RESERVE BANK OF AUSTRALIA

Bulletin

October 2025

Some graphs in this publication were generated using Mathematica.

ISSN 1837–7211

October 2025

Bulletin

Articles

Small Business Economic and Financial Conditions

Nick Harvey, Sharon Lai and Josh Spiller*

Photo: xavierarnau – Getty Images

Abstract

The economic environment has improved for small businesses over the past year, although conditions remain subdued. Survey measures of business conditions and confidence have improved but remain weaker for small businesses than for large businesses. Most small businesses remain profitable and many have reportedly supported margins by implementing cost-saving initiatives. While small businesses continue to report challenges in obtaining finance on terms that suit their needs, access to finance appears to have improved over the past year. Credit has become cheaper, with variable lending rates for small businesses declining by a little more than the cash rate this year. Credit has also become more readily available to small businesses, including credit that is unsecured or secured by non-physical assets. This has been driven in part by stronger competition in the business lending market. This article discusses recent trends in economic and financial conditions for small businesses, drawing on insights from the Reserve Bank's 33rd Small Business Finance Advisory Panel and recent liaisons with lenders focused on the small business lending market.

Introduction

In July 2025, the RBA convened its 33rd annual Small Business Finance Advisory Panel to discuss issues relating to the provision of finance and the broader economic environment for small businesses.[1] The Panel provides valuable insights on conditions faced by small and medium enterprises (SMEs) and complements information drawn from the RBA's liaison program, economic indicators, business surveys and data from financial institutions.[2]

Understanding developments in economic and financial conditions for small businesses is important because small businesses account for a large share of output, employment and income in the Australian economy (Commonwealth of Australia 2025; Chan, Chinnery and Wallis 2023). Small businesses can face challenges accessing finance, which can hamper their growth and limit their ability to innovate (Jones 2024). This article provides an update on small business economic and financial conditions, drawing on insights from the Panel, recent liaisons with financial institutions and other data sources.

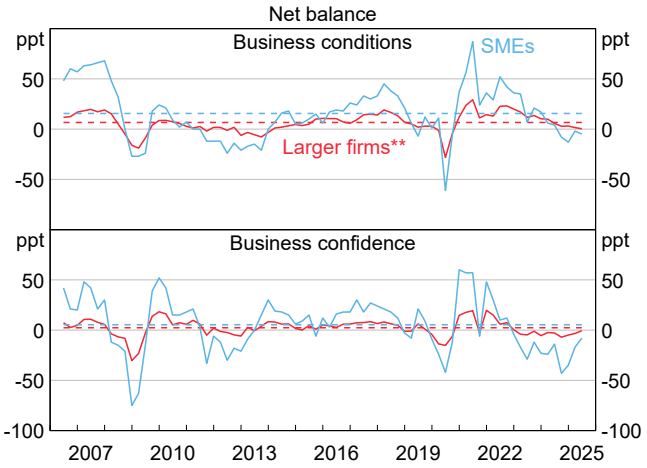
Economic conditions for SMEs

Economic conditions for small businesses have improved over the past year but remain subdued. Survey measures of business conditions and confidence for small businesses have improved over the past year but remain below their long-run averages and are weaker than those for large firms (Graph 1). These measures suggest that business conditions are weakest for small businesses in the manufacturing and retail industries (NAB 2025a).

Although aggregate private demand has started to recover (RBA 2025a), demand has remained weaker for small businesses relative to larger businesses. Small retailers have experienced more subdued sales growth than large retailers since late 2022 (Graph 2) and this divergence has persisted into 2025 despite a recent pick-up in household consumption growth. Survey measures of trading conditions and forward orders also remain weaker for SMEs than for larger businesses (NAB 2025a). Panellists reported mixed demand conditions, with those exposed to discretionary spending generally reporting more difficult conditions.

Graph 1

Business Sentiment*

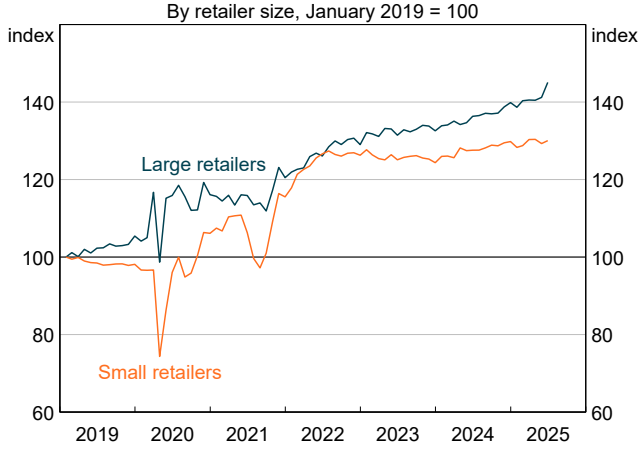


* Quarterly survey. Dashed lines represent series average from mid-2006.
** Represents reponses of larger firms within the NAB Quarterly Business Survey.
Sources: NAB; RBA.

Graph 2

Retail Sales Values*

By retailer size, January 2019 = 100



* The survey uses annualised turnover, based on the ATO's Business Activity Statement item 'Total Sales', as the measure of business size. Around 700 'large' businesses are included in the survey every month, while a sample of around 2,700 'smaller' businesses is selected. Final observation is June 2025.
Sources: ABS; RBA.

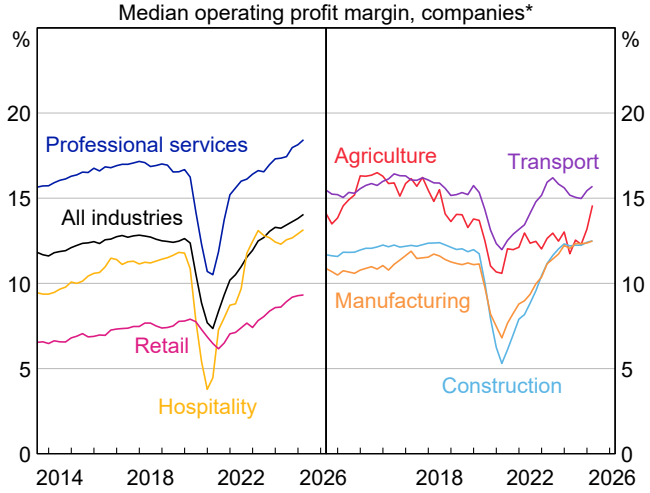
Profitability

ABS data to March 2025 indicate that the median operating profit margin for small businesses improved a little over the year and that operating profit margins remained stable across the broader distribution of small businesses (RBA 2025c). According to these data, most small businesses remained profitable. Across most industries, the median operating profit margin was broadly stable or improved a little (Graph 3).

Graph 3

Small Business Profit Margins

Median operating profit margin, companies*



* Selected industries; net profits as year-ended operating revenue less operating costs and wages; not including government payments (e.g. JobKeeper); includes companies with annual turnover less than $50 million; seasonally adjusted. Latest observation March 2025.

Sources: ABS (BLADE); RBA.

Profit margins have been supported by a slowing in cost growth. Aggregate wages growth in the economy has eased from recent peaks, although some panellists continued to report difficulty in sourcing labour with specialised skills. Businesses in the RBA's liaison program (which covers businesses of all sizes) have recently reported that non-labour cost growth has eased, and an increasing number of businesses expect non-labour cost growth to converge with CPI inflation over the year ahead (RBA 2025e).[3] This is consistent with business surveys noting an easing in cost pressures for SMEs, though they remain high by historical standards (NAB 2025a).

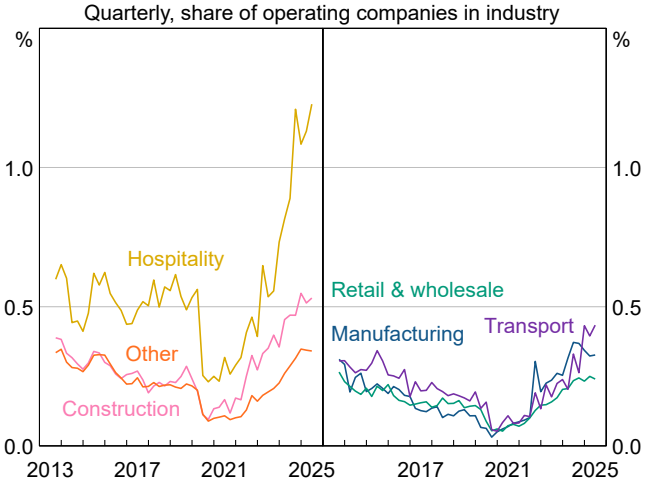
Businesses have also supported profit margins by implementing cost-saving initiatives. Panellists and liaison contacts have reported for some time that weak demand has limited their ability to pass on cost increases. Some panellists reported that constraints on passing on cost increases were exacerbated by the length of contracts (in which prices cannot be renegotiated until the contract expires), lags between when customer orders are priced and delivered, and difficulties exploiting economies of scale as a small business. In response, panellists and liaison contacts report that they have implemented measures to reduce costs, including by reducing staff or hours worked. They have also focused on improving productivity, including by using artificial intelligence (AI).[4] Business surveys suggest that many small business owners plan to cut costs and seek better terms with suppliers to protect margins (NAB 2025b; Banjo Loans 2025).

Company insolvencies have risen in recent years, driven largely by small businesses with fewer than 20 employees. The share of companies entering insolvency is elevated in the hospitality and construction industries – where the operating environment has been challenging, particularly for smaller firms – though at an economy-wide level the insolvency rate is around its longer run average (Graph 4; RBA 2025c). The increase in insolvencies follows a period of exceptionally low company insolvencies during the pandemic. This partly reflects the removal of pandemic support (including the Australian Taxation Office resuming enforcement actions on unpaid taxes), rising costs, weak growth in demand and higher interest rates (RBA 2025d).

Graph 4

Company Insolvencies by Industry*

Quarterly, share of operating companies in industry



* Seasonally adjusted.

Sources: ABS (BLADE); ASIC; RBA.

Factors affecting access to and supply of SME finance

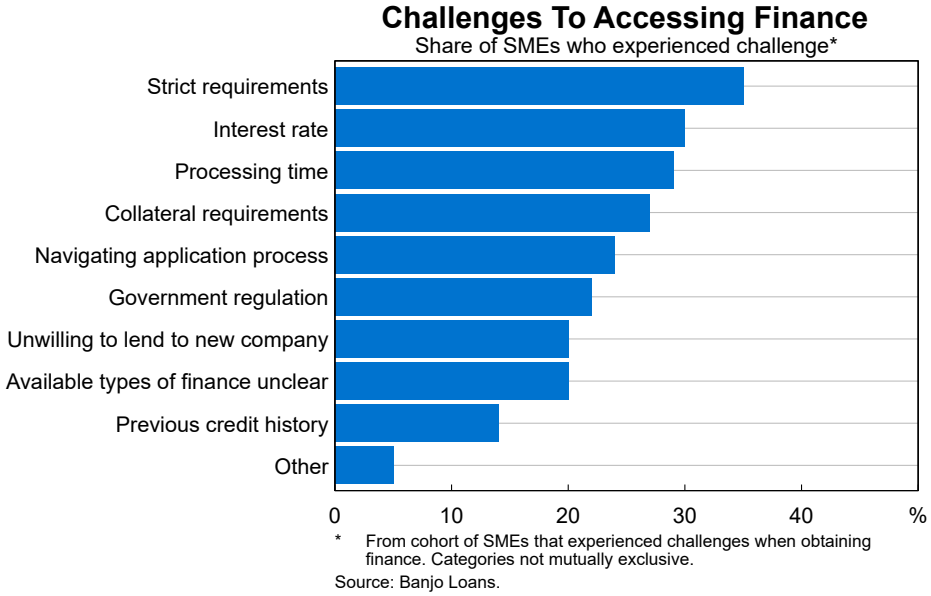
SME loans account for around half of total business credit in Australia. Even so, for many years small businesses have reported challenges in obtaining finance. One in five SMEs has experienced challenges when looking to obtain finance, according to a recent survey (Banjo Loans 2025). The most commonly reported challenges are lender requirements being too strict, difficulty obtaining a suitable interest rate, long processing times and the requirement to provide property or personal assets as collateral (Graph 5). Despite this, panellists and liaison contacts suggest that access to finance for SMEs has improved along numerous dimensions over the past couple of years. These include more competitive pricing, faster approval times, more streamlined application processes and a broader range of funding products (including improved availability of unsecured funding or funding that is not secured by physical assets such as property).
The improvements have been driven by a range of factors supporting the willingness and capacity of lenders to supply credit to small businesses. These include the growing presence of specialist and non-traditional SME lenders, heightened competition among traditional bank lenders, higher broker activity and ongoing strong business loan book performance.

Growth of specialist SME lenders and alternative forms of finance

In recent years, specialised lenders and alternative forms of finance have gained market share within the SME lending market, increasing the breadth of financing options available to smaller businesses. Examples of these lenders include:

- **Specialist SME lenders, including non-banks:** The non-bank share of SME lending has increased strongly since the start of 2022, particularly for smaller loans (Graph 6).[5] Non-banks are subject to fewer prudential regulatory constraints than banks and tend to lend to riskier borrowers (Hudson, Kurian and Lewis 2023). Many non-banks specialise in specific forms of lending, such as automotive or equipment finance. Lender liaison suggests that private credit firms – which are a type of non-bank lender (Chinnery *et al* 2024) – provide some SME lending, though they are more active in larger business lending. In addition, some entrants to the banking sector in recent years have focused on targeted SME lending, contributing to competition in the market.
- **Non-traditional financing:** The range of non-traditional financing options available to small businesses has increased over the past decade (McCowage and Nunn 2022). Examples of non-traditional lending include:

Graph 5



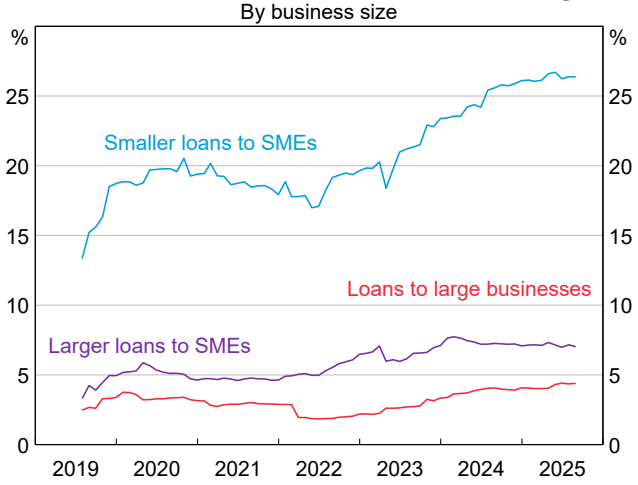
- balance sheet lending, in which lenders use transaction data to identify creditworthy business borrowers and provide loans from their own balance sheets
- revenue-based financing, in which a share of the borrower's revenue or profits is dedicated to repaying the outstanding loan balance
- marketplace lending, in which funds from retail or wholesale investors are lent to businesses via loan requests on an online platform
- donation and rewards-based crowdfunding, which allows businesses to raise funds as a donation or in exchange for non-monetary rewards or products
- crowd-sourced equity funding, in which businesses issue shares to the public, typically through an online platform.

Surveys suggest many SMEs are increasingly exploring alternative funding options (Banjo Loans 2025). Consistent with this, several panellists reported having used or explored non-traditional financing options.

Graph 6

Non-bank Share of Business Lending*

By business size



* Excludes loans to financial businesses. Not seasonally adjusted or break-adjusted. Business size definitions changed in April 2023 and June 2024.

Sources: APRA; RBA.

Banks' strategic focus on business lending

Multiple banks – including the major banks – have indicated a new strategic focus on expanding business lending (to both SMEs and large businesses) in recent profit reporting, a theme that has been supported by lender liaison. This pivot has contributed to stronger competition in the business lending market. Stronger competition has supported the supply of credit to small businesses, particularly over the past year, through more competitive pricing, improved application processes and an incremental easing in lending standards from some lenders (discussed below).

Higher broker activity

Greater broker activity for SME lending in recent years has also likely supported the supply of credit, by supporting lender competition and helping to match potential borrowers with lenders who can provide finance on suitable terms. Lenders have reported in liaison that the share of loans originated and refinanced by brokers has risen over recent years, consistent with recent survey data (Banjo Loans 2025). Broker origination reportedly accounts for a larger share of asset finance loans relative to other business loans.

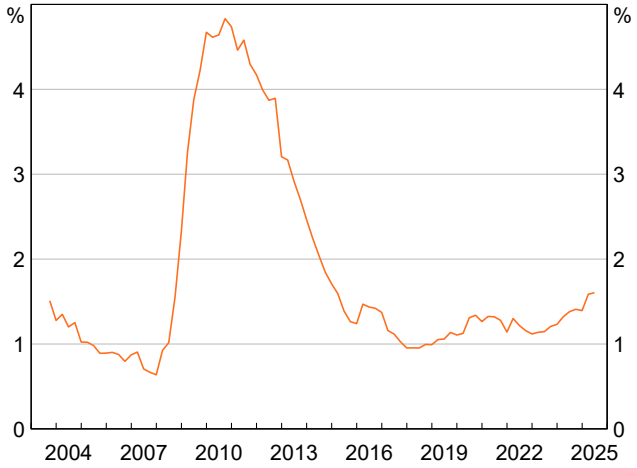
Strong loan book performance

Business loan quality has remained sound in recent years, which has supported lenders' willingness to supply credit. Banks' non-performing business loans have increased over the past two years, consistent with challenging conditions for some sectors (such as hospitality, discretionary retail and construction (RBA 2025c)), but remain low by historical standards (Graph 7). Banks' loan books have been little affected by the rise in insolvencies because most insolvent businesses have little debt (RBA 2025b). Given the resilience of loan book performance, some lenders have expressed in liaison an appetite to take on a little more risk in their SME lending, including by increasing their volumes of less well-secured lending.

Graph 7

Banks' Non-performing Business Loans*

As a share of bank business credit

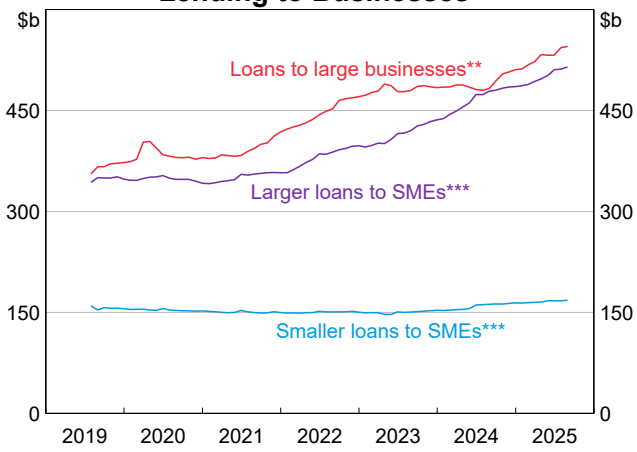


* Non-financial businesses.

Sources: APRA; RBA.

Graph 8

Lending to Businesses*



* Data cover financial institutions with $2 billion or more of business credit; break adjusted for changes to business size definitions in April 2023 and June 2024 but not seasonally adjusted. Excludes loans to financial businesses.

** Businesses with annual turnover of $75 million or more.

*** SMEs have annual turnover of less than $75 million; loans classified as 'smaller' if lender has exposure of less than $1.5 million to the business and 'larger' if lender has exposure of $1.5 million or more.

Sources: APRA; RBA.

Recent trends in the volume, cost and availability of SME finance

Lending volumes

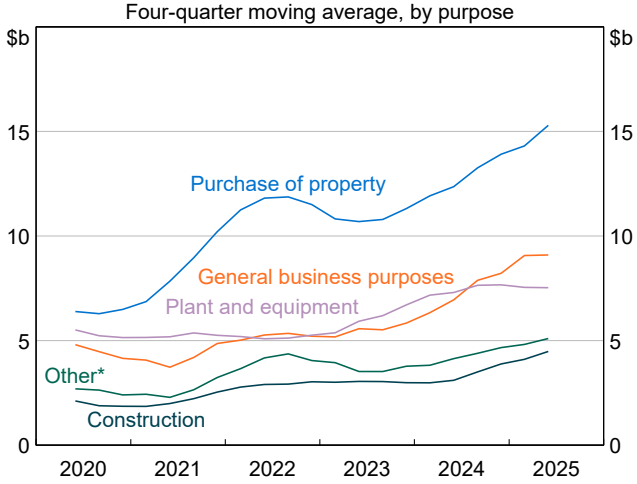
The stock of outstanding SME loans has grown by around 61/2 per cent over the past year, driven almost entirely by growth in larger loans to SMEs (Graph 8). Growth in smaller loans to SMEs has been very weak for several years and was around 31/2 per cent over the past year. This weak growth partly reflects measurement issues in the way smaller loans to SMEs are defined.[6] However, in liaison, lenders have suggested that the weak growth over the past year could also reflect subdued demand because of the challenging economic environment.

SME lending growth has been strongest to businesses in services-related sectors (including business services, rental, hiring and real estate services, and household services) over the past year, followed by agriculture and manufacturing. Growth in new fixed-term SME loans has predominantly been driven by loans for the purchase of property, general business purposes and construction (Graph 9). By contrast, growth in new fixed-term SME loans for plant and equipment purchases has been weak.

Graph 9

Fixed-term SME Loan Commitments

Four-quarter moving average, by purpose



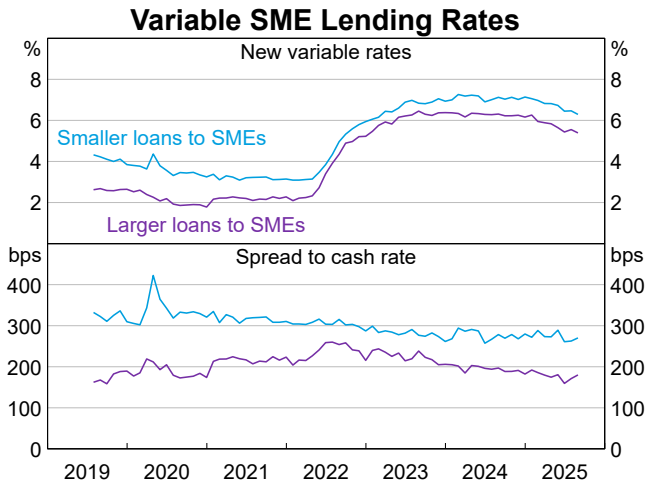
* Includes loans for acquisitions, working capital and wholesale finance.

Sources: ABS; APRA; RBA.

Borrowing costs

Variable interest rates on loans to SMEs have declined by a little more than the cash rate this year, consistent with increased lender competition. As a result, variable SME lending rate spreads to the cash rate have narrowed a little further, continuing the trend of recent years (Graph 10). Amid the more competitive environment, lenders have reported more frequent negotiation by customers on small business loan rates in recent years, for both broker and non-broker originated loans.

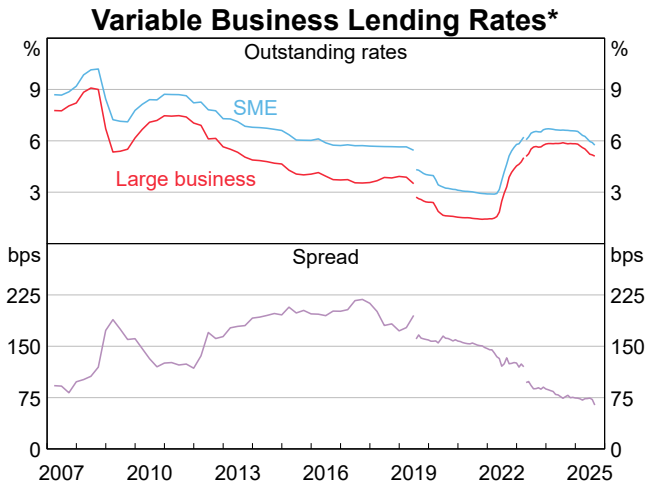
Graph 10



Sources: APRA; RBA.

Small businesses typically face higher borrowing costs than larger businesses. This is partly because they are assessed as being at greater risk of default according to banks' risk modelling and because banks hold relatively more capital against SME loans. However, the spread between SME and large business lending rates has narrowed to a historically low level in recent years (Graph 11). This trend partly reflects changes to business size definitions in April 2023 and June 2024 that resulted in some large business loans (which pay lower interest rates on average) being reclassified as SME loans. Reductions to the Australian Prudential Regulation Authority's capital requirements for banks' SME loans, which became effective from January 2023, may also have contributed.[7]

Graph 11



* SME loans are to businesses with annual revenue less than $75 million; defined as business loans less than $2 million prior to 2019. Large business loans are to businesses with annual revenue of $75 million or more; defined as business loans of $2 million or more prior to 2019. Breaks for introduction of Economic and Financial Statistics in 2019 and changes to business size definitions in April 2023.

Sources: APRA; RBA.

Availability of finance

It can be challenging to consistently measure changes in the availability of finance, particularly for business lending given the wide range of loan types available. However, insights can be gleaned by looking at lending standards, which are broadly defined and include dimensions such as the maximum size of credit lines, minimum interest coverage ratios and minimum covenant strengths. Overall, insights from lender liaison suggest that lending standards remain prudent and that heightened competition has not led to a broad decline in business lending standards (RBA 2025c). However, lenders in liaison have indicated some examples of an incremental easing in lending standards for SME lending over the past year or two along some dimensions. Some lenders reported in liaison that their own risk appetite for SME lending had increased slightly, or they had observed this in their competitors, which has manifested in different ways. This includes a greater willingness to provide unsecured or less well-secured credit, increasing the share of new SME loans that are granted through automated approval processes and lower benchmarks for serviceability assessments in a few cases. Some of these factors are described in more detail below.

Collateral requirements

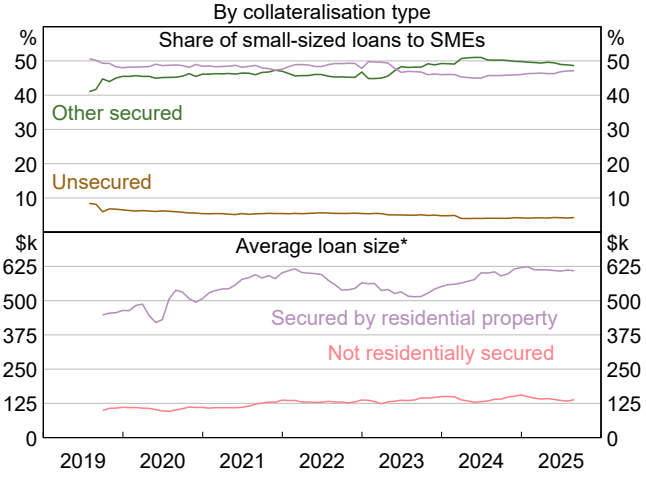
For some time, small businesses have noted that the requirement to provide residential property or other physical assets as collateral is a key challenge to accessing finance. However, lender liaison and insights from the Panel suggest that the availability of credit that is unsecured or secured by non-physical assets has increased recently. Some lenders report that they have increased or are planning to increase their volumes of unsecured or less well-secured lending. Some report expanding access to unsecured lending for startups that have a detailed business plan, though initially only for small amounts, while others are offering discounted lending rates on existing unsecured loan products for specific purposes such as green projects. Panellists also reported improved availability of unsecured loans (including from non-traditional finance providers such as balance sheet lenders), though typically at higher interest rates.

Nevertheless, the share of SME credit that is unsecured has remained below 5 per cent over recent years. Around half of small-sized loans to SMEs are secured with assets other than residential property (such as vehicles and equipment) and this share has increased somewhat since 2019 (Graph 12).[8] The remainder are secured by residential property. New loans secured with residential property are on average four-and-a-half times as large as non-residentially secured loans.

Graph 12

Small-sized Loans to SMEs

By collateralisation type



* New loans; 3-month moving average.
Sources: APRA; RBA.

Several factors could explain why the share of unsecured small business credit has remained very low. It may be that unsecured finance has only become marginally more accessible, or that increased availability of unsecured finance has not been met with increased demand. Consistent with the experience reported by panellists, customers may also be more likely to take out these loans for only relatively short timeframes (e.g. to manage temporary cash flow issues) given these loans are typically extended at higher interest rates.[9] Furthermore, some non-bank providers of unsecured lending are not well captured in official data sources.

Application processes and other non-price factors

Fast decision times are important for many small businesses, especially those that need funding quickly to take advantage of growth opportunities. Many lenders have invested in digitisation and automation over the past few years to improve processing times, simplify application processes and reduce costs. This includes making use of customers' transaction histories and bank statement analysis to automate loan decision-making. Numerous lenders have also simplified the loan application process by relaxing their documentation requirements for smaller SME loans.

In addition to improving their application processes, lenders have invested in several other non-price initiatives to improve services to SMEs, including:

- **Regional branches:** Some lenders have invested in expanding their branch networks in regional areas. This aims to provide banks with direct contact to regional businesses so that their needs are better understood.
- **Internet banking capabilities:** Numerous lenders have invested in improving their internet banking capabilities in recent years (particularly through improved mobile applications). This allows banking services to be more readily available to businesses, reducing the need for businesses to contact their bank to facilitate transactions and manage their funds.
- **Provision of other services:** Some lenders provide extra services to customers in addition to the provision of finance. These include foreign exchange and trade services, discounted legal and accounting services, and assistance with incorporating AI into their business.

Overall, lenders' improvements to application processes and investments in non-price service offerings have helped to reduce some barriers to accessing finance commonly reported by SMEs.

Conclusion

Economic conditions for small businesses have improved over the past year but remain subdued. Conditions have remained weaker for small businesses than for large businesses. Cost growth has eased, though cost pressures remain elevated by historical standards. Small businesses have largely remained resilient; most businesses have remained profitable and many have supported margins through cost-saving initiatives, though insolvencies have risen over recent years after being exceptionally low during the pandemic.

Although many small businesses still face challenges in accessing finance, panellists on the Small Business Finance Advisory Panel and lenders in liaison have reported that access to finance for small businesses has improved over the past year. This has been supported by increased competition within the SME lending market, alongside increased broker activity and strong loan book performance over recent years. Borrowing costs have declined by a little more than the cash rate, and the spread between SME and large business lending rates has narrowed to a historically low level. Finance that is unsecured or secured by non-physical assets has reportedly become more readily available, though unsecured credit remains a small share of overall small business finance. Lenders have invested in technology to reduce loan approval times, simplify application processes and improve access to banking services. Altogether, improved access to finance has eased financial conditions for small businesses by making credit cheaper and more readily available. This should support small businesses' ability to manage their cashflows, grow and invest.

Endnotes

* The authors are from Domestic Markets Department and would like to thank Peter Wallis, Alessio Galluzzi, Eleanor Barnett, Maddie Roberts, Philipp Grozinger, Angelina Bruno, Mark Chambers, James Holloway, David Wakeling, Michelle Lewis and Michael Thornley for assistance and feedback on this article. They would also like to thank members of the 2025 Small Business Finance Advisory Panel for their participation in this year's discussion and lenders for their participation in liaisons related to SME finance.

1 The 2025 Panel comprised representatives from 10 SMEs across Australia, covering a range of sectors. For more information, see RBA (2025f).

2 In this article, we draw on data sources that use different definitions of 'small business' and 'SME'. As such, we use the terms 'small business' and 'SME' interchangeably.

3 Contacts in the RBA's liaison program tend to be medium- to larger-sized firms (Dwyer, McLoughlin and Walker 2022).

4 Liaison contacts have also suggested that AI is a significant source of stress for many small businesses. Small businesses have raised concerns that they may struggle to compete with larger businesses that have more resources to invest in understanding how best to use AI.

5 Within credit data reported to the Australian Prudential Regulation Authority, SMEs are defined as businesses with annual revenue of less than $75 million. 'Smaller' (or 'small-sized') loans to SMEs are loans where the lender's total exposure to the business is less than $1.5 million.

6 As noted above, the definition of 'smaller' and 'larger' loans to SMEs is based on the size of lenders' exposure to the business. Because these thresholds are fixed, they do not capture some growth in nominal loan sizes due to inflation. For example, if average loan sizes to SMEs become larger due to inflation, then a higher share of SME credit will be classified as 'larger' rather than 'smaller' – even if the underlying characteristics of the businesses remain unchanged.

7 These changes lowered the risk weights on loans to SMEs, reducing the amount of capital banks are required to hold against these loans. They also revised the definition of retail SMEs, which attract lower capital requirements than loans to non-retail SMEs, to include loan exposures of up to (but not including) $1.5 million. Lower capital requirements reduce the cost to banks of funding SME loans (all else equal).

8 Data on the share of credit secured by residential property are unavailable for larger SME loans.

9 Unsecured loans tend to be available for shorter tenors and at lower maximum loan sizes compared with loans secured with property (Productivity Commission 2021).

References

Banjo Loans (2025), 'SME Compass Report 2025', March.

Chan P, A Chinnery and P Wallis (2023), 'Recent Developments in Small Business Finance and Economic Conditions', RBA *Bulletin*, September.

Chinnery A, W Maher, D May and J Spiller (2024), 'Growth in Global Private Credit', RBA *Bulletin*, October.

Commonwealth of Australia (2025), 'National Small Business Strategy', 3 February.

Dwyer J, K McLoughlin and A Walker (2022), 'The Reserve Bank's Liaison Program Turns 21', RBA *Bulletin*, September.

Hudson C, S Kurian and M Lewis (2023), 'Non-bank Lending in Australia and the Implications for Financial Stability', RBA *Bulletin*, March.

Jones B (2024), 'Financing SME Innovation in Australia – Challenges and Opportunities', Speech at COSBOA National Small Business Summit, Sydney, 4 April.

McCowage M and L Nunn (2022), 'The Current Climate for Small Business Finance', RBA *Bulletin*, September.

NAB (National Australia Bank) (2025a), 'NAB Quarterly SME Business Survey: Q2 2025', July.

NAB (2025b), 'Australian SMEs Tackle Uncertainty with Bold Moves and Customer Obsession', 2 September.

Productivity Commission (2021), 'Small Business Access to Finance: The Evolving Lending Market', Research Paper, September.

RBA (Reserve Bank of Australia) (2025a), 'Chapter 2: Economic Conditions', *Statement on Monetary Policy*, August.

RBA (2025b), 'Chapter 2: Resilience of Australian Households and Businesses', *Financial Stability Review*, April.

RBA (2025c), 'Chapter 2: Resilience of Australian Households and Businesses', *Financial Stability Review*, October.

RBA (2025d), '4.3 Focus Topic: The Recent Increase in Company Insolvencies and its Implications for Financial Stability', *Financial Stability Review*, April.

RBA (2025e), 'Box B: Insights from Liaison', *Statement on Monetary Policy*, August.

RBA (2025f), 'Small Business Finance Advisory Panel'.

BLADE Disclaimer

A New Measure of Job Searchers for Australia

Joyce Tan*

Photo: Delmaine Donson – Getty Images

Abstract

The RBA's assessment of spare capacity in the labour market incorporates the signal from a broad suite of indicators. The ratio of job vacancies to unemployed persons, which attempts to assess the imbalance between unmet labour demand and the labour supply available to meet this demand, is a standard measure of spare capacity in the labour market. One shortcoming of this measure is that it implicitly assumes that job vacancies are only filled by the unemployed. In practice, job vacancies are also filled by other job searchers who may be outside the labour force or searching on the job. This article describes the construction and characteristics of a more comprehensive measure of job searchers (the Searchers Index) that considers both the unemployed and those who are not classified as being unemployed. The Searchers Index allows us to construct an alternative measure of spare capacity (the vacancies-to-searchers ratio), which exhibits different properties to the vacancies-to-unemployed ratio. The vacancies-to-searchers ratio will be included in the suite of indicators that we monitor to assess spare capacity in the labour market moving forward.

Introduction

Understanding the extent of spare capacity (or conversely, tightness) in the labour market is important for the RBA's dual mandate of price stability and full employment. First, the *Statement on the Conduct of Monetary Policy* requires the RBA to communicate its assessment of how labour market conditions stand relative to full employment (Ballantyne, Sharma and Taylor 2024). Second, tightness in the labour market can impact the degree of inflationary pressures in the economy. RBA staff therefore closely monitor a number of measures of tightness when assessing conditions in the labour market.[1] One commonly used measure is the ratio of job vacancies to unemployed persons (the V-U ratio), which attempts to gauge the mismatch between labour demand (proxied by job vacancies) and the potential labour supply that could meet this demand (proxied by the unemployed). The V-U ratio has eased since its mid-2022 peak but continues to be well above pre-pandemic levels.

A key shortcoming of the V-U ratio is that the unemployed are only a subset of all job searchers and hence the ratio effectively ignores how searchers outside of unemployment contribute to the filling of vacancies. The Australian Bureau of Statistics (ABS) defines the unemployed as non-working individuals aged 15 years and over who have either actively looked for work in the previous four weeks and were available to work in the reference week of the Labour Force Survey or were waiting to start a job within four weeks from the end of the reference week but could have started working during the reference week had the job been available. However, many people fall outside this definition despite being able to fill vacancies, such as those who are looking for work but only passively, or those actively looking for work but who were not available to start work in the reference week. Furthermore, the V-U ratio places equal weight on each unemployed person despite some unemployed people (e.g. those who have remained unemployed for a long time) having a persistently lower probability of finding a job.

To address these limitations, I construct a more comprehensive measure of 'effective job searchers' called the 'Searchers Index' (SI). This measure of effective searchers not only accounts for the unemployed but also accounts for those 'not in the labour force' (NILF) and those who are employed who may be searching on-the-job. To do this, I first disaggregate the working age population into 11 labour market cohorts. Using microdata from the ABS' Longitudinal Labour Force Survey, I calculate each cohort's share of the population and their probability of finding a job – their job-finding rate (JFR) – over time (which is used to construct the SI). I then apply weights to each labour market cohort to capture variation in these JFRs and population shares, resulting in a measure of 'effective searchers' in the economy. Due to limitations on data availability, the sample begins in 2001.

Several overseas studies have also attempted to construct measures of effective job searchers. They have also first divided the population into several cohorts of searchers. In these studies, the weight applied to each cohort is fixed at either the ratio of the cohort's JFR at a point in time or the cohort's long-run average JFR relative to that of a chosen base cohort (Abraham, Haltiwanger and Rendell 2020; Byrne and Conefrey 2017; Heise, Pearce and Weber 2024; Hornstein, Kudlyak and Lange 2014; Kudlyak 2017). The key disadvantage of using a fixed weight is that the chosen weight may become less reflective of the cohort over time. My approach extends the literature by using Australian microdata and by allowing the weights to vary over time.[2]

In this article, I discuss different cohorts of job searchers and describe how the SI is constructed using these cohorts. I find that drawing together information on job vacancies and effective searchers into a vacancies-to-searchers ratio (V-S ratio) leads to a new and more comprehensive indicator of labour market tightness.

Job searchers in Australia

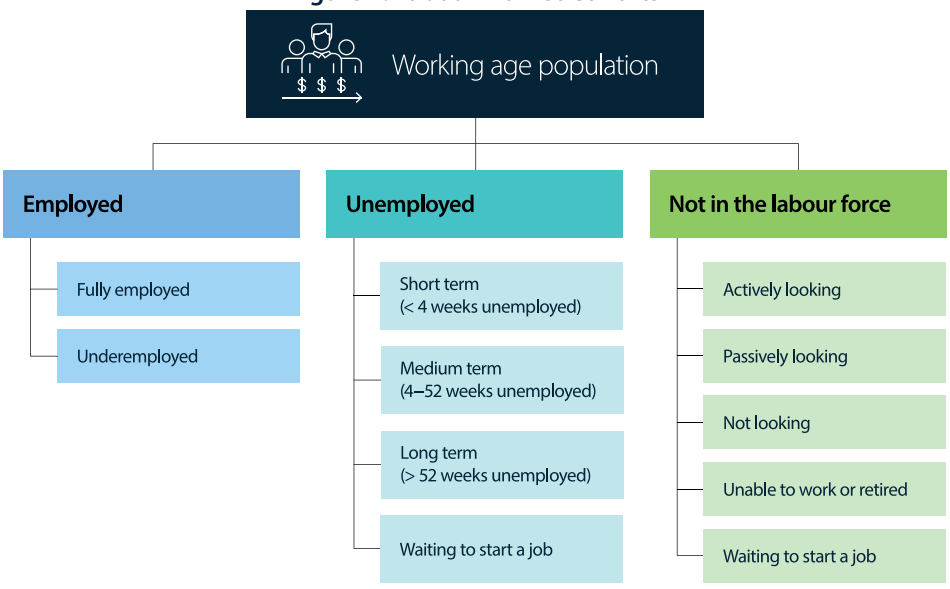
There are different types of job searchers in the economy, each with varying degrees of attachment to the labour market and hence impacts on labour market outcomes. For example, an individual who has been unemployed for a short period of time is more attached to the workforce than someone outside the labour force who has reported that they are unable to work or has retired. Figure 1 shows a disaggregation of the working age population into 11 mutually exclusive labour market cohorts, or types of searchers, based on their likely attachment to the labour force or, for the employed, their assessed incentive to find another job (see Appendix A for further detail on these cohorts).

I initially divide the working age population into the three main labour market states – the employed, unemployed and those not in the labour force. In turn, I split the employed into those who are underemployed and those who are not (i.e. the 'fully employed'); the underemployed likely have a greater incentive to switch jobs or find an additional job as they tend to be dissatisfied with their current working hours. I generally group the unemployed based on their duration of unemployment, split into short-, medium- and long-term unemployed.[3] Finally, I categorise those not in the labour force into those who are conceptually most similar to the unemployed but who do not meet the criteria to be officially classified as being unemployed (i.e. those who actively or passively looked for work) and those less likely to engage in job search activities (i.e. those who have reported that they are 'not looking' for work or 'unable to work or retired'). I split out the individuals who are waiting to start a job (classified as either unemployed or being outside the labour force) because their attachment to a job means they are much more likely to find a job compared with other cohorts.

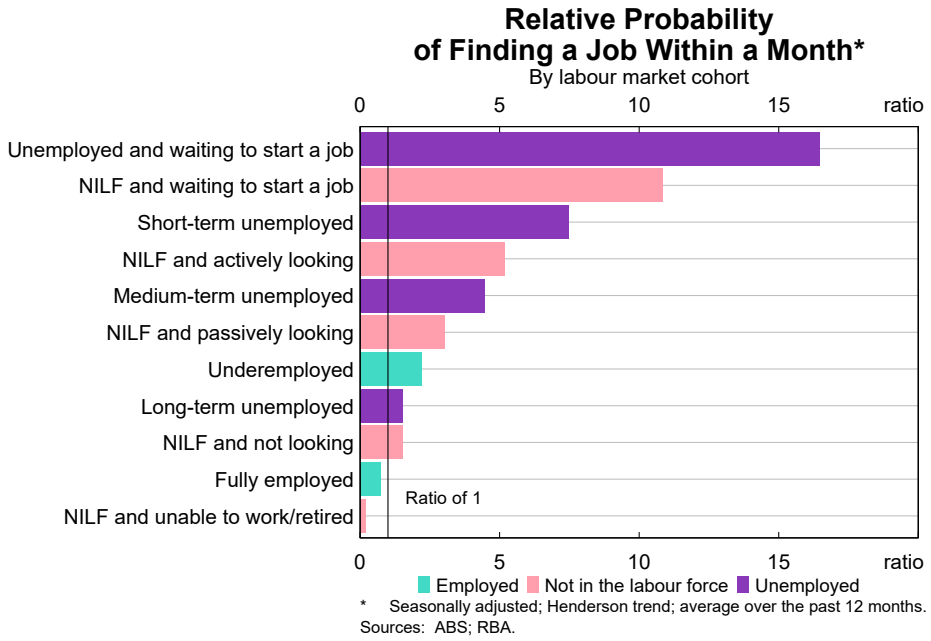
I consider how each cohort's share of the population and JFR (which are inputs into the SI) varies. For the employed, the JFR refers to the probability that they either switch a job or gain an additional job over a one-month period.[4] For the unemployed or those outside the labour force, the JFR is the likelihood that the individual transitions into employment over the month. The JFRs for each cohort subsequently imply a *relative* JFR for the cohort, which is defined as the cohort's JFR as a ratio to the average JFR for the population (where the average JFR can be interpreted as the probability that the average individual in the population is able to secure a job).[5]

There is considerable variation in relative JFRs and population shares across cohorts, which lends support to the differentiated treatment of each cohort in the SI.[6] Relative JFRs are generally highest for cohorts who are waiting to start a job; these individuals are already attached to a job and are therefore most likely to transition into employment within a month (Graph 1). Those who have been unemployed for shorter durations (the short- and medium-term unemployed) and cohorts outside the labour force who are actively or passively looking for work have the next-highest relative JFRs.

Figure 1: Labour Market Cohorts



Graph 1

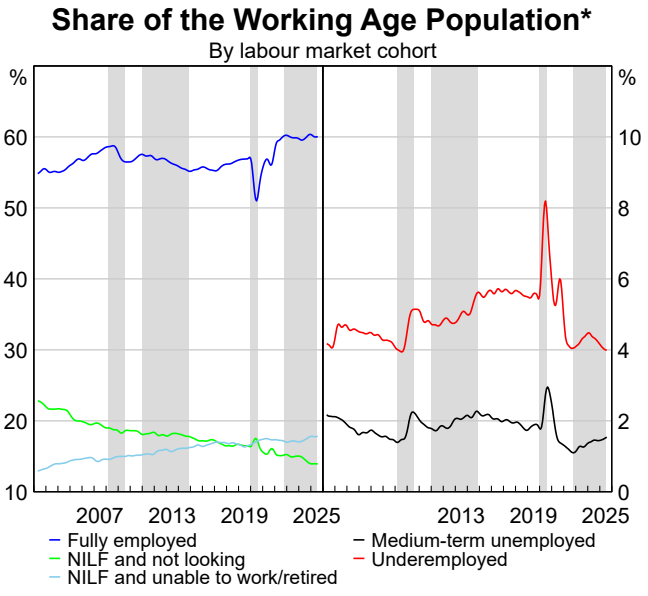


* Seasonally adjusted; Henderson trend; average over the past 12 months.
Sources: ABS; RBA.

For example, the short-term unemployed are around seven times more likely to find a job in the month than the average individual in the population. By contrast, the relative JFRs of the employed, particularly the fully employed, are low; the fully employed are around 30 per cent less likely to switch jobs or find an additional job than an average individual in the population. In general, this is likely because the fully employed have less incentive to switch jobs or find a secondary job if they are already satisfied with their current working hours. As expected, those who are long-term unemployed or who are outside the labour force and have indicated that they are either unable to work or retired or not looking for work also have low JFRs.[7]

Cohorts with lower relative JFRs tend to have larger population shares (and vice versa). For instance, the fully employed account for a sizeable share of the population (around 60 per cent) but have a relatively low JFR, as do those that are outside the labour force who have either reported that they are not looking for work or are unable to work or retired (who account for 14 and 18 per cent of the working age population respectively) (Graph 2). Conversely, those waiting to start a job have the highest relative JFRs but account for a very small share (around 0.6 per cent) of the population (Graph 3).

Graph 2

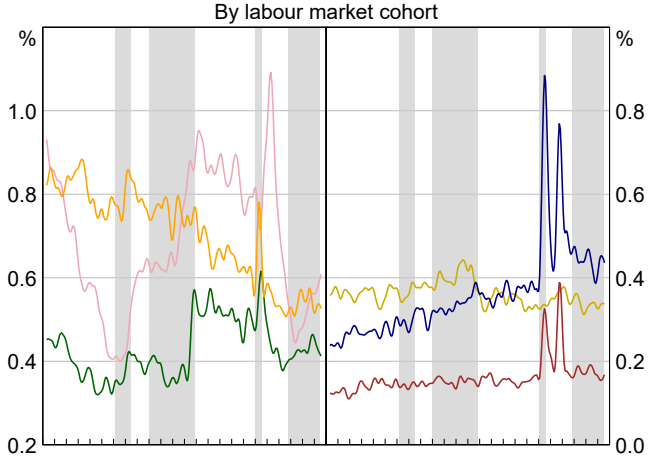


* Seasonally adjusted; shading indicates episodes where there has been a persistent increase in the unemployment rate.
Sources: ABS; RBA.

Graph 3

Share of the Working Age Population*

By labour market cohort



* Seasonally adjusted; shading indicates episodes where there has been a persistent increase in the unemployment rate.

Sources: ABS; RBA.

Changes in population shares over time reflect broader demographic and labour market trends. The increased rate of participation in the workforce over time, especially by women, has contributed to the share of the population that is fully employed rising to be around its highest level since the early 2000s; the fully employed share of the population has remained around this elevated level since late 2022. Relatedly, the share of the population that is outside the labour force and reportedly not looking for work has trended down. An ageing population has also contributed to the upwards trend in the share of the population who are unable to work or retired. The downwards trend in the short-term unemployed share (which typically captures the unemployed who are between jobs) could partially reflect the long-run decline in the job mobility rate and, in turn, a general decline in business dynamism (Ellis 2021).

How is the Searchers Index constructed?

The SI is constructed broadly as follows (with further detail on the methodology provided in Appendix A):[8]

1. After disaggregating the working age population into the 11 labour market cohorts discussed above, each cohort's share of the population and relative JFR over time is calculated.
2. The percentage change in the SI in a certain month is given by a weighted average of the rate of growth in each cohort's share of the population in that month. The weight assigned to each cohort is given by their share of total hires and is allowed to vary over time. A cohort's share of total hires is equal to the product of their relative JFR and their share of the population.[9] This means the weight assigned to a cohort increases with how intensely each cohort searches for a job (proxied by their relative JFR) and their relative importance (or their share of the population).
3. Taking together the series of (percentage) changes in the SI over time results in an aggregate index (i.e. the SI). The SI can be decomposed into the contributions of each underlying cohort; some of these are presented below. Each cohort's contribution to the SI mechanically increases (decreases) alongside an increase (decrease) in their share of the population.[10]

What does the Searchers Index tell us?

The SI and the unemployment rate move together, which suggests they both capture broad trends in labour market tightness (Graph 4). As with the unemployment rate, a decline (increase) in the SI is generally indicative of tighter (looser) conditions in the labour market, all else equal. For the SI, this is because it suggests that there are fewer (more) job searchers available to meet firms' demand for labour (as proxied, for instance, by job vacancies). Both series tend to be countercyclical; the SI tends to increase during a labour market downturn (defined as a period during which the unemployment rate is rising) and decline during the subsequent recovery. That said, there are periods in which these measures evolve differently, which may point to differences in effective searchers among the

unemployed and other cohorts. For example, while the SI has declined since early 2024, the unemployment rate has risen over this period. This implies that while there were more unemployed effective searchers, there was also an offsetting reduction in searchers outside of unemployment such that the measure of effective searchers declined in aggregate. The SI has stabilised in recent months alongside several other labour market indicators such as job vacancies and measures of employment intentions. Together, these outcomes highlight the importance of considering a range of indicators besides the unemployment rate when assessing labour market conditions.

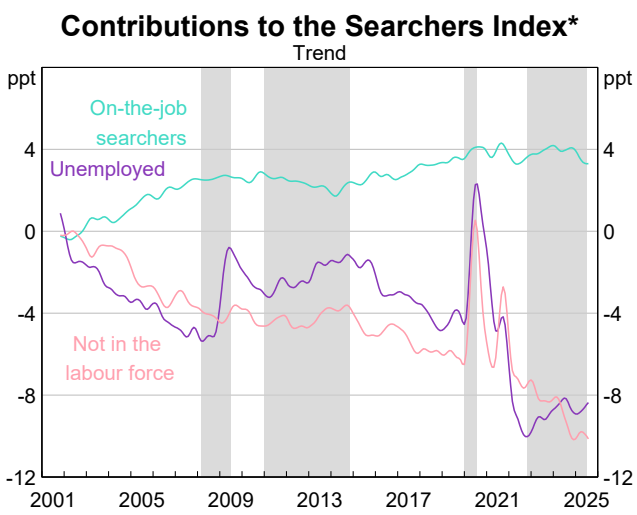
Graph 4

* Shading indicates episodes where there has been a persistent increase in the unemployment rate.
** Darker line is trend measure.
Sources: ABS; RBA.

The SI is considerably less cyclical compared with the unemployment rate. This is likely because the SI captures other labour market cohorts who help to dampen the cyclicality of the unemployed. In a downturn, the unemployed share of the population tends to rise, resulting in an increasing unemployment rate. However, there could also be a decline in the share of on-the-job searchers during a downturn such that the SI may not rise as much as the unemployment rate. If we only take signal from the unemployment rate (for a given level of vacancies), we may therefore overstate the easing in the labour market relative to the case where we also considered the SI (which accounts for changes in search activity among, for example, the employed).

The SI captures longer run trends in the participation rate and employment-to-population ratio, as trends in cohorts' population shares directly influence their contributions to the SI (as described above). This can be observed by examining, for simplicity, the contributions of the three main labour market states (i.e. employment, unemployment and not in the labour force) to the SI.[11] The contribution of the employed has trended up while the contribution of those outside the labour force has trended down, consistent with the upwards trends in the employment-to-population ratio and the participation rate (Graph 5). The overall contributions of the employed and NILF cohorts to the SI are largely influenced by these long-run trends. By contrast, the contribution of the unemployed is notably countercyclical.

Graph 5



* Logarithm of Searchers Index; shading indicates episodes where there has been a persistent increase in the unemployment rate.
Sources: ABS; RBA.

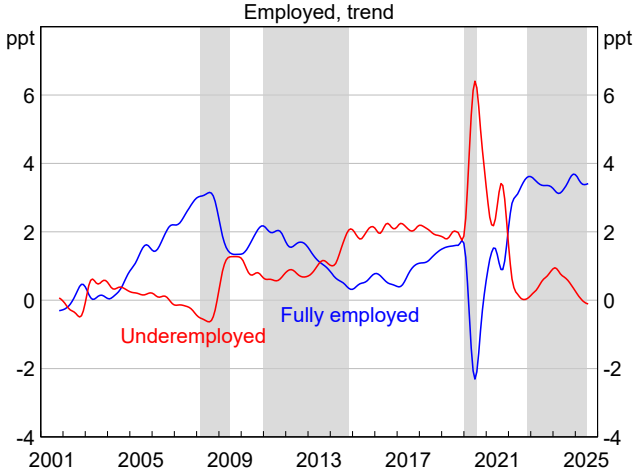
In general, the redistribution of workers from a cohort with a higher relative JFR to one with a lower relative JFR tends to weigh on overall search activity and the SI. Over time, as workers have increasingly moved into employment (which tends to be associated with a lower relative JFR), consistent with an upwardly trending employment-to-population ratio, the SI has trended down. This is further shown in Graph 5, with the general downward trends in the contributions of the NILF and unemployed cohorts (who tend to have higher relative JFRs) dominating the upwards trend in the contribution of the employed, who tend to have lower relative JFRs. Overall, the slight decline in the SI since early 2024 largely reflects a reduction in effective searchers who are classified as being outside the labour force.

These aggregated contributions can mask differences across the underlying cohorts. For example, within the employed group, the fully employed and underemployed cohorts behave in opposing ways over the business cycle (Graph 6). Similar to the unemployed, the contribution of the underemployed tends to move countercyclically, as observed during the global financial crisis, as the underemployment rate typically rises when the labour market eases. By contrast, the contribution of the fully employed tends to fall when labour market conditions soften.

Graph 6

Contributions to Searchers Index*

Employed, trend



* Logarithm of Searchers Index; shading indicates episodes where there has been a persistent increase in the unemployment rate.

Sources: ABS; RBA.

The medium-term unemployed, who typically capture cyclical unemployment, look to be driving most of the cyclicality in the overall contribution of the unemployed (Graph 7). The contributions of most other unemployed cohorts and cohorts outside the labour force do not tend to respond systematically to the business cycle.[12]

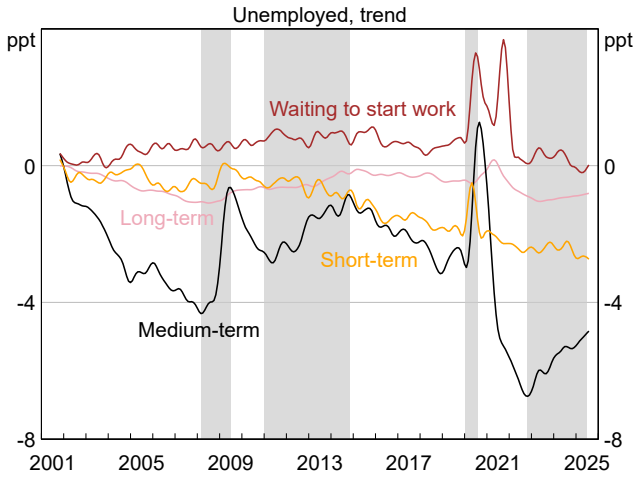
What does the V-S ratio tell us?

The SI allows us to construct a more comprehensive measure of labour market tightness called the V-S ratio. As with the V-U ratio, the V-S ratio attempts to capture the balance between the demand for labour (proxied by job vacancies) and the potential supply of labour that could meet this demand. That said, unlike the V-U ratio, the V-S ratio recognises that vacancies are not only filled by the unemployed but also by other job searchers who are either already employed or who are outside the labour force.

Graph 7

Contributions to Searchers Index*

Unemployed, trend



* Logarithm of Searchers Index; shading indicates episodes where there has been a persistent increase in the unemployment rate.

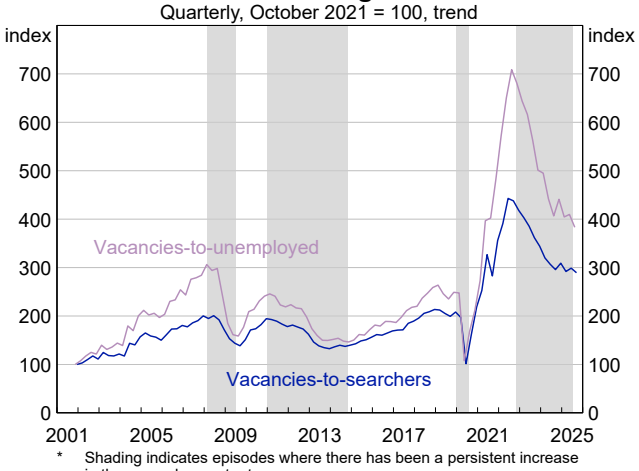
Sources: ABS; RBA.

The V-S and V-U ratios tend to co-move as the unemployment rate and SI are correlated (Graph 8). Both measures suggest that tightness in the labour market increased significantly after mid-2020 to reach a record high in mid-2022 and that labour market tightness has subsequently eased. More recently, the V-S ratio looks to have stabilised somewhat while the V-U ratio has declined further. Both ratios remain at levels that are above pre-pandemic outcomes. Despite the upwards trends in these series, these indicators provide some evidence that conditions in the labour market remain somewhat tight.

Graph 8

Measures of Tightness*

Quarterly, October 2021 = 100, trend



* Shading indicates episodes where there has been a persistent increase in the unemployment rate.

Sources: ABS; RBA.

Given that the V-S ratio captures a much broader set of potential job searchers, we intend to include the V-S ratio in the suite of measures of spare capacity we monitor on a regular basis. Furthermore, we plan to investigate its relationship with wages growth and inflation as some overseas studies have found that the V-S ratio could be a relatively good predictor of these variables (Heise, Pearce and Weber 2024).

Conclusion

The SI tends to move together with the unemployment rate, although it exhibits considerably less cyclicality. By considering those searching on-the-job or while outside the labour force, it accounts for the possibility that an increase in unemployed searchers could be offset by a decline in searchers from another cohort. This dampens the degree to which effective searchers changes over time relative to that implied by the unemployment rate. The SI captures the net effect of movements of workers between cohorts with different (relative) JFRs, including the impact of broader labour market trends. The V-S ratio constructed using the SI and the V-U ratio evolve similarly; both suggest that labour market conditions remained somewhat tight over 2025. Nevertheless, it is important to note that the RBA considers a number of labour market indicators when forming its assessment of full employment as each measure has its own limitations, and that the V-S ratio is but one of many metrics that can be included in the RBA's toolkit.

Appendix A: Description of labour market cohorts and further detail on the Searchers Index

Cohort descriptions

Table A.1 provides descriptions of the 11 labour market cohorts underlying the Searchers Index.

Table A.1: Labour Market Cohorts

Cohort	Definition
Employed	
Underemployed	Consistent with the ABS definition of underemployment, this category includes those who are working part-time and are willing and able to work more hours and those who are usually working full-time but who worked less than 35 hours in the reference week for economic reasons (e.g. there was insufficient work available or they were stood down).
Fully employed	Any employed person who does not fall within the ABS definition of underemployment.
Unemployed	
Waiting to start a job	An unemployed person who is waiting to start a job in the next four weeks and who was available to work in the reference week if the job was available then.
Short-term unemployed	Those who have been unemployed for less than four weeks and are not an unemployed person waiting to start a job.
Medium-term unemployed	Those who have been unemployed for four to 52 weeks and are not an unemployed person waiting to start a job.
Long-term unemployed	Those who have been unemployed for more than 52 weeks and are not an unemployed person waiting to start a job.
Not in the labour force	
Actively looking	Those who have taken active steps to seek work (e.g. by applying to vacancies or interviewing) but who were not available to start in the reference week and therefore were not classified as 'unemployed'.
Passively looking	Those who have taken some steps to seek work (e.g. by looking on job advertisement platforms).
Waiting to start a job	A person who is waiting to start a job but who did not meet the definition of an unemployed person waiting to start a job described above.
Not looking	Those who have reported that they have not taken any steps to look for work.
Unable to work or retired	Those who are permanently unable to work, institutionalised or at a boarding school or who are permanently not intending to work and aged 65 and over.

Sources: ABS; RBA.

Further detail on the construction of the Searchers Index

The SI is constructed using a chained Tornqvist index. Growth in the SI is defined as a weighted average of the percentage growth in each cohort's share of the population (Equation 1). The weight applied to each cohort is a simple average of its share of total hires in the current and previous months. As a cohort's share of hires can be expressed as the product of its relative JFR and population share, cohorts are effectively weighted by (a proxy of) how intensely they search for work and their importance in the population respectively. In particular, the share of total hires of cohort i at time t can be written as $\frac{hires_{i,\,t}}{total\ hires_t} = \frac{JFR_{i,\,t} \times Population_{i,\,t}}{JFR_t \times Population_t} = Relative\ JFR_{i,\,t} \times Population\ share_{i,\,t}$. Equation 1 implies that the (log) SI in month T is the sum of the cumulative contributions of each cohort to the SI over time given an arbitrary and unobserved initial level for the SI (SI_0) (Equation 2).

$$\log\left(\frac{SI_t}{SI_{t-1}}\right) = \sum_{i=1}^{n} x_{i,\,t} \log\left(\frac{Pop\ share_{i,\,t}}{Pop\ share_{i,\,t-1}}\right) \tag{1}$$

$$\log\left(SI_T\right) = \sum_{i=1}^{n}\sum_{t=1}^{T} x_{i,\,t} \log\left(\frac{Pop\ share_{i,\,t}}{Pop\ share_{i,\,t-1}}\right) + \log\left(SI_0\right) \tag{2}$$

Where n is the number of cohorts, $x_{i,\,t}$ is the weight applied to cohort i and $Pop\ share_{i,\,t}$ is cohort i's share of the population at time t.

The contribution of cohort i to the (log) SI at time T given an initial level for the SI (SI_0) is given by:

$$\sum_{t=1}^{T} x_{i,\,t} \log\left(\frac{Pop\ share_{i,\,t}}{Pop\ share_{i,\,t-1}}\right)$$

Each cohort's contribution to the change in the SI between period $t-1$ and period t is $x_{i,\,t} \log\left(\frac{Pop\ share_{i,\,t}}{Pop\ share_{i,\,t-1}}\right)$. Since $x_{i,\,t}$ is the weight (or the average share of total hires) for cohort i and is non-negative, the sign of each cohort's contribution is determined by the percentage change in their share of the population or $\log\left(\frac{Pop\ share_{i,\,t}}{Pop\ share_{i,\,t-1}}\right)$.

Endnotes

* The author completed this work while in Economic Analysis Department. The author would like to thank Martin McCarthy, Mike Major and Kevin Lane for helpful discussions on this work.

1 For our latest assessment of spare capacity in the labour market, see RBA (2025).

2 Previous literature constructed measures of effective searchers by calculating a weighted average of the quantity of each type of job searcher using fixed weights. It is natural to want to account for time-varying weights but this is not straightforward. With time-varying weights, the resulting measure of searchers will not be a 'pure' measure of changes in the quantities of each type of job searcher. That is, the measure of effective searchers may vary due to a change in a cohort's JFR even if the quantity of each type of job searcher is held constant. McCarthy (forthcoming) proposed the use of a chained Tornqvist quantity index, which is a pure measure of changes in the quantity of effective searchers that uses time-varying weights.

3 Specifically, they can be short-term, medium-term or long-term unemployed if they have been unemployed for fewer than four weeks, between four and 52 weeks and over 52 weeks respectively.

4 I account for secondary jobs gained as they also contribute to the filling of vacancies and are of importance now given that the multiple job-holding rate remains elevated (see ABS (2025)).

5 The average JFR of the population – the aggregate JFR – is a weighted average of cohort-specific JFRs. The weights used in the construction of the aggregate JFR refer to each cohort's share of the population.

6 It is worth noting that these JFRs refer to the unconditional probability that an individual finds work rather than the probability they find work *conditional* on them searching for work. Hence, a cohort can have a low JFR simply because many individuals in that cohort do not search for or accept a job. For an unemployed individual, the unconditional and conditional (given they are searching for a job) probabilities of finding a job should be identical as the unemployed are, by definition, actively searching for a job. However, these two probabilities could differ for the employed and those outside the labour force as the probability they find a job, conditional on the individual already searching for a job, should be higher than the relevant unconditional probability.

7 The low (relative) JFR for the long-term unemployed is consistent with the finding in Cassidy *et al* (2020).

8 The formula underlying the SI is called a 'chain Tornqvist index' and is recommended by McCarthy (forthcoming).

9 See Appendix A for a proof of how a cohort's share of total hires is equal to the product of their relative JFR and their share of the population.

10 See Appendix A for a mathematical explanation of how the change in each cohort's contribution depends on the change in their population share.

11 These contributions are simply equal to the sum of the contributions of the relevant underlying labour market cohorts.

12 The contribution of the cohort that is outside the labour force and passively looking for work cohort has risen over time. This may be partly due to job vacancies becoming more readily accessible online, such that it has become easier for individuals to be classified as 'passively looking' for work. An individual may have 'passively looked for work' if, for example, they had looked at a job advertisement without directly applying or contacting an employer.

References

Abraham KG, JC Haltiwanger and LE Rendell (2020), 'How Tight Is the US Labor Market?', *Brookings Papers on Economic Activity*, 51(Spring), pp 97–165.

ABS (Australian Bureau of Statistics) (2025), 'Multiple Job-holders', 5 September.

Ballantyne A, A Sharma and T Taylor (2024), 'Assessing Full Employment in Australia', RBA *Bulletin*, April.

Byrne S and T Conefrey (2017), 'A Non-employment Index for Ireland', *Central Bank of Ireland Economic Letters* No 9.

Cassidy N, I Chan, A Gao and G Penrose (2020), 'Long-term Unemployment in Australia', RBA *Bulletin*, December.

Ellis L (2021), 'Innovation and Dynamism in the Post-pandemic World', Speech to the Committee for the Economic Development of Australia, Webinar, 18 November.

Heise S, J Pearce and J Weber (2024), 'Wage Growth and Labour Market Tightness', *Federal Reserve Bank of New York Staff Reports* No 1128, October.

Hornstein A, M Kudlyak and F Lange (2014), 'Measuring Resource Utilisation in the Labour Market', *Federal Reserve Bank of Richmond Economic Quarterly*, 100(1), pp 1–21.

Kudlyak M (2017), 'Measuring Labor Utilization: The Non-Employment Index', *Federal Reserve Bank of San Francisco Economic Letter* No 2017-08, March.

McCarthy M (forthcoming), 'Measuring Effective Searchers with Quantity Indexes', Working Paper.

RBA (2025), 'Section 2.4 Assessment of Spare Capacity', *Statement on Monetary Policy*, August.

The Global Energy Transition and Critical Minerals

Harry Stinson and Irene Cam*

Photo: FabianAeroPixel – Getty Images

Abstract

Australia is a key producer of some of the critical minerals that are likely to play an important role in the energy transition away from fossil fuels. Global demand for these minerals could grow significantly over the long term if the transition towards lower emissions progresses. This would support growth in the Australian production of these minerals, potentially increasing their relative importance to the domestic economy. However, this outlook is uncertain and depends on a range of factors such as the speed of the global energy transition, the relative take-up of different technologies and potential development of new technologies, global prices and the competitiveness of domestic production. In the near term, based on projects currently underway and announced, growth in production is likely to remain subdued, though new policy announcements may provide support for investment.

Introduction

A global, multisector transition to lower greenhouse gas emissions is underway. Adoption of renewable energy over the past decade has been generally faster than expected, alongside a larger-than-expected decline in the relative costs of production, in part driven by policy support in China and elsewhere. While annual global emissions have not yet peaked, these developments are contributing to a gradual shift in demand away from commodities like coal and oil and towards commodities that are used extensively in clean energy technologies.

'Critical' minerals are broadly defined as those that are important for the functioning of modern technologies or economies, or for national security, and are vulnerable to supply chain disruptions. The Australian Government maintains a list of critical minerals, which currently includes 31 minerals, and updates the list from time to time in response to changes in demand and supply conditions and technology (DISR 2024).[1]

Our article focuses on the critical minerals that are used extensively in clean energy technology because these minerals have the greatest potential to become important for the Australian economy should global demand grow strongly as projected by the International Energy Agency (IEA).[2] This subset (referred to as critical minerals in this article) includes lithium, nickel, cobalt, graphite, rare earths, and copper (Table 1).[3] While copper is not on Australia's list of critical minerals, we include it here because it is a major component in most clean energy technologies and it is widely recognised as a critical mineral by other major economies, including China, the European Union and the United States.[4]

Critical minerals are vulnerable to supply shortages due to a combination of factors. While it is possible that demand for critical minerals could grow rapidly, supply is largely fixed in the short run because it takes a long time to develop mines. It can take critical mineral projects more than 10 years to go from the exploration to the production stage, though this time period can vary by mineral and price incentives (Australian Government 2023). Critical mineral deposits and refining capacities also tend to be much more concentrated geographically than other minerals, and so they are particularly vulnerable to geopolitical and supply chain disruptions. For example, rare earths deposits are almost fully concentrated in three countries, and most of the world's critical minerals refining capacity is located in China (Americo, Johal and Upper 2023).

Developments in the critical minerals sector, both in Australia and globally, will be an important determinant of how Australia's role as a resource exporter may change as part of the global energy transition. Increased economic activity in Australia's critical minerals sector – for example, due to more investment and exports – could at least partially offset the expected decline in activity from lower global demand for fossil fuel exports (Kemp, McCowage and Wang 2021).

Table 1: Select Critical Minerals and their Clean Energy Applications

Mineral	Applications		
	Batteries used in electric vehicles and energy storage systems	Wind turbines	Solar panels
Lithium	✓		
Rare earths	✓	✓	
Graphite	✓		
Nickel	✓	✓	
Cobalt	✓	✓	
Copper	✓	✓	✓

Sources: Department of Industry, Science and Resources; Geoscience Australia; International Energy Agency.

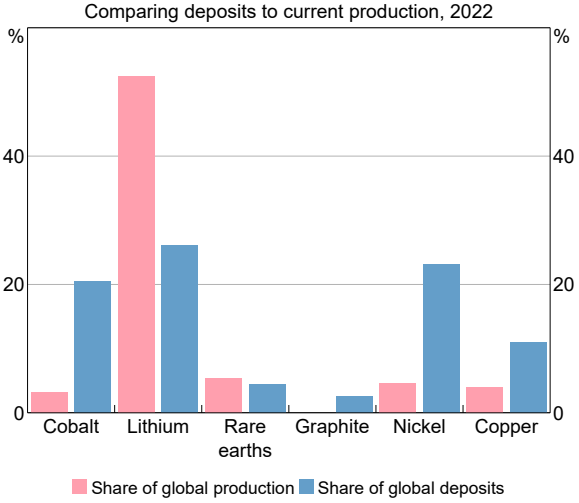
In this article, we provide some background on Australia's critical minerals sector, before then exploring how the demand for critical minerals could evolve in the medium-to-long term and how this might affect the size of Australia's critical minerals sector. We refer to two widely used benchmark global energy transition scenarios and focus specifically on the potential impact on export volumes, rather than export values or Australia's terms of trade. Export values can grow strongly and boost national income even if volumes are little changed. However, by anchoring our assessment of the long-term outlook around global mineral demand growth projections, we implicitly assume an increase in the average relative price of minerals that is consistent with these benchmark scenarios and that Australia's cost of production relative to the global average is unchanged over time. Scenario analysis is a useful tool because there is substantial uncertainty around how future technology and climate policy developments will affect the speed and manner in which the global energy transition proceeds and hence the supply and demand for critical minerals. That said, the scenarios that we explore are two of many possible future states and embed very particular assumptions about how climate policies and the relative price of different energy technologies will evolve in the future.

Australia's critical mineral sector

Australia has large endowments and is an important global producer and exporter of some critical minerals. It is the world's largest producer of lithium and one of the top five producers and exporters of cobalt and rare earths (Graph 1). Most of Australia's critical mineral deposits and mines are in Western Australia, with a large share of the mined minerals processed offshore in key export markets, including China, the United States, Japan and Malaysia.[5] While Australia is a key exporter of these minerals, critical mineral exports currently comprise a small share of Australia's resource exports (Graph 2).

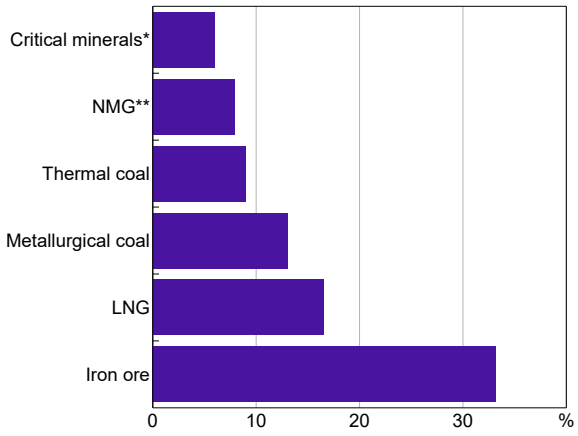
A number of critical mineral projects are currently underway in Australia that aim to boost Australia's production and processing capabilities, though most of these are still being assessed for viability, and so they are unlikely to increase Australia's production in the near term due to long lead times. Australia's processing and refinery capabilities are also expected to grow modestly in the near term based on the current pipeline of projects.

Graph 1
Australia's Clean Energy Critical Minerals
Comparing deposits to current production, 2022



Sources: Geoscience Australia; RBA.

Graph 2
Australia's Resource Exports
Share of total value in 2023/24

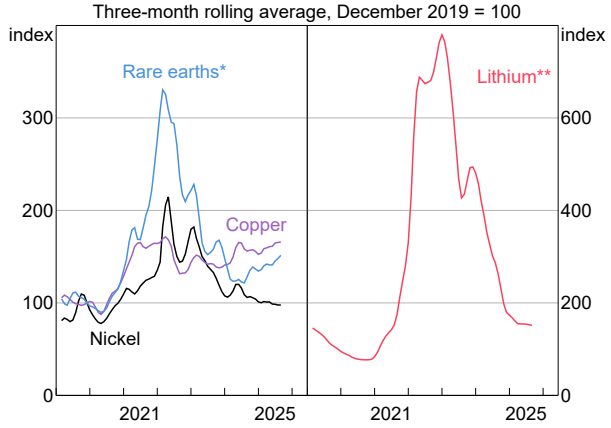


* Includes lithium, nickel and copper.
** Non-monetary gold.
Sources: DISR; RBA.

In recent years, government policy has sought to encourage private investment in critical minerals projects. The Australian Government's Critical Minerals Strategy 2023–2030 sets out a framework for growing Australia's critical mineral sector and includes domestic funding facilities designed to support critical mineral exploration and production, as well as international partnerships (Australian Government 2023). The Future Made in Australia plan also includes policies aimed at growing the sector, including budgeted spending and production-linked tax incentives (Australian Government 2024). As this article was being finalised, the United States and Australia have agreed to a framework to support the supply of raw and processed critical minerals and rare earths crucial to the commercial and defence industries of the United States and Australia.

Global critical mineral prices play a significant role in incentivising Australian investment and production. In 2021, accelerated growth in the adoption of electric vehicles (EV) globally and expectations for strong future demand growth contributed to a sharp increase in the prices of many critical minerals (Graph 3). In response to the elevated prices, investment in and supply of lithium and nickel at the time were scaled up more quickly than anticipated.[6] With supply increasing in more recent years, prices have declined substantially (DISR 2025a), and this has affected Australian investment and production of critical minerals. The RBA's liaison program suggests that some late-stage lithium projects were delayed in 2024, and some operating mines delayed investment, waiting for a sustained pick-up in prices. Production at several mines was also paused during 2024 due to concerns about profitability.[7]

Graph 3
Select Critical Mineral Spot Prices
Three-month rolling average, December 2019 = 100



* Spot price of prseodymium-neodymium alloy.
** Spot price of Australian spodumene.
Sources: Bloomberg; DISR; LSEG; RBA.

Assessing the outlook for critical minerals demand

As global developments are important in shaping trends in the Australian critical minerals sector, we first consider the global outlook for critical minerals demand before then assessing the relevant implications for Australia. We use the IEA's global mineral supply and demand volumes projections, which cover the entire mineral and metal value chain from mining to refining. The scenarios we consider are just two of many possible future states, and there is a large degree of uncertainty about the global transition to lower emissions. Importantly, the IEA scenarios are not presented as forecasts nor as assessments of desired energy transition paths for the world. We use them here as benchmarks that have been directly translated into mineral demand projections.

Climate policy scenarios

A key source of uncertainty relates to climate policy and whether policy measures will be sufficient to achieve emissions reduction goals. To consider the policy outlook, we use two of the IEA's climate policy-based reference scenarios:

- Stated Policies Scenario (STEPS)
- Announced Pledges Scenario (APS).

STEPS assumes that climate policies that are either currently implemented or under development as at the end of August 2024 are preserved throughout the scenario horizon. Commitments and targets that have been announced are not assumed to be met in this scenario unless current policies are sufficient to meet them. The policies include ones that are part of large national decarbonisation reforms, such as the *Inflation Reduction Act of 2022* (IRA) in the United States and the Fit-for-55 package in the European Union, though some policies embedded in STEPS are now outdated (e.g. recent US policy changes have accelerated the termination of EV and clean electricity investment tax credits in the IRA).

APS is a more ambitious policy scenario that assumes that all climate targets that have been announced by countries, including commitments made under the Paris Agreement, are met in full and on time regardless of whether a country's climate policy is sufficient to achieve those targets. APS also assumes that all OECD countries

apply the same economy-wide carbon prices (or their policy equivalents) as each other, as do emerging and developing countries with net zero pledges. In practice, policies are more likely to continue to evolve in an uncoordinated manner.[8]

Uncertainty around technology developments

Another source of uncertainty is the development of technology, as new and more efficient or alternative technologies could affect relative demand for minerals directly, as well as indirectly through implications for climate policies. We use mineral projections from the IEA's Global Energy and Climate Model, which is conditioned on a set of assumptions about the pace of decline in production costs of clean technologies, ranging from EVs to innovative technologies like iron-based steel production with carbon capture (IEA 2024a).

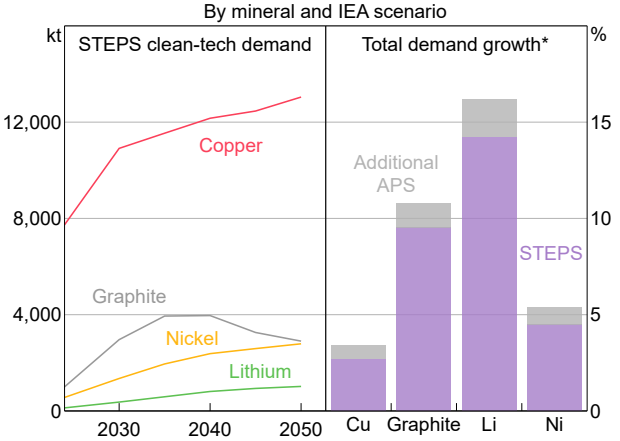
In practice, different technological assumptions can drive major qualitative and quantitative differences. For example, different models used by the Network for Greening the Financial System (NGFS) in their scenarios can project a difference of around US$95 billion in global energy storage investment over the next five years.[9] Policies can help shape these technological development paths (e.g. China's long-running policy support for EV uptake and solar photovoltaic (PV) production has driven cost reduction in, and widespread deployment of, these technologies), but the climate targets and investments that countries commit to still depend on expectations around future technology developments.

Global outlook for critical minerals

Demand

IEA projections indicate that the energy transition will drive the sharpest growth in demand for lithium, as well as a significant increase in demand for copper, graphite and nickel (Graph 4). Demand for batteries in the EV sector is the main driver of this projected growth (Graph 5).[10] To put the scale of potential growth in perspective, even in STEPS, which does not assume any increase in climate policy ambition over time, the aggregate market value of key critical minerals is expected to grow to roughly 45 per cent of the 2023 global iron ore market by 2030.[11] Much of this growth is concentrated in the short-to-medium term and is supported by current policy settings. Lithium demand is expected to grow at an average compound annual rate of around 14 per cent to 2030, with the more ambitious policy in APS increasing this by around two percentage points each year (Graph 4). This partly reflects the similar assumed rates of technological change across the two scenarios and may not be a feature of all possible scenarios.

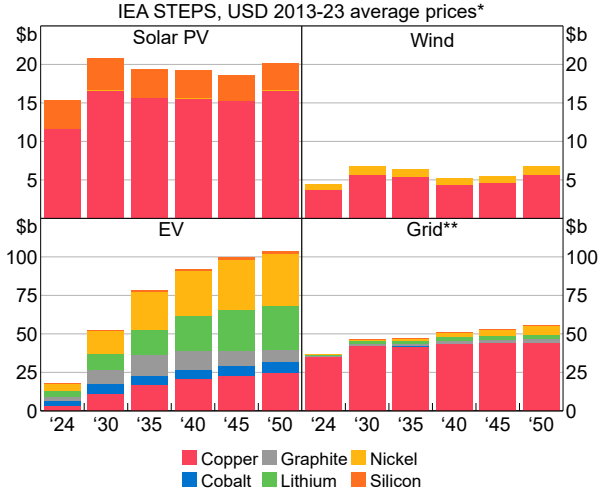
Graph 4
Projected Mineral Demand Growth
By mineral and IEA scenario



* Compound annual growth rate over 2024–2030; including both clean-tech and other demand.

Sources: IEA; RBA.

Graph 5
Projected Mineral Demand by Technology
IEA STEPS, USD 2013-23 average prices*



* All values computed using IEA projected volumes and average mineral prices over 2013-23, except lithium which uses the average 6% Li spodumene price over 2018-23, scaled to the 100% Li content of the IEA's demand projections.

** Includes demand for grid battery storage and electricity networks.

Sources: Bloomberg; IEA; LSEG; RBA.

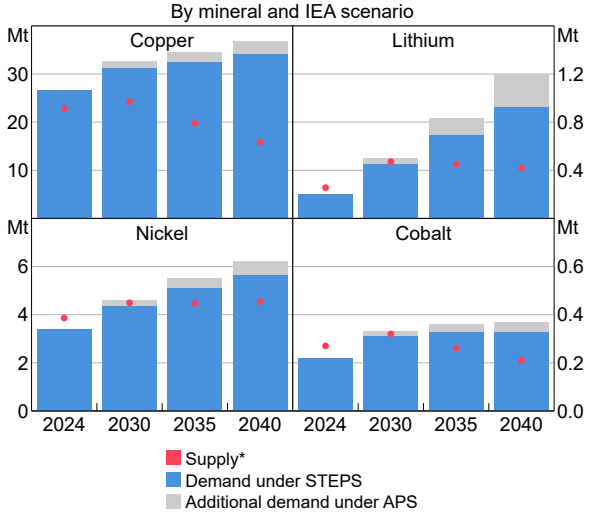
IEA scenarios like APS highlight that more ambitious policies translate to larger mineral demand estimates. However, policy uncertainty could also present downside risks to the medium-term demand outlook that is implied by these scenarios. Recent policy developments – including greater restrictions on and accelerated phaseout of certain clean energy tax credits under the IRA in the United States, increased export bans on critical minerals and bilateral tariffs – have increased uncertainty around prices and the pace of clean technology deployment in some regions. Although these policy changes will likely slow the pace of adoption rather than reverse it (Economist 2025), demand estimates could be weaker than projected if current policies embedded in IEA scenarios are substantially unwound.

Uncertainties around technological developments not captured by the scenarios are more likely to affect long-term projections. The IEA expect EV battery demand to grow robustly despite uncertainties due to how much prices have declined and ongoing policy support in most countries (IEA 2024b; IEA 2025), though innovations in the chemistry mix of batteries could change the relative demand for minerals over time.[12] How the scale and relative cost of energy storage technologies develop will directly affect demand projections for battery minerals. They will also heavily influence the extent to which intermittent solar and wind energy can replace coal in the energy mix and how gas will be used to provide reliable power for electricity grids in the long term, in turn affecting demand for other clean technologies used in renewable energy generation and electricity grids.

Supply

To compare against the demand projections, we use the IEA's estimates of mined mineral output based on existing and announced mining projects as a conservative estimate of supply. Together, the estimates suggest that there may be insufficient supply of critical minerals by 2035 to meet the required demand under STEPS, particularly for copper and lithium (Graph 6). However, these projected 'shortfalls' in the medium and long term are likely to be overstated, as the estimates do not account for how endogenous price changes could encourage supply to expand. If company investment decisions have been based on more conservative assumptions of demand than what STEPS implies is required, there could be upside risks to mineral prices and supply in response. As we have less information about projects that will influence supply out to 2040, unannounced projects could also commence within that timeframe. Alternatively, the projected 'shortfall' could imply that STEPS is currently unrealistic, and future realisation of weaker actual demand could drive average prices lower than the level needed to achieve the STEPS demand projections. Nevertheless, the risk of price volatility remains elevated in the short-to-medium term due to these demand uncertainties and the long development timelines of some minerals, and this will weigh on investment and production incentives in Australia.

Graph 6
Projected Mineral Supply-Demand Balance
By mineral and IEA scenario



* Projected supply is based on mined output expected from existing and announced projects. Does not account for recycled volumes that may contribute as secondary supply.

Source: IEA.

Australian outlook for critical minerals

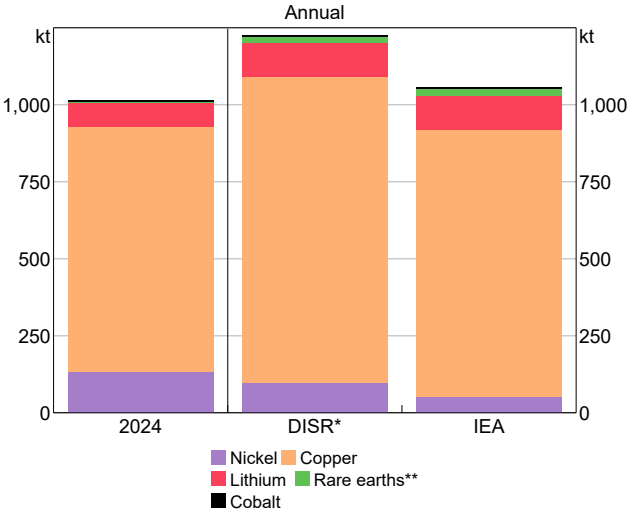
In this section, we explore the outlook for Australian critical minerals production until 2050. We use Australian supply projections from the IEA and the Department of Industry, Science and Resources (DISR) to 2030 (based on current and announced mining projects in Australia) and extend this to 2050 by assuming that Australian supply grows at the same rate as global demand in the IEA STEPS and APS scenarios.[13] However, this long-term outlook for Australia's critical mineral production is extremely uncertain. Whether Australian production will grow in line with global demand will depend on a range of domestic and global factors, including government policy, technological developments, developments in global prices relative to Australian producers' marginal costs and other factors that determine the viability of Australian projects such as exploration success and mine approvals.

Medium term

The IEA and DISR supply projections suggest that Australia's production of lithium, rare earths, and copper will increase strongly over the next five years, but this will be somewhat offset by a material decline in the production of nickel (Graph 7). The projected increase reflects new projects, as well as the expansion of existing mines (e.g. Greenbushes and Mount Holland in Western Australia), while the projected decline in nickel production reflects lower prices, resulting in projects being cancelled and the scaling back of production at existing operations. There is some uncertainty, however, around the magnitude of this decline. DISR projects that the decline in nickel production will be around half the size of the estimates in the IEA projections.[14] Export value projections from DISR suggest that exports of lithium, copper and nickel will account for around 10 per cent of Australia's resource exports in 2030 (DISR 2025b), compared with the modest share of around 6 per cent today.

Graph 7

Australian Critical Mineral Mine Production in 2030



* Projections for cobalt and rare earths are assumed to equal those in the IEA projections.

** Rare earths are neodymium or praseodymium oxides.

Sources: DISR; IEA; RBA.

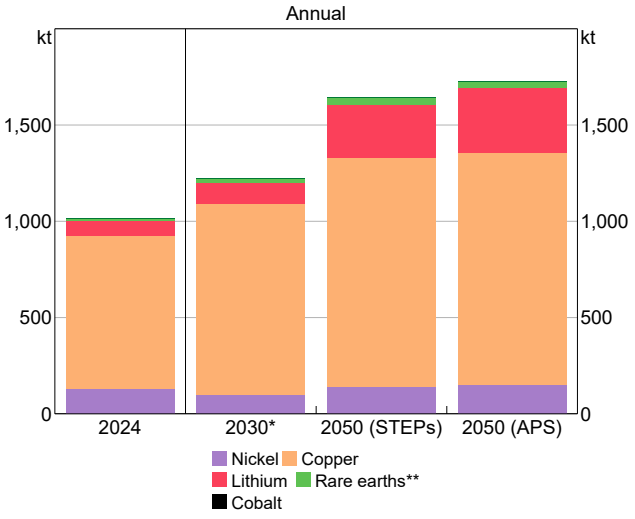
Developments in global demand for critical minerals, which will drive mineral prices, are a key uncertainty in this medium-term outlook. Low prices for critical minerals have halted production and delayed investment plans at some Australian mines in recent years. If global demand does not pick-up as projected and prices remain low, there is a risk that production increases by less than assumed in these supply projections, with projects being delayed or cancelled and operating mines remaining closed. Alternatively, if global demand grows more quickly than projected, and critical mineral prices increase substantially relative to the price of Australia's other resource exports, the critical minerals share of resource exports could be materially higher than projected and the critical mineral sector could become more important for the Australian economy.

Long term

In the long term, growth in Australian production will depend on the international competitiveness of Australian critical mineral producers. By assuming that Australian supply grows in line with global demand in STEPS, we implicitly assume that Australia's marginal cost of production changes in line with global marginal costs over time. Under this assumption, Australian production grows strongly between 2030 and 2050, with growth driven by lithium as global lithium demand is expected to be around 2.5 times higher in 2050 than in 2030 (Graph 8). In the ambitious APS projections, Australia's annual critical mineral production could be around 1.5 times higher in 2050 than in 2030. Although, in a scenario in which the energy transition and growth in global demand are slower, critical mineral production would increase by less than in the STEPS and APS projections.

Graph 8

Australian Critical Mineral Mine Production



* Projections based on supply projections from DISR and IEA derived from current and announced mining projects in Australia.

** Rare earths are neodymium or praseodymium oxides.

Sources: DISR; IEA; RBA.

In the long run, the size of the critical minerals sector in Australia will also depend on productivity in Australia and how much value-adding activity is captured onshore. As discussed above, Australian Government policy aims to develop Australian producers' involvement in downstream activities. IEA projections for refined production, which are based on current projects, suggest that Australia's processing and refinery capabilities will grow modestly until 2040, and most of the refinery of lithium, rare earths, and cobalt is expected to continue to take place in China, Indonesia and Malaysia. Contacts in the RBA's liaison program note that Australia's relatively high input costs make it less internationally competitive in developing this capacity. Firms have also reported that some downstream processing operations require specialised skillsets that are currently difficult to find in the Australian labour market.

Conclusion

In Australia, recent global price declines have halted the production of some minerals and delayed investment plans, such that growth in production is likely to remain subdued. Recent policy announcements may provide support for investment. Medium-term supply projections suggest that Australia's production of lithium and copper could increase strongly over the next five years, though aggregate critical mineral production growth is buffered somewhat by expected declines in the production of nickel. In the long term, investment and production of critical minerals could increase strongly in Australia, noting that some climate policy scenarios suggest global demand will grow strongly.

However, the magnitude of both long-term global demand projections and Australian production remains subject to considerable uncertainty. The path of policy and technological developments will be key determinants of relative mineral demand and the overall pace of global mineral demand growth. Whether Australian production grows in line with global trends will depend on future government policy, developments in global prices, exploration success, whether Australian producers can maintain or improve international competitiveness, and how much value-adding activity is captured onshore.

Endnotes

* Harry Stinson is from Economic Analysis Department and Irene Cam is from Economic Research Department. Thanks to Anna Park, Jeremy Lawson, John Boulter, Mick Plumb, Joanne Embry and Ellen Waterman for their comments and contributions to this analysis. This article was largely finalised prior to the signing of the Critical Minerals Framework between the United States and Australia on 20 October 2025.

1 Australia's list differs from those in other countries (e.g. the United Kingdom and the United States) because, in practice, countries have different frameworks for determining whether a given material is important for the functioning of modern technology and vulnerable to supply shortages.

2 There are also significant data gaps that make it difficult to conduct analysis on other minerals on the Australian Government list.

3 Rare earths are a group of metals that are generally not found in concentrations sufficient to make them viable for commercial mining.

4 Copper is recognised as a critical mineral by the US Department of Energy and will likely be added to the US Geological Survey's updated list later in 2025. Copper is also classified as a critical mineral at the state level in South Australia.

5 Copper is an exception as copper mines are located across Australia, but are concentrated in South Australia, Queensland and New South Wales.

6 For example, this is faster than forecasted by McKinsey & Company (2024) and the IEA (2024c).

7 For example, BHP's Nickel West operation and Mineral Resources' Bald Hill lithium mine.

8 This non-uniformity may be better captured in reference scenarios like the Fragmented World Scenario from the NGFS, which assumes that current policy settings in countries are maintained until 2030 before policies are ramped up substantially (but divergently) to progress climate goals. NGFS scenarios calculate carbon prices endogenously in their models, so these cross-country differences may have larger feedback effects than in the IEA model where the carbon price assumptions are set exogenously. However, we do not consider the NGFS scenario here as it is not consistently mapped to mineral demand projections like the IEA scenarios.

9 Estimates are from a comparison of world energy storage investment projections under current policy settings between the NGFS' 2024 REMIND-MAgPIE and MESSAGEix-GLOBIOM models.

10 Non-clean technology uses of lithium are also expected to generate lithium demand growth comparable to growth from clean-technology use. These include use in batteries for digital appliances and producing ceramics and glass.

11 The aggregate market value of key critical minerals is estimated using current long-run average prices as in Graph 5.

12 Sodium-ion batteries are an alternative to lithium-based batteries that would reduce global lithium demand if deployed on a wider scale, but the technology is still under-developed and development incentives are currently weak due to low lithium prices.

13 This implicitly assumes that Australia's marginal cost of producing these minerals will move in line with global marginal cost shifts, such that Australia's relative position on the global cost curve is unchanged. Australia's lithium producers appeared to sit around the middle of the global cost curve in 2022, while cobalt and nickel producers were at the higher end.

14 DISR (2025b) assumes that higher nickel prices will result in improvements in domestic production closer to 2030.

References

Americo A, J Johal and C Upper (2023), 'The Energy Transition and Its Macroeconomic Effects', BIS Paper No 135.

Australian Government (2023), 'Critical Minerals Strategy 2023–2030', June.

Australian Government (2024), 'Future Made in Australia', Plan.

DISR (Department of Industry, Science and Resources) (2024), 'Australia's Critical Minerals List and Strategic Materials List'.

DISR (2025a), 'Resources and Energy Quarterly: June 2025', Report.

DISR (2025b), 'Resources and Energy Quarterly: March 2025', Report.

Economist (2025), 'What Happens If the Inflation Reduction Act Goes Away?', *The Economist*, 21 May.

IEA (International Energy Agency) (2024a), 'Global Energy and Climate Model: Documentation – 2024', Report, October.

IEA (2024b), 'World Energy Outlook 2024', Report, October.

IEA (2024c), 'Global Critical Minerals Outlook 2024', Report, May.

IEA (2025), 'Global EV Outlook 2025: Expanding Sales in Diverse Markets', Report, May.

Kemp J, M McCowage and F Wang (2021), 'Towards Net Zero: Implications for Australia of Energy Policies in East Asia', RBA *Bulletin*, September.

McKinsey & Company (2024), 'Global Materials Perspective 2024', Report, September.

Building Interest in Economics: The Role of Early Exposure

Emma Chow and Tanya Livermore*

Photo: Caiafilm – Getty Images

Abstract

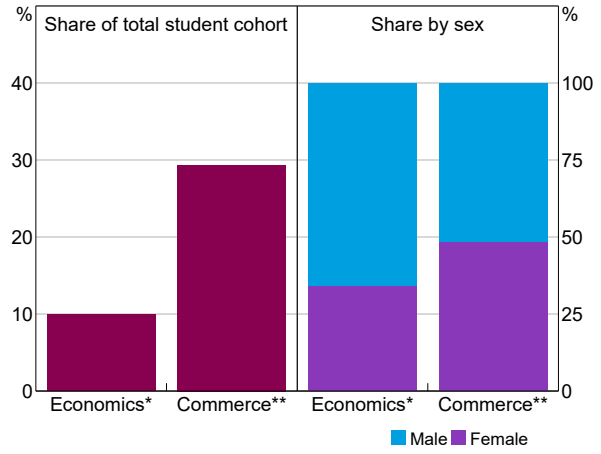
The RBA's 2024 student survey finds that students across New South Wales continued to view the field of economics as relevant and beneficial to society; however, perceptions of the study of Economics in Years 11 and 12 remained less favourable. New insights from the 2024 survey highlight the role of early exposure to Economics through the Years 7–10 Commerce elective, particularly following the introduction of a core economics topic into the 2019 Commerce syllabus. This early engagement is associated with greater student interest, confidence and understanding of Economics. Notably, the largest improvements were observed for students from lower socio-economic backgrounds, who are under-represented in Economics. These findings suggest that an increased focus on efforts to give more Years 7–10 students the opportunity to engage with Economics could help to broaden participation and improve perceptions of the subject among a more diverse cohort of Years 11–12 students.

Introduction

Since the early 1990s, Economics enrolments in Australia have declined markedly, accompanied by a noticeable drop in student diversity (Dwyer 2024).[1] Trends in Economics enrolments are concerning, not only for the economics profession and policymaking, but also for broader economic literacy across the Australian population. Knowledge of economic concepts provides individuals with essential tools to make informed decisions, understand the impacts of economic and other government policies, and actively participate in economic and societal debates (McCowage and Dwyer 2022). Building a more diverse pipeline of future economists is also important for ensuring that economic policies are inclusive, representative and responsive to the needs of all Australians.

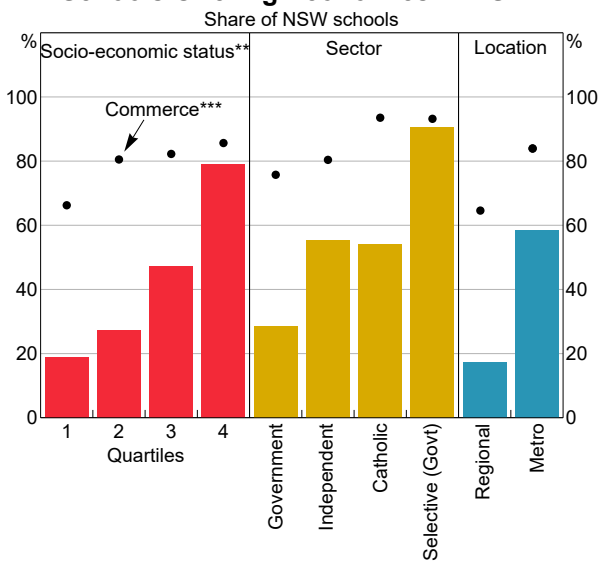
Early exposure to Economics in junior high school presents a key opportunity to increase engagement with the subject. In New South Wales (NSW), the Years 7–10 Commerce elective introduces students to foundational economic concepts and issues.[2] Enrolments in junior high school Commerce are significantly higher and more gender-balanced than in senior high school Economics (Graph 1). Commerce is also taught more widely across schools of varying socio-economic status, sectors and locations, whereas Economics is mostly offered in non-government, government-selective or metropolitan schools that are typically located in higher socio-economic areas (Graph 2).

Graph 1
Economics and Commerce Enrolments in NSW



* Year 12 Economics enrolments in 2023.
** 200-hour plus 100-hour Year 10 Commerce enrolments in 2022.
Sources: NESA; RBA.

Graph 2
Schools Offering Economics in NSW*



* Based on Year 12 Economics enrolments in 2023.
** Socio-economic status (SES) is based on the SES of schools' location.
*** Based on Year 10 Commerce enrolments in 2022.
Sources: NESA; RBA.

To gain updated and deeper insights into the factors influencing students' decisions to study (or not study) Years 11–12 Economics, a second wave of the RBA's High School Student Survey was conducted in 2024, following the first wave in 2019.[3] A representative sample of 38 schools and 4,474 students across Years 10–12 in NSW participated in the online survey.[4] Between the 2019 and 2024 survey waves, major global events, including the COVID-19 pandemic and a period of unusually high inflation, brought economics into sharper public focus. The new survey data enable us to explore whether students' views of economics have evolved against the backdrop of these developments. We provide an update on this in the first part of this article.

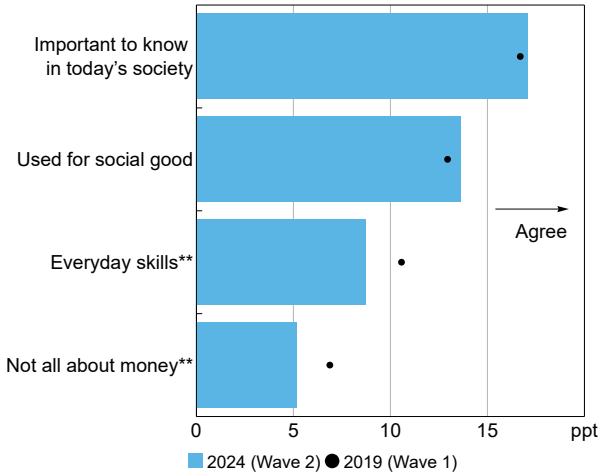
A key addition to the 2024 survey was a set of questions that allowed us to identify which Commerce students ultimately went on to study Economics, in turn enabling us to assess the role of Commerce in students' decisions to study Economics in Years 11–12. We also explore the impact of a revision to the NSW Years 7–10 Commerce syllabus, which introduced a new core topic on the 'Economic and Business Environment' in 2020. This change ensures that all students who choose Commerce now engage with economic concepts before making their subject choices for their senior years, whereas previously schools could decide whether or not to teach an optional economics topic to their Commerce

students (NESA 2025).[5] In the second part of this article, we use the survey results to explore evidence on the effect of this syllabus change on interest in and perceptions of Economics, and find some promising results.

Students' perceptions of Economics: An update

Students across Years 10–12 who participated in the 2024 survey agreed that economics is 'important to know in today's society' and recognised that it can be used for social good, consistent with findings from 2019 (Graph 3). Many students also agreed that economics teaches skills and provides tools that are useful for everyday life and that it goes beyond just being about money, albeit to a slightly lesser degree than in 2019.

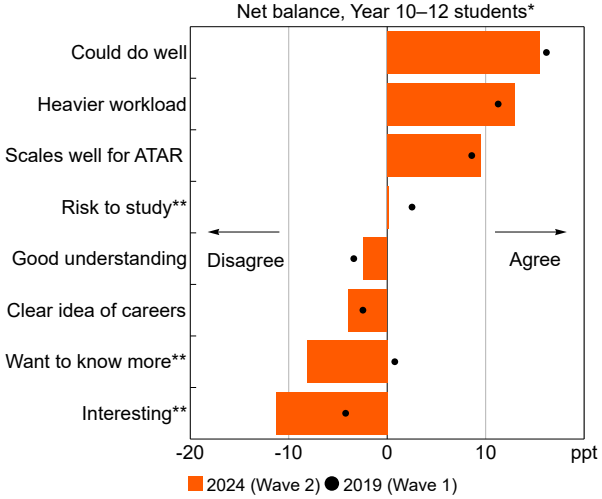
Graph 3
Perceptions of Economics
Net balance, Year 10–12 students*



* Share of respondents who strongly agree minus share who strongly disagree.
** Statistically significant difference between 2019 and 2024 at the 5 per cent level, after controlling for sex, socio-economic status, school type and language.
Source: RBA.

Students generally reported they thought they could do well in Economics if they tried and viewed it as a subject that scales well for the Australian Tertiary Admission Rank (ATAR).[6] They were also less likely to see it as being risky to study than they did in 2019 (Graph 4). However, the reported interest in Economics declined between 2019 and 2024, especially among students who did not choose to study the subject. While the reasons for this trend are unclear, anecdotal evidence from teachers points to a perceived decline in student engagement and attitudes towards learning since the pandemic, which may have swayed some students away from pursuing Economics.[7] Perhaps consistent with this, Economics is perceived as having a heavier workload than most other subjects. Other factors that may have weighed on student interest include ongoing low self-reported understanding of what Economics is and of the career pathways available from studying it.

Graph 4
Perceptions of Economics as a Subject
Net balance, Year 10–12 students*



* Share of respondents who strongly agree minus share who strongly disagree.
** Statistically significant difference between 2019 and 2024 at the 5 per cent level, after controlling for sex, socio-economic status, school type and language.
Source: RBA.

The decline in interest in studying Economics between 2019 and 2024 was broad-based across surveyed males and females, and across students from higher and lower socio-economic status backgrounds (Graph 5).[8] Gaps in perceptions of Economics by sex and socio-economic status also persist. Specifically, surveyed females and students from lower socio-economic schools were less likely to:

- be interested in Economics (i.e. an 'interest gap')
- report a good understanding of Economics and its career options (i.e. a 'perceived knowledge gap')
- believe they could do well in it (i.e. a 'confidence gap').

Although the pandemic and ensuing period of high inflation did not translate into increased overall interest in studying Economics, there is evidence of increased interest in some more specific topics (Table 1). Of note, 'income determinants' and 'wealth distribution' ranked more highly as topics of interest in 2024 compared with 2019, possibly reflecting rising cost-of-living (including housing cost) concerns. In 2024, the topics ranked most interesting by students were the global economy, income determinants and the share market. Students

Table 1: Top Five Topics of Interest
Years 10–12, 2024, in descending order

Economic topics of interest[(a)]	Other societal issues of interest[(b)]
1. Global economy (globalisation, politics and culture)	1. Social inequality
2. Income determinants	2. Health and wellbeing
3. Share market	3. Socio-economic inequality, such as poverty
4. Unemployment and policies	4. Environment
5. Consumer decisions	5. Other economic issues, such as fiscal policy

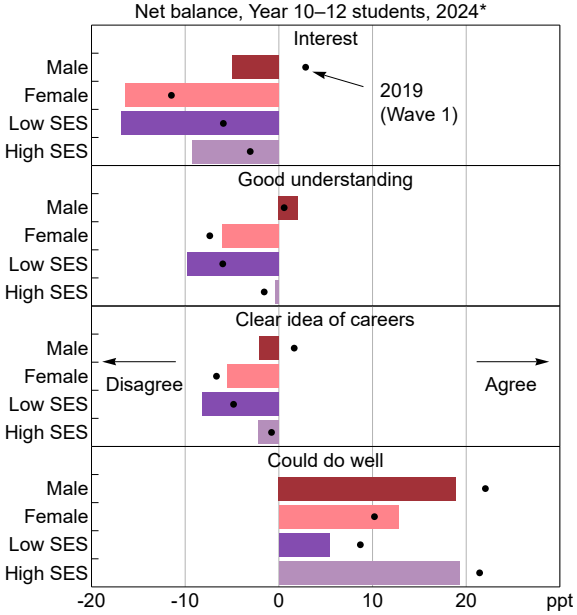
(a) This survey uses the list of economics topics provided from the first wave, with some minor amendments.
(b) Free-text responses provided by students interested in other problems in society; coded by researcher.

Sources: RBA.

who selected 'other problems in society' as a topic of interest were asked to elaborate in a free text response. Students generally cited social inequality (including discrimination), health, socio-economic inequality (such as poverty and access to housing), and environmental concerns as societal issues of most interest to them. These themes mirror the societal concerns identified by students overseas (Bowles and Carlin 2020).

In 2024, specific topics of interest continued to vary across demographic groups. Female students tended to engage more with issues related to the global economy and consumer decisions, whereas male students showed more interest in the share market and business production. Students from lower socio-economic schools generally reported lower levels of interest across topics, with the notable exception of unemployment.

Graph 5
Perceptions of Economics by Demography
Net balance, Year 10–12 students, 2024*



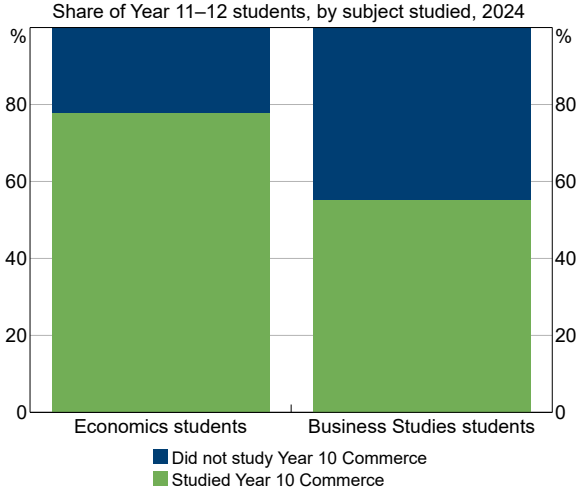
* Share of respondents who strongly agree minus share who strongly disagree; SES is based on the Index of Community Socio-Educational Advantage (ICSEA).

Source: RBA.

The role of early exposure to Economics

The 2024 survey design allows us to examine the pathway from Year 10 Commerce to Years 11–12 Economics in greater detail. We find that enrolment in Economics is very strongly linked to prior Commerce study. Among the Years 11–12 Economics students surveyed, around 80 per cent had studied Commerce in Year 10, compared with only 55 per cent of Years 11–12 Business Studies students, who studied a broader pool of Year 10 subjects (Graph 6).

Graph 6
Previous Study of Commerce Elective
Share of Year 11–12 students, by subject studied, 2024



Source: RBA.

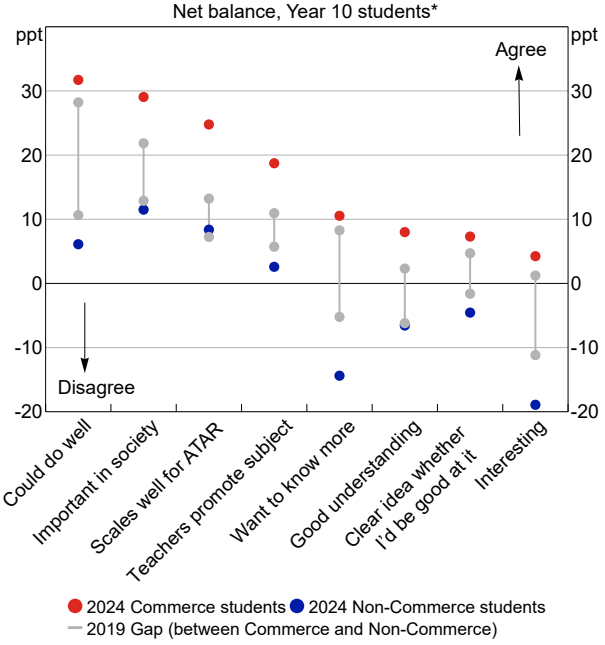
Prior study of Commerce is positively associated with studying Economics in Years 11–12, even after accounting for the fact that not all schools offer Economics, as well as other potential influences on Commerce and Economics enrolments such as demographics, perceptions of Economics, and school-specific factors (see Appendix B). However, the share of Year 10 Commerce students in the survey that went on to study Economics was only around 20 per cent, suggesting there is some scope to meaningfully increase the conversion rate of students from Commerce to Economics through targeted initiatives.

The impact of early exposure to Economics on student perceptions

Students who studied Year 10 Commerce consistently reported more positive perceptions of Economics than those who did not, across both survey waves. This is expected, as Commerce introduces students to economic concepts and is likely to attract those interested in business or societal issues, which are factors that also tend to contribute to more favourable perceptions of Economics.

One more notable finding is that the *gaps* in perceptions of Economics between those studying Year 10 Commerce and those not studying Commerce widened markedly between 2019 and 2024 (Graph 7, the grey line shows the 2019 gap, and the space between the red and blue dots shows the gap in 2024). Commerce students in 2024 reported greater understanding, confidence, interest and desire to learn more about Economics than Commerce students in 2019. They also viewed Economics as being more relevant to society, as having more favourable ATAR scaling and were encouraged more by teachers to learn about it. By contrast, non-Commerce students reported lower interest and confidence in Economics than their 2019 counterparts and little change in their other perceptions.

Graph 7
Perceptions of Economics
Net balance, Year 10 students*



* Share of respondents who strongly agree minus share who strongly disagree.

Source: RBA.

It is plausible that the inclusion of economics in the Commerce syllabus *core* content in 2020 (compared with an optional topic prior to then) contributed to these shifts in perception. This is because the change meant that Commerce students in 2024 had more exposure to economic concepts than their 2019 counterparts.

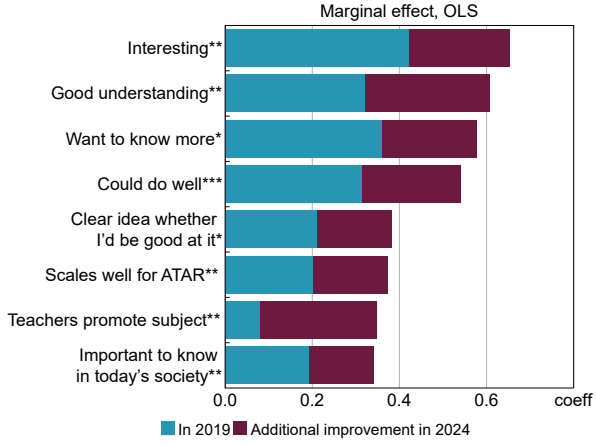
To examine the effect of the syllabus change on student perceptions of Economics, we used a difference-in-differences regression to compare changes in perceptions between Commerce students ('the treatment group') and non-Commerce students ('the control group') between 2019 and 2024. This approach allows us to control for common shocks (such as the pandemic) that are likely to have affected both groups similarly. We also control for observable student- and school-specific characteristics that could influence perceptions of Economics, with further detail set out in Appendix B.

The regression results strongly suggest that introducing the core economics topic in the Commerce syllabus led to a material improvement in student perceptions of the subject. Specifically, we find that studying Commerce had a significantly greater positive impact on students' perceptions of Economics (including their interest, understanding and confidence) in 2024, compared with 2019. (Graph 8). Importantly, this effect is statistically significant even after controlling for individual and school characteristics, indicating that it cannot be explained by any of the factors that we can observe in the data.[9]

Graph 8

Effect of Studying Commerce on Perceptions of Economics

Marginal effect, OLS



Note: Statistical significance of the interaction term is denoted as follows – * if p<0.10, ** if p<0.05, ***if p<0.01; Ordinary Least Squares; controls include sex, socio-economic status, school type, location and language.

Source: RBA.

Encouragingly, there is evidence that the syllabus change had the largest impact on Commerce students at lower socio-economic schools. These students reported larger improvements in their understanding of Economics and related careers, their desire to know more, their confidence in doing well, stronger perceptions that teachers promoted the subject, and also that Economics is useful in society and everyday life. This finding could reflect a combination of factors:

- It is possible that fewer schools in lower socio-economic status areas taught the optional economics topic prior to 2020 relative to more advantaged schools, making the syllabus changes more impactful on this group.
- It is possible that students from less advantaged backgrounds are more responsive to exposure to economics concepts than those with higher socio-economic status.

The data do not allow us to identify which schools taught the optional economics topic prior to 2020 to test the relative importance of these effects. In any case, the overall takeaway is that the syllabus changes played some role in narrowing socio-economic disparities in perceptions of Economics among those who study Commerce.

Both male and female Commerce students benefited from the introduction of the core economics topic into the Commerce syllabus, but there was a more notable decline in Economics being perceived as a risky subject choice by female students than by male students.

Implications

Many organisations, including the RBA, have implemented initiatives to promote economic literacy among high school students.[10] While there is evidence that these initiatives have had positive effects on the schools and students who have benefited from them, overall interest and understanding of Economics remains low, particularly for female students and those from lower socio-economic backgrounds. The key question remains: *How can we broaden participation in Economics on a larger scale?*

Our findings suggest that an increased focus on early exposure to Economics could boost interest and understanding of Economics, particularly for some under-represented groups. Currently, the Economics and Business unit is introduced to students in junior high school years in the Australian Curriculum, though the adoption and adaptation of this differs between states and territories. For example, in Western Australia, all students in Years 7–10 study Economics and Business for one school term each year, but in NSW, it is only offered as part of the Commerce elective (NESA 2025; School Curriculum and Standards Authority 2025). In practice, however, liaison with teachers suggests that delivery of these units depends on school discretion and the expertise of available teachers. Given this variation, there is scope to improve the quality and consistency of early Economics education across Australia by providing teachers, and especially those teaching Economics at a school that does not typically teach it, with quality resources and professional development opportunities.

Interest in Economics overall could also be strengthened by incorporating more real-world issues into the teaching of Economics. The 2024 survey results suggest that students are interested in topics that are prominent in contemporary public debate, with topic preferences varying across under-represented groups. For example, female students tend to be more interested in the global economy and consumer decisions, while students from lower socio-economic schools expressed more interest in the topic of unemployment. To promote greater diversity in the Economics student population, topic preferences could be considered in curriculum design, pedagogical approaches, and resource development.

Finally, the 2024 results show that access to well-trained Economics teachers is essential. The absence of teachers with subject-matter expertise at schools that do not teach Economics was cited as a key barrier. This was the second-most cited barrier after a lack of student interest, though in practice these problems are likely to be interrelated. Economics teachers have reported challenges, such as having to stay up-to-date with changing economic conditions, sourcing suitable resources, and a lack of mentorship or professional networks (Parsons and You 2024; Parsons and You 2021). Data from the 2024 survey also show a positive association between schools where teachers actively promoted Economics and most student perceptions of Economics (like interest and understanding), holding other factors constant. Initiatives to increase the pool of trained Economics teachers, especially in regional and less advantaged schools, could therefore help to broaden student participation and engagement in the subject.

Conclusion

The RBA's 2024 student survey reaffirms findings from the 2019 survey that, while NSW students continue to recognise the relevance and societal value of economics, their understanding and interest in Economics remains low. The 2024 survey results reinforce the importance of seeking evidence-based solutions to boost economic literacy among a diverse student base. New insights from the 2024 survey on the benefits of early exposure through the Commerce elective in Years 7–10 show the relevance of the elective as a pathway into Economics and as a means of building student confidence, interest and understanding in Economics over time. There is also evidence that the positive effects of Commerce study on student perceptions of Economics have increased between 2019 and 2024, with this change coinciding with the inclusion of economics as a core topic in the Commerce syllabus in 2020. It is also encouraging that these benefits have been most evident among students from lower socio-economic schools. Our findings provide an important direction for initiatives that are aimed at improving perceptions and expanding participation in Economics among diverse student cohorts.

Appendix A: Survey methodology and sample characteristics

Survey methodology

The RBA commissioned Ipsos to conduct a second wave of the High School Students' Subject Selection Survey of Years 10, 11 and 12 students in New South Wales in 2024. This research was authorised through the NSW Department of Education State Education Research and Partnerships (SERAP) process (2024044).

The sampling frame (or relevant population) consisted of 725 schools. The sample population was stratified at the school level to attain a sample with representative coverage of broad school sectors and locations.

A total of 80 schools were recruited, with 38 completing the survey. The most common reasons for declining to participate in the survey, after recruitment, included being unable to find a teacher to facilitate the research, or being bound by existing commitments to other externally conducted research. Several all-boys schools were recruited, but none were able to complete the survey for these reasons. As such, any cross-wave analysis in our research remains robust to the exclusion of all-boys schools.

The same online questionnaire was used in 2019 and 2024, with some minor amendments and additional questions in the second wave to capture new trends (e.g. new questions on prior study of Year 10 Commerce).

To enrich the unit record survey data, we appended administrative data provided by NESA. These data provide Year 12 Economics enrolments, the size of the total Year 12 cohort, the number of Year 12 subjects taught, and schools' characteristics (Table A.1; Table A.2).

Table A.1: Sample by School Characteristics[a]

	Students in:		
	Sample		Population[b]
	Number	Proportion (%)	Proportion (%)
School sector			
Government (Non-selective)	19	50	54
Government (Selective)	3	8	6
Independent	14	37	35
Catholic	2	5	5
School type			
Boys	0	0	7
Girls	4	11	8
Co-education	34	89	85
School location			
Metro	21	55	64
Regional	17	45	36
Total schools	38		

(a) Categories do not sum to total where responses fall into an 'unknown' or 'prefer not to say' category.

(b) Based on 725 schools, which excluded distance education providers, TAFE, international school campuses and schools without enrolment figures. Approvals were not obtained from the Catholic education office for 11 dioceses, and therefore 78 schools had to be excluded from the population.

Sources: NESA; RBA.

Table A.2: Sample by Student Characteristics[a]

	Students in:		
	Sample		Population
	Number	Proportion (%)	Proportion (%)
Year[b]			
Year 10	1,978	44	37
Year 11	1,583	35	34
Year 12	913	20	29
Gender			
Male	1,699	38	51
Female	2,452	55	49
Non-binary	67	1	n/a
Language background other than English			
Yes	1,698	38	38
No	2,601	58	62
Studies Economics (Years 11 and 12 only)[c]			
Yes	240	10	7
No	2,256	90	93
Total students	**4,474**		

(a) Categories do not sum to total where responses fall into an 'unknown' or 'prefer not to say' category.

(b) Population proportion is based on 725 schools, which excluded distance education providers, TAFE, international school campuses and schools without enrolment figures. Approvals were not obtained from the Catholic education office for 11 dioceses, and therefore 78 schools had to be excluded from the population.

(c) Population proportion is based on 725 schools (see above) and Year 12 enrolments only.

Sources: Australian Curriculum, Assessment and Reporting Authority; NESA; RBA.

Appendix B: Regression results

Likelihood of studying economics

We adopted the Heckprobit methodology used in Livermore and Major (2021) to examine the effect of school and individual characteristics on the likelihood of a student choosing Economics in 2024. We added a new variable to identify whether students had studied Commerce in Year 10 (Table B.1).

Table B.1: Likelihood of Studying Economics – Heckprobit Regression Results[(a)]
Year 11 and 12 students, 2024

	Marginal effects	
	(1)	(2)
Previous study of Commerce	0.12***	0.07***
Male	0.06***	0.04**
Bilingual	0.01	−0.02
ICSEA (/100)	0.02	0.04**
Regional	−0.09	−0.09
Non-government	−0.09*	−0.10**
Government-selective	−0.00	−0.03
All girls	0.04***	0.04***
Subjects taught (ordinal)	−0.00	0.01
I find Economics interesting as a subject		0.04***
I have a good understanding of what Economics is		0.06***
Economics is a subject that scales well for the ATAR		0.03***
I think I could do well in Economics if I put my mind to it		0.03***
Observations	2,303	1,418
of which selected	1,528	1,002
Wald x^2	0.33	1.50
Log likelihood	−1,241.912	−707.9218

(a) *** p<0.01, ** p<0.05, * p<0.1; school-clustered standard errors.

Sources: Australian Curriculum, Assessment and Reporting Authority; NESA; RBA.

Perceptions of economics

We estimated a difference-in-differences model to examine the effect of the Commerce syllabus change on Year 10 students' perceptions of Economics between 2019 and 2024:

$$Perception_{it} = \beta_0 + \beta_1 Commerce_{it} + \beta_2 wave2_{it} + \beta_3 (Commerce_{it} \times wave2_{it}) + \beta X_{it} + \varepsilon_{it}$$

Where:

- $Perception_{it}$ is a Likert-scale measure of a perception of Economics ranging from 1 (strongly disagree) to 5 (strongly agree)
- $Commerce_{it}$ is 1 if the respondent studied Year 10 Commerce (and 0 if they did not)
- $wave2_{it}$ is 1 if the respondent is from the second survey wave in 2024 (and 0 from the first survey wave in 2019)
- $Commerce_{it} \times wave2_{it}$ is an interaction term for Year 10 Commerce students in 2024
- X_{it} is a set of control variables for individual and school characteristics, including sex, bilingual status, socio-economic status, school sector, school location and school type.

The results were consistent using both an Ordinary Least Squares (OLS) model and an ordered probit model (Table B.2). The difference-in-difference estimators rely on the 'parallel trends assumption', which means, in the absence of the Commerce syllabus change, perceptions among Commerce and non-Commerce students would have changed similarly. The composition of both groups was stable across survey waves, suggesting the results were not driven by demographic shifts. However, there may be potentially other confounding changes between the two periods, which could bias the results. These limitations should be considered when interpreting the findings.

Table B.2: Perceptions of Economics[(a)]
OLS Regression Results, Year 10 students, 2019 and 2024

Variables	Good understanding	Interesting	Could do well	Clear idea I'd be good at it	Want to know	Teachers promote	Scales well for ATAR	Important to know
Wave 2 (2024)	−0.023	−0.171**	−0.112*	−0.070	−0.239***	−0.085	0.052	−0.082
Commerce	0.321***	0.423***	0.314***	0.213***	0.360***	0.081	0.202***	0.192***
Commerce × Wave 2 (2024)	0.285**	0.230**	0.226***	0.170*	0.217*	0.268**	0.170**	0.148**
Male	0.252***	0.305***	0.107**	0.096**	0.233***	0.087	−0.018	−0.010
ICSEA(/100)	0.091**	−0.057	0.098**	0.010	0.037	0.253***	0.035	0.099**
Bilingual	0.052	0.182***	0.036	0.037	0.217***	0.012	0.081	0.071*
Government selective	0.087	0.251**	0.200**	0.194	0.181	−0.065	0.163	0.137*
Non-government	−0.094	0.043	0.046	0.078	−0.079	−0.247***	−0.064	−0.003
All boys	0.134**	0.310***	0.305***	0.171	0.328***	0.046	0.266***	0.089*
All girls	0.016	0.043	−0.011	−0.034	−0.070	−0.025	0.038	−0.068
Regional	0.002	0.148*	0.034	0.019	0.216**	−0.059	0.110	0.040
Constant	1.861***	3.027***	2.368***	2.854***	2.344***	0.748	2.962***	2.593***
Observations	3,860	3,774	3,809	3,491	3,960	3,559	2,865	3,804
R^2	0.084	0.087	0.080	0.038	0.079	0.064	0.050	0.044

(a) *** p<0.01, ** p<0.05, * p<0.1; school-clustered standard errors.

Sources: Australian Curriculum, Assessment and Reporting Authority; NESA; RBA.

Endnotes

* The authors are from the Education team in the Communications Department. The authors would like to thank Michelle Wright, Mike Major and Jonathan Hambur for their feedback and suggestions.

1 We distinguish between Economics (the Years 11–12 subject) and economics (the field) throughout the article by capitalising the former. We also capitalise Commerce to refer to the Years 7–10 subject rather than the broader meaning of the term.

2 We focus on NSW because we have access to school-level enrolments data for the state but not for other jurisdictions. We would like to thank the NSW Education Standards Authority (NESA) for generously providing this data.

3 For the initial findings from the first survey, see Livermore and Major (2020). For detailed findings and methodology, see Livermore and Major (2021).

4 The survey was in the field between July and October 2024. As in 2019, the survey focused on NSW due to the RBA's access to rich school-level data. Surveying multiple states in a timely way was not feasible due to complex permissions processes and logistical challenges that vary across the state education systems. For further details on the survey methodology, see Appendix A and Livermore and Major (2021).

5 The new core topic focuses on the economic environment and the impact of major economic events on consumers and businesses. It also covers foundational economic concepts such as the circular flow model, business cycle, demand and supply, and markets (NESA 2025). The optional 'Our Economy' topic explores Australia's economic performance. In December 2017, the RBA made a submission to the NESA Review of the Years 7–10 Commerce syllabus, advocating for economics to be a core component of the new Commerce syllabus rather than an optional topic (RBA 2017).

6 ATAR scaling takes account of the fact that a good rank is more difficult to obtain when a student is competing against students of high academic ability (Universities Admissions Centre 2025). The scaling algorithm estimates what a student's marks would have been if all courses had been studied by all students and all courses had the same mark distribution.

7 For an example of post-pandemic research exploring shifts in learning, engagement and attitudes, see Navitas (2024).

8 Socio-economic status is based on each schools' Index of Community Socio-Educational Advantage (ICSEA) score, which reflects factors such as parent occupation and education, school remoteness and the Indigenous enrolment share.

9 If we assume that perceptions of Economics among Commerce and non-Commerce students would have evolved identically over the five-year period in the absence of the syllabus change, *all* of the estimated improvement in perceptions of Economics among Year 10 Commerce students could be attributed to the introduction of the core economics topic in the Commerce syllabus. In reality, this assumption is likely to be too strong, which means the results are only suggestive of an effect, rather than definitive.

10 These initiatives include student engagement events, professional development for economics teachers, the creation of teaching resources, and contributions to curriculum development in Economics.

References

Bowles S and W Carlin (2020), 'What Students Learn in Economics 101: Time for a Change', *Journal of Economic Literature*, 58(1), pp 176–214.

Dwyer J (2024), 'The State of Economics', Address to The Economic Society of Australia, Sydney, 28 May.

Livermore T and M Major (2020), 'Why Study (or Not Study) Economics? A Survey of High School Students', RBA *Bulletin*, June.

Livermore T and M Major (2021), 'What Is Driving Participation and Diversity Trends in Economics? A Survey of High School Students', RBA Research Discussion Paper No 2021-06.

McCowage M and J Dwyer (2022), 'Economic Literacy: What Is It and Why Is It Important?', RBA *Bulletin*, December.

Navitas (2024), 'The Post-Pandemic Classroom: Navigating a New Era in International Education', Final Report, September.

NESA (2025), 'Commerce 7–10 Syllabus (2019)', available at <https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/hsie/commerce-7-10-2019>.

Parsons S and C You (2021), 'Supporting Economics Teachers: Their Insights on Economics Education and the RBA's Education Program', RBA *Reading*, July.

Parsons S and C You (2024), 'An Update on Supporting Economics Teachers', RBA *Reading*, March.

RBA (2017), 'Submission to NESA Review of Commerce Years 7–10 Syllabus', December.

School Curriculum and Standards Authority (2025), 'Humanities and Social Sciences', available at <https://k10outline.scsa.wa.edu.au/home/teaching/curriculum-browser/humanities-and-social-sciences>.

Universities Admissions Centre (2025), 'How Your ATAR Is Calculated', available at <https://www.uac.edu.au/future-applicants/atar/how-your-atar-is-calculated>.

Copyright and Disclaimer Notices

BLADE Disclaimer

The results of these studies are based, in part, on data supplied to the ABS under the *Taxation Administration Act 1953*, *A New Tax System (Australian Business Number) Act 1999*, *Australian Border Force Act 2015*, *Social Security (Administration) Act 1999*, *A New Tax System (Family Assistance) (Administration) Act 1999*, *Paid Parental Leave Act 2010* and/or the *Student Assistance Act 1973*. Such data may only be used for the purpose of administering the *Census and Statistics Act 1905* or performance of functions of the ABS as set out in section 6 of the *Australian Bureau of Statistics Act 1975*. No individual information collected under the *Census and Statistics Act 1905* is provided back to custodians for administrative or regulatory purposes. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes and is not related to the ability of the data to support the Australian Taxation Office, Australian Business Register, Department of Social Services and/or Department of Home Affairs' core operational requirements.

Legislative requirements to ensure privacy and secrecy of these data have been followed. For access to MADIP and/or BLADE data under Section 16A of the ABS Act 1975 or enabled by section 15 of the *Census and Statistics (Information Release and Access) Determination 2018*, source data are de-identified and so data about specific individuals has not been viewed in conducting this analysis. In accordance with the *Census and Statistics Act 1905*, results have been treated where necessary to ensure that they are not likely to enable identification of a particular person or organisation.