

Australia's shifting skills ecosystem: Contemporary challenges in education, training and immigration¹

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Introduction

In this chapter we examine the changing nature of Australia's skills 'ecosystem' and the implications for industrial relations. Education, training and immigration form the central components of the national skills ecosystem, a term that we use to emphasise the high degree of interdependence among actors as well as the policy settings that provide nourishment and a supportive host environment. While Finegold (1998: 66) developed the skills ecosystem concept mainly with reference to regional level arrangements, we adapt this term to analyse interdependent policy settings operating at the national level. Too often in policy and academic debates, education and training on the one hand and immigration on the other are portrayed as simple substitutes, but there is need for a more nuanced analysis acknowledging the underlying ideologies and changing economic forces shaping these dimensions of national skills ecosystems and how they interact.

Over the past 25 years there has been a fundamental shift in policy arrangements for addressing the skills needs of the labour market, from what might be called a coordinated to a market-oriented system. Meeting the immediate demands of employers has become the main objective of these arrangements, which has led to an overhaul of the vocational education and training (VET) system, a greater focus on creating job-ready candidates through tertiary education, and a re-design of immigration to focus on intakes of skilled migrants matched to specific jobs nominated by employers. Structural and compositional shifts in the labour market and changing orthodoxy among policymakers regarding the objectives and design of the national skills ecosystem are among the key factors underpinning these developments.

The shift to enterprise bargaining and the marketisation of the VET system in the 1990s resulted in industrial relations being moved from the centre to the periphery of Australia's skills ecosystem. The collective consensus among business associations and between employers and unions – always fragile – has broken down. Employers are broadly satisfied with the prevailing market-oriented national skills ecosystem. However, other stakeholders, most notably unions, suggest that restoring the relationship with industrial relations institutions will address some of the alleged shortcomings of the framework, such as under-utilisation of employee skills, high youth unemployment, the mistreatment of migrant workers and declining employer investment in training.

The next two sections provides an overview of the unravelling architecture that once sustained the links between industrial relations and VET, how skilled immigration has come to form a more important component of the skills ecosystem and the outcomes arising from these changes. We then look at the key issues and challenges in this area, particularly with respect to the impact of

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changes to industrial relations institutions and enterprise bargaining, the apprenticeship system, skilled migration and the nature of labour market demand. In the final section of the chapter, we look critically at the capacity of Australia's skills ecosystem to serve likely future labour market needs and salient issues for industrial relations stakeholders to consider.

Australia's skills ecosystem: Historical context

To properly consider the key issues and challenges of Australia's contemporary skills ecosystem, it is necessary to examine the historical interaction between education, training, immigration and industrial relations policies. For many years following federation, restrictive immigration controls were a cornerstone of the protectionist settlement that sustained the existence of compulsory conciliation and arbitration (Castles, 1988). Meanwhile an apprenticeship model developed in the trades, based on extensive on-the-job training and off-the-job instruction at public technical colleges, which generally reinforced the craft-based nature of most Australian awards and trade unions (Ray, 2001). While Australia is now generally considered a liberal market economy (Wright & Lansbury, 2016), the regulatory framework established under this settlement led to considerable coordination in the industrial relations system with implications for skills development for much of the 20th century (Briggs, 2006: 869-872).

Notwithstanding this legacy, the centrally coordinated industrial relations system was able to accommodate the large expansion of immigration after the Second World War. While union opposition was a key factor in the restriction of immigration in the first half of the 20th century, the moderation of this position was crucial for the expansion of immigration after 1945. Post-war governments utilised advisory councils to convince unions and other stakeholders that higher immigration intakes were necessary for the purposes of industrial and population expansion. Despite widespread expansion through new Colleges of Advanced Education (CAEs), Technical and Further Education Institutes (TAFE) and universities (Beddie, 2014), education and training could not be relied on solely to address labour shortages, as unemployment was virtually non-existent. The effectiveness of compulsory arbitration in providing secure wage and employment standards further placated union concerns (Quinlan & Lever-Tracy, 1990), as did the assurance by governments that migrants would work in low-skilled jobs that Australian residents were disinclined to take (Markus, 1984). Immigration selection shifted much more towards the higher skilled in the 1960s, and many immigrants went to work in the burgeoning automotive, ship manufacturing, iron and steel industries (Salter, 1978). Immigration became a less important feature of Australia's skills ecosystem in the 1970s and 1980s, as governments focused more on education and training as the principal means of addressing labour market needs (Birrell, 1984).

The market liberalisation policies of the Hawke-Keating Labor government impacted upon education, training, immigration and industrial relations policies. The decentralisation of labour market regulation was seen as the logical extension of financial and product market deregulation. The key aspect of labour market decentralisation – the introduction of enterprise bargaining in 1993 – had ramifications for the skills ecosystem since it removed the architecture for employers to take collective action to overcome the under-provision of training and prevent freeloading of this public good. Instead, enterprise bargaining encouraged managers and workers to make wage-based trade-offs on skills, training and other employment issues. The Keating government's accompanying promotion of market-led training invariably shaped the outcomes of workplace negotiations over skills issues. Moreover, industries with high concentrations of full-time and permanent employment, where employees had good access to training, accounted for a high proportion of the jobs lost from

the industry restructuring process of the 1980s and 1990s. Casual and temporary jobs with limited training opportunities were clustered in services industries that expanded following market liberalisation (Watson et al., 2003: 50-54). Furthermore, industry deregulation and privatisation led to a decline of structured training provision, given that large public and private corporations had played an important role in training apprentices and trainees (Sheldon & Thornthwaite, 2005; Toner, 2003).

The Howard Coalition government continued the Keating era market reforms in VET while dismantling the overarching corporatist framework. It quickly abolished the Training Guarantee Levy, which required firms above a certain size to spend the equivalent of 1% of payroll on structured training. The levy was an incentive for employers to negotiate (or at least consult) with employees and unions about training activity but was the subject of intense criticism that it led to spurious, poor quality training and robbing (Hampson, 2002: 154-155), notwithstanding its benefits in significantly increasing employer investments in training (Hall, 2011). The Australian National Training Authority, a tripartite body established to oversee the VET system, was abolished. A rationalised set of Industry Skills Councils (ISCs), which featured varying levels of union involvement, were given the responsibility of developing national training packages, which cemented the atomised competency-based training system. Through its industrial relations reforms, the Howard government also sought to limit the ability of unions to bargain over training matters.

The Rudd and Gillard Labor governments attempted to address identified shortcomings in Australia's skills ecosystem by creating Skills Australia – which later became the Australian Workforce and Productivity Agency (AWPA) – to provide independent assessments of national skills and labour market needs. Initiatives such as the National Workforce Development Fund were designed to stimulate employer engagement in a broader skills utilisation agenda (e.g. Skills Australia, 2012). However, the main policy initiatives during this period centred on expanding the supply of skills through increased higher education and VET enrolments and further consolidation of a skilled visa regime regulated primarily on the basis of meeting the short-term needs of employers. In higher education and VET, this was done by uncapping publicly-subsidised places. The 2012 National Partnership Agreement on Skills Reform committed the states and territories to opening up their public VET subsidies to private providers and the Commonwealth government greatly expanded access to HECS-style income contingent loans for students undertaking Diploma and Advanced Diploma qualifications. Severe concerns have arisen about the quality of training under this system. Providers are paid the same subsidy regardless of how many hours of instruction they actually provide to their students. The regulatory framework has been ill-equipped to prevent abuses such as students being enrolled in courses that are not appropriate to their current capability and issuing qualifications without assuring that graduates have met the requirements of the course (Yu & Oliver, 2015). These problems have weakened employers' engagement with the training system, even though their institutional decision-making remains, because private providers are no longer so reliant on employers purchasing training for their workforce. The replacement of ISCs with a more 'contestable' model of training package development could further dilute input from employers and other key stakeholders such as trade unions into the design of VET qualifications.

Outcomes arising from changes to the skills ecosystem

Developments in school retention, higher education and skilled immigration as well as strong growth in the labour market participation of women also led to significant changes in the nature of the national skills ecosystem. Between 1984 and 2014, the proportion of students continuing through to

Year 12 rose from 45% to 84% (ABS, 2015c). Over the same period, the female share of the labour force increased from 37% to 46% (ABS, 2015b). The proportion of the working age population with a university degree increased from 8.4% in 1990 to 24% in 2014 (ABS, 2015a). The large growth in university graduates was achieved by a reorganisation of the higher education sector (transforming former CAEs into universities) and an increase in the financial contribution made by students to the costs of their education. Along the way, the transition from education to full-time employment became more prolonged, more uncertain and more blurred, with most young people experiencing an intermediate period of combining part-time work with full-time study (Circelli & Oliver, 2012). At the same time, the loosening of restrictions on skilled work visas gave employers access to additional labour. The period from 1996 to 2014 saw a five-fold increase in the number of workers entering via the main skilled and work visa categories (see Table 1). While rising intakes of permanent skilled visas – the traditional mainstay of Australian labour immigration policy – was a key component of this increase, the growth of the subclass 457 temporary skilled visa and the subclass 417 working holiday visa were also significant, especially considering that temporary work visas never featured prominently in Australia’s post-federation immigration policies (Hugo, 2004). In addition, a large increase in international students with limited work rights became an important source of labour for employers in lower-wage sectors, such as retail, hospitality and business services.

Reforms to education and training policy since the 1990s may have benefited the short-term labour demands of individual employers, but they also contributed to the erosion of transferable occupation and industry-specific skills, declining enrolments in many trades-based apprenticeships, and stagnation in public and private sector vocational skills investment. These outcomes have contributed to declining employer and community confidence in the value of vocational qualifications (Yu & Oliver, 2015). With the onus for training now resting more heavily on individual employers, ‘poaching’ and make-not-buy strategies have increasingly been used to meet skilled labour requirements (Wright, 2012). The prospect of trained workers leaving for other firms compounded the disincentive for employers to invest in skills development. Much of the training that employers are prepared to support is specific to their own operations and not readily transferable (Cooney, 2010; Sheldon & Thornthwaite, 2005).

Underpinning all of these developments has been a shift in the interests and power of dominant industrial relations stakeholders, which has shaped their ability to influence education, training and immigration policies. Market liberalisation has enhanced the political influence of business groups representing the services and commodities sectors, such as the Business Council of Australia, the Australian Chamber of Commerce and Industry and the Australian Mines and Metals Association, which prefer market-oriented education and training systems and more liberal work visa regulations for meeting employers’ needs. By contrast, the political influence of the trade union movement and manufacturing employer groups such as the Australian Industry Group, which have traditionally supported coordinated arrangements including industry-based training for developing and deploying skills, have declined (Wright & Lansbury, 2016). The political realities of dominant interests favouring a market-oriented skills ecosystem need to be acknowledged when evaluating the prospects of future reform.

Table 1: Annual immigration intakes for the main permanent skilled and temporary work visa categories, 1995/96-2013/14

	1995-96	1998-99	2001-02	2004-05	2007-08	2010-11	2013-14
Temporary skilled 457 visa	22,812	29,320	33,510	48,590	110,570	90,120	98,570
Temporary Working Holiday 417 visa	42,700	65,000	85,200	104,400	157,574	192,922	239,592
Permanent skilled visa	20,008	27,931	53,520	77,878	108,540	113,725	128,550

Source: (Wright & Constantin, 2015)

Skills and industrial relations institutions

A major consequence of the shift towards a more market-oriented national skills ecosystem is that employers are now assumed to be the main source of authority regarding the current and future skill requirements of Australia’s workforce. The employee/learner voice – whether led by unions or others – is largely absent or marginalised. The apparatus capable of sustaining a healthy and productive symbiosis between skills and industrial relations has been in inexorable decline ever since the implementation of the training reform agenda in the 1990s. The most optimistic expression of the training reform agenda was that it would cement a tripartite, corporatist model for a national system of vocational education and training, but this has failed to materialise. Unions remain largely committed to what remains of this model, even though in most parts of the labour market, any semblance of codetermination has been stripped away. The hoped-for coherent linkages between qualifications, job roles, award classifications, and pay rates, which underpins the strong occupational labour markets of Germany and other coordinated market economies, foundered after an ambitious start in the metals industry. This occurred because of policy shifts in both the industrial relations and training domains.

The shift of bargaining to the enterprise level has crowded out the capacity for employers and employees to have useful discussions about skill development. Instead, enterprise bargaining facilitated efforts by employers to incorporate training matters within a broader strategic human resource approach (Hampson, 2002: 165). Negotiations relating to training matters also had to take account of restrictions on what parties may legally include in enterprise agreements, known during the Howard era as prohibited content and still in place under the Fair Work Act as “unlawful terms” and “non-permitted terms” (Stewart, 2013: 154-159). On a practical level, the parties exhaust themselves reaching agreement on a narrow range of issues: pay increases; leave entitlements; hours of work; type of employment; superannuation; and termination, change and redundancy arrangements.

The most recent analysis by the Fair Work Commission of all enterprise agreements (for the period 2009 to 2012) reports that 76.2% contain some reference to training (O’Neill, 2012: 39). In practice however these clauses have little substantive effect and clauses that create enforceable rights for workers, such as access to training leave, are much less common (ACIRRT, 1995). Agreement on improvements to skill use in the workplace is uncommon: few enterprise agreements contain productivity clauses that involve changes to work organisation or job roles (Farmakis-Gamboni et al., 2014).

Underlying all of this, discussion about job classifications and what training or qualifications are needed to perform job roles – the type of discussion that had been central to award restructuring in the 1980s – is disappearing from enterprise bargaining. An analysis of 100 enterprise bargaining

agreements from the manufacturing industry approved between 2010 and 2013 found that one-third made no reference at all to formal qualifications. Of those that did, most referred only to trade-level Certificate III qualifications (Oliver & Walpole, 2015). Workers on enterprise agreements are no more likely to receive a wage boost for acquiring additional qualifications than those on informal arrangements, with award-reliant workers most likely to have their qualifications recognised in the form of higher pay (Oliver, 2016).

Enterprise bargaining has had other effects as well. Within unions, there has been a transfer of resources and personnel from specialist functions like training to service organising and bargaining (Carter & Cooper, 2002), eroding union expertise in the area. And many employer associations adapted by entering the training market themselves, establishing their own registered training organisations (RTOs), group training organisations and apprenticeship advice centres, enmeshing themselves in the new system by becoming providers and brokers (Smith, 2010). This decline is a predictable consequence of the shift from multi-employer bargaining, which is able to overcome the collective-action problems of poaching and sustain the institutions that are trusted to provide training and issue qualifications, to single enterprise bargaining and individual determination where collective action problems are likely to be exacerbated (Marsden, 1999).

Apprenticeships and the VET system

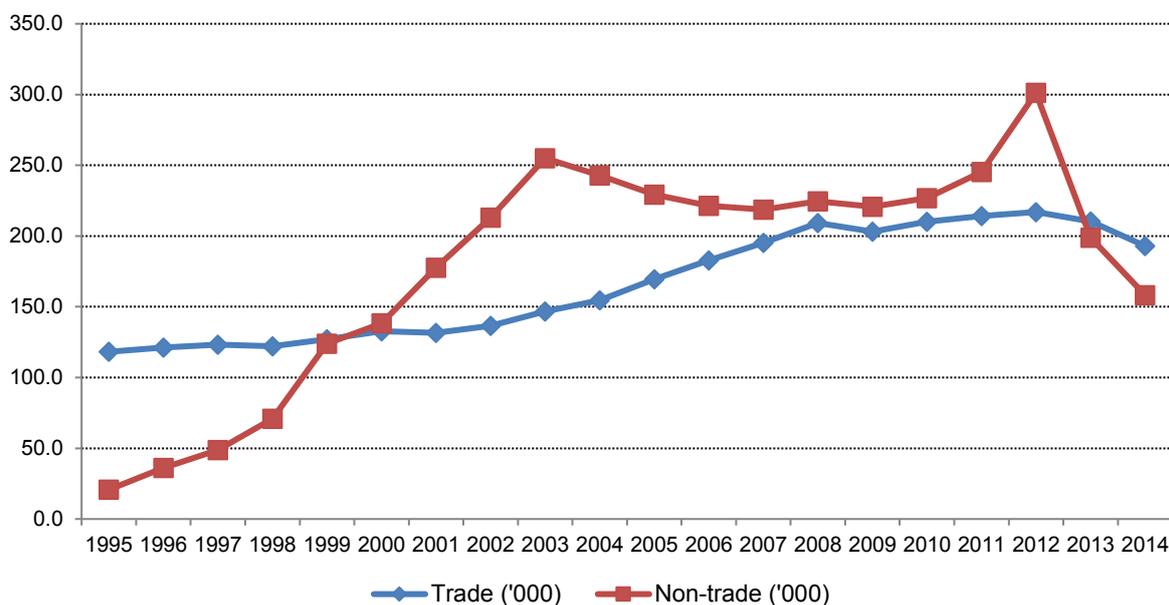
In many countries, the apprenticeships and traineeships system traditionally provides a strong link between industrial relations and skills (Goergen et al., 2009). An apprenticeship combines a contract of training with a contract of employment. In Australia, this involves the apprentice enrolling at an RTO to undertake the off-the-job component, which leads to a formal qualification under the Australian Qualifications Framework (AQF). Although the apprenticeship model of skills development is unlikely to disappear completely, its decline seems very likely to continue, retreating into the traditional construction and engineering trades, which comprise a shrinking share of the workforce.

Inspired by the strength of the German apprenticeship system, the industrial relations stakeholders developed plans in the late 1980s to extend the apprenticeship model into new occupations beyond the trades, especially in the growing service industries such as retail and hospitality, through traineeships. Like apprenticeships, traineeships were intended to combine on-the-job learning with a formal vocational qualification but were typically shorter in duration than the traditional four-year apprenticeship. However the initial uptake of traineeships was fairly modest.

Notwithstanding the Howard government's forceful attempts to shift away from a coordinated skills policy, traineeship numbers escalated in the late 1990s, helped along by generous subsidies to employers, weakened job security protections for trainees, and loose regulation of off-the-job training. Traineeships helped to address a looming youth unemployment challenge but their lack of effectiveness in creating new skill-based career paths for young people in service industries has been widely criticised (Cully & Curtain, 2001; McDowell et al., 2011), though Smith et al. (2011) provide a more positive appraisal of the traineeship model. The growth in traineeships masked a decline in apprenticeships that has been attributed to the wave of privatisations and corporatisation of government enterprises in utilities and transport (Toner, 2003). Not until the first signs of skill shortages emerged in the 2000s did trade apprentice enrolments recover, encouraged (again) by an increase in employer subsidies from the Commonwealth government.

Commencements in apprenticeships always fluctuate with the economic cycle (Karmel & Oliver, 2011). However, as Figure 1 shows, since 2012 there are strong signs of a structural decline in apprenticeship commencements. Two factors are at play. In the non-trade occupations where traineeships are more prevalent the sharp decline from the middle of 2012 is tied to the Commonwealth government’s decision to remove employer subsidies from most traineeships, except where they were supporting the employment of disadvantaged groups, including Indigenous Australians and workers with a disability. The stagnation of trade occupation enrolments is linked more to general economic and employment conditions, including the reduction in manufacturing employment and employers’ pessimistic outlook on future business conditions.

Figure 1: Apprentices and trainees in-training at 30 June by occupation, 1995–2014



Source: (NCVER, 2014)

Ironically, the withering of the apprenticeship system coincided with a growing consensus among employers and educators that workplaces remain an invaluable and irreplaceable source of learning (PhillipsKPA, 2014). The great unresolved question – and the one into which unions have yet to insert themselves – is how a transfer of work-based skills can be sustainably and fairly financed in an era when so much risk has already been shifted onto individual workers and learners. Business groups have long complained that university and school graduates lack employability skills, but universities are paying more attention, with an eye to declining graduate employment rates and growing competition for enrolments. TAFE institutes and other established VET providers have maintained close connections with workplaces but the explosion of new, for profit providers is straining good relations (Community Services and Health Industry Skills Council, 2015). Relationships with workplaces are the weakest at the secondary school level. The efficacy of VET-in-schools has been criticised for questionable teacher skills and poor post-school outcomes (Clarke, 2013).

Although apprenticeships have declined, work placements are increasing (PhillipsKPA, 2014). This includes internships and work placements as part of a formal course of study as well as those that

are not. Universities are increasingly integrating work experience into the course curricula, and many training packages now specify work placement hours for VET qualifications. Internships and work placements are a source of many potential industrial issues – principally concerning exploitation of students and interns. A research report commissioned by the Fair Work Ombudsman (Stewart & Owens, 2013) and a new advocacy group called Interns Australia highlight the growing awareness that unpaid interns occupy an ambiguous space in industrial relations and labour law. One approach to resolving the ambiguity is to require employers to pay interns the minimum wage. While UK Labour adopted such a policy during the 2015 election in relation to internships lasting longer than four weeks, similar momentum is yet to appear in Australia.

Aside from challenges relating to payment for interns and work placement students, the question of whether workers tasked with supervising interns and students are appropriately trained, recognised and rewarded to support their learning is a key industrial issue. Under the German model, workers supervising apprentices need to demonstrate that they have achieved a high level of vocational competence through a *Meister* qualification, and are typically recognised with higher pay. Some awards, particularly in health and education, have previously paid allowances to workers supervising students (Buchanan et al., 2014) but in general consideration of these issues is not widespread and remains occupationally bound.

There is immense opportunity for the union movement to develop a general framework for championing workplace learning across the economy, perhaps similar to the UK where the creation of the Union Learning Fund and a statutory role for union learning representatives since 2002 has led to major growth in the delivery of workplace-based skills and learning (Cooney & Stuart, 2012). This would be an ambitious agenda: employer groups are likely to question the legitimacy of the union movement to lead it. It would require the union movement to organise a daunting array of stakeholders, including schools, VET providers and universities as well as seeking support among employers. The potential payoff is a more lasting model of sustaining skills development and transfer, which could cover the rights and obligations of learners as well as the support provided to workers charged with their learning, thereby allowing unions a prominent role. However, a challenge remains for unions regarding whether they see their principal objectives in these areas as protecting existing jobs or facilitating the acquisition of new capabilities for affected workers. Unions have been largely reactive in relation to recent policy developments, for instance, by adopting a prominent position in arguing that migration undermines employer investment in training and career development opportunities for Australian citizens and residents (see below). Before unions can adopt a more proactive and positive agenda for education and training, they will need to come to an agreed position on what to do with the compromised architecture remaining from the training reform agenda period, especially competency-based training for VET.

Skills and immigration

The demise of centralised wage fixation has curtailed the economy-wide impact of skill shortages since the dominance of enterprise and individual bargaining prevents a wages breakout. However, the legacy of the 1970s experience with stagflation has led policymakers to be overly preoccupied with addressing the underlying causes of inflation (Bell, 2005). This was despite academic opinion being very sceptical about the extent of skill shortages even during the mining boom (Richardson, 2009). Nevertheless, concerns over skills shortages during the mid-2000s led governments to loosen visa restrictions, particularly on 457 visas, with the intention of expanding the supply of skilled labour as a counter-inflationary measure (Wright, 2015).

These policies were initially adopted by the Howard government and continued by the Rudd Labor government. However, in 2013, then Prime Minister Julia Gillard claimed that “the areas where temporary work from overseas is growing show that this is work for which we can and should train young Australians... We will not allow Australian workers to be denied the opportunity to fill Australian jobs” (Gillard, 2013). While unions were supportive of these sentiments, they were condemned by business leaders and the Coalition who argued that the 457 visa was necessary for addressing skills shortages (BCA, 2013; Morrison, 2014).

Some academic studies have concluded that 457 visas helps employers to source skills that are difficult to find in the domestic labour market at short notice (Cameron & Harrison, 2013; Khoo et al., 2007), but others have criticised the regulation of the scheme for deterring employers from investing in training (Toner & Woolley, 2008), increasing wages or improving job quality to attract larger numbers of local skilled applicants (Junankar, 2009). According to Howe (2013), these regulations do not require employers to demonstrate that a verifiable skills shortage exists before applying for sponsorship of a 457 visa holder.

While the main stated objective of the 457 visa is to help employers address skills shortages, an analysis of survey responses of employers using the scheme in 2012 found that a small majority of employers saw the role of the 457 visa in filling skilled vacancies as a benefit of the scheme (Wright & Constantin, 2015). Only a very small proportion claimed they would seek to address skilled vacancies by increasing the salary being offered, which is generally considered a necessary precondition for a skills shortage to exist (Healy et al., 2015; Junankar, 2009). When selecting potential skilled migrants, employers using the 457 visa place greater priority on interpersonal competencies than on qualifications and experience. A significant minority of employers use the scheme to recruit workers perceived to be harder working or more loyal. Employers in some industries, such as hospitality, tend to be especially reluctant to address skilled vacancies by improving job quality to attract a wider pool of candidates, investing more in structured training to facilitate career development opportunities, and other measures likely to engender long-term workforce commitment and retention (Wright & Constantin, 2015).

Employer sponsors of 457 visa holders are required to spend either 1% of payroll on training for Australian domestic workers or pay 2% to an approved industry training fund to reduce reliance on migrant labour over time. However, the impact of these provisions on workplace training outcomes is unclear. Moreover, they do not apply to visas that have facilitated increases in the supply of lower-skilled migrant workers, particularly the working holiday and international student visas, where there have been problems of employers using these schemes to evade wage regulations and avoid improving conditions as a means of addressing labour shortages and job vacancies (Reilly, 2015).

Problems relating to international student visas are ironic given that higher education and VET have profited from Australia’s expansion of skilled migration over the past 20 years. In the context of declining levels of real per-student public funding, international students have been an invaluable source of revenue for both sectors (Marginson et al. 2010). Education providers have had a powerful incentive to encourage high levels of skilled migration, with study at an Australian education provider serving as a pathway between student and work visas.

The nature of contemporary labour market demand

Changes to the nature of labour demand will leave the current trajectory of education, training and immigration policy even less suited to meeting the Australian labour market's skill requirements. The policy settings of the last 20 years in these areas have focused on rapidly increasing the stock of skilled workers. Looking to the future, more workers will need to have qualifications, especially university qualifications. AWPA commissioned economic modelling to examine future labour demand under a range of scenarios. Under all scenarios, the proportion of Australian workers with post-school qualifications was projected to increase, from 60% in 2011 to between 65% and 75% in 2025 (Deloitte Access Economics, 2012).

Yet education and training policies in particular, with the marketisation focus, have paid less attention to what capabilities skilled workers will require to make a useful contribution to the current and future labour market. Generally speaking, the contemporary labour market requires workers with a high level of general skills, covering written and oral communication, teamwork and problem solving, and to be confident learners with the ability to quickly learn new skills (Wheelahan et al., 2015). Some employers also express a desire for attributes and competencies that might contribute to the employability of individual workers, such as flexibility, initiative and innovation. Greater emphasis on these attributes is likely to mean that workers need to be prepared to contend with greater levels of job insecurity, taking on more responsibility for retraining for new jobs than in the past. Jobs that were built around technical skills, the mainstay of the VET system, have receded (including both manual jobs and clerical jobs rendered redundant by technology) and will continue to recede, with jobs growing in the service sector placing emphasis on general skills and personal attributes (Cully, 2002). Across all fields and levels, workers require strong foundational skills, base disciplinary knowledge and the capacity to rapidly acquire new skills in response to changes in technology, processes and customer or client preferences. The likelihood of future free trade agreements increasing the international mobility of labour will place further pressure on Australian workers to have a broad skill base and be adaptive and resilient (Howe 2015).

Unless there is a dramatic change in the orientation of policy arrangements, the hollowing out of the labour market will continue. Although the proportion of low skill jobs has declined over recent years, there has been a more pronounced decline in intermediate jobs (Borland & Coelli, 2015), which broadly reflects developments in other liberal market economies such as the UK and the US (Goos & Manning, 2007). This has deep implications for career paths, how to structure lifelong learning, and the long-term future of VET provision. Digital technologies and automation are likely to unleash further disruption. As many as 40% of the jobs that exist today were at moderate to high risk of disappearing within 15 years because of technological change (Durrant-White et al., 2015). Jobs with the lowest probability of being superseded by machines are those that involve creative thinking, high social intelligence and considerable mobility and agility (Taylor, 2015: 21). Low-skill workers, especially males, appear most vulnerable. Already, young male early school leavers and older males who have been made redundant from manual jobs in manufacturing and other blue collar industries are struggling to remain attached to the labour market, with high rates of underemployment and non-participation (Lewis 2015).

In addressing these challenges, policymakers must acknowledge that the lack of effective coordination between the various institutions involved in the national skills ecosystem has created market failures. This has resulted in various issues for policymakers to address as a matter of urgency. First, there is the need both to promote greater dialogue between education institutions and employers for developing modern qualifications, and to consider how the voice for workers can be included in this dialogue. Second, given the market failures that have been created including by a

lack of coordination between institutional and workplace learning, there is the question of whether new institutions to sustain this coordination need to be created or whether existing ones can be adapted. Third, rather than being treated as a policy area concerned predominantly with national security rather than labour market issues, immigration must be integrated more systematically into education and training policy frameworks. And finally, policymakers need to consider the various forms of financial and other support that can be made available to workers to re-engage in formal education and training at multiple stages during their careers.

Employers are also much less willing than in the past to make long-term investments in employees' skill development (whether through apprenticeships or otherwise) and there are few institutional mechanisms to force them to. Are there fairer and more efficient ways than leaving it all up to individual workers to acquire skills? At issue are not just the costs of training but knowing what skills are in demand by the labour market and negotiating the education and training system to attain them. The rush to produce more graduates – from Year 12, from VET and from higher education – has prompted concerns about quality, the alignment of the content of qualifications with the needs of the contemporary Australian labour market, and the overemphasis on market principles at the expense of coordination between education, training and labour market institutions.

These changes require or at least should provide space for debate, discussion and cooperation around the following objectives for meeting contemporary and future labour market needs:

- Developing and trialling new models that blend work-based learning into formal qualifications, rather than attempting again to extend the apprenticeship model to new occupational areas.
- Using the concept of 'vocations' to rework how school, VET and university students learn about work, so that they have a stronger foundation of general workplace capabilities, structured around broad vocational domains, such as care work, engineering or logistics (Wheelahan et al., 2015). Unions can re-establish a stronger role here, by asserting themselves as defenders of occupational-based standards and identity.
- Breaking with credentialism by acknowledging that qualifications are not the only means of developing labour market capability. A policy mindset that relies too much on increasing the stock of qualifications, without considering the underlying labour market requirements, is vulnerable to credentialism, which over time erodes the value of all qualifications. There should be greater consideration of whether a formal qualification (i.e. one within the AQF) is actually the best way of developing and assuring that a worker, especially one just starting out or in a low-skill job, has the general capability required to perform in the modern workplace. Regulated, endorsed work experience programs by quality employers could be a better option for some jobseekers. How qualifications are designed, especially in the VET sector, also needs reappraisal. Rather than focusing solely on narrow competency-based, technical arrangements, qualifications should be broad-based and develop the capabilities workers need to adapt as job roles change (Wheelahan et al., 2015).
- Reviewing the principles underpinning skilled visa allocation, by creating an independent mechanism for assessing labour market needs rather than the problematic model of relying on employer claims of skills shortages that fail to adequately consider alternative ways to utilise existing workforce skills and competencies (Howe, 2013). Compelling employers using the 457 visa and other skilled and labour immigration schemes to pay an annual contribution to an institution tasked with coordinating national or industry-wide training arrangements could assist this objective (Azarias et al., 2014).

- Creating new corporatist (or at least consultative) coordinating bodies that have the resources to conduct rigorous research and the authority to provide independent advice to government. They should also have a mandate to bring actors together and to nudge actors' behaviour from short-termism to longer-term skills solutions. Ideally, there should be at least one such body that explicitly has within its remit education, training and skilled immigration policy. AWPA had begun to exercise such a role before its abolition in 2014 and some of these functions are performed effectively by equivalent bodies in other countries, such as the Migration Advisory Committee in the UK (Howe, 2014).

Conclusion

The implications of these likely labour market trends for the national skills ecosystem are profound. Employers will continue to demand workers with general workforce capability, in addition to technical competence and formal qualifications. The extent to which individual workers should shoulder the burden for employer calls for greater adaptability is questionable. Workers may gain personal benefits from the skills and qualifications they acquire but increasingly they must also bear a greater share of the cost and the risk. Many workers will carry debt far into their working lives, potentially inhibiting their capacity to undertake further learning to enhance their adaptability in a more dynamic labour market. There are also limits of the capacity of the state to meet employer demands, given that existing education and training programs aimed at increasing workforce participation among lower-skilled workers affected by structural change are not working. In this context, enabling employers to recruit skilled and adaptable workers through temporary work visa schemes may continue to provide a superficially attractive solution but can be expected to arouse political sensitivities. These considerations are likely to require considerable changes in Australia's skills ecosystem, but how we get there is another matter.

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