Australian Government

Jobs and Skills Australia

Forces at work: Adult learning and the Australian labour market

Working Paper 1

April 2026

Acknowledgement of Country

Jobs and Skills Australia acknowledges the Traditional Owners of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respect to Aboriginal and Torres Strait Islander cultures, and to Elders past, present and emerging.

Preface

Our vision at Jobs and Skills Australia (JSA) is for the full skills potential of our nation to be realised, resulting in improved workforce participation, productivity, wages and equity. In the context of the profound forces reshaping Australia's economy, it is timely to examine the role of lifelong learning in helping to realise this vision.

In 2026, JSA will deliver a series of targeted working papers on lifelong learning of Australian adults. Collectively, these working papers will seek to:

- produce insights on the major technological, demographic and structural shifts shaping Australia's adult learning needs (*the focus of this first working paper*)
- provide analysis of the current state and key trends across adult learning participation and performance, and
- deepen understanding of key labour market and skills system dynamics and interactions related to adult learning in Australia.

This foundational project will deliver findings and considerations for decision-makers where the evidence base is strong. It will also identify potential areas for further work, noting a definitive, comprehensive assessment of adult learning systems and the development of prescriptive policy solutions is not the purpose of this current project.

Given JSA's legislated functions, data assets, and expertise, our research scope will focus on the work-related learning needs, activities, and outcomes of Australian adults. Within this remit, we will concentrate on specific labour-market learning dynamics – such as skill deepening or reskilling for mid-career transitions – rather than adopting an all-encompassing approach.

Our aim is for this paper to start a conversation about Australia's lifelong learning needs – the forces driving where we need to get to. Forthcoming working papers in this series will dive deeper into the barriers and opportunities surrounding specific learning dynamics and systems.

We recognise that lifelong learning delivers benefits beyond the workforce, including improved health and wellbeing, personal development, social transformation and cohesion, sustainability, and civic engagement. We also acknowledge the importance of earlier stages of learning – such as schooling and initial tertiary education and training; however, these areas fall outside the scope of this project.

We invite readers to share your feedback on this working paper or to request further engagement as part of our research on lifelong learning by contacting us at Skills@jobsandskills.gov.au.

Please note that working papers contain our preliminary research and are published to activate dialogue on the matters canvassed. Any comments received will be considered in the formulation of JSA's advice on lifelong learning.

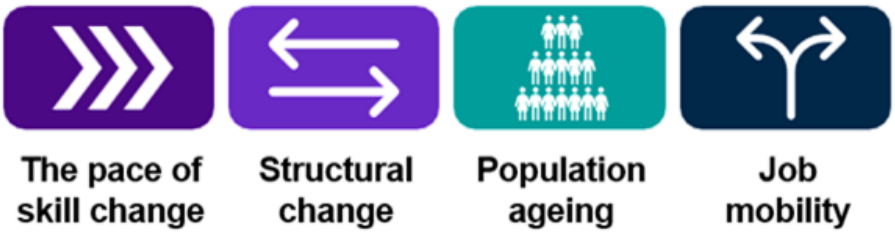
Contents

Overview

This working paper provides new analysis that explores why, and how, lifelong learning has become increasingly important as technological, demographic and structural shifts reshape Australia's labour market. This is important foundational research that will help decision makers ensure policies and systems are aligned with future skills needs and trends.

The paper does this by presenting evidence and insights on 4 key dynamics that are driving the growing importance of lifelong learning (Figure 1). These dynamics were identified through a review of recent Australian and international policy documents, and were selected based on their frequency and prominence in the literature, as well as their relevance to the Australian labour market and workforce skills needs.

Figure 1. The 4 key dynamics most associated with increased importance of lifelong learning



With respect to the 4 dynamics, this paper finds that:

- **The pace of skill change** has increased across most occupations, particularly in fast-evolving technology-intensive areas. To avoid skills mismatches for businesses and individuals, this dynamic needs to be met with more frequent upskilling. Even where headline skill requirements are stable, increased job complexity can drive the need to deepen our skills throughout our careers. Heightened job demands associated with upskilling and skill deepening have implications for what job resources workers may require.
- **Structural changes** in the Australian economy are shifting employment towards higher skill and non-routine occupations. In these areas, higher foundation skills requirements and greater lifelong learning participation are often the norm, limiting opportunities for workers and employers who rely exclusively on initial education and training. Structural change is also behind the need for some Australians to reskill, especially where high rates of retrenchment are combined with declining employment in an industry, occupation and/or region.
- **Population ageing** and longer working lives are elevating the importance of lifelong learning as a way to support the productivity and participation of older workers. The distance between workers' initial post-school education and retirement will continue to grow, while the skills needs of the labour market continue to shift throughout our longer working lives. There is limited evidence to suggest that learning participation among older workers is increasing in line with its increased importance. This dynamic is also related to some of the structural changes occurring within the labour market, such as a growing care and support economy.
- **Job mobility** levels in Australia have been stagnant over the past decade, with older workers less likely to pursue learning for the purpose of job mobility. Without any changes to these patterns, Australia's ageing population is likely to limit our ability to improve labour market dynamism through greater lifelong learning participation.

Emerging themes for the project

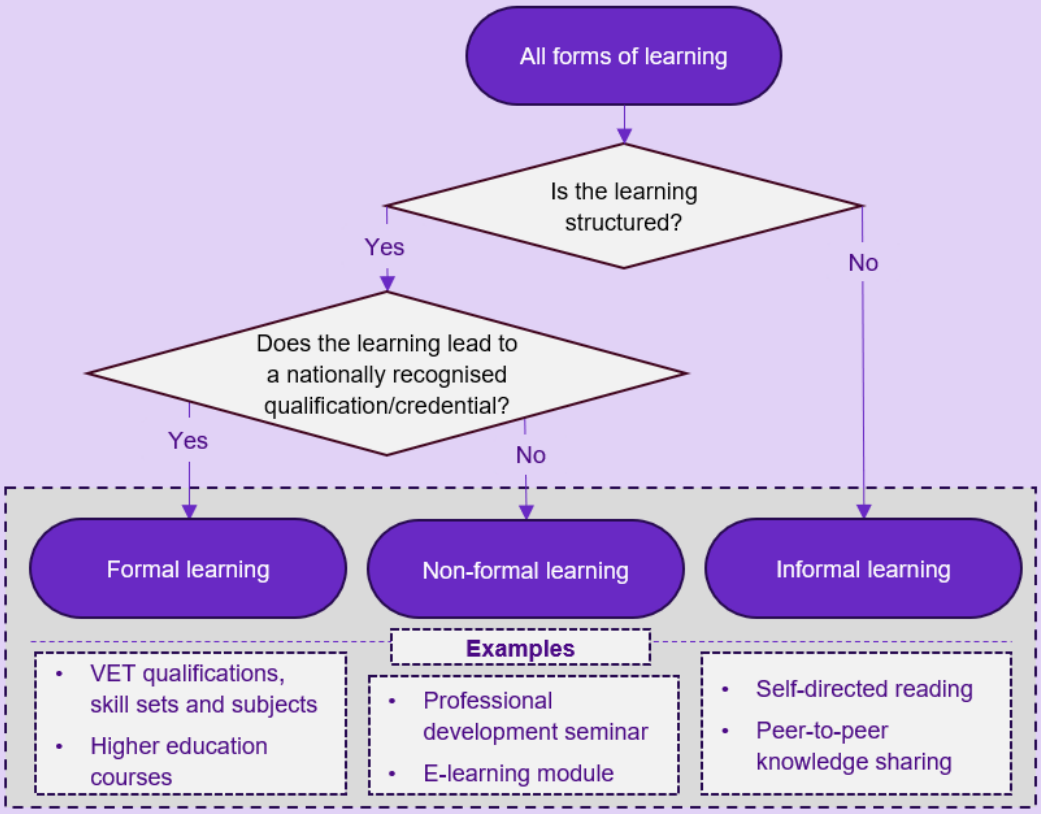
3 cross-cutting themes have emerged from this early analysis. JSA will continue to explore these themes, particularly in relation to the current state of adult learning and how learning needs and dynamics vary in different contexts.

- First, **the value of adult learning is not limited to those seeking new jobs or entirely new skills**. These motivations are undoubtedly important for some learners, whether in response to structural changes in the labour market or changes in their own circumstances, needs, and aspirations. However, for many adult learners, a key benefit will be deepening the core skills and knowledge required within their current job or career pathway.
- Second, **meeting Australia's increasing adult learning needs is a shared challenge**. As demands for upskilling and skill deepening increase, workplace and system-level factors will be critical, alongside the efforts of individual learners, to improve participation, productivity and outcomes.
- Third, **additional learning does not automatically translate into positive labour market outcomes.** Maximising the returns to adult learning for workers, employers and governments also depends on how skills and knowledge are developed, applied, recognised, shared and transferred to new contexts. This points to the need for a sharper focus on alignment between learning and workforce needs; the effectiveness of skills recognition, portability and pathways; the quality of management capability; the strength of job design and career development pathways; and investment in labour-augmenting capital

Introduction to key concepts

Formal, non-formal and informal learning: This distinction is widely used in lifelong learning policy and research and distinguishes types of learning based on whether the learning is structured, and whether it leads to a qualification/credential (Figure 2).

Figure 2. Lifelong learning can be formal, non-formal or informal



Work-related training: Non-formal learning undertaken to obtain, maintain or improve employment related skills and/or to improve employment opportunities.

Continued learning: Refers to learning carried out after initial education and training – i.e. after entry into working life – which aims to improve skills and knowledge. A range of related terms are commonly used to describe the motivations/purposes of continued learning. For clarity, in this paper we have applied the below definitions of the following terms:

- **Skills maintenance**: *refreshing one's existing set of skills* to prevent skill atrophy or demonstrate continued compliance with standards.
- **Skill deepening**: *refining one's existing skills and knowledge* to achieve a higher level of proficiency, i.e. becoming more expert in what one already does.
- **Upskilling**: *expanding one's skill set* in response to role, task or skill evolution, i.e. augmenting one's current capabilities with new but related skills.
- **Reskilling**: *acquiring skills in a new domain* to enable a substantial job/career pivot.

Chapter 1 The pace of skill change

This chapter:

- considers the pace of skill change as an important labour market dynamic shaping adult learning in Australia. When the skills required within a job change over time, workers and employers need to adjust accordingly, often through informal and non-formal learning. If these skills changes become larger and occur more often, more frequent and extensive upskilling to keep pace may be required. A key consideration will be whether workplace and system-level supports are commensurate with increased learning demands within jobs.
- analyses changing skill requirements listed in online job advertisements as an empirical measure of the pace of skill change and how it has changed over time. Importantly, it allows us to see which types of jobs are experiencing faster skills change, and may therefore have a greater need for more upskilling.
- highlights upskilling and skills deepening as distinct forms of continued learning with different use cases.
  - Upskilling refers to *expanding one's skill set* in response to role, task or skill evolution, i.e. augmenting one's currently capabilities with new but related skills. Upskilling is likely to be important where new skills are required, e.g. in response to technological change.
  - Skill deepening refers to *refining one's existing skills and knowledge* to achieve a higher level of proficiency, i.e. becoming more expert in what one already does. Skill deepening is likely to be important where task complexity, levels of autonomy, and/or responsibilities for exercising judgment are increasing, even if headline skill requirements are relatively stable.

1.1 Faster skill change requires more frequent upskilling

Intuitively, the link between skill change and lifelong learning is clear: as job tasks evolve, so too do the skills and knowledge required to perform them effectively.[1] As such, a higher rate of skill change would be expected to increase the need for more frequent upskilling. In the absence of such upskilling, a high and accelerating pace of skill change is likely to generate skills mismatches with implications for workers and employers.

- *Workers face risks of job loss due to economic skill obsolescence* if the skills they possess no longer align with the demands of employers. Previous research has found that on-the-job learning and training participation significantly reduces the probability of individuals losing employment but does not reduce their perception of skill obsolescence.[2] In other words, adult learning in highly dynamic jobs is not about closing a one-time gap between skills

possessed and skills required. Instead, it reflects the need for continuous learning to keep pace with change.

- *Employers face risks of skills gaps* if the skills mix of their workforce does not keep pace with changing skill requirements. Such skills gaps have adverse consequences for firm-level productivity, competitiveness and capacity to innovate.[3]

In this way, more regular upskilling helps workers remain employable and supports productivity in jobs where skill requirements change rapidly. Even where headline skill requirements are relatively stable, continued learning in the form of skill deepening may be valuable where workers' task complexity, levels of autonomy, and/or responsibilities for exercising judgment are increasing.

1.2 Heightened adult learning demands have implications for individuals, workplaces and systems

Responding to heightened upskilling and skill deepening demands can require substantial and sustained cognitive effort from individuals. Whether this effort is experienced as a motivating challenge or a source of exhaustion – or alternatively is simply avoided altogether – is influenced by the interaction of personal and job resources.[4]

Personal resources are the characteristics of individuals which promote engagement in work and learning, such as self-efficacy (belief in one's capability to learn new skills) and proactiveness (a tendency to take initiative and seek opportunities).

Job resources are 'aspects of the job that can help one to achieve work goals, regulate job demands, and/or stimulate personal growth'.[5] Examples can include dedicated time and resources for training, job design and career pathways that integrate and reward learning and development, and supportive peers, supervisors, managers and senior leaders.

Job resources are important not only for employees but across the workforce, including for the self-employed and small business owners. For example, extension networks and peer-to-peer learning can be valuable job resources in helping farmers adapt to changing skill requirements.

The ability of individuals and employers to respond to upskilling and skill deepening demands is also impacted by system-level considerations, with implications for governments and the education and training sector. This includes considerations of whether high-quality and relevant adult learning options are available and accessible to individuals and employers, as well as whether skills and capabilities developed through adult learning are recognised and portable.

Implications for individuals, workplaces and systems from heightened adult learning demands in different contexts will continue to be a focus of subsequent work in this project.

1.3 The pace of skill change has increased

To measure change in the skill content of jobs over time (i.e. the rate of skill change), we analysed job advertisement data from Lightcast using an approach adapted from the work of Deming and Noray.[6]

As a simplified example of how we arrive at the rate of skill change for each occupation, imagine the composition of skills for Secondary School Teachers between 2023 and 2025 remained identical apart from 2 skill subcategories which changed as follows:

- Instructional and Curriculum Design skills were listed in 38% (0.38) of job advertisements for Secondary School Teachers in 2025, up from 35% (0.35) in 2023.
- Education Administration skills were listed in 27% (0.27) of job advertisements for Secondary School Teachers in 2025, down from 29% (0.29) in 2023.

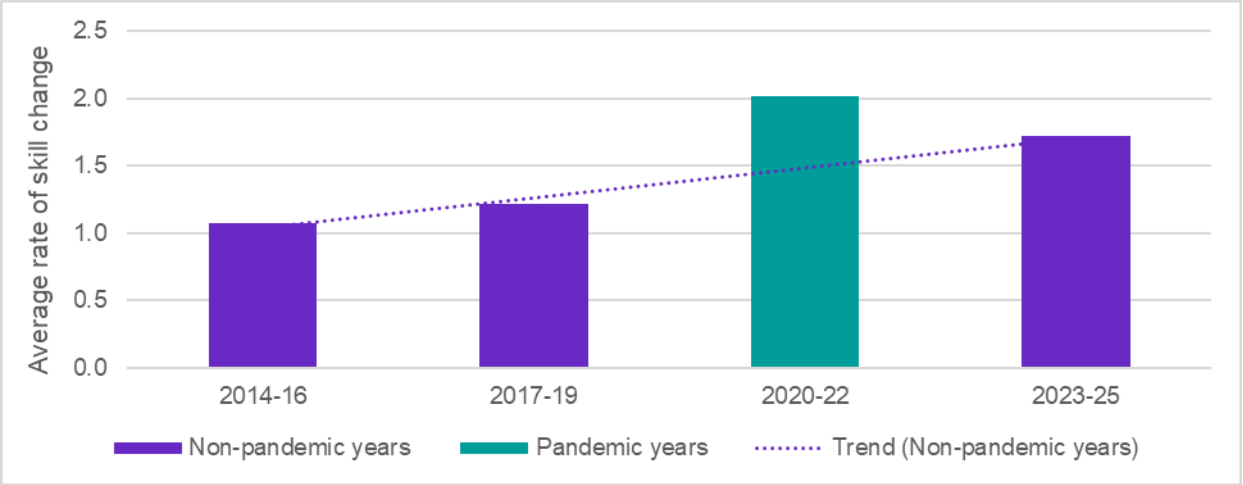
In this hypothetical, the rate of skill change for Secondary School Teachers for 2023-2025 would be 0.05. This is because 0.03 (the difference between 0.38 and 0.35) + 0.02 (the difference between 0.27 and 0.29) equals 0.05. In reality, rates of skill change will be higher than this simplified hypothetical as changes in skill requirements will typically not be limited to just 2 skill subcategories. For example, the highest and lowest rates of skill change for 2023-2025 among occupations analysed were 3.06 (ICT Business and Systems Analyst) and 0.83 (Bar Attendants and Baristas) respectively.

Our analysis is focused on the top 100 occupation unit groups by number of online job advertisements in 2025.[*] It uncovers two main takeaways.

First, the rate of skill change is accelerating. The trend towards faster skill change is evident even when excluding the disruptions of the pandemic years of 2020 to 2022, which saw particularly high disruption in skill requirements (Figure 3). This upward trend reflects broad-based change across the labour market. Ninety-one of the top 100 occupations experienced more skill change in 2023–25 than in 2014–16.

Figure 3. The pace of skill change has increased over time

Average rate of skill change across occupations by time period



Source: Jobs and Skills Australia (JSA) analysis of Lightcast job advertisement data

Second, the rate of skill change is uneven across and within occupation groups. As Figure 4 shows, certain major occupation groups (e.g. Managers) generally exhibit average or above average levels of skill change whereas others (e.g. Sales Workers, Machinery Operators and Drivers, and Labourers) tend to show below average skill change. Other major occupation groups exhibit a broader distribution. For example, the rate of skill change among Professional

[*] This constraint was imposed for two reasons: 1) omitting occupations with relatively few online job advertisements mitigates the volatility that comes with small sample sizes; 2) using a consistent set of occupations for each period ensures changes between time periods reflect genuine acceleration/deceleration of the pace of skill change within occupations rather than simply changes in the sample of occupations included in each period.

occupations ranged from the fastest changing of the top 100 occupations (ICT Business and Systems Analysts) to second slowest changing (Secondary School Teachers).

Figure 4. Rates of skill change vary between occupations

Rate of skill change per occupation unit group between 2023 and 2025, top 100 occupations

Note: Each dot represents one occupation unit group, with dot colours signifying the relevant major occupation group. The black horizontal line represents the median rate of skill change across the top 100 occupations (1.61).

Source: JSA analysis of Lightcast job advertisement data

It is important to note that an occupation having a higher rate of skill change is not the same as it being more highly skilled. Rather, rate of skill change is a measure of the stability of skills listed by employers in online job advertisements for that occupation. As such, it is a useful indicator of where upskilling may need to be more frequent due to the emergence of new skills and obsolescence of old ones.

However, the usefulness of this measure is limited with respect to skills deepening, i.e. learning with the intention of developing greater mastery of existing skills. Substantial demand for lifelong learning arises from increases in the depth and complexity of tasks within roles, even where headline skill requirements appear stable. In such cases, cumulative capability development may be a better approach to adult learning than just-in-time upskilling.

Skills deepening (as opposed to skills change) may be a key driver of lifelong learning in occupations such as Secondary School Teachers, where the skills commonly sought by employers have remained relatively consistent. For example, while the core skills of Secondary School Teachers may have remained similar over time, rising job complexity and expectations may be driven by factors including increased diversity in student needs or expanded curriculum content that must be covered.

1.4 Skill change is mostly driven by a subset of skills

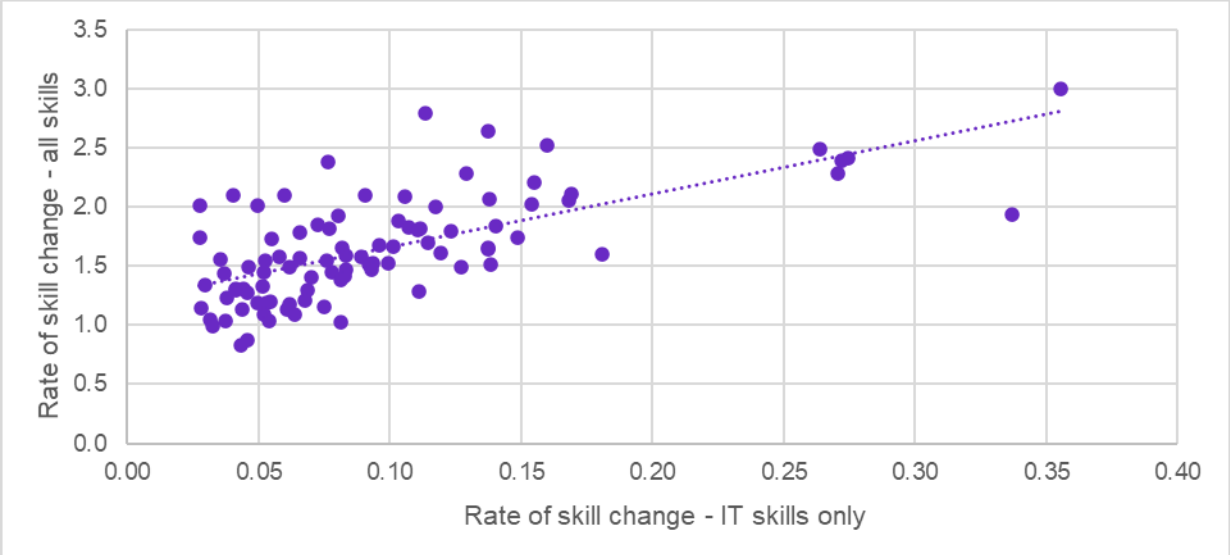
At the whole-of-labour-market level, around half of all skill change in the most recent period (2023-2025) was driven by 5 categories of skills: human capabilities*; business; law, regulation and compliance; health care; and information technology (IT). This finding has implications for the types of skills that may be most usefully targeted in upskilling initiatives.

This set of high growth skill categories lends additional weight to the body of literature identifying technology as a major driver of skill change.[7] Most directly, this can be seen through growth for information technology skills themselves (with particular growth in computer science, artificial intelligence/machine learning and software development skills). Additionally, technological change contributes to rising demand for complementary skills including human capabilities (e.g. critical thinking) and business skills. A growing body of research on skill complementarity in the context of technological change emphasises the importance of 'skill bundles', e.g. IT skills in combination with management, communication, advanced numeracy, social skills etc.[8]

Figure 5 demonstrates that occupations with higher change in IT skill requirements tend to experience higher skill change overall. Assuming this pattern holds, the broader and/or deeper adoption of digital technologies and AI would be expected to accelerate the pace of skill change.

Figure 5. Higher change in IT skills in an occupation tends to be associated with higher skill change overall

Rate of skill change and contribution of IT skill change by top occupations, 2023-25.



Note: Each dot represents one occupation unit group. Specialist IT and data occupations are excluded.

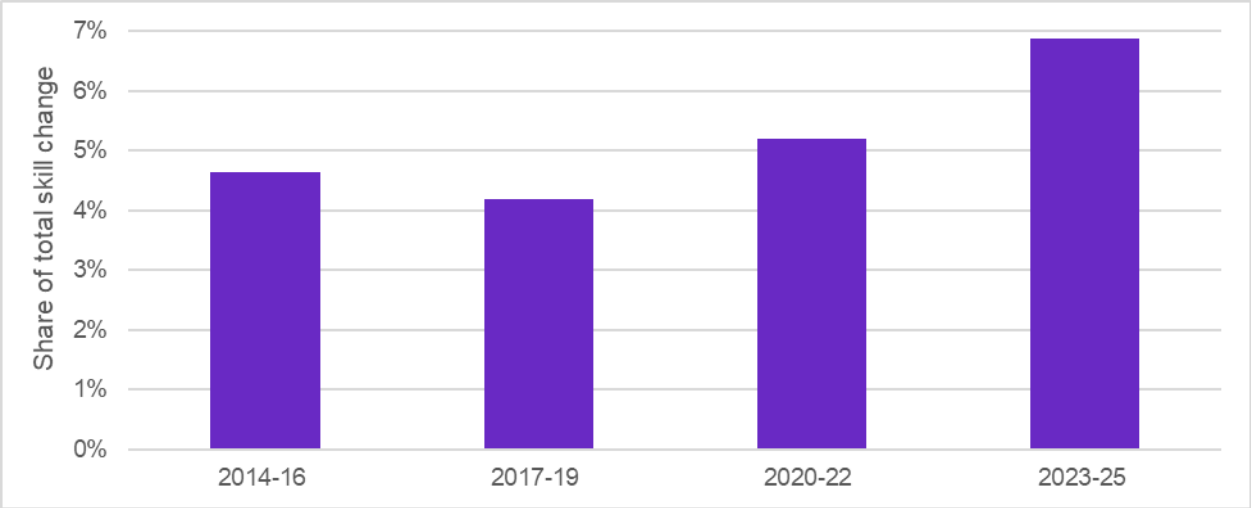
Source: JSA analysis of Lightcast job advertisement data

* We prefer the term 'human capabilities' to the term used in the Lightcast skill taxonomy (Physical and Inherent Abilities) or other frequently used terms such as 'soft skills' to avoid implying these capabilities are 'natural' or 'intuitive' rather than learned and improvable. Examples of human capabilities include critical thinking, problem solving, initiative, leadership, social skills, and physical abilities.

This analysis also highlights evolving requirements related to law, regulation and compliance as an additional and growing driver of skill change (Figure 6).

Figure 6. The share of total skill change driven by change in law, regulation and compliance skills is growing

Percentage of total skill change by period driven by change in law, regulation and compliance skills, 2014-16 to 2023-25



Source: JSA analysis of Lightcast job advertisement data

In this context, it is notable that employer surveys place legislative, regulatory or licensing requirements as one of the two most common reasons employers use nationally recognised training, alongside providing the skills required for the job.

Employers citing legislative, regulatory or licensing requirements as a reason for using *nationally recognised training* increased by over 22 percentage points between 2005 and 2023, reaching a high of 57.2%. Employers citing these requirements as a reason for using *unaccredited training* also increased by 22 percentage points over the same period, albeit from a lower base (up to 30.8% from 8.8%).[9]

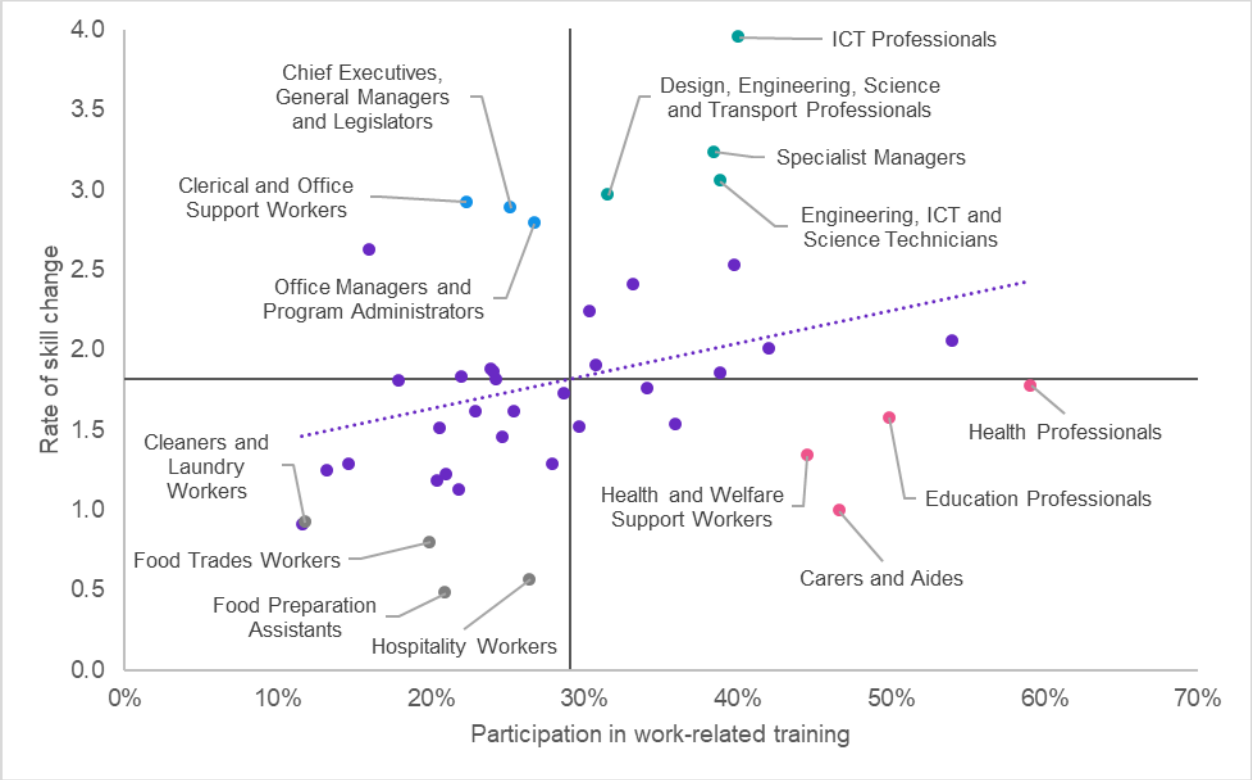
Training being a requirement of their job is also the most common motivation for workers to undertake VET. For example, 45% of students aged 25-64 in 2025 cited this reason (compared to the next most commonly cited reason of wanting extra skills for their job at 16% of students).[10]

1.5 Higher skill change is associated with higher participation in work-related training

Available data aligns with expectations that higher rates of skill change are associated with more frequent upskilling. As signified by the trendline below, increased participation in work-related training is positively correlated with higher job-skill change (Figure 7). Work-related training is defined by the ABS as non-formal learning that is undertaken for work purposes.[11]

Figure 7. Occupations with higher rates of skill change tend to have higher participation in work-related training

Rate of skill change (2020-2022) and participation in work-related training (2020-21) by occupation sub-major group



Note: Each dot represents an occupation sub-major group. The blue dashed line is the trendline and the unbroken black lines divide occupations into quadrants based on the average skill change and participation in work-related training.

Source: JSA analysis of Lightcast job advertisement data and ABS work-related training and adult learning survey

The *top-right quadrant* of Figure 7 features highly dynamic occupations with above average skill change and participation in work-related training. Occupations related to **Information and Communications Technology** (**ICT), engineering and science** (the teal dots) are represented prominently in this quadrant (Case Study 1). In these occupations, regular upskilling is essential and is occurring – though not necessarily at the expected levels given the pace of skill change. This may reflect a possible preference for informal learning over the non-formal work-related training captured in this analysis in ICT-intensive occupations.[12]

The *top-left quadrant* features occupations with above average skill change but below average participation in work-related training. Occupations related to **business executives, office managers and office support workers** (the blue dots) are prominently represented in this quadrant, along with Farmers and Farm Managers. These occupations also ranked below average for participation in formal study over the previous 12 months. This may indicate an underinvestment in upskilling to keep pace with changing skill requirements in these occupations.

The *bottom-right quadrant* is comprised of occupations with below average skill change and above average participation in work-related training. This may indicate a relatively high need for workers in these occupation groups to update their knowledge base regularly or to deepen their mastery of existing skills (i.e. skills deepening). Occupations associated with non-market sectors, i.e. **health, welfare, care and education** (the pink dots) feature prominently in this

quadrant. Relatively high rates of participation in work-related training in these occupations may also be influenced by factors including:

- Mandatory continuing professional development (CPD) requirements applying to a significant proportion of workers in some of these occupation groups.
- High proportions of public sector employment, with the public sector historically committing higher training expenditure per employee on average than the private sector.[13]

The *bottom-left quadrant* is comprised of occupations with below average skill change and participation in work-related training. **Labourers, Machinery Operators and Drivers, and Sales Workers** (the grey dots) feature prominently in this quadrant, alongside some Trades Workers. As skill change is a feature of every occupation, upskilling over the course of a career is likely to be required in these occupations, albeit at a lower frequency and/or intensity. This quadrant also contains the occupations with the highest participation in formal study (e.g. Food Preparation Assistants, Hospitality Workers, Sales Support Workers). Rather than prioritising upskilling in their current job, this suggests many workers in these occupations are working to support themselves while undertaking a formal qualification in pursuit of higher skill work.

The analysis in this section provides a useful indicator for considering, based on evidence from online job advertisements and ABS survey data:

- which types of skills should be the focus of upskilling efforts and initiatives
- which occupations can be expected to present the strongest demand for upskilling, and
- which occupations may currently be experiencing underinvestment in upskilling.

As this analysis is unlikely to capture the need for deepening one's existing skills and knowledge (skills deepening), it remains a partial indicator and should be considered alongside other evidence and industry intelligence.

1.6 A 'set and forget' approach to learning is inadequate in the face of high rates of skill change

As it relates to changes in skill requirements within the same occupation over time, rising skill change and/or increases in job complexity, autonomy and levels of responsibility can act as an impetus for continuous learning even among those who do not change jobs.

In many cases, non-formal or informal learning may be the most common ways to keep up with changing skill requirements. For example, of employers who delivered some form of training in AI technologies in the last 12 months, over 80% delivered informal training (compared to nearly 30% providing unaccredited training and less than 4% providing nationally accredited training).[14] In other cases – particularly where national recognition of learning is important for compliance, transferability or other purposes – this further learning will often take the form of additional formal learning, including modular forms of education and training such as skill sets or micro-credentials.

That further learning as an adult is necessary does not diminish the importance of education and training undertaken in childhood or adolescence. Indeed, the likelihood of more frequent upskilling occurring is to a considerable extent contingent on the success of earlier stages of education and training in cultivating lifelong learners. As identified by the OECD, this includes equipping learners with a strong platform of cognitive, socio-emotional and transversal skills as

a basis for lifelong learning.[15] Similarly, the productivity of later learning is likely to be shaped by earlier learning, a relationship summarised by Cunha and Heckman as 'skills beget skills'.[16]

Nor does a shift away from a 'set and forget' approach call into question the value of initial post-secondary qualifications. JSA publications on VET and higher education outcomes demonstrate clearly the significant benefits of completing a tertiary qualification.[17] What this suggests is that, for an increasing proportion of the population, initial post-secondary qualifications will provide important but not sufficient learning to support an individual through their full working life.

1.7 Participation in learning alone does not guarantee positive labour market outcomes

Participation in learning activities is not the end goal of adult learning systems. For the desired outcomes of employment-related adult learning to be realised, it is essential that participation in learning activities provides learners with new or deeper skills and knowledge. In turn, the learned skills and knowledge must be relevant to, and applied in, the learner's work context.[18] Where this is not the case, adult learning risks adding to the workload of individuals and/or administrative burden of employers without commensurate benefits.

A broad range of factors influence how effectively adult learning is applied, shared, recognised, and translated into positive labour market outcomes for individuals and employers, e.g. higher productivity, improved safety, increased earnings and/or employability etc. This includes:

- **alignment between learning and workforce needs** – with implications for skills anticipation and skills gap identification, workforce planning, the development of education and training products, and education and training market information systems.
- **management practices and capability** – with implications for job design and progression pathways that integrate learning with opportunities for skills utilisation, practices that legitimise and reward learning and knowledge sharing at organisation and team-levels, and labour-augmenting capital that can complement the skills and capabilities of workers.
- **skills recognition, portability and pathways** – with implications for the efficiency of learning investments from individuals, employers and governments, the ability to transfer skills to new contexts, and for cumulative capability development over the course of careers.

The translation of adult learning into positive labour market outcomes will be an ongoing focus across JSA's work on lifelong learning.

Key findings

The pace of skill change has increased across most occupations in the Australian labour market. To avoid exacerbating skills mismatches, faster skill change will need to be met with more frequent upskilling.

- The pace of skill change is uneven – certain occupations will demand more frequent and/or intensive upskilling than others.
- 4 categories of skills – human capabilities, business skills, law, regulation and compliance skills, and information technology skills – accounted for around half of all skill change over the last 3 years.
- Higher skill change is generally associated with higher participation in work-related training, though there are occupations that diverge from this pattern.

The pace of skill change – as well as demand for skill deepening arising from increased job complexity – mean that lifelong learning is essential even for those who remain in the same role and industry.

- Skill deepening is likely to be important where task complexity, levels of autonomy, and/or responsibilities for exercising judgment are increasing, even if headline skill requirements are relatively stable.
- Responding to heightened upskilling and skill deepening demands can require additional cognitive effort, personal and job resources, and systems and workplaces that align, recognise, and utilise new learning activity.

Chapter 2 Structural change

This chapter:

- considers the implications of structural change – long-term shifts in the composition of the economy – for adult learning. These structural changes can impact the types of opportunities available within the labour market and can reduce the demand for some workers' skills when particular jobs are in decline.
- analyses changes in the distribution of employment between industries (e.g. the relative growth of services relative to goods sectors) as well as within industries (e.g. relative growth of higher skilled employment).
- calls attention to the ways in which adult learning can help sustain workforce participation and support quality jobs, including through:
  - Skill deepening that enables individuals to navigate the structural shift towards a greater share of employment in higher skilled and non-routine occupations.
  - Reskilling that supports individuals, businesses and the economy to adjust to changes in the distribution of employment across industries, occupations and/or regions.

2.1 Lifelong learning can empower individuals to navigate structural change

Structural change refers to long-term shifts in the composition of the economy. For the purpose of this labour-market-focused research, we concentrate on structural change in employment—that is, shifts in where jobs sit across and within sectors—rather than changes in the distribution of output.

There is no single dynamic responsible for structural change. Rather, structural change is the net effect of multiple forces including but not limited to changing consumer demand, the impacts of global trade and offshoring, the augmentation, automation and adaptation effects of technology, and whether productivity gains in firms/sectors lead to an increase/improvement in output of a reduction in work hours.

Historically, examples of major structural changes in the Australian labour market have included shifts toward a higher share of employment in service-based industries and a lower share of employment in goods-producing industries such as Agriculture, Forestry and Fishing and Manufacturing.

The Australian Government's employment white paper *Working Future* identified multiple profound demographic and global forces that are currently reshaping Australia's economy:

The populations of advanced economies are ageing and demand for care and support services is increasing significantly. A remarkable technological and digital transformation is underway, at the same time as global action to address climate change is transforming our economy. Rising geopolitical risk and fragmentation is disrupting supply chains and increasing the value of resilience. These forces are reshaping our industrial base and changing how we live and work.[19]

For those making decisions about initial tertiary education today, the reality of structural change means it is uncertain which skills will be most valued in the labour market decades into the future. This uncertainty makes it more difficult for individuals, employers or governments to rely solely on upfront investments in learning before commencing a career.[20]

Continued adult learning is valuable to sustaining employability in the 21st century. Recent international research has found that those who participated in adult education and training in the previous year had a 4 percentage point higher probability of being employed relative to comparable individuals who did not participate. Notably, this result was driven by non-formal learning, with greater training intensity producing higher probability of employment.[21]

In contrast, those who rely exclusively on their compulsory education or initial education and training may be more vulnerable in the context of structural change. This may be particularly true for individuals:

- with low-level foundation skills
- whose initial education and training and/or work experience is more narrowly targeted to technical skills and knowledge with more limited transferability, and/or
- whose role is highly exposed to automation, offshoring and/or other drivers of redundancy.

Individual workers and businesses may be unable to reverse or avoid the profound external forces reshaping Australia's economy. Yet lifelong learners – and the businesses they work in – will be well positioned to shape their own futures and navigating these changes.

2.2 Structural change is a normal feature of the labour market

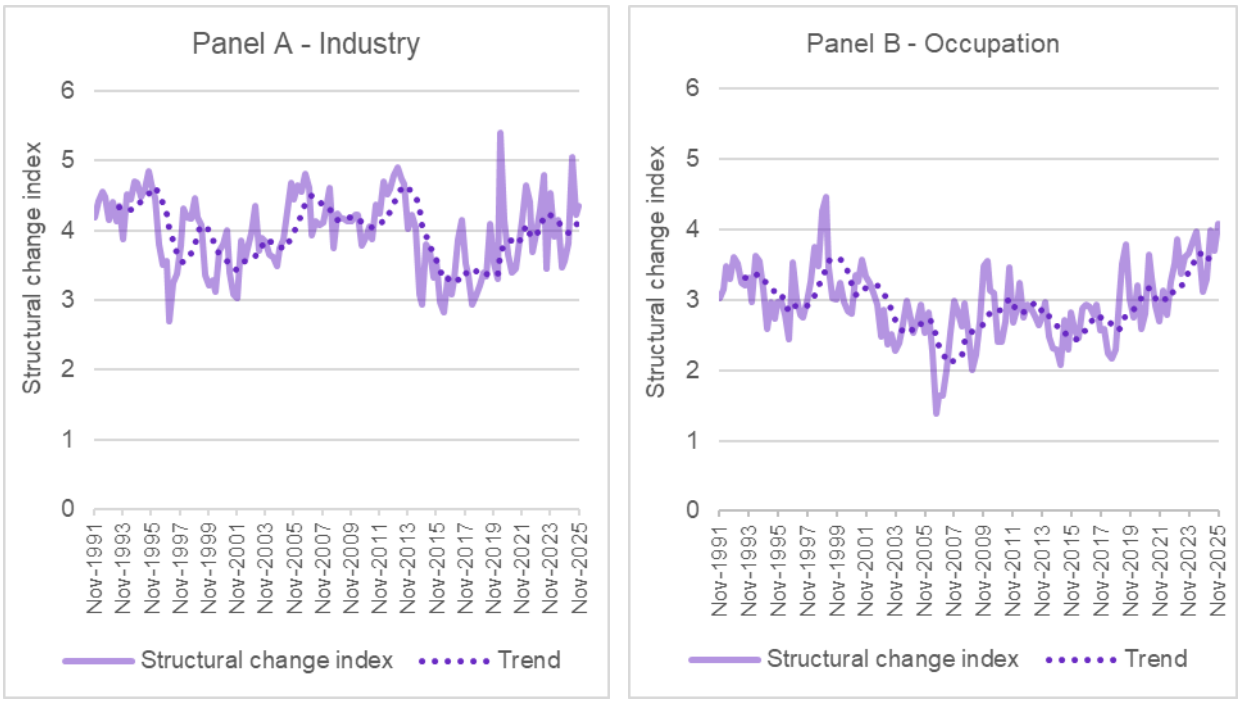
A common method of measuring the extent of structural change over time is through the Structural Change Index, which provides a single value capturing the extent of changes in industry shares of total employment over time.[22] Where changes in shares are more significant, the index registers a higher value. For example, a Structural Change Index value of 5 means that 5 per cent of the workforce are in a different industry at the end of the relevant period compared to where they would be if there was no change in the industry shares of total employment.

Applying this measure to the Australian labour market, we see that over recent decades the Structural Change Index based on industry shares of total employment typically sits within the band of 3 to 5. In recent years, we have seen this index trend back towards the long-term average of 4.

We can also apply the same approach to changes in the composition of employment by occupation major group. Over the last 10 years, the Structural Change Index based on occupation shares has been trending steadily upwards to near record levels for this time series (Figure 8).

Figure 8. Levels of change in industry and occupation share of total employment have been relatively consistent

Changes in industry shares (Panel A) and occupation shares (Panel B) of total employment at the 1-digit level by rolling 5-year periods



Source: JSA analysis of ABS Labour Force, Australia, Detailed (Tables EQ06 and EQ07a)

While precise levels vary over time, these two charts confirm that structural change is a normal feature of the labour market. Some major trends driving structural change over recent decades – such as rising demand for health care services – are projected to continue.[23] Other trends such as declining employment in Manufacturing are expected to stabilise.[24] And finally, significant new trends may emerge that impact on the allocation of labour across tasks, occupations and industries.

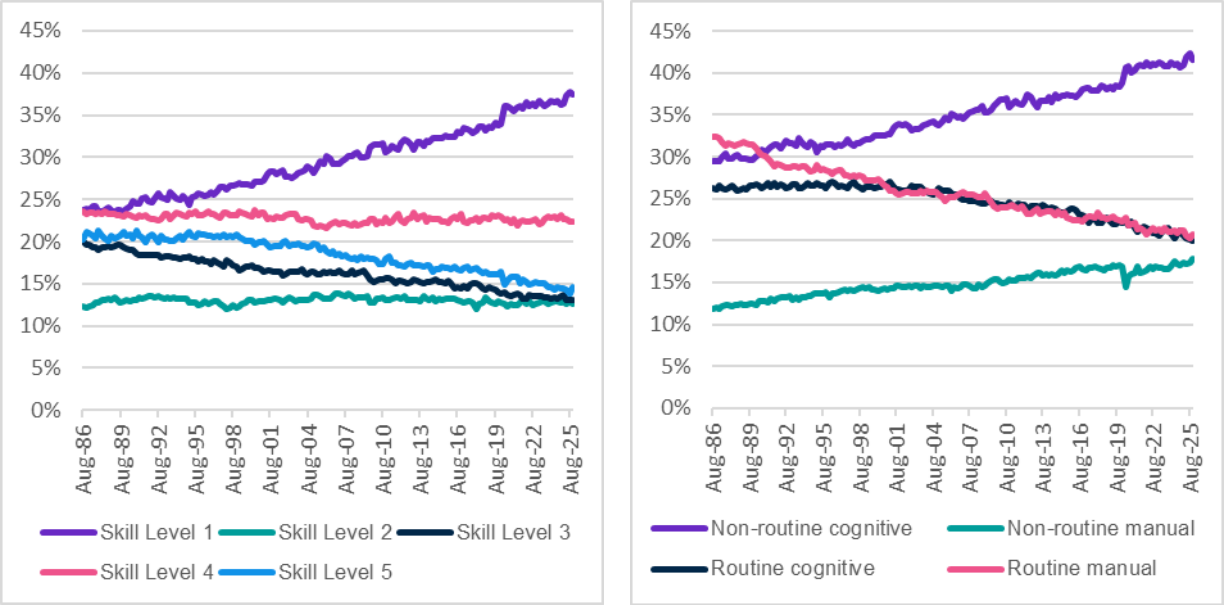
Whatever the level of structural change, the challenge for policymakers is finding appropriate settings that enable a dynamic economy which allocates resources efficiently while also achieving positive labour market outcomes for workers.[25]

2.3 Structural change can generate demand for skill deepening

The occupational mix of the Australian labour market has exhibited a structural shift towards greater employment in higher skill and non-routine occupations (Figure 9). Consistent with the expectations of skill-biased and routine-biased technological change frameworks, this trend has been particularly evident in heavily computerised industries such as Professional, Scientific and Technical Services, Financial and Insurance Services, Public Administration and Safety, and Information, Media and Telecommunications.[26]

Figure 9. Skill Level 1 and non-routine cognitive occupations comprise a growing share of the labour market

Share of total employment by select job characteristics, Q3 1986-Q1 2025



Note: This analysis applied the Coelli and Borland in classifying occupations as non-routine cognitive, routine cognitive, non-routine manual and routine manual based on the balance of their tasks.[27] Excludes not further defined occupations and occupations where the skill level cannot be determined at the unit group level.

Source: JSA analysis of ABS Labour Force Survey data, 1986-2025.

As employment opportunities within industries impacted by this shift become more heavily concentrated among higher skill occupations, the importance of skill deepening to ensuring skills supply matches skills demand increases. This includes the importance of greater skill deepening in relation to foundation skills. Research has confirmed there are strong positive associations between stronger foundation skills and labour market outcomes. For example, econometric modelling undertaken by the Productivity Commission showed that an increase in literacy and numeracy skills by 1 level (in a 5 level framework) is associated with:

- an increase in wages of around 10 per cent, and
- an increase in likelihood of employment of 2.4 and 4.3 percentage points for men and women respectively.[28]

This positive association between literacy and numeracy skills and labour market outcomes are broadly in line with the findings of other studies internationally.[29]

Strong foundation skills are also critical to outcomes at the firm-level, with 88% of employers in a 2024 Australian Industry Group survey reporting that low levels of foundation skills are impacting their business, presenting challenges for firm-level productivity.[30]

What constitutes sufficient foundation skills will depend on the individual's context. For example, some job roles and courses of study will require higher levels of language, literacy, numeracy and digital skills than others. As a result, Australia's shift toward an increasing proportion of higher skilled roles can be expected to have increased demand for higher levels of foundation skills and reduced opportunities for those without them. Hence, adult foundation skills development will be particularly important for those most at risk of being left behind. For example, long-term employment growth in occupations with a high level of writing proficiency required has far outstripped growth in occupations with basic or intermediate proficiency levels (Table 1).

Table 1. Employment growth has been higher in occupations that require high proficiency in writing

Employment growth by level of writing proficiency, 1986-2025

Writing proficiency level	Employment growth, Q3 1986-Q3 2025
Basic	25%
Intermediate	121%
High	366%

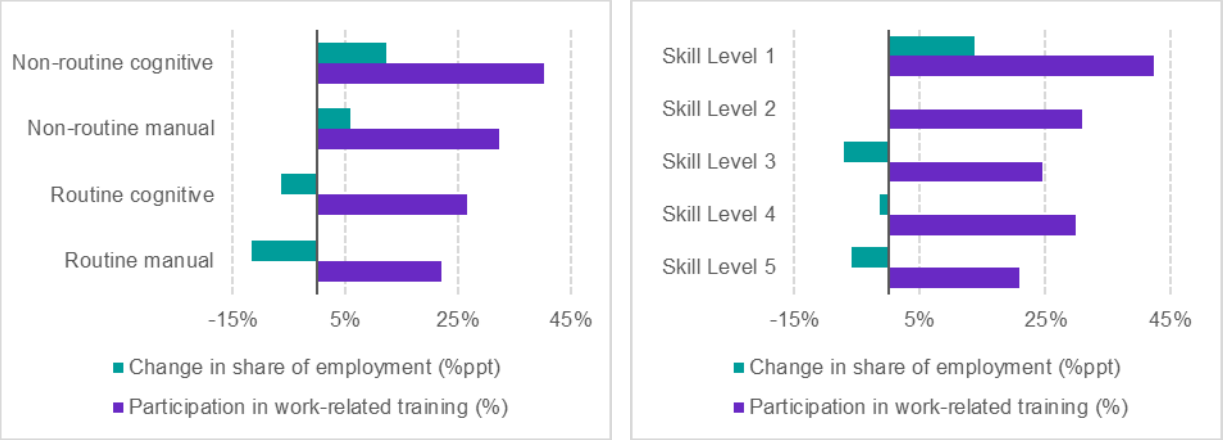
Note: The Australian Skills Classification was last published in 2023 and has not been updated. The results above should be treated as broadly indicative only.

Source: JSA analysis of ABS Labour Force, Australia, Detailed (Table EQ08) and National Skills Commission Australian Skills Classification

The importance of skill deepening extends beyond foundation skills and encompasses the technical skills and knowledge and human capabilities required to perform roles of increasing complexity. In this context, it is unsurprising that higher skilled and non-routine cognitive occupations are typically associated with higher participation in work-related training (Figure 10).

Figure 10. Individuals in higher skill and non-routine occupations are more likely to engage in work-related training

Rate of participation in work-related training in 12 months prior to the survey and the change in share of total employment (1986-2025) by job type (left) and skill level (right)



Note: This analysis applied the Coelli and Borland in classifying occupations as non-routine cognitive, routine cognitive, non-routine manual and routine manual based on the balance of their tasks.[31] Excludes not further defined occupations and occupations where the skill level cannot be determined at the unit group level.

Source: JSA analysis of ABS Work-related training & adult learning survey, 2020-21; ABS Labour Force Survey, 1986-2025

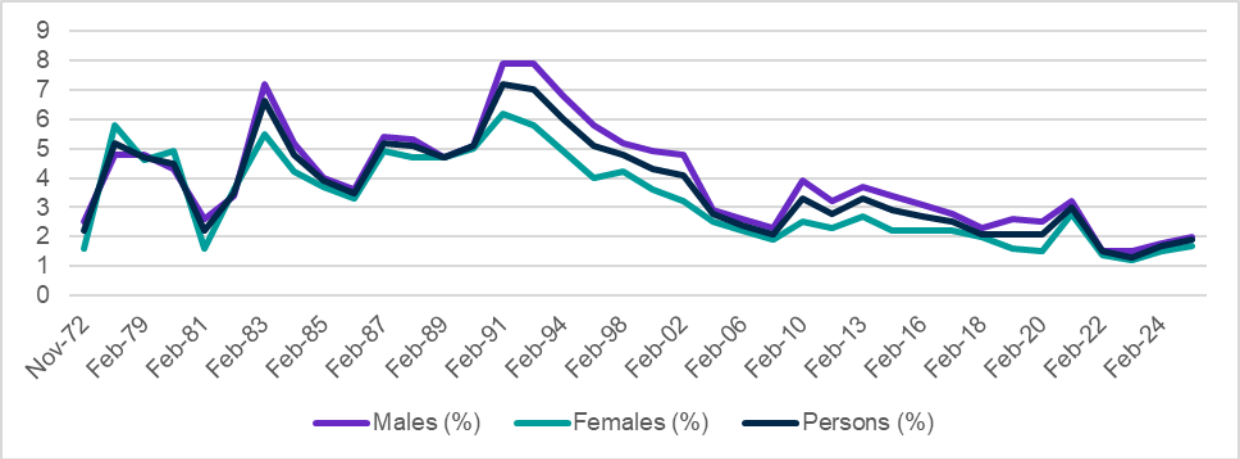
2.4 Structural change can also be a catalyst for reskilling

One mechanism by which structural change can be a catalyst for reskilling is by contributing to redundancy and retrenchment. Redundancy refers to when a business no longer requires an employee's job to be done by anyone or when an employer becomes insolvent or bankrupt. Not all redundancies lead to retrenchment – as workers may be placed in another job within the business. Retrenchment refers to when an individual's employment is ended for economic reasons (e.g. because their job or position has become redundant).

The annual retrenchment rate – the number of people retrenched in a given year as a proportion of those employed at the start of the year – is one indicator of whether structural change is driving increased job loss. This rate remains low by historic standards despite a modest recent uptick (Figure 11).

Figure 11. The retrenchment rate remains relatively low

Annual retrenchment rate, 1972 to 2025 (%)



Source: ABS Job Mobility, February 2025

At the national level, these figures do not indicate a significant surge in demand for reskilling triggered by rising retrenchments. However, it is important to note that this is a lagging indicator and that future structural changes, such as those driven by artificial intelligence and the clean energy transition, could impact retrenchments and the need for reskilling.

Nevertheless, retrenchments – especially mass layoffs impacting a large group of workers relative to the local labour market in a short period – can present significant costs for individuals and communities as well as risks of entrenched disadvantage in ways that warrant policy attention. In cases of large-scale or regionally concentrated retrenchment, reskilling is most effective when combined with other policy levers, such as regional development.

> *Regions which lack diversification, which have a limited capacity for innovation, or whose economic mainstay is vulnerable to decisions made elsewhere will face the greatest challenge, as will workers with skills that are in less demand or who are unable to acquire new skills.*[32]

The link between redundancy/retrenchment and reskilling will not hold in all cases. For example, affected workers may be able, and prefer, to transition to the same work at a different site of the firm or find similar work at a different firm. A key factor shaping re-employment prospects without the need for reskilling is the state of labour demand in the relevant occupation, industry and region, as well as individual preferences.

Figure 12 provides a snapshot of the distribution of industries by employment growth between 2015 and 2025 and the share of individuals citing retrenchment as the reason for ceasing their last job. Over the last decade, the pressure to reskill is likely to have been greatest for industries in the bottom right quadrant (e.g. Transport Equipment Manufacturing, Publishing, Printing, Telecommunications Services).

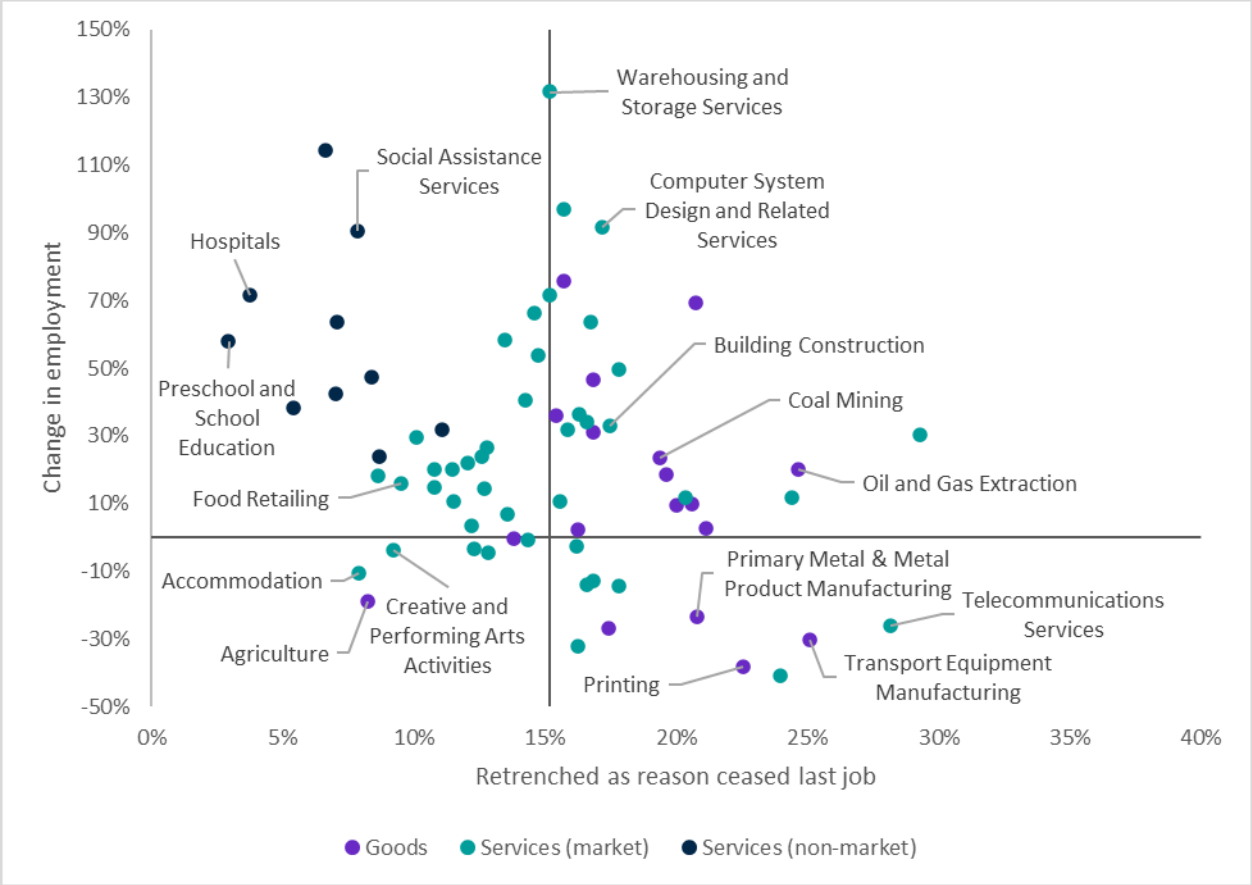
Conversely, industries within Health Care and Social Assistance, Education and Training, and Public Administration and Safety (collectively classified by the ABS as non-market sector industries)* are clustered in the top left quadrant, signifying high employment growth and a low share of workers citing retrenchment as the reason for ceasing their last job. This suggests that

* Market-based producers operate within the industries classified by the ABS as non-market (e.g. non-government schools). However, these industries are distinct in containing significant amounts of non-market output.

– even for the small proportion of workers in these industries who were retrenched – re-employment prospects within the same industry were likely to be strong.

Figure 12. Prospects for re-employment in the same industry for retrenched workers vary

Percentage change in employment (y-axis) by the percentage of those retrenched as the reason for ceasing their last job (x-axis) by industry subdivision during the 2015-2025 period



Note: The figure includes two lines for reference purposes. First, a horizontal line indicating stable employment (jobs created minus jobs lost between 2015 and 2025 equals 0). Second, a vertical line indicating the median value for the percentage of workers in each industry subdivision who were retrenched as the reason for ceasing their last job. Classification of Goods versus Services sectors and Market versus Non-Market sectors uses ABS definitions. Data excludes a limited number of small industry subdivisions where estimates for retrenched as reason ceased last job had a relative standard error too high to be considered reliable.

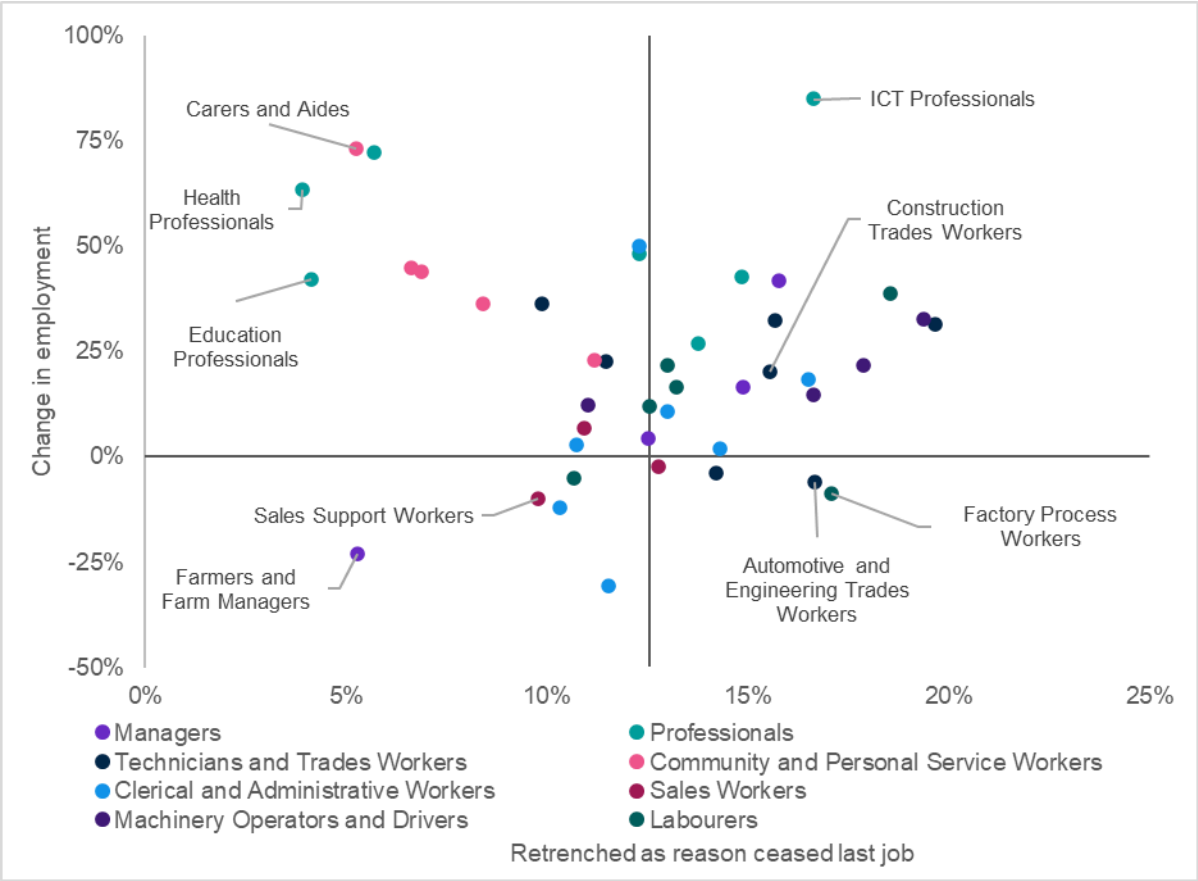
Source: JSA analysis of ABS Participation, Job Search and Mobility, 2015 to 2025; ABS Labour Force, Australia, Detailed (Table EQ06).

A similar pattern is observed in relation to occupations, where the top left quadrant is dominated by Professionals and Community and Personal Service workers in health, care or education sectors (Figure 13). For these occupations, reskilling is chiefly of interest for the important contribution it can make to alleviating imbalances between skill supply and demand by enabling mid-career transitions into these areas.

The top-right quadrant of Figure 13 also warrants attention. This quadrant includes several occupations that grew between 2015 and 2025 while also experiencing above average retrenchments (e.g. ICT Professionals, Construction Trades Workers). In such cases, above average retrenchments likely reflect firm-level factors rather than structural occupation or industry decline. This reinforces that reskilling to enable a substantial career pivot is unlikely to be required in all cases of retrenchment, with upskilling or skill deepening to improve one's employability within their existing occupation group also likely to be of value.

Figure 13. High retrenchment rates combined with declining employment may create the conditions for substantial reskilling

Percentage change in employment (y-axis) by the percentage of those retrenched as the reason for ceasing their last job (x-axis) by occupation sub-major group during the 2015-2025 period



Note: The figure includes two lines for reference purposes. First, a horizontal line indicating stable employment (jobs created minus jobs lost between 2015 and 2025 equals 0). Second, a vertical line indicating the median value for the percentage of workers in each industry subdivision who were retrenched as the reason for ceasing their last job. Classification of Goods versus Services sectors and Market versus Non-Market sectors uses ABS definitions.

Source: JSA analysis of ABS Participation, Job Search and Mobility, 2015 to 2025; ABS Labour Force Survey (Table EQ07a).

While the analysis presented above provides a useful framework for understanding where demand for reskilling may be present, it is important to note it is based on lagging indicators aggregated at the national level.

For policymakers and system actors considering structural change and its implications for skill deepening and reskilling in certain industries, occupations and regions, it would also be instructive to consider a range of factors including:

- projections of future employment
- potential impacts of technological advancements, trade flows, or government policy, and
- planned workforce changes for major employers in certain industries or regions.

JSA will add to this analysis with a future analytical report focused on displaced workers. This report will investigate the changing demographic, industry and occupational profile of displaced workers from 2015-2025. It will also investigate which groups of displaced workers have weaker or stronger outcomes post-displacement (e.g. comparisons of employment status, earnings and skill level).

2.5 The preferences, needs and aspirations of people matter

Structural change – and the uncertainty it brings around the composition of the labour market in decades to come – helps explain why relying solely on pre-career learning can leave individuals and employers vulnerable to labour market shifts. However, it would be a mistake to frame lifelong learning exclusively as a tool for reacting to impersonal forces.

Lifelong learning can also be a means for individuals to shape their own lives – including their working lives – in the context of changes in their circumstances and preferences. Recent Australian research has identified six types of change that may be a catalyst for more intensive adult learning (Table 2).

Table 2. Many types of changes may give rise to demand for adult learning

Type of change	Examples
Change in life stages	• A parent returning to part of full-time work after a career break • A recently graduated student moving from a summer job to the intended occupation of their study
Change of employment status	• An employee transitioning to become a supervisor or manager • A new business owner, or someone who is newly self-employed • An individual transitioning between periods of unemployment and employment
Change in occupations	• A worker making a voluntary change to an occupation that is a better overall fit • A worker making an involuntary change to due changes in demand for particular occupations or employer insolvency • A worker navigating changes in the skill and knowledge requirements of a particular occupation
Change in location	• An individual moving to a jurisdiction with different occupational licenses • A migrant entering Australia and encountering new norms, forms and practices
Change in health and wellbeing	• A worker seeking different forms of work which better aligns with their physical capacities as they get older • A worker whose capacity to perform some tasks is impacted by illness or injury • A worker seeking to align their employment with new caring responsibilities, due to changes in the health and wellbeing of a member of their household
Change in personal lifestyle	• An individual seeking work that better aligns with their preferences and values as they have evolved over time.

Source: Adapted from Billett (2023), Learning across working life: educative experiences and individuals' participation[33]

Evidence from the Participation, Job Search and Mobility Survey indicates that the most common reasons Australians ceased a job in the 12 months to February 2025 were to get a better job or just wanted a change (25%), poor work arrangements, pay or hours (13%), retrenched (12%), job ended – was temporary or seasonal (10%), and family reasons (9%).

Viewing lifelong learning as a way for individuals to actively shape their working lives aligns with recent developments in human capital theory, which emphasise workers as agent, i.e. individuals who make decisions about how they allocate their labour and the skills they acquire, rather than being assigned to tasks by employers in the same way as physical capital.[34]

As a result, being a lifelong learner extends beyond passively receiving timely updates to one's skills and knowledge. Instead, being a lifelong learner involved developing and exercising one's

capacity to take action.[35] Importantly in the context of lifelong learning and the labour market, personal agency operates within a context – raising the possibility of collective lifelong learning cultures where employers, managers and workers are aligned in their belief in their collective capacity to achieve positive outcomes through learning and development.[36]

Key finding

Structural change is a normal feature of the Australian labour market that shapes the relevance of particular skills. A lifelong learning approach can help empower individuals and employers to successfully navigate the disruption and opportunities created by structural change.

- Structural change can transform the labour market over an individual's working life, reducing the effectiveness of individuals and employers relying solely on initial tertiary education and training.
- Recent structural change has shifted employment towards types of work (e.g. higher skill, non-routine cognitive) that demand stronger foundation skills and typically involve higher participation in adult learning.
- Structural change can provide an impetus for reskilling, especially where high rates of retrenchment are combined with declining employment in an industry, occupation and/or region. The impact on workers in these circumstances can be significant, particularly where there are limited opportunities to redeploy existing skills to new contexts.

Chapter 3 Population ageing

This chapter:

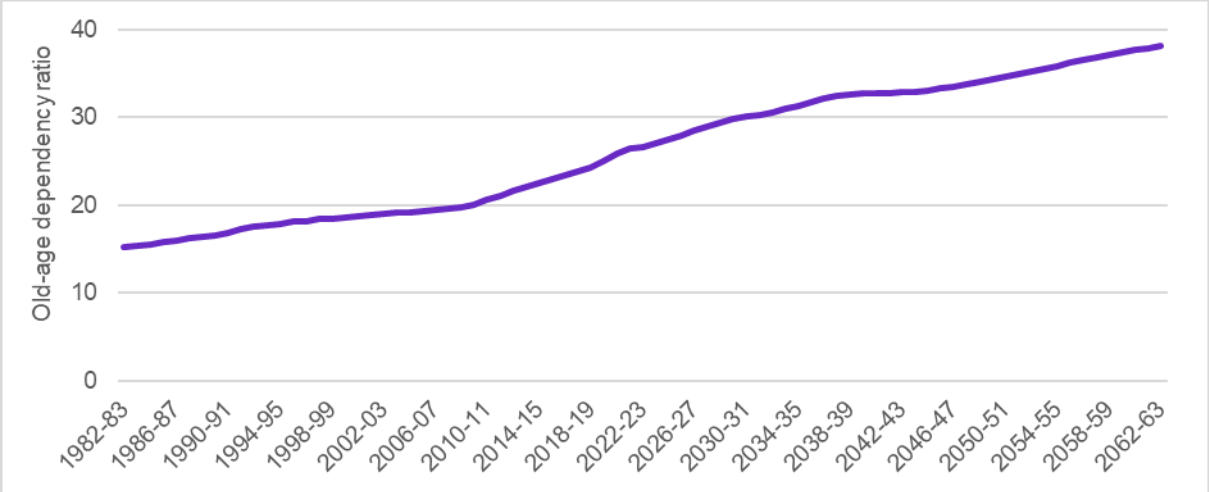
- explores population ageing as a significant dynamic shaping the Australian labour market, and its interactions with lifelong learning.
- highlights that an ageing population structure will likely change the composition of adult learning in Australia because learning needs and preferences can vary by career and life-stage.
- calls attention to the importance of continued learning in supporting the employability and motivation of older workers as part of a broader set of age-inclusive human resource management practices.
- discusses the role of adult learning in sustaining participation and productivity over the course of working lives, not just as an enabler of labour market transitions.
- acknowledges the role that population ageing plays in driving structural labour market shifts, such as the growing demand for health and aged care services, and its learning implications.

3.1 Population ageing and longer working lives suggest an elevated role for lifelong learning

Currently sitting at just over 38, the median age of the Australian population is expected to increase to around 43 by 2062-63, up from around 30 in 1982-83.[37] As a consequence, Australia's old-age dependency ratio – the number of people aged 65 and over for every 100 people of traditional working age (15-64) – is projected to continue to climb (Figure 14).

Figure 14. The old-age dependency ratio is expected to rise to around 38% within the next 40 years

Old-age dependency ratio in Australia over time, 1982-83 to 2062-63 (%)



Source: Australian Government, Intergenerational Report 2023

Australians are also working until later in life. The average age at retirement for those who retired in 2024-25 was 63.8, an increase of over 10 years since 2000.[38] In part, this increase is driven by improved health outcomes enabling Australians to participate in the workforce for longer. Financial considerations including previous increases in the pension age are also contributing factors.

The average age of Australians at retirement differs based on whether they left or lost their last job. Those who voluntarily left their last job in 2024-25 retired at an average age more than 5 years older than those who involuntarily lost their last job (e.g. due to retrenchment).[39]

In the context of these demographic shifts, promoting the productivity and participation of older workers is more important than ever. Achieving this has the potential to ameliorate workforce shortages and pressure on the pension system as well as support successful ageing at work for individuals.[40]

Lifelong learning supports the employability and motivation of older workers

The literature on age-inclusive human resource management (HRM) is often framed around 4 bundles of HRM practices, each with their own objectives and functions in supporting older workers to achieve relevant work life goals (Table 3). These goals and priorities can evolve over time. For example, older workers in physically demanding roles may look to transition to new roles or tasks as their physical health declines.

Table 3. Types of HRM practices for older workers

	Developmental practices	Maintenance practices	Utilisation practices	Accommodative practices
Aim	*Empower older workers to **reach higher levels** of performance*	*Promote **stability in performance** amidst age-related changes*	***Use the existing knowledge, experience and competence** of older workers in new ways*	*Enable workers to **continue to perform adequately** through lower job demands*

	Developmental practices	Maintenance practices	Utilisation practices	Accommodative practices
Example practices	Examples include: • Training • On-the-job development • Career planning	Examples include: • Ergonomic adjustments • Flexible work schedules/ benefits	Examples include: • Mentoring roles • Participation in decision making • Job redesign	Examples include: • Part-time work/semi-retirement • Exemption from overtime

Source: Adapted from various sources[41]

In one systematic review of over 100 quantitative studies, researchers found that development practices (e.g. training) had the strongest positive relationship of the 4 bundles studied with the employability of older workers and motivation to continue working.[42]

Longer working lives make later human capital investments more worthwhile

Research on human capital investment commonly starts from the premise that people will invest in learning when the life-cycle returns outweigh the costs.[43] Australians continuing to work later in their lives means that individuals at any given age will have on average more years to recoup the costs and obtain the benefits of investments in their human capital. This expanded time-horizon may increase motivation to improve work-related skills.[44]

From an employer perspective, longer working lives also extend the time-horizon in which an older worker may remain with the employer. This has the potential to challenge stereotypes about older workers, including that investing in their training is less worthwhile for the firm compared to younger workers due to concerns about shorter remaining tenures.

Longer working lives amplify the impact of other key trends

As our working lives become longer, the later years of people's careers will sit further from their initial education and training. Even without faster skill change, longer working lives increase the risk of skill obsolescence for workers who do not regularly update their skills. In relation to older workers, the OECD observes:

> *This resulting mismatch between demand for fast evolving skills and limited opportunities for reskilling at this age puts older workers – especially the older, less-educated workers in lower-paying, lower-skill jobs – at greater risk of losing their jobs, experiencing income insecurity, and disengaging socially.*[45]

Similarly, noting structural change is a normal feature of the labour market, longer working lives will typically increase the extent of structural change an individual experiences over the course of their career. This is true even before accounting for the impacts of population ageing as a driver of structural change, generating additional demand for labour and skills in care and support sectors in combination with major policies (e.g. the introduction of the National Disability Insurance Scheme).

In the context of population ageing, the adaptability and resilience of older workers is vitally important – not just for the individuals themselves – but also for sustaining high labour market participation and increasing the tax base at a whole-of-population level. Adaptability and resilience does not necessarily mean new roles or new qualifications. In many cases, adaptability and resilience will be best achieved through a process of skill deepening and skill

maintenance empowering workers to sustain productivity, expertise and job quality over longer careers.

3.2 Evidence of elevated participation in lifelong learning among older workers is limited

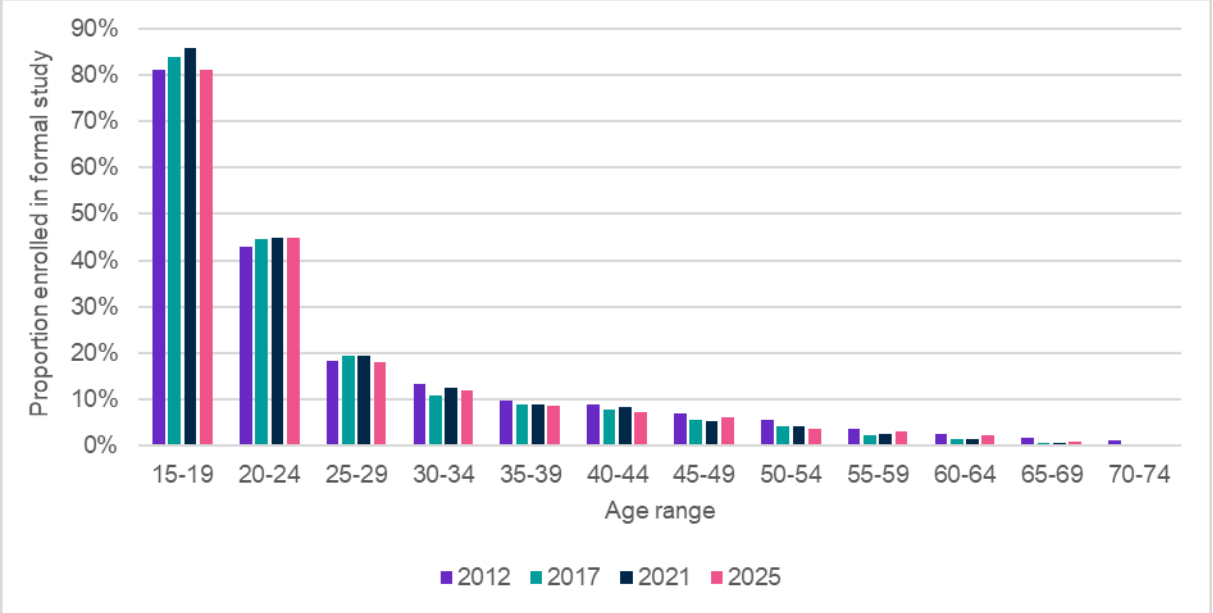
As the cost-benefit equation will be different between initial education and training and the learning that happens later in life, it is reasonable to expect that the intensity and mix of formal, non-formal and informal learning will differ by age. As such, in addition to comparing lifelong learning participation across different age groups, it is useful to consider trends within particular age groups over time.

Formal learning – structured learning leading to a qualification/credential

There is little evidence of later in life enrolments in formal study becoming more common over time. The proportion of individuals currently studying for a formal qualification was higher in 2012 compared to 2025 in all age groups 25 years or older (Figure 15).

Figure 15. There is no upward trend of people enrolling in formal study later in life

Proportion of individuals currently enrolled in formal study by age group and year



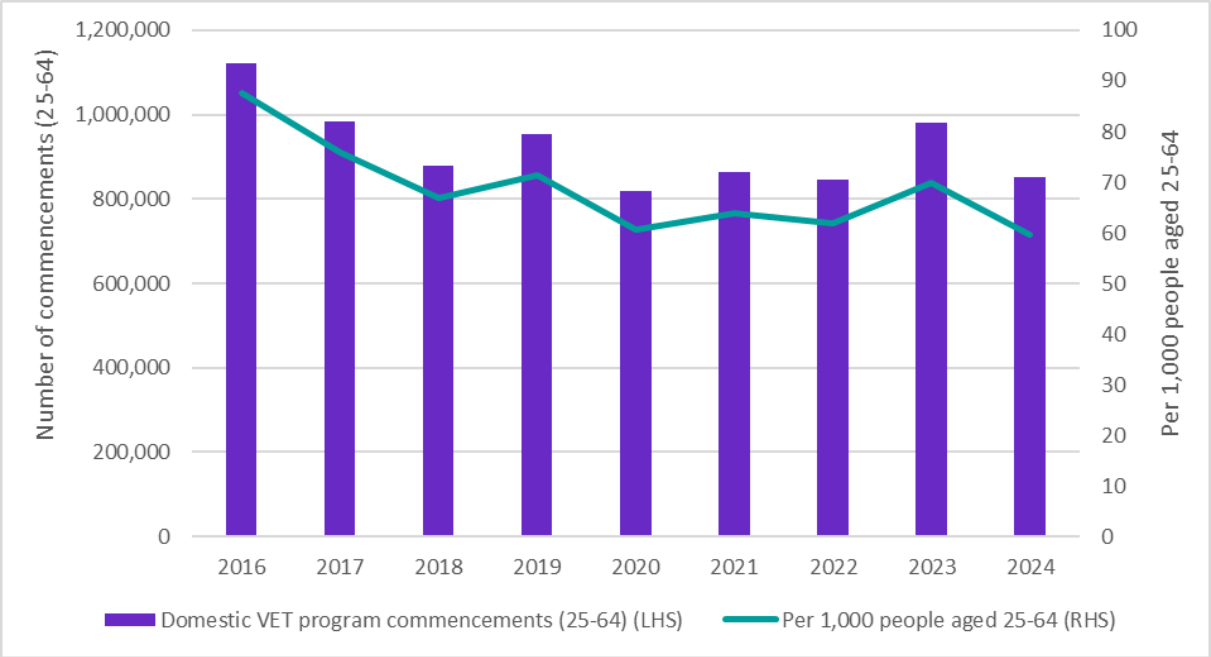
Source: ABS Education and Work survey, multiple releases

Stagnating or declining commencements as a proportion of the population aged 25-64 is evident across both VET programs and higher education courses (Figure 16).

Figure 16. Commencement per 1,000 people aged 25-64 were relatively low in 2024 across VET and higher education

Domestic student commencements per 1,000 people aged 25-64 in VET programs (Panel A) and higher education courses (Panel B)

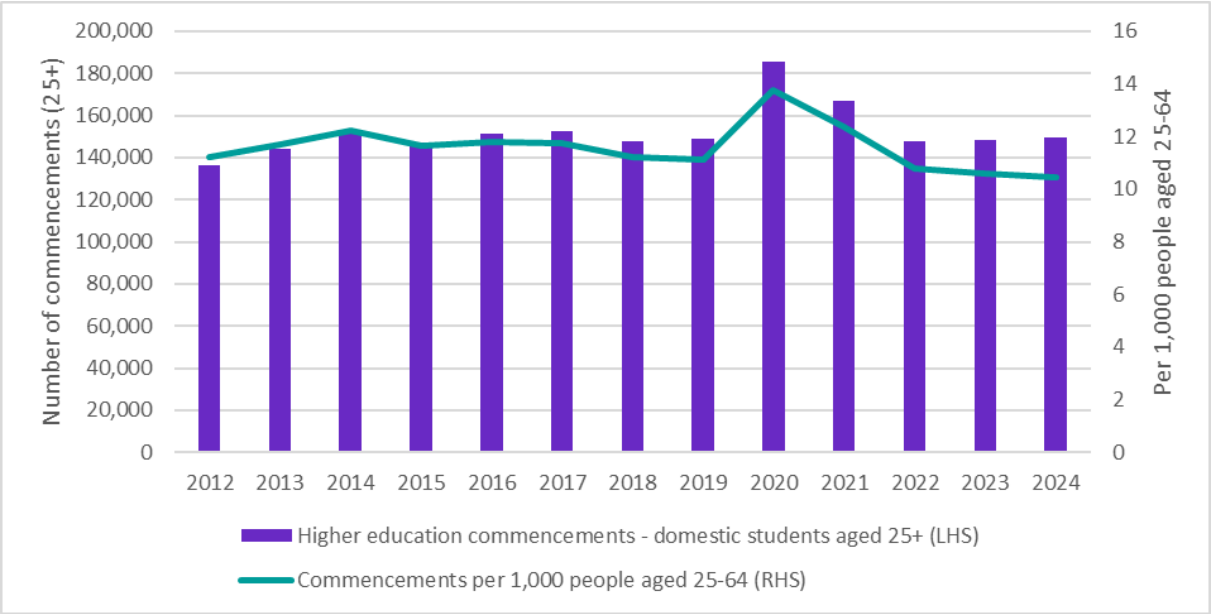
Panel A – VET programs



Note: VET programs include training package qualifications, training package skill sets, accredited qualifications and accredited courses.

Source: JSA analysis of NCVER VOCSTATS, Total VET Activity Program Enrolments 2015-2024; ABS Quarterly Population Estimates

Panel B – Higher education courses



Note: Higher education courses include postgraduate and undergraduate courses, enabling courses and non-award courses/microcredentials.

Source: JSA analysis of Department of Education, Higher Education Statistics; ABS Quarterly Population Estimates

As will be explored further in subsequent papers, reasons for recent stagnating or declining commencements among students aged 25 or above may include:

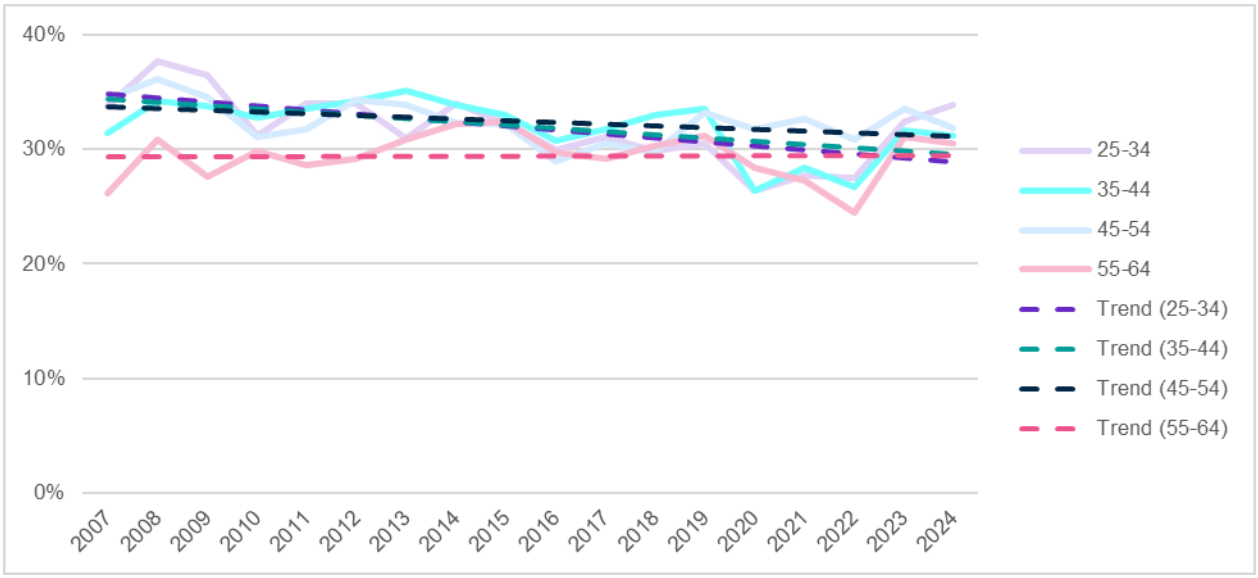
- higher tertiary education attainment rates among younger cohorts leaving fewer individuals to complete their first tertiary qualification later in life
- a relatively strong labour market since the pandemic increasing the opportunity costs of tertiary education (with the inverse being true in relation to the temporary bump in higher education commencements during the early pandemic years of 2020 and 2021)
- the impact of policy and funding changes on demand for, or supply of, tertiary education, and
- the 'mounting workplace demands and personal responsibilities' faced by mid-career adults proving harder to reconcile with the attainment of full formal qualifications than other types of learning.[46]

Non-formal learning – structured learning that does not lead to a qualification/credential

Long-term trends in work-related training participation by age group are either flat or down (Figure 17). Over the past decade, workers aged 55-64 have participated in work-related training at similar levels to younger age groups. However, this is due to declining participation among younger cohorts compared to 2007 levels rather than increased rates of participation among older workers.

Figure 17. Work-related training participation has been broadly consistent for 55-64 year olds, while trending down in other age groups

Proportion of people who undertook work-related training in the past 12 months by age group



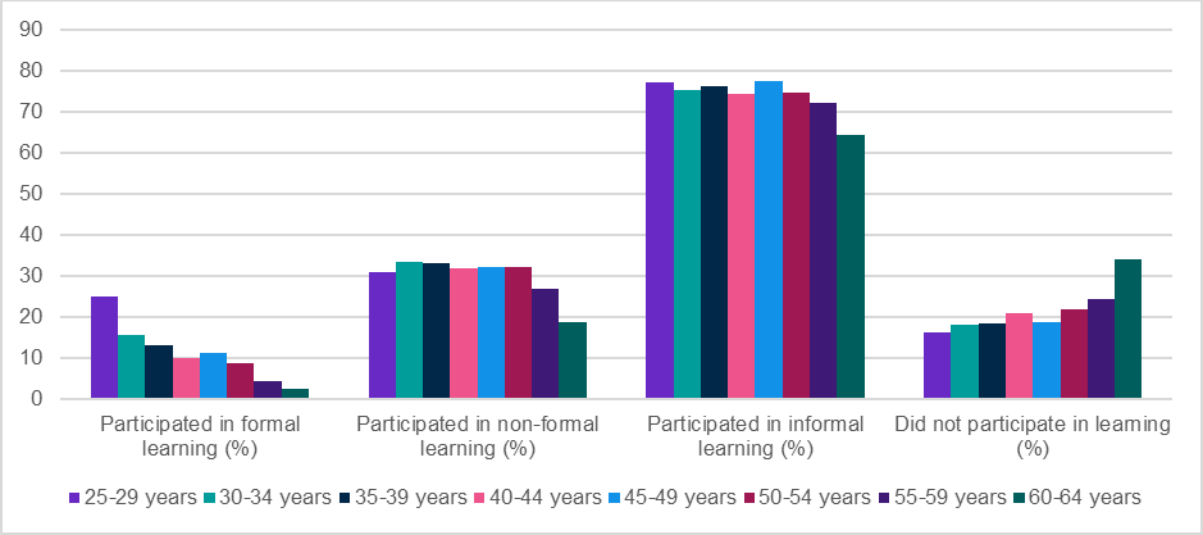
Source: JSA analysis of HILDA survey data, waves 1-24.

Informal learning – unstructured learning that does not lead to a qualification/credential

Data on participation in informal learning is scarce as it is typically not captured by administrative datasets or official statistics. Available evidence (now significantly outdated) points to informal learning being the most common type of learning across all age groups, including older workers (Figure 18).

Figure 18. Most people across all age groups participate in some informal learning

Participation in learning in the 12 months prior to the survey by age group and learning type (%)



Note: As the same individual can participate in multiple forms of learning, the percentages do not add up to 100%.

Source: ABS Adult Learning, Australia, 2006-07

Several studies indicate that informal learning, including learning from others, may be especially important for older workers. Research offers two main explanations for why this may be the case:

- **Preference:** One explanation offered is that informal learning aligns with the preferences of many older workers. This may include 'preferences for learning autonomy, the use of self-directed learning processes, and learning in collaborative settings' that emphasise knowledge sharing rather than one-way knowledge imparting from an instructor.[47]
- **Necessity:** Another explanation offered is that informal learning opportunities (e.g. learning from others in the workplace) are less contingent on employer resources – resources which may be prioritised for younger workers.[48]

There is limited data available to determine whether the participation of older workers is increasing, stable or declining over time.

Key finding

As Australians live and work longer, the potential of lifelong learning to promote the productivity and participation of older workers is more important than ever.

- Promoting the productivity and participation of older workers has the potential to ameliorate workforce shortages and support successful ageing at work for individuals.
- Age-inclusive human resource management practices focused on the learning and development of older workers have been shown to promote continued employability and motivation.
- Longer working lives will amplify the impacts for individuals of other key forces such as structural change across the labour market and the pace of skill change within jobs.
- There is limited evidence that lifelong learning participation among older workers is increasing in line with its increased importance.

Chapter 4 Job mobility

This chapter:

- explores the interactions between adult learning and job mobility.
- includes analysis of recent trends in job mobility in Australia and highlights the role of continued learning for those who do – and do not – change jobs.
- calls attention to the importance of skill recognition and portability as mechanisms for translating additional learning into a more dynamic labour market with better job matches for employers and workers, higher wage growth and more effective adjustment to structural change.

4.1 Lifelong learning is important for those who do – and do not – change jobs

Intuitively, there are valid reasons to believe that more frequent job mobility would be positively associated with lifelong learning. A frequently cited assumption is that more frequent changes in jobs and tasks will necessitate more regular learning.[49] An individual who has successfully learned new jobs in the past may also be more willing to do so again, owing to higher self-efficacy about their ability to learn.[50]

However, there are also valid reasons why high job mobility may be less conducive to investing in learning. Where there is an expectation of high future mobility, workers and employers may be hesitant to invest in learning in case future moves mean the benefits of the learning are either not realised or – from the employer perspective – realised at a different business.[51] Conversely, longer tenure may be associated with greater incentive to invest in role and/or firm-specific skills.

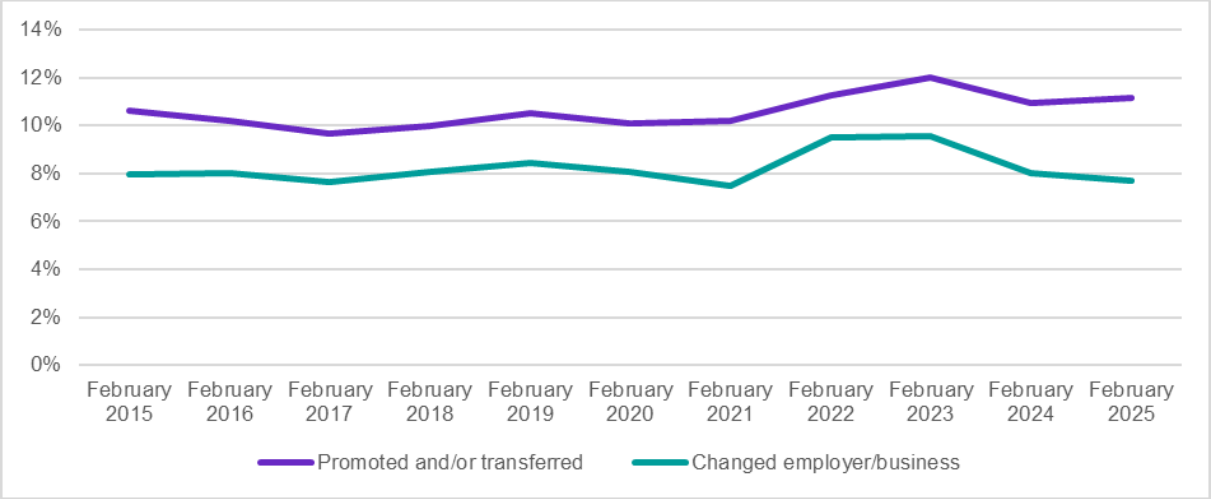
Empirically, probit regression analysis undertaken by the Committee for Economic Development of Australia (CEDA) found no statistically significant relationship in the Australian context between an individual's tenure and their likelihood of participating in work-related training.[52] As such, it is not necessarily clear cut that lifelong learning is more or less important depending on one's level of job mobility – both changing jobs and committing to a job may provide an impetus for different types of learning.

4.2 Job mobility in Australia has been mostly stagnant

Job mobility can encompass both movements between employers (external mobility) and movement within employers (internal mobility). Notwithstanding a spike in mobility in the immediate post-COVID period, the proportion of employed people changing employers or being promoted/transferred in a given year has reverted back to near the mean for the last decade (Figure 19).

Figure 19. There is little indication of a structural shift towards increased mobility within or between firms

Proportion of employed people who changed employers or were promoted/transferred in the last 12 months

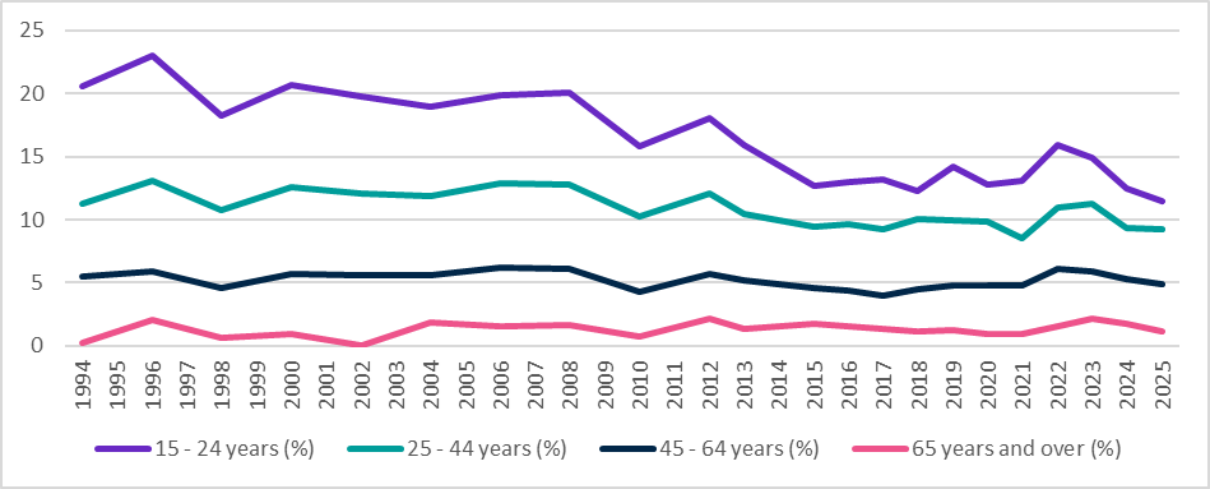


Source: JSA analysis of ABS Participation, Job Search and Mobility, Australia survey, February 2025

While largely stagnant over the past decade at around 8%, the rate of external job mobility is considerably lower than the averages during past decades (16% in the 1980s, 13% in the 1990s and 11% in the 2000s). This decline has been driven by an ageing workforce – with job mobility generally decreasing with age – in combination with reduced job mobility within younger age groups (Figure 20).

Figure 20. The job mobility of younger age groups has declined

Job mobility rate by age group (1994 to 2025) (%)



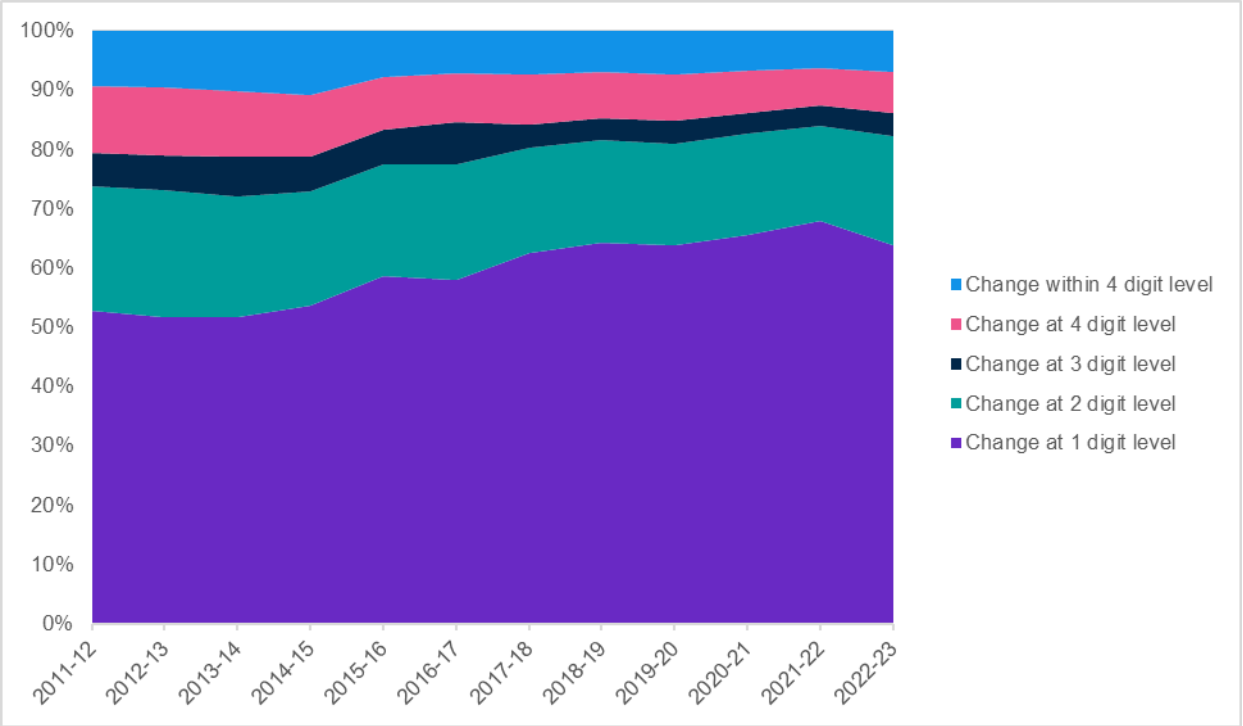
Source: ABS Job Mobility, February 2025

Not all instances of job mobility will have an equal impact on the need for additional learning. It is reasonable to assume that mobility within an occupation/industry or to a closely related occupation/industry would require less additional learning than job switches involving more significant change.

Evidence from JSA's data on occupational and industry mobility indicates that most workers do not change jobs from one year to the next. Yet when workers do move, they typically make significant shifts. For example, changes at the occupation major group (1 digit) level (e.g. from Clerical and Administrative Workers to Professionals) account for the majority of occupation transitions, followed by changes at the sub-major group (2-digit) level (Figure 21).

Figure 21. When people change occupations, they usually make significant shifts

Percentage of employed people who changed occupation by level of transition, excluding those transitioning in or out of employment



Note: Excludes those who did not lodge an income tax return in the relevant year or whose occupation could not be mapped to ANZSCO.

Source: JSA, Data on Occupation Mobility

As part of its labour market efficiency analysis, JSA will examine occupation transitions, job-switching behaviour and long-term trends in labour mobility in greater depth. The outputs of this research will be released over the coming months.

4.3 Labour market dynamism is a priority of government

The Australian Government's employment white paper *Working Future* outlines the benefits of labour market dynamism, including job mobility. Benefits identified from job switching include better job matches for employers and workers, higher wage growth and supporting the labour market to adjust to structural change.[53]

Notwithstanding this goal of greater labour market dynamism, the proportion of formal study and non-formal learning undertaken with the goal of trying for a better job, promotion or different career has not increased. This is due to changes both within and across types and levels of education.

VET

The proportion of students aged 25 to 64 whose main reason for undertaking VET was to get a better job or promotion, or to try for a different career, has hovered around 10% since 2017. This compares to around 47% of VET students citing training being a requirement of their current job and a further 17% citing wanting to develop extra skills for their current job.

These proportions vary significantly by training type, with 24% of students undertaking training package qualifications citing trying for a better job, promotion or different career (up from 20% in

2016). In contrast, only 7% of the growing share of VET students undertaking subject(s)-only enrolments cited trying for a better job, promotion or different career as their main reason for training.[54]

Non-formal work-related training

A similar proportion of individuals undertaking non-formal work-related training (around 11%) have as their aim preparing for a future job or promotion. This figure has remained broadly consistent since 2007, ranging from a minimum of 9.6% to maximum of 11.7%.[55]

Higher education

The proportion of students undertaking formal study at Bachelor Degree level or higher whose main reason for participation was to increase their job prospects or change career is higher than for VET or work-related training at 49% in 2024-25, though this also represents a reduction compared to previous surveys in 2013 (53%), 2016-17 (55%) and 2020-21 (51%).[56]

This reduction from the peak of 2016-17 reflects a combination of factors including:

- decreases in the share of Postgraduate Degree and Bachelor Degree level students whose main reason for study was to increase their job prospects or change career, and
- a compositional shift in adult higher education towards a greater share of postgraduate students – who are less likely than undergraduate students to have increasing their job prospects or changing career as their main reason for study.[57]

The relationship between adult learning and job mobility is likely to be multi-directional. Learning may occur prior to switching jobs in order to meet the requirements of a vacancy or strengthen one's application. Alternatively, learning may take place upon obtaining a new position to develop the skills and knowledge required to accomplish new work tasks. Because of this multi-directional relationship, it is difficult to determine the extent to which reduced work-related training is a cause or a consequence of stagnant job mobility.

The interaction between adult learning and job mobility goes beyond the learning preferences and participation of individual learners. For more adult learning to translate to higher rates of job mobility, it is important that the learning be recognised and valued across the labour market and skills system.

In part, this recognition could come via formal education and training systems through effective credit transfer and recognition of prior learning (RPL) arrangements. Such arrangements have the potential to facilitate learners moving more efficiently within and between VET and higher education systems and allow faster transitions into new roles.

Additionally, skills recognition may also be advanced through a skills-first approach to hiring, development and reward (whereby demonstrated skills are the primary currency in the labour market).[58] Where qualifications and years of experience remain the dominant way for employers to screen candidates and individuals to signal their capabilities, incentives to invest in other forms of capability development – such as non-formal learning – will be dulled.

4.4 Job mobility dynamics interact with population ageing

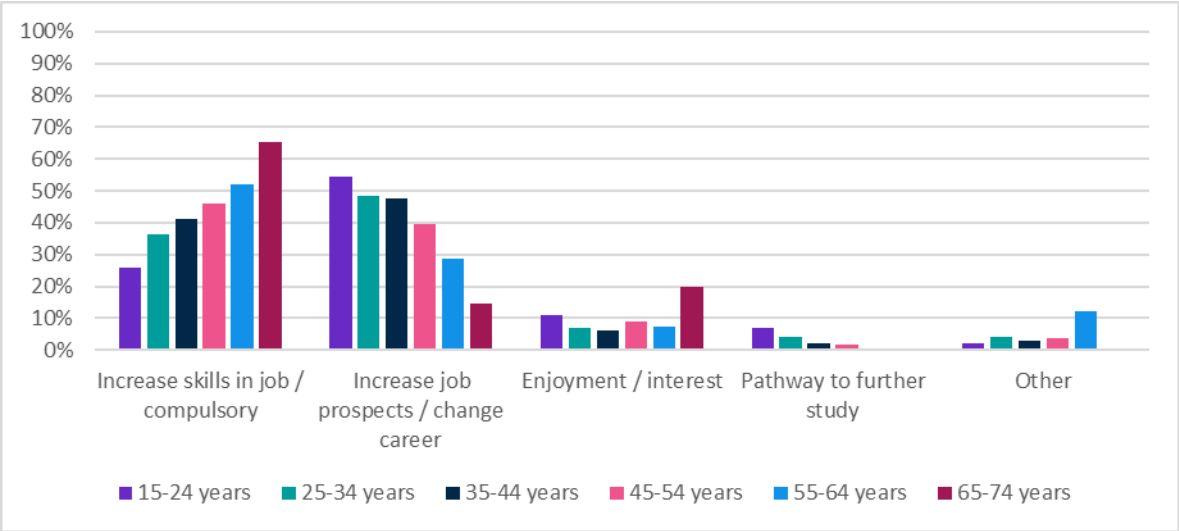
Historically, the main reason for participating in learning – whether motivated by career change or developing skills for one's current role – varies across the span of an individual's working life. As shown in Figure 22, the proportion of people citing increasing their skills or meeting the

requirements of their current job as their main reason for formal study increases markedly with age. Correspondingly, the proportion of people citing increasing job prospects or changing careers decreases (Panel A). While less pronounced, this same pattern is also evident in relation to work-related training (Panel B).

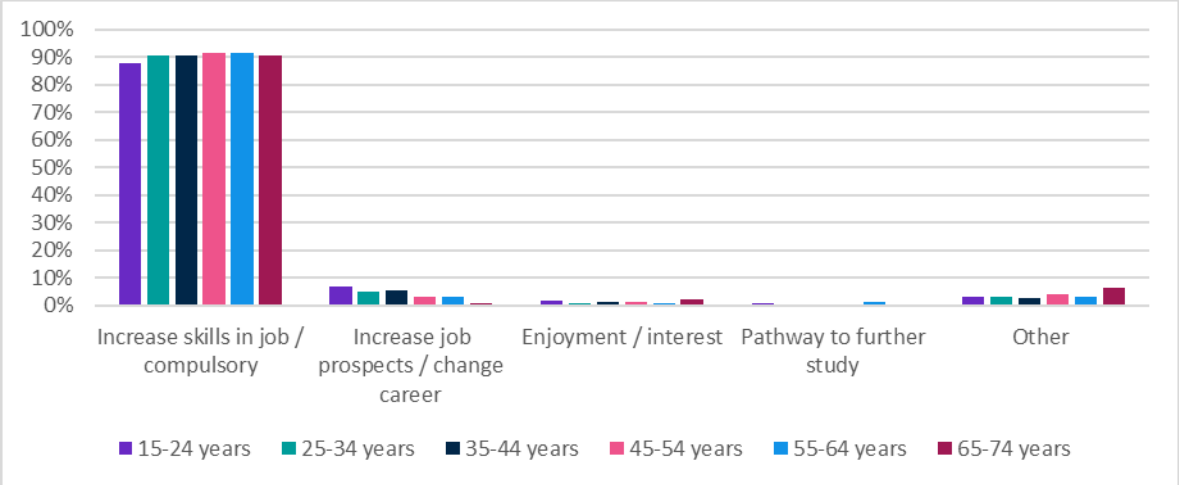
Figure 22. Younger people are more likely than older people to undertake formal study and work-related learning to increase their job prospects or change careers

Main reason for undertaking formal study (Panel A) and work-related training (Panel B) in the last 12 months by age group

Panel A – Formal study



Panel B – Work-related training



Source: ABS Work-Related Training and Adult Learning, 2020-21

Without any changes to these patterns, Australia's ageing population will likely make it harder to improve labour market dynamism through greater lifelong learning participation and skills recognition. This in turn is likely to constrain the pace at which the labour market can adjust to structural change in the economy, further highlighting the interactions between the 4 key dynamics and drivers examined in this paper.

Key finding

Lifelong learning is important irrespective of whether people change jobs often.

- Job mobility levels in Australia have been stagnant over the last decade. This has largely been driven by an ageing workforce in combination with reduced job mobility of younger age groups.
- To translate more adult learning into more labour market dynamism, it is important that skills and capabilities acquired are recognised and valued by employers.
- Older workers are less likely to undertake formal and non-formal learning with the aim of increasing their job prospects or changing careers. Without any changes to these patterns, Australia's ageing population is likely to act as a headwind to efforts to improve labour market dynamism through greater lifelong learning participation.

Conclusion

This working paper began by articulating JSA's vision for the full skills potential of our nation to be realised, resulting in improved workforce participation, productivity, wages and equity. Adult learning is a critical cog in achieving this vision, particularly in the context of the significant technological, demographic and structural shifts reshaping Australia's labour market.

Across the four dynamics explored, 3 common threads emerged.

First, adult learning is valuable for sustaining workforce participation and productivity across working lives. Its value is not limited to periods of major transition.

Second, meeting heightened adult learning needs is a shared challenge with implications for individuals, employers, governments and the education and training sector.

Third, realising the full skills potential of the nation involves more than an increase in learning participation. Returns to adult learning – whether that be in the form of better jobs, higher productivity or sustained workforce participation – are shaped by the interaction of the supply of skills, how skills are recognised, career pathways that enable cumulative capability development, and productive jobs and employers that effectively utilise the skills of workers.

Opportunity to comment

JSA invites readers to share their feedback on this working paper, or to request further engagement on this project by contacting us at Skills@jobsandskills.gov.au.

We note that working papers contain our preliminary research and are published to activate dialogue on the matters canvassed. Any comments received will be considered in the formulation of JSA's formal advice on lifelong learning.

Note on HILDA data

This paper uses unit record data from Household, Income and Labour Dynamics in Australia Survey [HILDA] conducted by the Australian Government Department of Social Services (DSS). The findings and views reported in this paper, however, are those of the authors and should not be attributed to the Australian Government, DSS, or any of DSS' contractors or partners. DOI: https://doi.org/10.26193/6M1BMR

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