

# Skills in use: labour market and workplace trends in skills use in Australia

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## Abstract

This paper begins with an examination of the extent of a 'skills crisis' in the Australian labour market and suggests that this is not as severe as public perceptions suggest. Except for the mining industry, the proportion of employers experiencing a lot of difficulty recruiting workers because of skills shortages is not large enough to warrant the term 'crisis'. On the other hand, a large proportion of employers report that their employees have skills beyond what is needed in their jobs. Assessments by employees of the use of their skills also point to the existence of an 'overskilled' workforce. In the main part of the paper, research is presented which investigates a number of aspects of skills use in the workplace. Not only do significant numbers of employees report not using their skills, but many also experience a lack of opportunity to enhance their skills in the workplace. While occupational and industry characteristics explain much of the pattern in skills use, the extent of casual and part-time employment is also important.

## 1 Introduction

In 2005 Australia discovered it was in the midst of a 'skills crisis'. The number of newspaper articles dealing with the 'crisis' leapt from 37 in 2004 to 162 in 2005. It then climbed to 197 in 2006 and reached 211 in 2007, an election year.<sup>1</sup> Over the same period, however, The Commonwealth Government's index of skilled vacancies fell steadily (DEWR, 2008). Of course, a listing of vacancies without information on applicants, or how long the vacancies remained unfilled, is no sure indicator of skills demand. But this apparent mismatch does raise the question: just how severe is the skills shortage in Australia?

In this paper I look at a range of survey data which throw some light on this question. I also go beyond the focus on skills supply, which dominates much of the debate, to look more closely at how employers make use of the skills already at their disposal, namely their existing workforce.

In summary, I find that about 15 per cent of employers report a lot of difficulty in recruiting staff and attribute this to a shortage of skills in their industry. On the other hand, from a 'skills gap' perspective, between 37 and 40 per cent of employers report that their employees have skill levels *above* what they require, while only 5 per cent report that their employees have skill levels *below* that required. From the point of view of employees, between 10 and 20 per cent of them are working in

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<sup>1</sup> *Dow Jones Factiva* counts for articles in 'Australian key newspapers' searching on the terms 'skills crisis' or 'skill crisis'. In 2003 the number of articles was just two.

jobs where their skills are not utilised, while about 14 per cent lack the opportunity to enhance their skills through their work. These figures are much higher among lower skilled occupations and in low-wage service industries. Finally, there are strong negative associations between contingent work—that is, casual and part-time jobs—and skills use and enhancement.

## 2 A skills crisis?

There can be little doubt that there are major skills shortages in some sections of the labour market, but how severe is the problem? Reports for employer associations have emphasised the shortages:

As part of an increasingly open world, Australia's future economic fortunes depend in part on our having access to, and making use of, the skills that will help our industries to be world class ... Most employers are having difficulty finding at least some of the skills they need, especially tradespeople, technicians and paraprofessionals, and engineering professionals ... (Allen Consulting Group, 2006, pp. vii & ix).

Before trying to quantify what 'most employers' might mean, it is worth drawing the distinctions between *recruitment difficulties*, *skill shortages* and *skill gaps*. These can be summarised as follows:

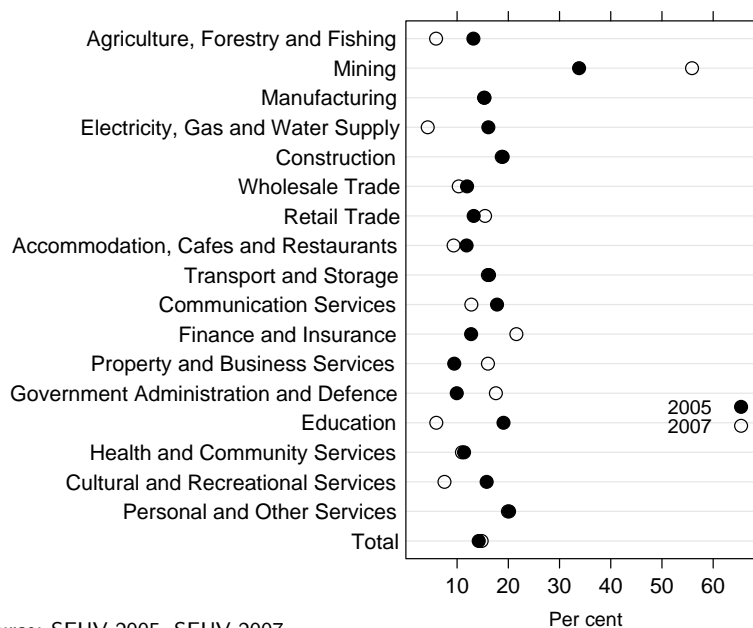
- recruitment difficulties point to situations where employers have difficulties in filling vacancies, something which may be due to 'characteristics of the industry, occupation or employer, such as relatively low remuneration, unsatisfactory working hours, location hard to commute to';
- skill shortages occur 'when employers are unable to fill ... vacancies for an occupation ... at current levels of remuneration ...'; and
- skill gaps reflect the situation 'where existing employees do not have the required qualifications, experience and/or specialised skills to meet a firm's skill needs'. (ABS, 1367.5, p. 15).

Some valuable insights into employer recruitment experiences can be found in the NCVER's *Survey of Employer Use and Views of the VET System* (called SEUV for short). This was conducted (in a comparable form) most recently in 2005 and 2007. In 2005, when asked about the level of difficulty they faced in recruiting staff over the last 12 months,

about 21 per cent of all employers reported ‘a lot’ of difficulty and another 20 per cent reported ‘some’ difficulty. In 2007 the figures were 24 per cent and 20 per cent respectively.<sup>2</sup>

As noted above, there are a number of reasons why employers find difficulty in recruiting staff. To focus more precisely on skill shortages, rather than just recruitment difficulties or even labour shortages, it is necessary to pinpoint those employers who gave, as their reason for difficulties with recruitment: ‘a shortage of skilled people in the industry’. Moreover, if our concern is to examine the extent of a ‘crisis’, then a further restriction is warranted: those employers who alluded to ‘a lot’ of difficulty in recruiting. With these qualifications in mind, we can arrive at an estimate for the proportion of all employers facing skills shortages. In 2005 this was 14 per cent and in 2007 it was 15 per cent. A breakdown across all industries is shown in Figure 1.

**Figure 1: Employers reporting industry skill shortages 2005 and 2007, by industry**



Source: SEUV 2005, SEUV 2007.  
 Note that a single solid dot means figures for both 2005 and 2007 are the same, since the solid dot obscures the open dot.

The most striking aspect of these data in 2005 was the similarity of this measure across industries, *with the notable exception of mining*. At 34 per cent, this industry was a clear anomaly. The remaining industries ranged from a low of 9 per cent (property and business services) to a high of about 20 per cent (personal and other services). By 2007 mining had pulled further ahead—at 56 per cent—but most other industries had

<sup>2</sup> When the sample is restricted to just those employers who tried to recruit staff, the figures rise to 24 per cent and 23 per cent respectively in 2005, and 28 per cent and 23 per cent in 2007.

remained at or below 20 per cent. Some industries had dropped (electricity, gas and water supply, education and cultural and recreational services), while a number of other industries had risen (finance and insurance, property and business services, and government).

Even were we to focus on employer responses to recruitment which included 'some' difficulty as well as 'a lot' of difficulty, it would be difficult to reconcile the survey evidence with the notion of a *growing* 'crisis'. The proportion of all employers who reported either 'some' or 'a lot' of difficulty recruiting, and who attributed this to shortages of skilled people in their industry, was about 28 per cent in 2005. By 2007 this figure was 26 per cent. Indeed, with a few exceptions, the figure had fallen slightly across most industries. In mining, one of the few industries which witnessed a rise over this period, the increase was 11 per cent (from 52 per cent to 63 per cent).

Employer survey data like these two SEUV datasets are not the only data which cast doubt on the existence of a widespread 'skills crisis' in Australia. Wage movements over the last few years, with the notable exception of mining, have not been consistent with the growth of major labour shortages, let alone a 'skills crisis'. In 2004–2005 wages grew at an annual rate of 3.8 per cent. This figure rose to 4.1 per cent in 2005–2006 and then fell back to 4.0 per cent in 2006–2007. Over this same period, annual wages growth in mining rose from 4.0 per cent to 6.1 per cent (ABS, 6345.0, March 2008). These are nominal rates, and do not take account of inflation, which grew at 2.4 per cent over 2004–2005, at 3.2 per cent over 2005–2006 and at 2.9 per cent over 2006–2007.<sup>3</sup>

### 3 Skills and workforce development

Much of the debate around the 'skills crisis' has taken it for granted that the education and training system simply needs to produce more skilled workers. There has been little attention given to the extent to which the existing skills of the workforce are currently utilised. This highlights the third distinction noted earlier: skills gaps, and their counterpart, over-qualified or 'overskilled' workers. The recognition of these lead us from the labour market into the workplace, and the core issue of workforce development, something which is central to the Skills Ecosystem

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<sup>3</sup> The DEWR *Skills In Demand* series (DEWR, 2006) does provide useful information about which trade and professional occupations face skills shortages (and it makes the important distinction between recruitment difficulties and actual skills shortages). While this publication provides a good geographical perspective (such as whether the shortage is state-wide, metropolitan or regional) there is no attempt to quantify such shortages or provide a time series index. As a result, it is not feasible to gauge changes over time, and to assess just how severe current skills shortages really are.

approach (see [Windsor and Alcorso, 2008](#)). Looking at the issue more broadly, it's clear that for some time now the current international debate on skills has moved beyond simply focusing on the supply of skills. How existing skills are utilised within workplaces has come to be seen as crucial in achieving good economic and social outcomes. As [Keep and Mayhew \(1999, p. 12\)](#) argue with respect to VET policies in the UK:

... skills are often a third-order issue. Unless and until first-order questions, such as choice of product market and competitive strategy, and consequent second-order decisions about work organization and job design, are confronted, the underlying causes of [the] ... skills problem will continue to be ignored. The danger of policies ... which concentrate on boosting the supply of qualifications and formalized skills and knowledge is that they appear to offer a relatively swift and simple short cut to a wide-ranging set of desired outcomes ... without having to confront complex and difficult choices about how businesses choose to compete.

Clearly, many of these of issues are beyond the scope of this paper. But how skills are utilised in workplaces and how this links to aspects of work organisation are canvassed in the remainder of this paper. But before looking more closely at workplaces, another labour market dimension of the skills issue is examined: over-qualified workers.

### **3.1 Over-qualified workers: the conventional approach**

Assessing whether workers are over-qualified or 'over-educated' has been a common approach to assessing the utilisation of skills.<sup>4</sup> For example, Ingrid Linsley drew this connection when summarising her findings: 'In Australia close to 30 per cent of workers are overeducated and are underutilising their skills' ([Linsley, 2005, p. 121](#)). Linsley also showed that about 21 per cent of workers with a degree were working in jobs which did not require that level of education, while about 46 per cent of workers with a vocational qualification were in jobs not requiring that level of skill.<sup>5</sup>

In its series *Education and Work*, the Australian Bureau of Statistics published data on the occupation and highest level of non-school qual-

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<sup>4</sup> [Abrahamsson et al. \(2004, p. 16\)](#) offers the following definition of overeducation: 'The concept of overeducation highlights the mismatch of employee's education levels and skill requirements within a certain segment of the labour market or the match at individual level within a specific work context.'

<sup>5</sup> Some research in Britain puts the level of over-education in that country at about 20 per cent ([Green et al., 1991](#)). Other research puts the figure higher, at closer to 30 per cent (see [Mavromaras et al. \(2007, p. 2\)](#)).

ification of its respondents. Similar to Linsley, the ABS data for 2006 showed that about 20 per cent of tertiary graduates were working in jobs which did not require that level of education. The proportion of VET graduates (Certificate III/IV) working in jobs not requiring these qualifications was about 35 per cent, a figure somewhat lower than Linsley's (ABS, 6227.0, Table 12).

In an important study by Cully et al. (2006) looking at VET graduates in NSW, the authors found that only one in four persons achieved a match between the intended occupation (based on the training they undertook) and the actual occupation in which they were subsequently employed. But the report argued that mismatches should not be unexpected, given the complexity and flexibility of the Australian labour market: 'the opportunities for job mobility are plentiful' (2006, p. 7). In an interesting variation on the traditional matching approach, Cully et al. (2006, p. 34) contrasted the intended occupation of VET students with their destination occupations and showed that about 15 per cent of students were eventually employed at lower skill levels than intended in terms of the training they undertook. Among some occupations, for example associate professionals, the proportion was more than double this. In making an overall assessment, Cully et al. (2006, p. 35) defined outcomes as either 'good' or 'poor',<sup>6</sup> and they judged that about 70 per cent of VET graduates in 2005 experienced a good outcome and 29 per cent experienced a poor outcome.

In an important insight, the authors argued that:

... completing a vocational education and training qualification provides an initial fillip to many young people that facilitates their transition into employment, but over time it is the skills and experience while in work that are much stronger determinants of people's employment status and skill level in employment (Cully et al., 2006, p. 31).

This raises the important issue of what happens to workers in their jobs, and the skills dimension of this. From a different perspective this theme has been termed 'overskilling' and a recent study of Australia and Britain argued that examining how workers utilise their skills is a more useful measure of labour market mismatch than is the traditional focus on over-education (Mavromaras et al., 2007, p. 27).

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<sup>6</sup> By good, they meant that the individual was employed after training in their intended occupation; or, they were employed at the same, or at a higher skilled level; or, they were enrolled in studying towards a higher level of qualification. On the other hand, a poor outcome was one where, after training, the individual ended up at a lower skill level than their intended occupation or was unemployed; or, was not undertaking further study; or, was not studying for a higher level qualification.

## 3.2 Skills use

In the remainder of this paper I draw on a number of national datasets, based on both employer and employee surveys. The full details are found in the appendix. In the case of employers, the main source is the SEUV data from 2005 and 2007. These surveys asked employers to rate the skill levels of their employees relative to their organisational needs. They were asked whether these skills were above what was required, adequate, or below what was required. The results, by industry, are shown graphically in Figures 2 and 3. In 2005 about 58 per cent of employers rated the skill levels of their workforce as adequate. Only 5 per cent of employers regarded the overall skill levels of their workforce as below what was required, and this barely reached double figures (10 per cent in construction). Finally, and most strikingly, some 37 per cent of employers regarded their employees as having skill levels above what was required. This figure was high in a number of quite diverse industries, reaching 47 per cent in education and 46 per cent in manufacturing. By 2007 the proportion of employers who viewed their workforce's skill levels as adequate was 54 per cent. The proportion who regarded these levels as below what was required was still 5 per cent. And the proportion who regarded these skills levels as above requirements was 40 per cent. In several industries this proportion was in the 50 and 60 per cent range. Again, the proportion who regarded their workforce as having inadequate skills barely reached double figures: 11 per cent in manufacturing and in finance and insurance.

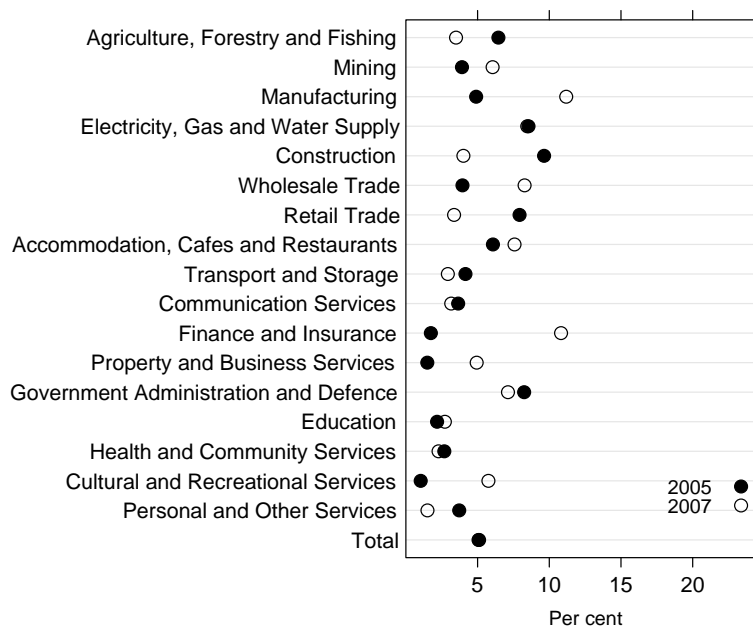
These SEUV results have provided an employer perspective on skills gaps and 'overskilling'. To gain an employee perspective we have access to a number of other surveys. The NCVER's *Student Outcome Survey* (SOS 2005) and its *Down the Track Survey* (DTT 2004) asked respondents to agree or disagree with these two statements:

1. "My job lets me use my skills and abilities"; and
2. "My job provides training and learning opportunities to improve my skills and knowledge".

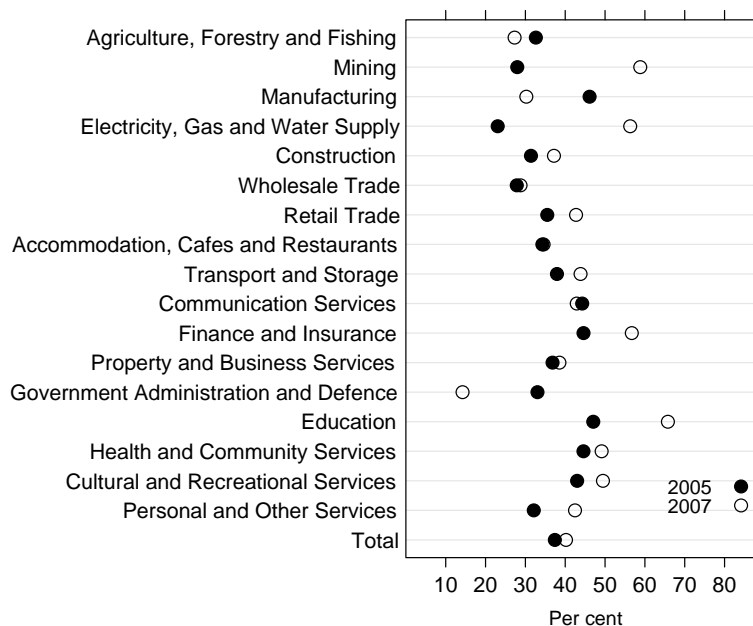
The *Household, Income and Labour Dynamics in Australia Survey* (HILDA) survey phrased its skills questions differently and respondents were asked to offer agreement on a scale from 1 to 7. Nevertheless, they were reasonably comparable to the NCVER questions. The advantage of the HILDA dataset is that it represents the employed population as a whole, not just VET graduates (nor just young people, as in the DTT).

According to the SOS, about 10 per cent of respondents disagreed that they used their skills. Another 10 per cent were 'fence sitters' and did not positively agree that they used their skills. The DTT put these

**Figure 2: Employers reporting employees had skill levels below that required by the organisation**



**Figure 3: Employers reporting employees had skill levels above that required by the organisation**



Source: SEUV 2005, SEUV 2007.  
 Note that a single solid dot means figures for both 2005 and 2007 are the same, since the solid dot obscures the open dot.

figures at 14 per cent (disagreed) and 15 per cent (neither). The figure from HILDA closely corresponded to this: about 14 per cent scored from 1 to 3 on the 7 point agreement scale, which constituted a very low response (since the mean figure was 5.3 and the median was 6). When the HILDA sample is restricted to those with VET qualifications, it provides a population figure of 11 per cent which closely corresponds to the SOS figure. It seems clear from these four different measures that the rate of skills under-utilisation is somewhere near 15 per cent, though it is probably closer to 20 per cent if one splits the 'fence sitters' in half.

When these data are disaggregated by industry and occupation, the results are predictable. Among the two lowest skilled occupations—elementary clerical, sales and service workers and labourers—the proportions reporting that they did not use their skills varied from around the 20 per cent to mid 35 per cent range. In two of the lowest skilled service industries—retail trade and accommodation, cafes and restaurants—the proportions varied from the low 20 per cent to the high 20 per cent range.

### 3.3 Skills enhancement

As well as asking about skills use, these various surveys also asked respondents about their opportunities to improve their skills. About 14 per cent of employees reported that they did not have the opportunity to enhance their skills on the job.<sup>7</sup> As one might expect, this situation was very much influenced by occupation: the least skilled occupations had the most limited opportunities. Over one fifth of all labourers and elementary clerical, sales and service workers lacked the opportunity to enhance their skills. By way of contrast, only about one tenth of associate professionals and tradespersons were in this situation. From an industry perspective, a number of industries had high proportions of their workforce with limited opportunities for skills enhancement: wholesale and retail trade, accommodation, cafes and restaurants, manufacturing, and transport and storage. Those industries where workers did have greater opportunities to enhance their skills included mining, utilities, construction, government, education and health and community services. It is worth noting that this mix of industries includes those with either high proportions of professional workers or high proportions of tradespersons.

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<sup>7</sup> These figures come from the SOS (14 per cent) and the DTT (15 per cent). The Figures from HILDA, for a similar question, were much higher: 28 per cent among all HILDA respondents and 25 per cent among HILDA respondents with VET qualifications. Across most occupations, the HILDA figures are generally about double what the NCVER data sources indicate. Among the lower skill level occupations, the figures in HILDA reached nearly half of the population (47 per cent), while among the DTT the highest figures were just under 30 per cent.

### 3.4 Skills and contingent work

Contingent work has been on the rise in the Australian labour market over the last two decades (ACIRRT, 1999; Watson et al., 2003). In their overview of workplace change over the last decade, Martin and Healy (2008, p. 7) observe that a major component of organisational change for many firms has been ‘a drive to reduce operating costs’. And ‘the principal routes to this form of change have been downsizing and increasing use of “non-standard” forms of employment such as casual and agency staff.’ While such changes can lead to employees undertaking a more diverse range of tasks and more on-the-job learning, they can also lead to increased work intensification and high job turnover. Certainly, the adverse impact of contingent work on workplace training is well documented (Hall et al., 1998, 2000). But what about skills utilisation? Is contingent work adversely related to that dimension of skills development? It is clear that low skilled occupations and industries have workers whose skills are under-utilised. But do casual jobs involve less skills use? And what about part-time jobs? Similar questions can be posed when it comes to skills enhancement. As noted above, less skilled workers get less opportunity to enhance their skills on the job. But if that job is casual, or part-time, does that make a difference?

To explore these questions, two regression models are fitted to the HILDA data. The implementation of this modeling is detailed in the appendix, but the overall approach entails transforming the HILDA individual data into aggregate data, and then analysing the characteristics of the jobs in this aggregate data. In what follows I do *not* model individual skills use and how this relates to demographic, workplace and labour market characteristics. Rather, I model the associations between ‘jobs’ and these various characteristics.<sup>8</sup> A job is defined as an occupation in an industry (for example, an automotive trades worker working in retailing, or a cleaner working in accommodation). This has the advantage of using the more finely disaggregated two digit occupational coding (eg. cleaners or factory labourers, rather than labourers). Controlling for broad occupational skill levels in the regressions,<sup>9</sup> takes account of the obvious link between the nature of the job (eg. cleaning or teaching) and its pre-existing, generic skill level (5 and 1, respectively).

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<sup>8</sup> It is important to stress this distinction between individuals and jobs. The latter is an aggregate unit of analysis, composed of the characteristics of many individuals. As with the ecological inference problem one needs to be aware that results at this aggregate level may not apply at the individual level. See Robinson (1950) and King (1997).

<sup>9</sup> Based on the five fold occupational classification of skill levels used by Cully (2003, p. 13).

In the first regression model, the questions posed to the data take the form: are jobs with poor mean scores on skills use associated with jobs with high concentrations of casuals, or jobs with low proportions of VET graduates, and so on? In other words, the outcome variable in these regressions is the mean score for skills use and the explanatory variables are the proportions of workers with various demographic, workplace and labour market characteristics in those jobs. In a few cases, these are not proportions but mean values (eg. average number of years of education, or average number of years of occupational tenure). All of the explanatory variables, except for skill level, have been standardised (see appendix for details).

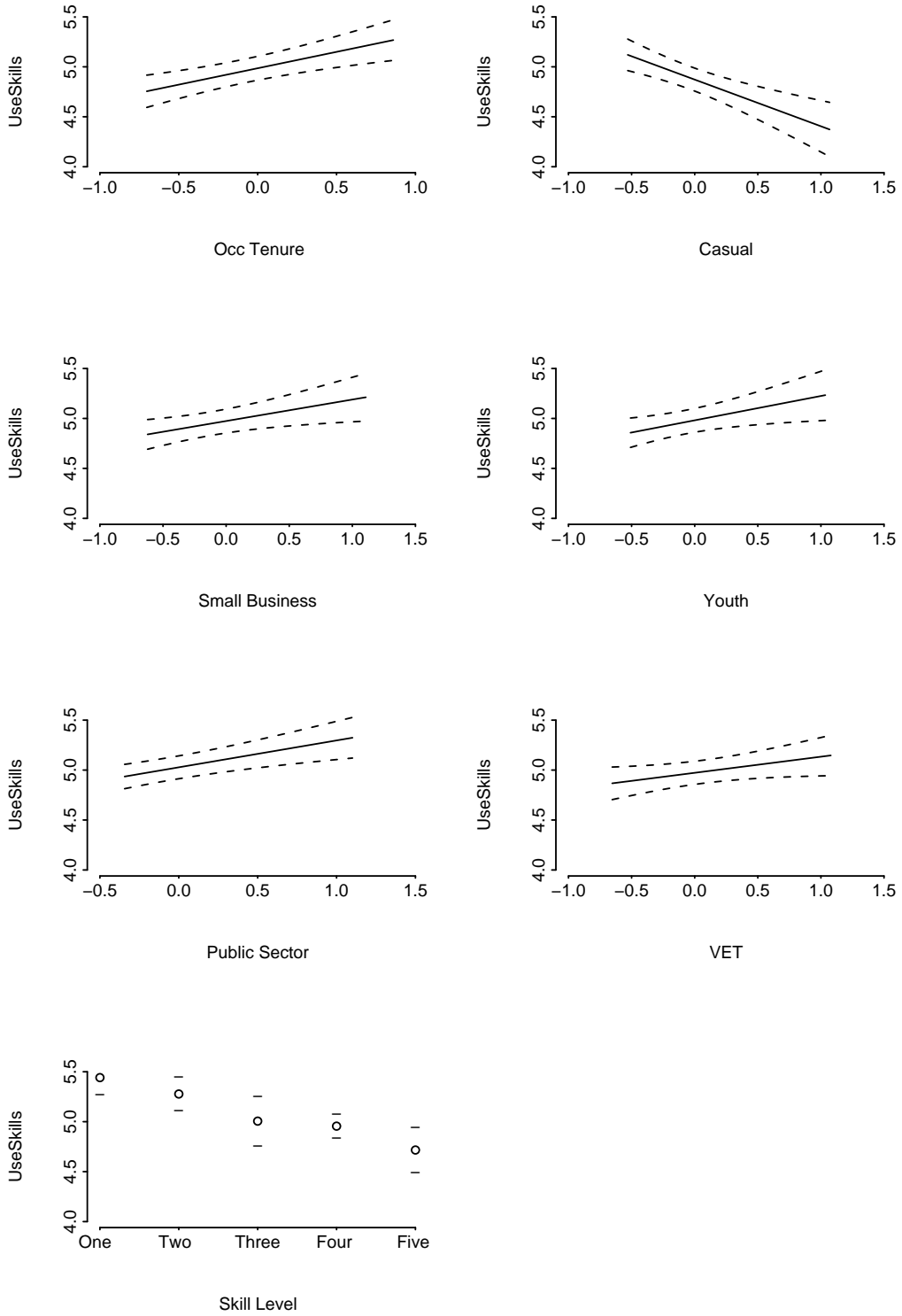
The detailed results are found in the appendix and the key findings are presented in graphical form (Figures 4 and 5). The panels in the graphs show the strength and direction of the association between the outcome variable, and the various explanatory variables which are in the model. If the line slopes backwards, this indicates a negative association. The steepness of the line indicates the strength of the effect. The data behind these graphs are based on predicted values, with all other variables set to their mean values. Essentially, this means that each panel in the graphs shows the net effect of that variable (eg. occupational tenure) on the outcome (eg. skills use), controlling for the influence of all other variables in the model.<sup>10</sup>

Figure 4 shows the results for skills use. There are positive associations for occupational tenure, proportions of small business, youth intensity, public sector employment and VET qualifications. A negative association exists between skills use and the degree of casualisation. The positive effect for occupational tenure is to be expected: occupational tenure is a measure of career development, with longer years associated with greater seniority and more scope to use one's skills and abilities. The other positive effects are not only considerably weaker, but are also less precise. At first glance, the positive effects for small business and the public sector may appear contradictory. But on reflection they do make sense. Small businesses typically require their workers to be 'jacks of all trades', and opportunities to show initiative in such workplaces are often available. The public sector, while bureaucratised and sometimes prone to the stifling of initiative, nevertheless provides structured opportunities for career development, as well as movement between departments. As for the negative effect for casualised work, this is one of the strongest effects in the model and shows that the links between contingent work and skills use is not just a question of occupational differences.

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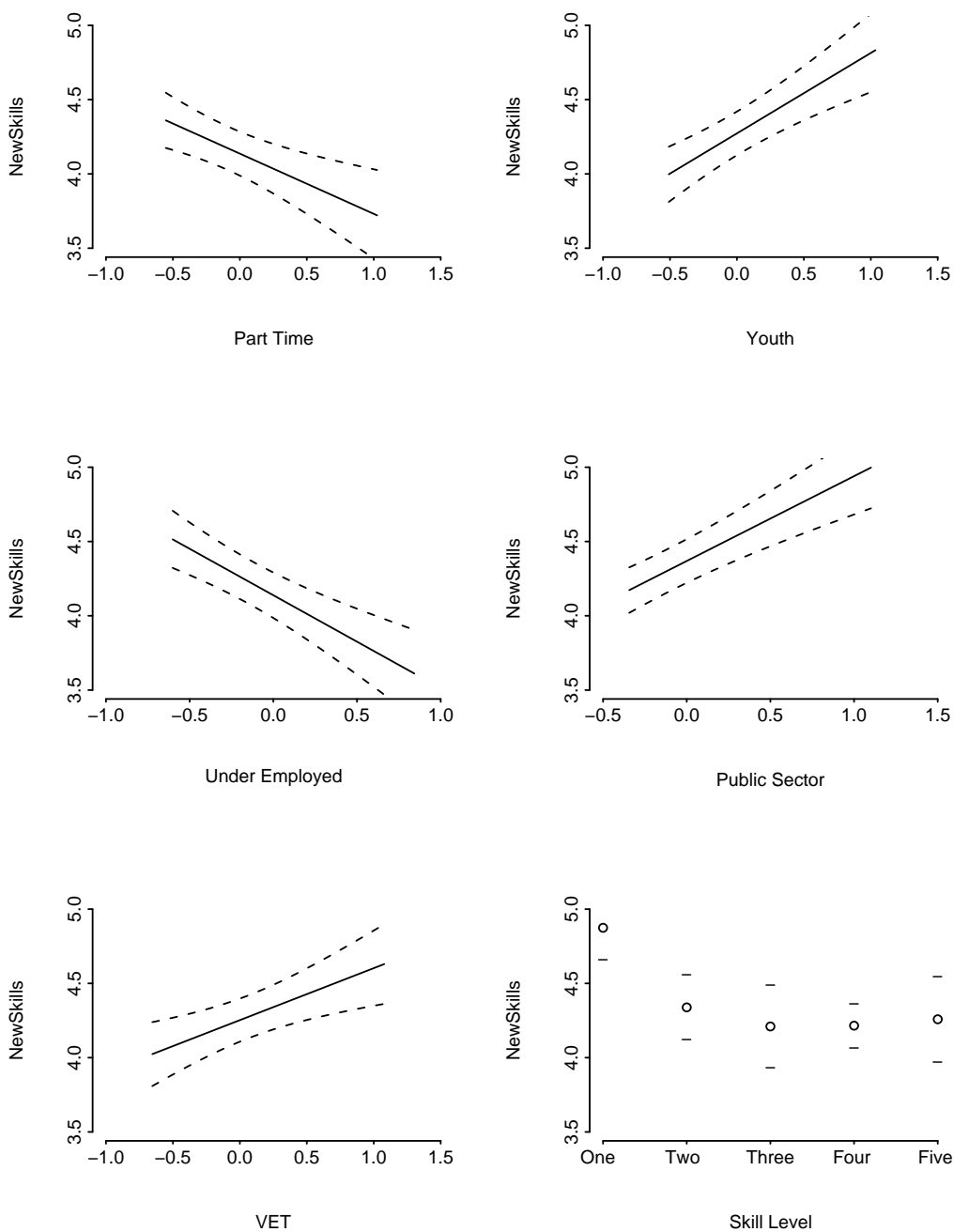
<sup>10</sup> The dashed lines indicate confidence intervals around the predictions and allow one to assess how precise the predictions are at different levels of the explanatory variable. Wherever feasible, the x-axis scales have been kept consistent, to facilitate direct visual comparisons.

**Figure 4: Factors influencing the use of skills in jobs**



Source: Regression results from HILDA data. See appendix for more details.

**Figure 5: Factors influencing opportunities for skills enhancement**



Source: Regression results from HILDA data. See appendix for more details.

Turning now to the issue of skills enhancement, a similar modelling strategy is applied. Again, the detailed results are shown in the appendix, and the key findings are illustrated in Figure 5. There are positive associations for the youth intensity of jobs, public sector employment and holding VET qualifications. In other words, jobs which have high proportions of these are also jobs where skills enhancement is more likely. On the other hand, jobs with higher levels of part-time employment and under-employment are jobs where there are less opportunities for skills enhancement.

While the pre-existing skill level is included in the model as a control, to take account of occupational confounding, it is interesting to note pre-existing skills only appear to matter among the highest skilled jobs. There is little variation among the other four skills levels. This contrasts with the skills use results, which showed an almost linear association between skill levels and skills use (see the last panel in Figure 4).

In summary, the overall impression conveyed by Figure 5 is consistent with the findings for skills use. Again, contingent work appears to be deleterious for skills development. However, where casual employment was associated with a reduced likelihood of using skills in jobs, it is part-time work and under-employment which are more strongly associated with reduced opportunities to enhance skills.

## 4 Conclusion

The most recently published research has indicated that about 30 per cent of workers are over-educated for the jobs that they are doing and the figure for those with VET qualifications is even higher. Earlier figures from the ABS are consistent with these findings, though they place the figures at a lower level. NCVET research looking at VET graduates found that about 15 per cent of them were under-employed in terms of skill. Indeed, the NCVET research suggested that nearly 30 per cent of VET graduates had poor outcomes when it came to matching education experiences with intended occupational outcomes. These problems with mismatches between the supply and demand for skills in the labour market are, however, only one dimension of the skills issue. As both the NCVET and HILDA data reported in this paper have shown, there are also significant problems when it comes to the utilisation and enhancement of skills within the workplace.

As noted above, when asked to rate the skill levels of their workforce, relative to their organisational needs, between 37 and 40 per cent of employers indicated that their workers had skill levels above what was required. Only 5 per cent of employers indicated that their employees' skills were below what was required. From an employee perspective,

their existing skills are often going to waste in the workplace. In some occupations and industries as many as 30 per cent of the workforce lack the opportunity to use their skills, or to enhance them.

While there is some variability around particular data items, the main fault line is the division between public sector industries like government and education and low-wage service industries like retail trade and hospitality. Whether it be skills use or opportunities for skills enhancement, the former group of industries are invariably associated with positive outcomes, the latter with negative ones. Clearly, these industries are highly occupationally specific: the former dominated by managers and professionals, the latter by intermediate and elementary clerical, sales and service workers (and, to a lesser extent, labourers). However, this does not mean that skills development is unnecessary in retail trade or hospitality. Indeed these are industries highly reliant on well developed social skills. All too often these skills are assumed to pre-exist employment and are therefore not prioritised as an area for further development. This is particularly so in the case of women returning to the workforce, whose years of child rearing and domestic labour have fostered a large range of 'tacit' skills which employers are quick to make use of, even if they don't formally acknowledge them (Norris et al., 2003, p. 354).

As well as the key determinants of industry and occupation, contingent work stands out. Those workers employed in this fashion do poorly when it comes to skills development and this cuts across both industry and occupation. One of the distinguishing features of the last decade has been strong employment growth alongside an expansion in contingent employment. While much of this expansion has been underway for several decades, its persistence during a period of buoyant economic growth has been startling. Thus, whereas the unemployment rate reached an historic low of 4 per cent during this period, the under-utilisation rate—which incorporates a measure of under-employment—was still above 11 per cent in 2007.

Casual employment has not only grown strongly during the last two decades, but it has steadily expanded into new areas and made inroads into the full-time workforce. There has been strong growth in 'traditional' areas of casualisation, industries where fluctuating time-periods of consumer demand or seasonal factors have pushed employers towards engaging staff in this way. However, there has also been strong growth in industries which do not fit this pattern of fluctuation or seasonality, industries like finance and insurance, where there has been a tripling of casualisation rates over this period.

There has been considerable debate in Australia about this growth in casualisation. While the detractors, such as Burgess and Campbell

(1998*b,a*); ACIRRT (1999); Watson et al. (2003), have emphasised the precarious nature of this kind of work, the defenders have argued that various non-standard forms of employment, such as casual and part-time jobs, provide flexibility to both employers and employees (Wooden, 2000; Wooden and Warren, 2003). The latter are seen to benefit by gaining greater choice in balancing work and non-work activities. From within this perspective, casual jobs—particularly if they are part-time jobs—can be seen as desirable jobs:

... the persons who are most content with their jobs are those in part-time jobs, and it appears to matter little whether these workers were hired on a permanent, casual or fixed-term basis (Wooden, 2001, p. 65).

However, to understand the links between skills and various forms of contingent work, we need to focus on employer strategies rather than just employee preferences. In this regard, it is useful to distinguish between the engagement of labour, its deployment, and its development. The first refers to the employment relationship, the second to the labour process in the workplace, and the third refers to skills development through working.<sup>11</sup> At first glance, casual status is simply a mode of engagement—a short-term contract of employment with additional compensation paid in lieu of lost entitlements. Yet casual employment can be more than just this: it can also be a strategy for the deployment of labour: a way of maintaining a just-in-time workforce in order to minimise costs. In this context, contingent employment arrangements can be seen as a strategy by some employers intent on driving down costs to gain ‘access to labour without obligation’ (Gonos, 1997).

Consequently, once engaged, many casuals are deployed in a different way in the workplace compared with permanents. Their reduced entitlements reflect the reduced obligations owed to them. In monetary terms, they are usually compensated with higher hourly rates of pay and this often suits those employees—like students—whose long term future lies elsewhere. But for those casuals intent on staying around for the long haul, this second-class status has major implications for their skill development. On a day-to-day basis, the skills content of their work is not deepened. This may reflect the kind of work they are doing—often the least skilled or most routine—but it may also reflect their subordinate status in the workplace (the ‘temp’ who is just filling in). A body of research has shown that casuals face only limited training and career opportunities in the workplace (Pocock et al., 2004; Hall et al., 1998, 2000; Connell and Burgess, 2006), and their lack of access to training is also evident in the HILDA data.<sup>12</sup>

<sup>11</sup> For more on these distinctions, see Watson et al. (2003, ch. 10).

In the case of part-time workers, the problem is compounded because so much casual work is part-time. However, it is also clear that part-time work, *in itself*, raises problems of access to training and skills development. The NCVER data examined in the research for this paper indicated that twice as many permanent part time workers, compared to permanent full time workers, felt that they were not using their skills and abilities at work. There is an important gender issue here, as the literature shows that many women workers find that their presence in the workplace is not taken seriously if they choose to work part-time. Being given more challenging work, and the opportunity to learn new skills, goes with the full-time jobs, not the part-time ones.

Part-time jobs are also characterised by lower pay than their full-time equivalent jobs, and this appears to be worsening over time (see [Whitehouse \(2002, p. 388\)](#) and [Joshi et al. \(1999, p. 561\)](#)). The notion that 'part-time work equals low pay' has led some writers to regard part-time work as a 'trap' which marginalises women in the labour market. Yet part-time jobs are obviously a desirable destination for many workers who wish to balance paid work with other aspect of their lives. In Sweden, for example, part-time work has 'not marginalized women but, on the contrary, has increased the continuity of their labor force attachment, strengthened their position in the labor market, and reduced their economic dependency' ([Sundström, 1991, p. 167](#)). But Australia is not Sweden and many of the advantages which part-timers encounter in the Swedish labour market are absent here.<sup>13</sup> What characterises Australia's female part-time workforce is its high incidence of casualisation: more than 50 per cent of the part-time jobs held by adult workers are casual.

In summary, it seems clear that while ever these trends towards the growth of contingent work continue, the under-utilisation of the skills of the workforce will persist. It is somewhat ironic that employers are among the loudest voices calling for more public investment in training, yet it is within their province to examine their employment practices and to make greater use of the skills already existing within their workplaces.

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<sup>12</sup> The forthcoming report on which this paper is based also looked at workplace training using the HILDA data. It finds strong negative associations between access to training and casual employment status.

<sup>13</sup> Marianne Sundström notes the following: highly progressive tax rates, extensive provision of childcare, generous parental leave and a 'diminishing net-wage differential between full-time working men and part-time working women' (1991, p. 172).

## 5 Appendix

### 5.1 Data sources

This paper draws on four main surveys:

1. The NCVER's 2005 *Student Outcome Survey* (SOS). This is a survey of VET graduates, containing information on their training/study and their employment situation both before and after training. The sample is restricted to VET graduates, and is thus not fully representative of the employed population. The workplace outcomes measured by this survey are for May 2005, a period of about 6 months after students graduated. The dataset contains over 50,000 respondents.
2. The NCVER's 2004 *Down the Track Survey* (DTT). This is also a survey of VET graduates (from 2002), but it tracks the students two years after graduation (in 2004). Like the SOS, the DTT is restricted to VET graduates, but is further restricted to young people (aged 15 to 24). Its sample size is also much smaller: about 2,500 respondents.
3. The Australian Government/Melbourne Institute's *Household, Income and Labour Dynamics in Australia Survey* (HILDA). This is an ongoing longitudinal survey of Australian households which began in 2001 and which is representative of the Australian population. As with the DTT, HILDA provides useful insights into changes over time. Its sample size varies (depending on the population) but is considerably larger than the DTT.
4. The NCVER's 2005 and 2007 *Survey of Employer Use and Views of the VET System* (SEUV). This is a survey of employers conducted in 2005 and 2007 with a view to gaining information about employer skill needs, and their use of vocational education and training. In each year its sample size was in the mid 4000s and the surveys were representative of all employers who had at least one employee.

### 5.2 Regression results

The detailed model results for the regression analyses conducted for this paper are shown below. As well as the conventional coefficients and standard errors, a set of Bayesian posterior means are also shown. These have been derived from [Raftery et al. \(2006\)](#). For a fuller account of the Bayesian approach to model selection, see [Raftery \(1995\)](#). All of the

analysis in this report was conducted using the R statistical language, see [R Development Core Team \(2007\)](#).

The data for these regressions is taken from the first five waves of the HILDA data. These data are pooled, and a new observation representing a 'job' is created using aggregate statistics. The 'job' is defined as the intersection of 2-digit ASCO categories and 1-digit ANZSIC categories, for example, an automotive trades worker working in retailing, or a cleaner working in accommodation. Some of these combinations will clearly have few, or no, individual person observations, so any combination with less than 20 such observations is dropped from the analysis. This process leaves 100 aggregate 'job' observations in the dataset, and the various variables used in the analysis are the mean values in each of these 'jobs' for the items like part-time work, casual work, occupational tenure, job tenure and so forth. In most cases, the mean values represent the proportion of workers with that characteristic in the job (eg. casual or youth). In some cases, the mean value is the actual average for that job (eg. years of occupational tenure). All of the continuous explanatory variables (that is, all variables except the skill level variable) have been standardised using the approach recommended by [Gelman and Hill \(2007, pp. 56–57\)](#) which scales by two standard deviations. This means that a one unit change in the explanatory variable corresponds to a change from one standard deviation below the mean to one standard deviation above. The advantage of this is that it makes interpretation of continuous variables comparable to those for discrete variables (in this case, the skill level variable). For the outcome variables—skills use and skills enhancement—the mean values are averages of the scores for these data items in the original questionnaire (that is, a scale from 1 to 7).

**Table 1: Regression results for skills use**

	Coefficient	SE	P value	Bayesian EV†
Intercept	5.522	0.087	0.000	5.657
Occupational tenure	0.328	0.089	0.000	0.332
Casual	-0.467	0.112	0.000	-0.263
Small business	0.215	0.086	0.015	0.140
Youth	0.244	0.101	0.018	0.167
Public sector	0.269	0.073	0.000	0.238
VET	0.161	0.082	0.052	0.159
Skill (2 compared to 1)	-0.164	0.117	0.163	
Skill (3 compared to 1)	-0.436	0.160	0.008	
Skill (4 compared to 1)	-0.486	0.104	0.000	
Skill (5 compared to 1)	-0.725	0.151	0.000	
Adjusted R-Squared	0.73			
Sigma	0.309			
N	100			

*Outcome variable:* Mean score on skills use in each job

*Method:* OSL

*Notes:* Data weighted for construction of aggregates, unweighted for modeling. Note that the skills use score is the answer to the question: "My job lets me use my skills and abilities." (scaled 1 to 7).

† posterior means for Bayesian model averaging.

*Source:* HILDA Wave E (Release 5.1).

*Population:* All employed persons 2001 to 2005.

**Table 2: Regression results for skills enhancement**

	Coefficient	SE	P value	Bayesian EV†
Intercept	4.965	0.111	0.000	4.922
Part time	-0.405	0.122	0.001	-0.405
Youth	0.541	0.111	0.000	0.460
Under employed	-0.625	0.131	0.000	-0.393
Public sector	0.571	0.097	0.000	0.518
VET	0.350	0.112	0.002	0.068
Skill (2 compared to 1)	-0.536	0.147	0.000	
Skill (3 compared to 1)	-0.664	0.192	0.001	
Skill (4 compared to 1)	-0.659	0.131	0.000	
Skill (5 compared to 1)	-0.616	0.194	0.002	
Adjusted R-Squared	0.69			
Sigma	0.395			
N	100			

*Outcome variable:* Mean score on learning new skills in each job

*Method:* OSL

*Notes:* Data weighted for construction of aggregates, unweighted for modeling. Note that skills enhancement score is the answer to the question: "My job often requires me to learn new skills." (scaled 1 to 7).

† posterior means for Bayesian model averaging.

*Source:* HILDA Wave E (Release 5.1).

*Population:* All employed persons 2001 to 2005.

## References

- Abrahamsson, K., Abrahamsson, L. and Johansson, J. (2004), 'From overeducation to underlearning: a survey of Swedish research on the interplay between education, work and learning', *European Journal of Vocational Training* 31, pp. 15–26.
- ABS (1367.5), *Western Australian Statistical Indicators*, Australian Bureau of Statistics, April to June 2000.
- ABS (6227.0), *Education and Work*, Australian Bureau of Statistics May 2006.
- ABS (6345.0), *Labour Price Index*, Australian Bureau of Statistics.
- ACIRRT (1999), *Australia at Work: Just Managing*, Prentice Hall, Sydney.
- Allen Consulting Group (2006), *World Class Skills for World Class Industries*, Report to the Australia Industry Group.
- Burgess, J. and Campbell, I. (1998a), 'Casual Employment in Australia: Growth Characteristics, a Bridge or a Trap?', *The Economic and Labour Relations Review* 9(1), pp. 31–54.
- Burgess, J. and Campbell, I. (1998b), 'The Nature and Dimensions of Precarious Employment in Australia', *Labour and Industry* 8(3), pp. 5–22.
- Connell, J. and Burgess, J. (2006), 'The influence of precarious employment on career developments: the current situation in Australia', *Education + Training* 48(7), pp. 493–507.
- Cully, M. (2003), *Pathways to knowledge work*, NCVER, Leabrook, SA.
- Cully, M., Delaney, M., Ong, K. and Stanwick, J. (2006), *Matching skill development to employment opportunities in New South Wales*, Independent Pricing and Regulatory Tribunal of NSW.
- DEWR (2006), *Skills in Demand Lists - States and Territories*, September.  
**URL:** <http://www.workplace.gov.au/NR/rdonlyres/35D58940-96FF-4260-AB85-23D9BF7CAF64/0/SkillsinDemandSeptember2006>.
- DEWR (2008), *Vacancy Report*, April, Australian Government, Department of Education, Employment and Workplace Relations.  
**URL:** [www.skillsinfo.gov.au/NR/rdonlyres/0F66F022-38D3-48D7-900E-608F2C687170/0/VacancyReportApril2008.pdf](http://www.skillsinfo.gov.au/NR/rdonlyres/0F66F022-38D3-48D7-900E-608F2C687170/0/VacancyReportApril2008.pdf)
- Gelman, A. and Hill, J. (2007), *Data analysis using regression and multi-level/hierarchical models*, Cambridge University Press, Cambridge.

- Gonos, G. (1997), 'The Contest over "Employer" Status in the Postwar United States: The Case of Temporary Help Firms', *Law and Society Review* 31(1), pp. 81–110.
- Green, F., McIntosh, S. and Vignoles, A. (1991), *Overeducation and Skills - Clarifying the Concepts*, Paper No: CEPDP0435, Centre for Economic Performance.
- Hall, R., Bretherton, T. and Buchanan, J. (2000), *'It's Not My Problem': The growth of non-standard work and its impact on vocational education and training in Australia*, National Centre for Vocational Education Research, Leabrook, South Australia.
- Hall, R., Harley, B. and Whitehouse, G. (1998), 'Contingent Work and Gender in Australia: Evidence from the 1995 Australian Workplace Industrial Relations Survey', *The Economic and Labour Relations Review* 9, pp. 55–81.
- Joshi, H., Paci, P. and Waldfogel, J. (1999), 'The wages of motherhood: better or worse?', *Cambridge Journal of Economics* 23(5), pp. 543–564.
- Keep, E. and Mayhew, K. (1999), 'The Assessment: Knowledge, Skills, and Competitiveness', *Oxford Review of Economic Policy* 15(1), pp. 1–15.
- King, G. (1997), *A Solution to the Ecological Inference Problem: Reconstructing individual behaviour from aggregate data*, Princeton University Press, Princeton.
- Linsley, I. (2005), 'Causes of Overeducation in the Australian Labour Market', *Australian Journal of Labour Economics* 8(2), pp. 121–143.
- Martin, B. and Healy, J. (2008), *Changing Work Organisation and Skill Requirements*, National Centre for Vocational Education Research, Leabrook, South Australia.
- Mavromaras, K. G., McGuinness, S., O'Leary, N. C., Sloane, P. J. and Fok, Y. K. (2007), *The Problem of Overskilling in Australia and Britain*, Discussion Paper No. 3136, IZA.
- Norris, G., Williams, S. and Adam-Smith, D. (2003), 'The Implications of the National Minimum Wage for Training Practices and Skill Utilisation in the United Kingdom Hospitality Industry', *Journal of Vocational Education and Training* 55(3), pp. 351–367.
- Pocock, B., Prosser, R. and Bridge, K. (2004), *'Only A Casual ...': How Casual Work affects Employees, Households and Communities in Australia*, Labour Studies Report, University of Adelaide.

- R Development Core Team (2007), *R: A Language and Environment for Statistical Computing*, R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0.  
**URL:** <http://www.R-project.org>
- Raftery, A. E. (1995), 'Bayesian model selection in social research', in P. Marsden, ed., *Sociological Methodology 1995*, Blackwell Publishers, Cambridge, Mass., pp. 111–163.
- Raftery, A., Hoeting, J., Volinsky, C., Painter, I. and Yeung, K. Y. (2006), *BMA: Bayesian Model Averaging*. R package version 3.03.  
**URL:** <http://www.research.att.com/~volinsky/bma.html>
- Robinson, W. S. (1950), 'Ecological Correlation and the Behaviour of Individuals', *American Sociological Review* 15, pp. 351–357.
- Sundström, M. (1991), 'Part-time work in Sweden: Trends and Equality Effects', *Journal of Economic Issues* 25(1), pp. 167–178.
- Watson, I., Buchanan, J., Campbell, I. and Briggs, C. (2003), *Fragmented Futures: New Challenges in Working Life*, Federation Press, Sydney.
- Whitehouse, G. (2002), 'Parenthood and pay in Australia and the UK: evidence from workplace surveys', *Journal of Sociology* 38(4), pp. 381–397.
- Windsor, K. and Alcorso, C. (2008), *Skills in Context: A Guide to the Skill Ecosystem Approach to Workforce Development*, NSW Department of Education and Training and Commonwealth Department of Education, Employment and Workplace Relations, Sydney.
- Wooden, M. (2000), *The Transformation of Australian Industrial Relations*, Federation Press, Sydney.
- Wooden, M. (2001), 'Are non-standard jobs sub-standard jobs?', *Australian Social Monitor* 3, pp. 65–70.
- Wooden, M. and Warren, D. (2003), *The Characteristics of Casual and Fixed-Term Employment: Evidence from the HILDA Survey*, Working Paper No. 15/03, Melbourne Institute of Applied Economics and Social Research, University of Melbourne.