Inflation

So, what does this mean for inflation? The effect is likely to vary over time. In the near term, the positive shock to aggregate demand set against the economy's current supply capacity will put some upward pressure on inflation.

This appears consistent with what we're currently seeing. Surging global AI-related investment has contributed to capacity pressures in supply chains for AI-enabling products such as semiconductors. These upstream cost pressures are passing through to the prices of some downstream goods in advanced economies (Graph 7). Price increases have been concentrated in a narrow set of consumer electronics goods that have small weights in CPI baskets. And some liaison contacts are reporting that data centre construction is adding to demand for some already-stretched construction skilled trades.

Graph 7

Headline and AI-impacted Components of CPI Inflation*



* Weights of AI-impacted components shown in parentheses.
** Data not available for October 2025.
Sources: ABS; BLS; LSEG; ONS; RBA; Statistics Canada.

Over time, supply will catch up with demand as data centre capacity and related sectors expand, easing current bottlenecks. If AI delivers broader productivity gains, economies will be able to produce more with the same inputs. As a result, the initial inflationary pressures from AI investment are likely to dissipate.

But this transition doesn't mean AI will continually put downward pressure on inflation. As I previously outlined, over time stronger demand is likely to accompany the increase in the economy's

productive capacity. Consistent with previous general-purpose technologies, AI's long-run effect on inflation is likely to be broadly neutral.

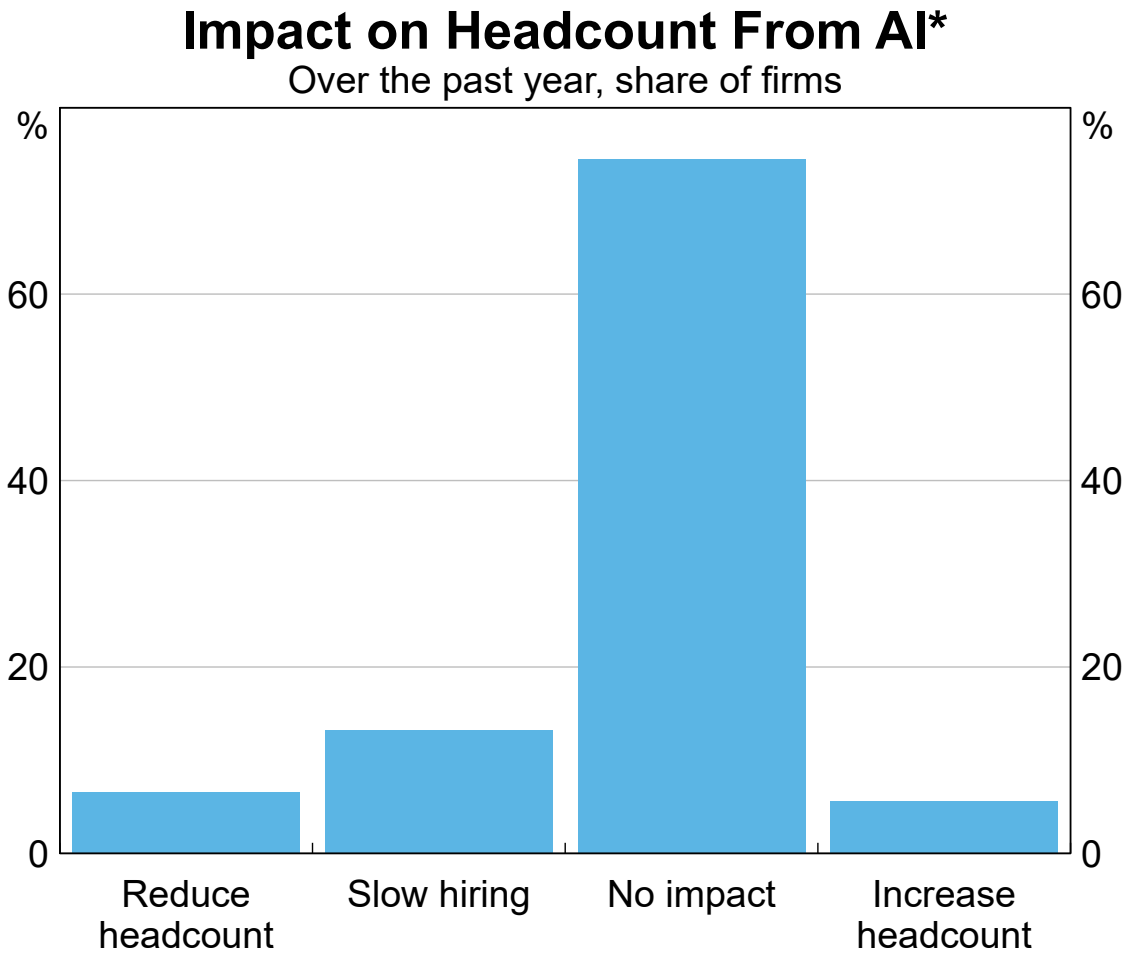
Labour market

Like other major technological shifts, AI is likely to change the labour market significantly. Understandably, this has raised concerns about what AI could mean for jobs. Given our monetary policy mandate, understanding how the labour market will change is an important question for us too.

We are mindful that aggregate labour indicators may mask disruptive displacement effects that AI could have on individuals looking for work, those whose jobs are directly impacted, and professions that are disproportionately affected.

So far, there is little evidence that AI has had large effects on aggregate employment in advanced economies, although there are emerging signs of weaker hiring, particularly among younger workers in highly AI-exposed occupations.[15] In Australia, contacts in the RBA's liaison program indicate that AI has not yet impacted most firms' headcount (Graph 8) and is not expected to over the next year.

Graph 8



* Data from respondents to the 2026 AI liaison questions; June to October 2026.

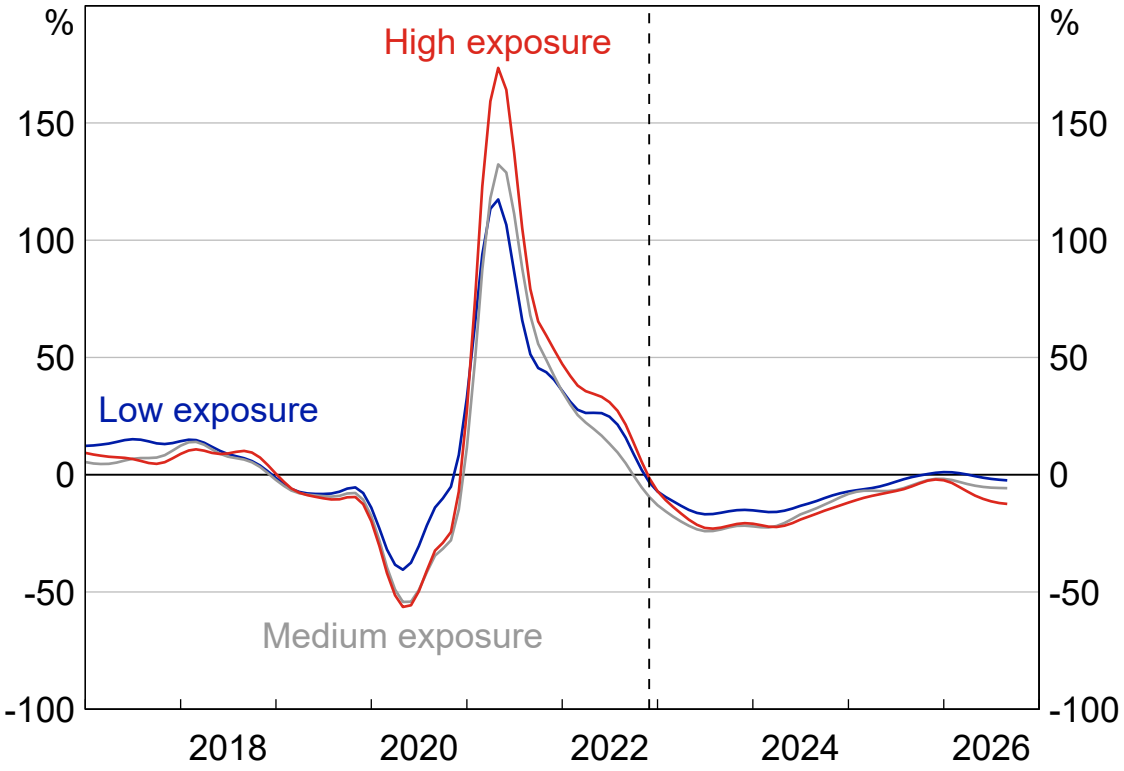
Source: RBA.

This is consistent with occupation-level analysis showing little sign to date that AI has materially disrupted the labour market.[16] However, there are tentative signs of adjustment, through weaker job ad posting (Graph 9) and employment outcomes in more AI-exposed occupations, and stronger growth in areas where the technology has had less of an impact, particularly for younger workers (Graph 10). But these differences are modest, and it's too early to tell whether they reflect AI adoption or other factors.

Graph 9

SEEK Job Ads by AI Exposure*

Annual growth in new job ads, trend



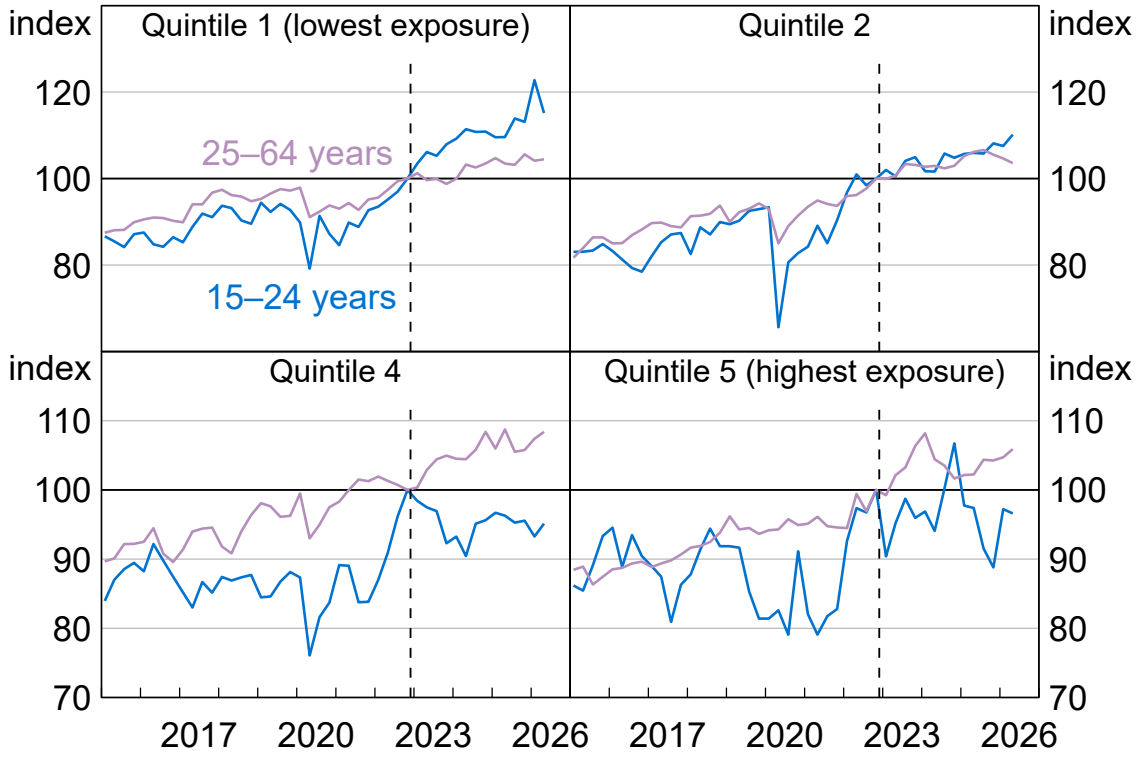
* Dashed line denotes the release of ChatGPT in November 2022.

Sources: RBA; SEEK.

Graph 10

Employment*

By AI exposure quintile and age, November 2022 = 100



* Dashed line denotes the release of ChatGPT in November 2022.

Sources: ABS; RBA.

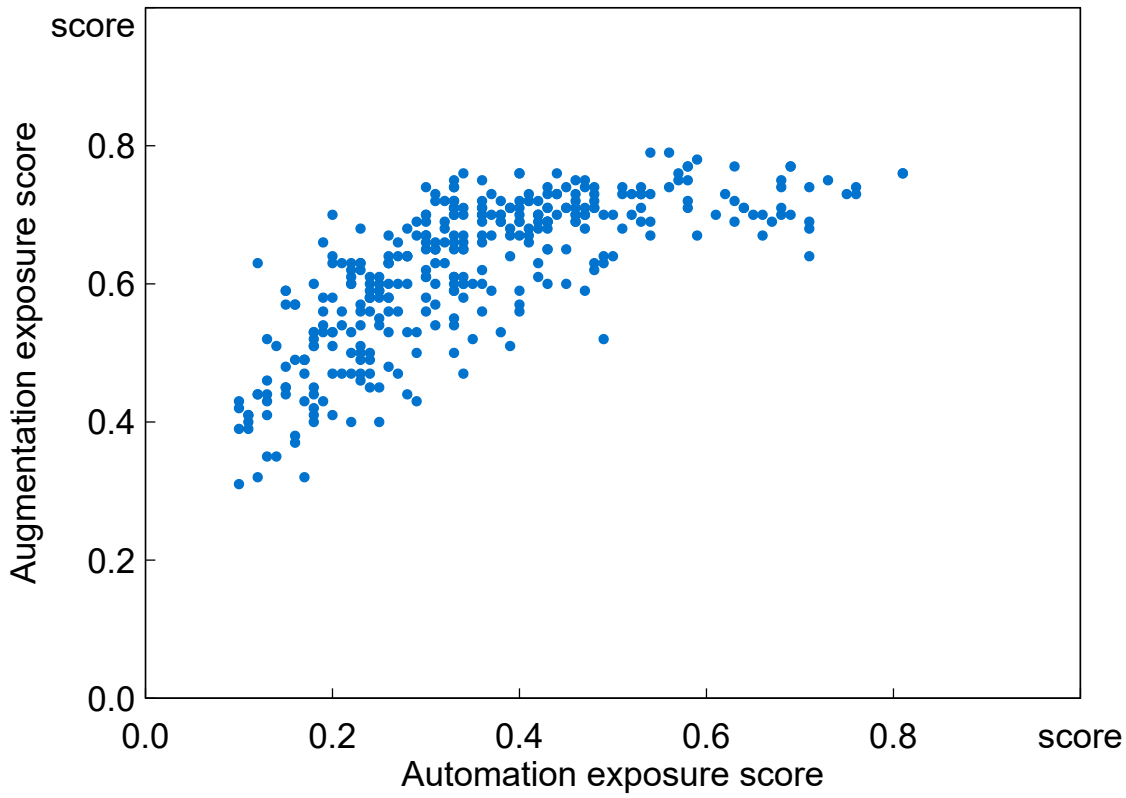
As I said earlier, AI is likely to transform all aspects of work and so change most, if not all, of the jobs that we do today. While much of the public discussion focuses on whether AI will replace jobs, the effects are likely to be more complex. AI will automate some tasks, complement workers in others and create new roles as the economy adapts.[17]

So, exposure to AI does not necessarily mean job loss. Jobs and Skills Australia estimates that around 4 per cent of workers in Australia are highly 'exposed' to automation from AI, compared with 31 per cent that are highly 'exposed' to AI complementing or augmenting their work (Graph 11).[18] But it's important to keep these numbers in perspective. They capture the potential for AI to affect the tasks people do, rather than how much AI is actually being used or how jobs will ultimately change. Even where AI replaces tasks, it may not replace the whole job. Given the implications for employment, wages and income distribution, we will analyse these developments closely.

Graph 11

Occupations by AI Exposure*

Four-digit ANZSCO level



* Exposure is measured on a scale from 0 (lowest) to 1 (highest).

Sources: JSA; RBA.

Conclusion

AI is likely to be one of the most significant technological developments of our time. It's already starting to reshape the economy, affecting business investment and the patterns of demand across the economy.

History suggests that the largest gains from transformative technologies often take longer to emerge than initially expected, but their long-run impacts can be profound. For central banks, understanding the transition and the end-state will therefore be critical.

To begin grappling with this, the RBA is pursuing a broad research agenda [19] to deepen our understanding of AI's implications for financial markets, productivity, labour markets, inflation, financial stability and ultimately monetary policy, ensuring we're well placed to navigate the changes ahead.

Endnotes

[*] Thank you to Iris Day for substantial support during the drafting process, Jonathan Hambur, Claire Johnson, Kate McLoughlin, Samuel Evangelinos and Suzanne Houweling for their contributions, and Andrew Hauser, Chris Kent and Brad Jones for their comments on an earlier draft. AI was used during the drafting process. All remaining errors are my own.

[1] RBA (2026), *Financial Stability Review*, October.

[2] RBA (2026), *Statement on Monetary Policy*, November.

[3] Major M (2026), 'Monitoring Early Effects of AI on the Labour Market', RBA *Insight* 2026-09, November; Face G and S Wong (2026), 'When the Chips Aren't Down: Will Overseas AI-drive Export Price Increases Flow Through to Australia?', RBA *Insight* 2026-10, November; Alexander K, I Day, C Finnegan, C Thrall and Z Zhou (2026), 'Data Centre Investment in Australia', RBA *Insight* 2026-11, November; Chan I and M Miller (2026), 'How Exposed is Household Wealth to AI', RBA *Insight* 2026-12, November.

[4] Bailey M, E Brynjolfsson and A Korinek (2023), 'Machines of Mind: The Case for an AI-powered Productivity Boom', Brookings Research, May; and D Acemoglu (2024), 'The Simple Macroeconomics of AI', National Bureau of Economic Research (NBER) Working Paper 32487, May.

[5] Stanford University Human-centred Artificial Intelligence (2026), 'Artificial Intelligence Index Report'; and Bick A, A Blandin and D Deming (2026), 'The Rapid Adoption of Generative AI', *Management Science*, 72(10), pp 8309–9253.

[6] See Çakır Melek N and S Miller (2026), 'A New U.S. Productivity Chapter? What Industry Data Say About AI', Federal Reserve Bank of Kansas City *Economic Bulletin*, February; and Daly MC (2026), 'The AI Moment? Possibilities, Productivity, and Policy', Federal Reserve Bank of San Francisco *Economic Letter* 2026-06, February.

[7] This difference plays out in the wide range of assumptions about the effects of AI on productivity, which range from relatively small if AI just speeds up current tasks (e.g. Acemoglu, n 4), to quite large as it becomes more transformative (e.g. Bailey *et al*, n 4)

[8] See Blumenfeld A, J Hazell, C Lian and A Schaab (2026), 'The Macroeconomic Effect of AI: Sizing the Software Engineering Channel', NBER Working Paper 35793, September.

[9] Hyperscalers refer to large technology companies that operate data centres and computing infrastructure at enormous scale.

[10] See Soto P, M Thieu and J Allen (2026), 'The AI Buildout and the Economy: Publicly Available Data to Assess AI's Impact', *FEDS Notes*, July.

[11] Monetary Authority of Singapore (2026), *Macroeconomic Review*, 25(4), October.

[12] See Alexander *et al*, n 3.

[13] See Chan and Miller, n 3.

[14] See RBA, n 2.

[15] See Athreya KB (2026), 'AI's Impact on Labor and Hiring', Federal Reserve Bank of New York *Liberty Street Economics*, August; Schlicht H (2026), 'Canaries in the Column? AI Exposure and the UK's Hiring Slowdown', Bank of England *Bank Underground*, August; Dodini S and Smith T (2026), 'Job Postings Show Early Signs of AI Automation Impact', Federal Reserve Bank of Dallas *Fed Economics*, September; and Brynjolfsson E, B Chandar and R Chen (2026), 'Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence', Stanford Digital Economy Lab Working Paper, August.

[16] See Major, n 3.

[17] See OECD (2026), 'The OECD AI Exposure Measure', OECD Artificial Intelligence Paper 59, May; Autor D, C Chin, A Salomons and B Seegmiller (2024), 'New Frontiers: The Origins and Content of New Work, 1940–2018', *Quarterly Journal of Economics*, 139(3), pp 1399–1465; Gmyrek P *et al* (2025), 'Generative AI and Jobs: A Refined and Jobs and Skills Australia', ILO Working Paper 140, May; and Cazzaniga M *et al* (2024), Gen AI: Artificial Intelligence and the Future of Work', IMF Staff Discussion Note, January.

[18] Jobs and Skills Australia (2025), Our Gen AI Transition: Implications for Work and Skills', Final Overarching Report, August.

[19] See RBA (2026), 'Our Research Agenda'.

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